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Revision of the Oriental *Chaetocnema* species (Coleoptera, Chrysomelidae, Galerucinae, Alticini)

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Abstract

The Oriental species of *Chaetocnema* Stephens, 1831 are revised. There are 85 valid species, including 19 **new species**: *C. angustifrons* **sp. nov.**; *C. appendiculata* **sp. nov.**; *C. baoshanica* **sp. nov.**; *C. dapitanica* **sp. nov.**; *C. glabra* **sp. nov.**; *C. greenica* **sp. nov.**; *C. jinxiuensis* **sp. nov.**; *C. hongkongensis* **sp. nov.**; *C. latapronota* **sp. nov.**; *C. midimpunctata* **sp. nov.**; *C. nigrilata* **sp. nov.**; *C. parafusiformis* **sp. nov.**; *C. paragreenica* **sp. nov.**; *C. paraumesaoi* **sp. nov.**; *C. purerulea* **sp. nov.**; *C. reteimpunctata* **sp. nov.**; *C. sabahensis* **sp. nov.**; *C. subbasalis* **sp. nov.**; *C. trapezoida* **sp. nov.**

Fifteen **new synonyms** are proposed: *C. assamensis* Scherer, 1969 (**syn. nov.**) = *C. hainanensis* Chen, 1932; *C. birmanica* Jacoby, 1892 (**syn. nov.**) = *C. malayana* Baly, 1877; *C. ebenina* Warchalowski, 1973 (**syn. nov.**) = *C. yiei* Kimoto, 1970; *C. flavipennis* Medvedev, 1996 (**syn. nov.**) = *C. granulicollis* Jacoby, 1896; *C. harita* Maulik, 1926 (**syn. nov.**) = *C. westwoodi* Baly, 1877; *C. himalayana* Medvedev, 1993 (**syn. nov.**) = *C. melonae* Chen, 1934; *C. kwangsiensis* Chen, 1939 (**syn. nov.**) = *C. hainanensis* Chen, 1932; *C. lorae* Jacoby, 1905 (**syn. nov.**) = *C. nigrica* Motschulsky, 1858; *C. nepalensis* Scherer, 1969 (**syn. nov.**) = *C. bella* Baly, 1877; *C. nitens* Baly, 1877 (**syn. nov.**) = *C. nigrica* Motschulsky, 1858; *C. placida* Jacoby, 1896 (**syn. nov.**) = *C. bella* Baly 1877; *C. shanensis* Bryant, 1939 (**syn. nov.**) = *C. bella* Baly 1877; *C. subcostata* Jacoby, 1889 (**syn. nov.**) = *C. wallacei* Baly, 1877; *C. vietnamica* Chen & Wang, 1980 (**syn. nov.**) = *C. modigliani* Jacoby, 1896; *C. vietnamica* Medvedev, 2009 (**syn. nov.**) = *C. wallacei* Baly, 1877.

C. vietnamica Medvedev, 2001 is a new junior **homonym** of *C. vietnamica* Chen & Wang, 1980.

C. melonae Chen, 1934 **status restored** and resurrected from synonymy with *C. duvivieri* Jacoby, 1892 in Medvedev, 2001: 613. Two subspecies are raised to species level: *C. taiwanensis* Chûjô, 1965 **new status** for *C. tonkinensis taiwanensis* Chûjô, 1965 and *C. yunnanica* Heikertinger, 1951 **new status** for *C. discreta yunnanica* Heikertinger, 1951.

Lectotypes are designated for 25 species: *C. minuta* Jacoby, 1896; *C. granulicollis* Jacoby, 1896; *C. kwangsiensis* Chen, 1939; *C. longipunctata* Maulik, 1926; *C. montivaga* Maulik, 1926; *C. basalis* Baly, 1877; *C. parvula* Baly, 1877; *C.*

nitens Baly, 1877; *C. geniculata* Jacoby, 1896; *C. simplicifrons* (Baly, 1876); *C. sticta* Maulik, 1926; *C. sumatrana* Jacoby, 1896; *C. wallacei* Baly, 1877; *C. alticola* Maulik, 1926; *C. belli* Jacoby 1904; *C. cognata* Baly, 1877; *C. squarrosa* Baly, 1877; *C. concinnipennis* Baly, 1877; *C. malayana* Baly, 1877; *C. birmanica* Jacoby, 1892; *C. merguiensis* Bryant, 1941; *C. pusaensis* Maulik, 1926; *C. singala* Maulik, 1926; *C. westwoodi* Baly, 1877; *C. harita* Maulik, 1926.

Key words: diversity, flea beetles, new species, Oriental Region, review, taxonomy

Introduction

Chaetocnema Stephens is one of a few flea beetle genera that are cosmopolitan in distribution (Konstantinov *et al.*, 2011) and for which Nearctic and Palearctic faunas have been recently completely revised (White, 1996 and Konstantinov *et al.*, 2011). Previously, the Oriental fauna was considered to include 76 species compared to about 400 species in the world (Konstantinov *et al.*, 2011). Genus *Chaetocnema* was established by Stephens in 1831 for 6 species. Subsequently, many more species were described in numerous important works, for instance: Motschulsky (1845–1860), Allard (1859–1889), Foudras (1860), Kutschera (1864), Weise (1882–1922), Baly (1874–1877), Jacoby (1885–1905), Redtenbacher (1849–1874), Horn (1889), Leng *et al.* (1920), Heikertinger (1905–1951), Maulik (1926), Heikertinger & Csiki (1940), Chen (1933–1981), etc.

Chaetocnema nigrica Motschulsky, 1858 is the first published Oriental *Chaetocnema* species. Later, Motschulsky (1858, 1860), Baly (1874–1877) and Jacoby (1884–1905) described four, 20 and 18 new species from the Oriental Region, respectively. Since the early 20th century, numerous studies on the taxonomy of the Oriental species emerged, e.g. Maulik (1926, revision of Indian species with description of 8 new species), Chen (1933–1981, description of 15 new species), Gressitt & Kimoto (1963, key to 19 species from China with description of one new species), Kimoto (1970, 1991, description of two new species from Taiwan), Kimoto (2000, key to species of Thailand, Cambodia, Laos and Vietnam, 15 species treated), Scherer (1969, list of 31 species from Indo-Chinese subcontinent with description of a new species), Zhang (2006, catalogue and key to 46 species from China, in Doctoral dissertation), Medvedev (2009, key to species from Thailand, Cambodia, Laos and Vietnam, 20 species documented, description of a new species) and Ruan & Yang (2015, updated catalogue and key to Chinese species).

There are exemplary revisional works in recent years on the Palearctic (Konstantinov *et al.*, 2011), Afrotropical (Biondi, 2001–2006) and Nearctic species (White, 1996). However, an authoritative work on the Oriental species has been lacking for more than 70 years since the publication of the world catalogue of *Chaetocnema* species by Heikertinger & Csiki (1940), who documented 63 species from the Oriental Region.

In this work we review the Oriental species (85 valid species), provide detailed descriptions and illustrations, and place each species under the corresponding subgenus.

Materials and methods

Abbreviations:

TL: Type Locality.

TD: Type Depository.

BMNH: United Kingdom, London, The Natural History Museum (formerly British Museum).

CASC: United states, California, San Francisco, California Academy of Sciences.

EMNU: China, Shannxi province, Entomology Museum, North West Agriculture and Forestry University.

HNHM: Hungary, Budapest, Hungarian Museum of Natural History.

IMCI: India, Calcutta, Indian Museum [mentioned in Maulik (1926)].

IZCAS: China, Beijing, Institute of Zoology, Chinese Academy of Sciences.

KMNH: Japan, Fukuoka, Kitakyushu Museum of Natural History & Human History.

KUZO: Japan, Fukuoka, Kyushu University, Kitakyushu Museum and Institute of Natural History.

MCSN: Italy, Genova, Museo Civico di Storia Naturale "Giacomo Doria".

MCZC: United States, Massachusetts, Cambridge, Harvard University, Museum of Comparative Zoology.

MNHN: France, Paris, Muséum National d'Histoire Naturelle.

NHMB: Switzerland, Basel, Naturhistorisches Museum Basel.

SYSU: China, Guanzhou, Sun Yat-sen University.

TARI: Taiwan, Taichung, Taiwan Agricultural Research Institute.

USNM: United States, District of Columbia, Washington D.C., National Museum of Natural History [formerly, United States National Museum].

UUZM: Sweden, Uppsala, Zoological Museum, Uppsala University.

ZIN: Russia, St. Petersburg, Russian Academy of Sciences, Zoological Institute.

ZMHB: Germany, Berlin, Stiftung Museum für Naturkunde, Leibniz- Institut für Evolutions- und Biodiversitätsforschung.

ZMUM: Russia, Moscow, Moscow State University.

ZSMC: Germany, München [= Munich], Zoologische Staatssammlung.

The studied specimens are mainly housed in the following museums and collections: **IZCAS**, **USNM**, **BMNH**, **KUZC**, **MNHN**, **NHMB**, **SYSU**, **ZMHB**, **EMNU**.

Dissection of genitalia. The specimens were immersed in boiling water for several minutes before dissection. The genitalia with the last few tergites were torn off using sharp insect pins. The tissues enwrapping the aedeagus were cleared. For studying female genitalia and the associated structures, the last tergites were immersed in hot 10% NaOH solution for 30 seconds (or the appropriate time required to soften irrelevant tissue), then the extra tissues enwrapping the genitalia were carefully cleared using insect pins. Subsequently, the female genitalia were mounted on slides with Hoyer's medium or glycerin for photography. Photos were taken with digital camera Nikon 5200D attached to Zeiss Axiostar Plus microscope. Scanning electron micrographs were taken with FEI Quanta 450. Morphological terminology follows Konstantinov *et al.* (2011). Hand drawings in water color were edited using Photoshop.

As understood herein, Oriental Region includes Asia south of the Qinling Mountains and Huai River in central China, east of central Pakistan, Tibet, the Ryukyu Islands of Japan, and southeast Asian Islands west of Wallace's Line. Distributional records of species are arranged by the geographical location of countries (from North to South and East to West).

In 'Type' and 'Material' sections of each species geographical data, political and geographical names are recorded verbatim from labels.

Results

1) Biology

(Figs. 1–4)

Life history. The adults of *Chaetocnema* species usually deposit eggs in the soil, the larvae feed on roots of their host plants and bore into stems of the seedlings. Zhao (1990) reported the life history of *Chaetocnema ingenua* Baly (millet stem flea beetle): the life span can be as long as an entire year in northern China. The number of generations in a single year varies from one to three depending on geographic latitude. Eggs are deposited 0.5–1 cm beneath the soil near the host plant (millet); the larvae bore into stems or feed on the young leaves of millet; larval stage varied in length from 10 to 15 days. Larvae pupate in soil, pupal stage lasts 8 to 12 days. Adults overwinter from one to five centimeter beneath the soil near the plant roots.

Natural enemies. The known natural enemies of *Chaetocnema* mainly include: parasitoid wasps (Zhao, 1990), nematodes (Else, 1977; Zhao, 1990; Edwards & Oswald, 1981), fungal parasites and parasitoid protozoa. Edwards & Oswald (1981) reported that nematodes (*Neoplectana carpocapsae* Weiser) have the ability to control the population of *Chaetocnema concinna*. Balazuc (1988) reported several Laboulbeniales parasites of *Chaetocnema*, for instance: *Laboulbenia chaetocnema* (Thaxter) on *Chaetocnema minuta*; *Laboulbenia temperei* Balazuc on *C. hortensis*, *C. aerea* and *C. arida*. Zhao (1990) reported that certain species of predatory mites could also feed on the eggs of *Chaetocnema ingenua*. Yaman & Radek (2003) described a new species of microsporidian (*Nosema chaetocnema* Yaman & Radek, Microspora: Nosematidae) that parasitizes on *Chaetocnema tibialis*. Yaman *et al.* (2008) reported another species of microsporidian (*Nosema tokati* Yaman *et al.*) that parasitizes in the malpighian tube of *C. tibialis*. Yaman (2004) also reported a species of Gregarines (protozoa) that parasitizes on *C. tibialis*.

TABLE 1. Host plant families of Oriental *Chaetocnema* species

host plant family	<i>Chaetocnema</i> species
1. Apiaceae (=Umbelliferae)	<i>C. nigrica</i>
2. Amaranthaceae	<i>C. belli</i> , <i>C. puncticollis</i> , <i>C. nigrica</i>
3. Anacardiaceae (based on the information on the label of a single specimen)	<i>C. bretinghami</i>
4. Chenopodiaceae	<i>C. puncticollis</i>
5. Convolvulaceae	<i>C. hongkongensis</i> sp. nov. , <i>C. confinis</i> (introduced from North America), <i>C. nigrica</i>
6. Cruciferae (=Brassicaceae)	<i>C. bella</i> , <i>C. belli</i> , <i>C. concinnicollis</i> , <i>C. nigrica</i>
7. Cyperaceae	<i>C. bella</i> , <i>C. concinnicollis</i> , <i>C. ingenua</i>
8. Fabaceae	<i>C. nigrica</i>
9. Leguminosae	<i>C. ingenua</i> , <i>C. nigrica</i> , <i>C. puncticollis</i>
10. Lythraceae	<i>C. nigrica</i>
11. Poaceae (=Gramineae)	<i>C. concinnicollis</i> , <i>C. cylindrica</i> , <i>C. ingenua</i> , <i>C. nigrica</i> , <i>C. resplendens</i>
12. Polygonaceae	<i>C. constricta</i> , <i>C. fortetostata</i> , <i>C. puncticollis</i> , <i>C. ingenua</i>
13. Piperaceae (based on the information on the label of a single specimen from BMNH)	<i>C. wallacei</i>
14. Rosaceae	<i>C. constricta</i> , <i>C. deqinensis</i> , <i>C. granulosa</i> , <i>C. granulosa</i> , <i>C. kingpinensis</i> , <i>C. puncticollis</i> , <i>C. simplicifrons</i> , <i>C. tonkinensis</i> , <i>C. yunnanica</i> ,
15. Salicaceae	<i>C. salix</i>
16. Solanaceae	<i>C. cheni</i> , <i>C. nigrica</i>
17. Sterculiaceae	<i>C. nigrica</i>

Host plants. The host plants of Oriental *Chaetocnema* species comprise of 17 Angiosperm families (including both Monocotyledons and Dicotyledons) (Table. 1). Many species in the genus are quite important economically, not only in Oriental, but also in Palearctic, Afrotropical and Nearctic Regions. In Oriental and Palearctic Regions, some species are the major pests of paddy rice (e.g., *C. nigrica*, *C. ingenua*), millet (e.g., *C. ingenua*), wheat (e.g., *C. aridula*, *C. hortensis*, *C. nigrica*), beet (e.g., *C. puncticollis*) etc. In recent years, *C. nigrica* has drawn wide attention in pest management; in Asia, it feeds on numerous agricultural crops from as many as 11 different plant families.

In addition to the plant damage caused by adult foliage and larval root feeding, some species of *Chaetocnema* transmit bacterial diseases to plants. In North America, *Chaetocnema pulicaria* and *C. denticulata* spread Stewart's bacterial wilt of corn, which causes more significant damage than does the feeding (White, 1996). In Afrotropical Region, some species (e.g., *C. pulla*) spread bacterial disease rice yellow mottle (Biondi and D'Alessandro, 2010). A recent research has also confirmed that '*C. basalis*' (= *C. nigrica*) is a vector of Stewart Wilt disease in Indonesia (Widodo et al., 2017).

Also *C. confinis* Crotch, native for North America and introduced into Asia, is potentially a major pest of many vegetables in the family Convolvulaceae. This species is one of the most injurious beetles in North America known as the Sweet Potato Flea Beetle (White, 1996). In the Oriental Region, *C. confinis* feeds on *Ipomoea batatas* (L.) Lam. (i.e., sweet potato) and *Ipomoea aquatica* Forssk., both of which are common vegetables in Asia.

Alpine species. As *Chaetocnema* is cosmopolitan in distribution, its species have adapted to life in various geographic, climatic and altitudinal conditions. It is very interesting that some beetles were collected at the extreme high elevation, which is arid, with sparse vegetation and frigid winter. The highest altitudinal record in Oriental *Chaetocnema* specimens we have examined is *Chaetocnema alticola* Maulik collected from 15000 ft. (=4572 m) above sea level in North Kumaon, India. The type specimens of *Chaetocnema altisocia* (= *Chaetocnema psylloides*) were collected from Tibet at the elevation of 4500 m; however, some other specimens of the same species are collected from Hissar (India) with an elevation of about 200 m. It indicates that this species can survive not only freezing and arid environment with extreme high altitude, but also warm lowland with humid subtropical climate.

FIGURE 1. *Chaetocnema bella* on foliage of *Cyperus* sp (Cyperaceae). Hand drawing by Yongying Ruan.

Flying ability. In flea beetles, reduction of humeral calli usually indicates incomplete or highly reduced hind wings, which lead to the loss of flying ability. Most species of Oriental *Chaetocnema* are able to fly, as they are equipped with fully developed hind wings. Only a few species are special: *C. glabra*, *C. rahlensis* and *C. sulcicollis* with entirely absent humeral calli and hind wings; *C. alticola*, *C. cognata* and *C. latapronota* with highly reduced humeral calli and hind wings; *C. baoshanica* with fragile hind wings and highly reduced humeral calli.

Invasive species. *Chaetocnema confinis* Crotch is native to the Nearctic Region and is an invasive species in many countries in Asia and continental Africa (Beenen, 2005). Jolivet (1998) suggested that this species spreads through wind dispersal of parthenogenetic females.

FIGURE 2. *Chaetocnema constricta* on host plant *Rubus simplex* (Rosaceae). Photography information: Ruan, Fujian Province, China, 13.VI. 2017.

We also find adults of *C. confinis* Crotch feed on *Ipomoea cairica* (L.) Sweet in Shenzhen, south China. Individuals of *C. confinis* feeding on *I. cairica* can be frequently seen in the field, city parks and gardens in Shenzhen. Currently, *I. cairica* is considered as a noxious weed to China and many other countries across the world. However, it is still unknown if *C. confinis* can control the growth and distribution of *I. cairica*.

Sex ratio. In the Oriental Region, the number of female individuals is slightly greater than males in most species.

FIGURE 3. *Chaetocnema* spp. in nature. **A, E.** *Chaetocnema concinnicollis* (Baly), on *Digitaria* sp. (Poaceae). **B, F.** *Chaetocnema salixis* Ruan et al., on soil. **C.** *Chaetocnema picipes* Stephens, on *Polygonum* sp. (Polygonaceae). **D.** *Chaetocnema ingenua* Motschulsky, on *Panicum miliaceum* Lin. (Poaceae). **G.** *Chaetocnema bella* Baly, male, on unknown plant.

FIGURE 4. Body size and color of genus *Chaetocnema*. **A.** *Chaetocnema confinis* Crotch, female. **B.** *Chaetocnema nigrica* Motschulsky, male. **C.** *Chaetocnema picipes* Stephens, male. **D.** *Chaetocnema semicoerulea* (Koch), male. **E.** *Chaetocnema tristis* Allard, male.

Parthenogenesis. Parthenogenesis is previously reported in five genera of Chrysomelidae (Furth, 1994). However this topic is clearly understudied in leaf beetles as statement that *Longitarsus melanurus* (Melsheimer) is partenogentic (Hatch, 1971; Wilcox, 1975) proved incorrect, after a discovery that the only known syntype of the species is male. Other flea beetles, with reported parthenogenesis are: *Altica lazulina* LeConte (Furth, 1994) and *Chaetocnema perplexa* Blake (host plant: sweet potato) (Virkki *et al.*, 1989).

We found that the populations of *Chaetocnema confinis* Crotch in the Oriental region are probably parthenogenetic. In this species, both genders are present about equally in North America, where it is native, and only females occur in the Oriental Region (we have examined 80 specimens from various places in the Oriental Region and all of them are females, 4 specimens from Japan and 3 from Australia are also females). The phenomenon in *C. confinis* is very close to that in another leaf beetle *Bromius obscurus* (L.) (Eumolpinae). In *B. obscurus*, the North American populations are bisexual and the European populations contain only females (Smith, 1971). In addition, all specimens of *C. confinis* from the Oriental Region are distinctly smaller (body length: 1.50–1.70 mm) than those from North America (body length: about 2.00 mm), such polymorphism also indicates parthenogenesis. Further cytological investigation is required to confirm the reproductive biology of *C. confinis*.

FIGURE 5. Dorsal view of *Chaetocnema (Chaetocnema) trapezoida* sp. nov. hand drawing by Yongying Ruan.

2) General morphology of Oriental *Chaetocnema* species

(Figs. 4–15)

General characters. Body ovate (rarely cylindrical), moderately convex. Body length: 1.30 mm (*C. nigrica*) to 4.50 mm (*C. wallacei*); body width 0.65 mm (*C. nigrica*) to 2.30 mm (*C. trists*). Body color: black, brown, yellow or reddish brown; dorsum usually with bronzy, coppery, blue or purple metallic luster. Procoxal cavity closed.

Head usually hypognathous. Supra-antennal calli absent. Antennae 11-segmented, filiform. Antennae short or long, vary from not reaching base of elytra (e.g., *C. glabra* sp. nov.) to stretching over the middle of elytra (e.g., *C. resplendens*). Inter-antennal space (Frontal ridge) narrow to wide. Frontal ridge flat or convex. Frontolateral sulcus present (subgenus *Chaetocnema* s. str.) or absent (subgenus *Udorpes*). Suprafrontal and orbital sulci poorly developed to deep. Vertex covered with a few punctures on each side near eyes to entirely densely punctate. Inter-antennal space (frontal ridge) punctate or impunctate. Anterior margin of labrum straight to slightly concave. Number of setae on labrum: 6.

FIGURE 6. Ventral and lateral view of *Chaetocnema* (*C. fusiformis* Chen & Wang). A. Ventral view. B. Lateral view.

Pronotum transverse, moderately to slightly converging forward. Surface of pronotum smooth, without any longitudinal or transverse impressions (only *C. malaise* species group has a very short and nearly invisible longitudinal impression on each side near basal margin). Pronotal punctures shallow and tiny to dense and large.

Elytra with moderate to slightly convex sides. Elytral punctures smaller or larger than those of pronotum. Punctures on elytron confused or arranged in regular rows. Interspaces of puncture rows flat to strongly costate. Elytral humeral calli and hind wings strongly developed to absent.

Claws appendiculate. First protarsomere of male slightly to much larger than that of female. Excavation on apical part of meso- and meta- tibia shallow to extremely deep. Large lateral denticle on metatibia sharp or obtuse. Metatibia rounded in cross-section, without a channel along the length. Metatibial serration proximal to large lateral denticle present or absent.

FIGURE 7. Morphology of the head of *Chaetocnema*. A. Head of subgenus *Chaetocnema* s. str., frontal view, hand drawing. B. Head of subgenus *Udorpes*, frontal view, hand drawing. C–D. Ventral view of the head of *C. gracilis* Motschulsky, SEM image.

Spermathecal receptacle pear-shaped, flask-shaped, cylindrical, or sinuated. Spermathecal duct coiled or straight. Spermathecal pump smaller than receptacle. Vaginal palpi not fused with each other, long, sclerotized at base and apex. Tignum with posterior end expanded, usually spoon like or spear like.

Aedeagus usually not robust, slender in lateral view, ovate in cross-section. Ventral longitudinal groove absent or present. Apical denticle in ventral view absent or present.

Diagnostic characters. *Chaetocnema* is a rather distinct genus among Alticini with the peculiar excavation on the distal part of the meso- and meta- tibiae, it may be differentiated from allied genera in the Oriental Region by the combination of the following characters: meso- and meta- tibiae with obtuse tooth beyond middle, followed by an excavation having a marginal row of stiff setae (Konstantinov, *et al.*, 2011); absence of the supra-antennal calli; procoxal cavity closed; absence of transverse groove or longitudinal strip near the base of pronotum (except a few species with inconspicuous short longitudinal impressions); first and second visible abdominal ventrites fused (see fig. 11 C).

FIGURE 8. Pronotum, Mesonotum and Pygidium of *Chaetocnema*. A. Antero-lateral angle of pronotum (*C. salix* Ruan *et al.*). B. hind lateral angle of pronotum, (*C. salix* Ruan *et al.*). C. Pronotum (*C. salix* Ruan *et al.*). D. Mesonotum (*C. constricta* Ruan *et al.*). E. Male pygidium (*C. deqinensis* Ruan *et al.*). F. Female pygidium (*C. deqinensis* Ruan *et al.*).

FIGURE 9. Morphology of the elytra of *Chaetocnema*. A. Dorsal view of elytra (*C. picipes* Stephens). B. Epiplueron of Elytra (*C. kingpinensis*. Ruan *et al.*). C. Ventral side of elytra, indicating 'Binding-sites' (*C. constricta* Ruan *et al.*).

FIGURE 10. Morphology of the hind wing and hind leg of *Chaetocnema*. A. Hind wing of *C. salix* Ruan *et al.* **B.** Hind leg of *C. constricta* Ruan *et al.* (indicating Metafemoral spring).

Despite these distinct characters, *Chaetocnema* resembles several other flea beetle genera, most of which are from Afrotropical and Australian regions: for instance, *Terpnochlorus* Fairmaire; *Carcharodis* Weise; *Pepila* Weise; *Collartaltica* Bechyné; *Biodontocnema* Biondi; and *Seychellaltica* Biondi. Biondi (2002) studied the phylogenetic relationships of these genera and provided diagnostic characters to distinguish each other. *Chaetocnema* also resembles *Crepicnema* Scherer (introduced from Australia Region) and *Xenidea* Baly, but the *Crepicnema* and *Xenidea* are quite different in the middle tibiae not having excavation near apex.

Biondi (2000) described a new Afrotropical genus *Biodontocnema* based on a single species (*B. brunnea* Biondi) and distinguished it from *Chaetocnema* by the bidentate apex of the dorsal metatibial margin; he suggested that this morphological feature was absent in all other described flea beetle genera (Konstantinov *et al.*, 2011). *Biodontocnema* was subsequently synonymized with *Chaetocnema* (in Konstantinov *et al.*, 2011) for the following reason: firstly, two Palearctic *Chaetocnema* species (*C. major* and *C. schlaeflii*) also have two denticles on the upper median and lateral edges of the metatibia; secondly, the male genitalia of them are quite similar to that of *Biodontocnema*. However, Biondi (2012) reinstated the generic status of *Biodontocnema* by the following reason: firstly, the authors (i.e., Konstantinov *et al.*, 2011) haven't studied any specimens of *Biodontocnema*; secondly, the denticle on the upper median and lateral edges of the metatibia are different in shape between *Biodontocnema* and the two species (*C. major* and *C. schlaeflii*); furthermore, *Biodontocnema* is much more closer to *Carcharodis* than *Chaetocnema* based on phylogeny analysis in Biondi (2002). We believe that it requires further studies (e.g., molecular biological approach) to reveal the true relationships between the two genera.

FIGURE 11. Morphology of the venter of *Chaetocnema*. A. Prosternum. B. Meso- and meta- sternum. C. Abdominal ventrites (male).

FIGURE 12. Last abdominal ventrite of *Chaetocnema* (The fifth visible ventrite) (*C. concinnicollis*). A. female. B. male.

FIGURE 13. Morphology of the aedeagus of *Chaetocnema*. A. Ventral view (*C. ingenua*). B. Lateral view (*C. ingenua*). C. Dorsal view (*C. yulongensis*).

FIGURE 14. Morphology of the female genitalia of *Chaetocnema*. A. Spermatheca (*C. fusiformis* Chen & Wang). B. Tignum (*C. cylindrica* (Baly)). C. Vaginal palpi (*C. confinis* Crotch).

Sexual Dimorphism. There are a few differences between genders in *Chaetocnema*, for instance: females usually have larger body than males; the first tarsomeres of females are prominently smaller than in males for the most species; the hind margin of the last abdominal ventrite is simple in females and with a produced lobe in middle in males (see Fig. 12); the hind margin of last abdominal tergites are much more narrowed in females than males (see Fig. 8 E, F).

3) Taxonomic treatment

Chaetocnema Stephens, 1831

Odontocnema Stephens, 1831: 285, incorrect original spelling (nomen nudum).

Chaetocnema Stephens, 1831: 325. Type species: *Chrysomela concinna* Marsham, 1802, subsequent designation by Westwood, 1838: 42.

Plectroscelis Dejean, 1836: 393. Type species: *Haltica dentipes* sensu Olivier, 1808 [= *Altica chlorophana* Duftschmid, 1825; not *Altica dentipes* Koch 1803], misidentified in the first subsequent designation by Chevrolat 1845: 6. Synonymized by Redtenbacher, 1849: 539.

Tlanoma Motschulsky, 1845: 108. Type species: *Altica dentipes* Koch 1803 = *Chrysomela concinna* Marsham, 1802, by original designation. Synonymized by White, 1996: 22.

Udorpes Motschulsky, 1845: 107. Type species: *Udorpes splendens* Motschulsky, 1845, by monotypy. Synonymized by Heikertinger & Csiki, 1940: 375.

Ydorpes Motschulsky, 1845: 549 (unjustified emendation of *Udorpes* Motschulsky, 1845).

Udorpus Agassiz, 1846: 167, *lapsus calami* for *Udorpes*.

Hydropus Motschulsky, 1860: 235 (unjustified emendation of *Udorpes* Motschulsky, 1845). Synonymized by Heikertinger & Csiki, 1940: 375.

Hydorpes Motschulsky, 1860: 257, *lapsus calami* for *Hydropus*.

Exorhina Weise, 1886: 750. Type species: *Altica chlorophana* Duftschmid, 1825, subsequent designation by Döberl, 2010: 508. Synonymized by Heikertinger & Csiki, 1940: 376.

Halticops Brethes, 1928: 219. Type species: *Haltica aenea* Blanchard, 1851:557, by monotypy (placed in synonymy of *Chaetocnema* by Scherer 1962:538, moved to Eumolpinae by Askevold & LeSage 1990:29).

Brinckaltica Bechyné, 1959: 237. Type species: *Chaetocnema subaterrima* Jacoby, 1900, by original designation. Synonymized by Scherer, 1961: 259.

Distribution: Worldwide.

Etymology: “*Chaetocnema*” is a Latin transcription of a composition having Greek origin from two words: χαίτη (chajté, meaning hair or seta) and κνήμη (knémé, meaning tibia), both words are feminine in Greek. Substantivum knémé grammatically does not end with “-nema” but only with “-a” because kném- is root of the word and the rest “-a” is the word termination (contrary to frequent examples terminating with “-ma”—those are true neuter). Therefore the name *Chaetocnema* is undoubtedly feminine.

Subgenera

Tlanoma Motschulsky has been erroneously used as a subgenus name for a very long time. This mistake was already fully discussed by Konstantinov *et al.* (2011). They pointed out: *C. concinna* Marsham, 1802 is the correct type species of genus *Chaetocnema* designated by Westwood, 1838, instead of *C. hortensis* (Geoffroy) designated by Maulik (1926) which was erroneously used by many authors (e.g., Chen, 1934; Heikertinger, 1951; Gressitt & Kimoto, 1963; Scherer, 1969; Kimoto, 2000; Döberl, 2010); therefore, the valid name for the subgenus should be *Chaetocnema* (s. str.) (type species: *C. concinna*) and *Udorpes* (type species: *C. splendens*); *Tlanoma* Motschulsky in fact is a subjective junior synonym of *Chaetocnema* in the strict sense. Konstantinov *et al.* (2011) suggested not to use any subgeneric classification until rigorous phylogenetic analysis has been conducted in this genus. However, in this work, the two subgenera is used for practical reasons.

Key to subgenera

1. Frontal ridge usually narrow, regularly convex, in rare cases flat; frontolateral sulcus present; spermatheca pear-shaped, flask-shaped or cylindrical, not sinuated; vertex usually only with a few punctures on each side near eye Subgenus ***Chaetocnema* s. str.**
- Frontal ridge usually wide, flat, never convex; frontolateral sulcus absent; spermatheca sinuated; vertex usually entirely covered with numerous large and deep punctures Subgenus ***Udorpes***

Species groups

1) Subgenus *Chaetocnema* (s. str.)

***C. babai* group** [*C. babai*, *C. taiwanensis*]. Diagnosis: a transverse row of enlarged and deepened punctures present along base of pronotum; pronotal punctures extremely minute and shallow; surface of head and pronotum

smooth and shiny, without reticulated pattern; frontal ridge slightly wider than antennal socket; body robust; body length greater than 1.9mm.

***C. gracilis* group** [*C. fusiformis*, *C. gracilis*, *C. parafusiformis* sp. nov.]. Diagnosis: antero-lateral calli of pronotum prominently pointed and produced forward, acute; surface of head and pronotum with conspicuous reticulated pattern; body fusiform in dorsal view, strongly narrowing anteriorly; spermathecal receptacle long and cylindrical.

***C. granulicollis* group** [*C. granulicollis*, *C. jinxiuensis* sp. nov., *C. nagpurensis*, *C. trapezoida* sp. nov.]. Diagnosis: vertex evenly covered with numerous (more than 30) extremely shallow and medium sized punctures, leaving a middle longitudinal area impunctate; frontal ridge wide, nearly flat, ratio of width of frontal ridge to that of antennal socket exceeds 2.20.

***C. hainanensis* group** [*C. dapitanica* sp. nov., *C. hainanensis*, *C. sabahensis* sp. nov.]. Diagnosis: in ventral view, aedeagus with a longitudinal ridge on each side near lateral margin (e.g., Fig. 38 D, indicated by red arrow); in lateral view, aedeagus with middle part straight, apical and basal part bent ventrally, apical denticle bent dorsally or straight.

***C. longipunctata* group** [*C. appendiculata* sp. nov., *C. hongkongensis* sp. nov., *C. longipunctata*, *C. nigrilata* sp. nov., *C. tonkinensis*, *C. yiei*]. Diagnosis: pronotum with punctures minute, conspicuously longitudinal; a transverse row of strongly enlarged and deepened punctures present along base of pronotum.

***C. malaisei* group** [*C. baoshanica* sp. nov., *C. cheni*, *C. constricta*, *C. deqinensis*, *C. fortetostata*, *C. granulosa*, *C. kingpinensis*, *C. malaisei*, *C. salix*, *C. yulongensis*]. Diagnosis: pronotum with a very short and indistinct (sometimes nearly invisible) longitudinal impression near base on each side; frontal ridge narrow and convex.

***C. melonae* group** [*C. duvivieri*, *C. excavata*, *C. melonae*, *C. purerulea* sp. nov., *C. sticta*]. Diagnosis: surface of head and pronotum smooth and shiny, without reticulated pattern; surface of vertex with numerous extremely minute and rugged punctures; pronotal punctures extremely minute.

***C. nigrica* group** [*C. fallaciosa*, *C. nigrica*, *C. resplendens*, *C. warchalowskii*, *C. yaosanica*]. Diagnosis: A transverse row of enlarged and deepened punctures present along base of pronotum; pronotal punctures dot like, not elongate, extremely minute and shallow; body broad, strongly ovate; frontal ridge narrow, not wider than antennal socket; body length less than 1.90 mm.

***C. puncticollis* group** [*C. furthi*, *C. puncticollis*, *C. simplicifrons*, *C. tristis*, *C. yunnanica*]. Diagnosis: sides of vertex strongly raised, higher than level of orbit and eye; from lateral view, lateral sides of vertex forming vertical walls (e.g., Fig. 32 G, indicated by red arrow).

***C. wallacei* group** [*C. montivaga*, *C. philippina*, *C. sumatrana*, *C. wallacei*]. Diagnosis: body length greater than 2.40 mm; frontal ridge wide, width of frontal ridge to width of antennal socket ratio exceeds 1.40.

Un-classified species: *C. confinis*, *C. laotica*, *C. subbasalis* sp. nov., *C. yonyonae*.

2) Subgenus *Udorpes*

***C. alticola* group** [*C. alticola*, *C. psylloides*, *C. shanxiensis*]. Diagnosis: body strongly elongate and narrow; body length to width proportion exceeds 2.00; elytron length (along suture) to width (maximum) proportion exceeds 3.00.

***C. belli* group** [*C. angustifrons* sp. nov., *C. belli*]. Diagnosis: head narrow, orbit narrow; proportion of width between inner-margin of eyes to width of eye less than 2.00; supra-orbital, supra-antennal and supra-frontal sulci together forming a 'W' shape.

***C. bretinghami* group** [*C. bretinghami*, *C. singala*]. Diagnosis: elytra strongly costate; vertex strongly punctate, with punctures as large as those on frons.

***C. concinnicollis* group** [*C. afghana*, *C. bella*, *C. cognata*, *C. concinnicollis*, *C. eastafghanica*]. Diagnosis: elytral punctures placed in regular rows, peri-scutellar area of elytra with punctures simple to tripled. *C. concinnicollis* group is rather close to *C. ingenua* group in external characters. However, the members of *C. concinnipennis* group without an distinct longitudinal impunctate area in middle of pronotum; while in *C. ingenua* group, the longitudinal impunctate area on pronotum is distinct in all members.

***C. concinnipennis* group** [*C. concinnipennis*, *C. pusaensis*, *C. malayana*]. Diagnosis: elytral punctures confused, or extremely closely placed with extra rows.

***C. cupreata* group** [*C. cupreata*, *C. merguensis*]. Diagnosis: body large, body length exceeds 3.00 mm.

FIGURE 15. Morphology of the legs of *Chaetocnema*. **A.** Front leg (*C. fortecostata* Chen). **B.** Middle leg (*C. fortecostata* Chen). **C.** Hind leg (*C. fortecostata* Chen). **D.** Distal part of hind tarsomere, indicating claw and showing the ‘miniaturized tarsomere’ between 3rd tarsomere and 4th visible tarsomere (*C. transbaicalica* Heikertinger). **E.** Distal part of hind tibia, showing excavation and spur (*C. constricta* Ruan *et al.*). **F.** Ditto (*C. fortecostata* Chen).

***C. cylindrica* group** [*C. cylindrica*, *C. modesta*]. Diagnosis: base of pronotum strongly constricted, narrower than middle area, much narrower than elytral base; pronotum only slightly wider than long, width to length ratio less than 1.5.

***C. greenica* group** [*C. greenica*, *C. latapronota* sp. nov., *C. paragreenica* sp. nov.]. Diagnosis: body broad and ovate; head wide, ratio of width between inner-margin of eyes to width of eye greater than 2.00; pronotum broad, as wide as the base of elytra.

***C. ingenua* group** [*C. ingenua*, *C. midimpunctata*, *C. modiglianii*, *C. westwoodi*]. Diagnosis: elytral punctures arranged in regular lines, peri-scutellar area of elytra with punctures geminate to fourfold, middle of pronotum with a longitudinal impunctate area.

***C. umesaoi* group** [*C. paraumesaoi* sp. nov., *C. umesaoi* Chûjô]. Diagnosis: body size small, body length 1.5 – 1.70 mm; middle of pronotum with an indistinct longitudinal impunctate area.

***C. zangana* group** [*C. kumaonensis*, *C. zangana*]. Diagnosis: antennae stout and shortened, not stretching over elytral humeral calli; frons with middle longitudinal area impunctate.

Un-classified species: *C. glabra* sp. nov., *C. rahlensis*, *C. reteimpunctata* sp. nov., *C. sulcicollis*.

Subgenus *Chaetocnema* Stephens s. str.

Chaetocnema Stephens, 1831: 325.

Type species: *Chrysomela concinna* Marsham, 1802, subsequent designation by Westwood, 1838: 42.

Key to species of subgenus *Chaetocnema* s. str.

1. Frontal ridge wide and flat, width of frontal ridge to width of antennal socket exceeds 2.20; vertex evenly covered with numerous (more than 30) extremely shallow and medium sized punctures, leaving a middle longitudinal area impunctate; lateral margin of pronotum nearly straight, converging forward 2
- Frontal ridge narrow and convex, width of frontal ridge to width of antennal socket ratio less than 2.0; vertex only punctate on sides near eyes or with numerous extremely minute and ragged punctures scattered over entire vertex 5
2. Interspaces between puncture rows of elytra densely punctate and transversely wrinkled *Chaetocnema nagpurensis* Duvivier, 1892
- Interspaces between puncture rows of elytra not wrinkled 3
3. Body broad. Elytra yellow, without metallic luster, with peri-scutellar area and suture brown (yellow pattern on elytra could be weaker in some specimens) *Chaetocnema granulicollis* Jacoby, 1896
- Elytra not yellow, with metallic luster 4
4. Dorsum unicolorous, bronzy, without green luster; pronotum wide, approximately twice wider than long *Chaetocnema jinxiuensis* sp. nov.
- Dorsum slightly bicolorous, pronotum and head bronzy green; elytra bronzy, with very slight green tinge; pronotum long, longer than regular *Chaetocnema* species, about 1.5 times wider than long *Chaetocnema trapezoida* sp. nov.
5. Sides of vertex strongly raised, higher than level of orbit and eye; from lateral view, lateral sides of vertex forming vertical walls 6
- Vertex normal, not raised, situated on same level as orbit and eye 10
6. Dorsum metallic blue, interspaces between puncture rows of elytra covered with conspicuous, dense and minute punctures *Chaetocnema yunnanica* Heikertinger, 1951
- Body not metallic blue, interspaces between puncture rows of elytra sparsely and very minutely punctate 7
7. Body length greater than 3.40 mm *Chaetocnema tristis* Allard, 1889
- Body length less than 2.50 mm 8
8. Pronotum bumpy, with ragged and unevenly distributed punctures *Chaetocnema simplicifrons* (Baly, 1876)
- Pronotum smooth, with normal punctures 9
9. Antero-lateral calli of pronotum strong and truncate; body color bronzy *Chaetocnema puncticollis* (Motschulsky, 1858)
- Antero-lateral calli of pronotum weak and facing forward; body color blackish brown *Chaetocnema furthi* Medvedev, 1996
10. Numerous extremely minute and ragged punctures scattered over entire vertex, leaving some area impunctate; pronotum covered with minute punctures; head and pronotum smooth and shiny, without any fine reticulated pattern as in other species 11
- Vertex only with sides near eyes covered with large punctures; pronotum covered with large punctures; head and pronotum regularly finely reticulated 15
11. Surface of frontal ridge covered with numerous extremely minute punctures; upper part of frontal ridge wider than lower part *Chaetocnema sticta* Maulik, 1926

-	Surface of frontal ridge without numerous minute punctures; frontal ridge parallel-sided	12
12.	Surface of frontal ridge covered with transverse wrinkles; body with dark purplish metallic luster	13
-	Surface of frontal ridge smooth; body without purple metallic luster	13
13.	Body longer than 2.90 mm; antennae rather long, reaching well over humeral calli	14
-	Body shorter than 2.70 mm; antennae of normal length, reaching humeral calli of elytra	14
14.	Body narrow and longitudinal, parallel-sided; tibiae and tarsi yellowish brown; antennae reaching middle of elytra	14
-	Body broad, ovate; tibiae and tarsi generally dark brown; antennae reach well over humeral calli, but not attaining middle of elytra	15
15.	A transverse row of enlarged and deepened punctures present along the base of pronotum; pronotal punctures either extremely minute or longitudinal	16
-	Punctuation near the base of pronotum normal, without a row of enlarged or deepened punctures	28
16.	Frontal ridge broad, width of frontal ridge to width of antennal socket ratio usually exceeds 1.40; pronotal punctures minute, conspicuously longitudinal	17
-	Frontal ridge narrow, width of frontal ridge to width of antennal socket ratio less than 1.40; pronotal punctures extremely minute and shallow, round	22
17.	Antennae and legs extremely robust and long, disproportionate to the size of body; hind tibiae with extremely deep excavation and strongly produced tooth	18
-	Antennae and legs normal; hind tibia with normally developed excavation and tooth	18
18.	Body color brown, sometimes with very slight coppery luster	19
-	Body color black, sometimes with very slight bronzy luster	20
19.	In ventral view, aedeagus with sides of basal opening much expanded, prominently wider than the rest part of aedeagus	20
-	In ventral view, aedeagus with sides of basal opening only slightly expanded	20
20.	Surface of vertex with 8–12 punctures on each side near eye; labrum strongly and evenly concave at anterior margin, forming teeth at sides	21
-	Surface of vertex with less than 7 punctures on each side near eye; labrum straight or very slightly convex at anterior margin, not forming teeth at sides	21
21.	In ventral view, aedeagus asymmetrical, apical denticle of aedeagus bent towards right side; in lateral view, aedeagus very slightly bent ventrally; body much more broadened than allied species, elytron length (along suture) to width (maximum): 1.75–1.85	21
-	In ventral view, aedeagus symmetrical, apical denticle of aedeagus upright; in lateral view, aedeagus strongly bent ventrally at base, slightly bent dorsally at apical half	22
22.	Body longer than 1.90 mm. Body robust, cylindrical and slightly longitudinal, not broad; frontal ridge wider than antennal socket	23
-	Body shorter than 1.90 mm. Body very broad, very much ovate; frontal ridge not wider than antennal socket	24
23.	Body entirely black, elytra strongly costate	24
-	Body brown, elytra only very slightly costate at sides	25
24.	Pronotal punctures longitudinal; body color entirely black, without any metallic luster	25
-	Pronotal punctures circular; body color not entirely black	26
25.	Punctures below antennal socket (i.e., the area near clypeus) geminate or tripled; aedeagus gradually narrowed	26
-	Punctures below antennal socket (i.e., the area near clypeus) single or slightly geminate; aedeagus abruptly narrowed	26
26.	Pronotum covered with evenly spaced shallow and minute punctures; transverse row of enlarged punctures at pronotal base prominent at sides, weak at middle; basal margin of pronotum well depressed and ridged	27
-	Pronotum extremely glabrous and smooth, almost impunctate, only a few punctures scattered irregularly; transverse row of enlarged punctures only occur at sides of pronotal base; basal margin of pronotum flat, almost not depressed	27
27.	Dorsum yellowish brown to reddish brown, with very slight metallic luster on pronotum; antennae long, reaching beyond middle of elytra	28
-	Dorsum black with bronzy luster; antennae not stretching beyond middle of elytra	28
28.	In lateral view, aedeagus with middle part straight, apical and basal part bent ventrally, apical denticle bent dorsally or straight	29
-	In lateral view, aedeagus curved at middle	31
29.	Body cylindrical and longitudinal, with lateral sides almost parallel	30
-	Body ovate, with lateral sides convex	30
30.	Pronotum covered with extremely coarse punctures as large as those on elytra	30
-	Pronotum covered with extremely minute and shallow, barely visible punctures	30
31.	Frontal ridge wide, width of frontal ridge to width of antennal socket ratio exceeds 1.40	32
-	Frontal ridge narrow, width of frontal ridge to width of antennal socket ratio less than 1.40	36
32.	Body minute, body length less than 1.80 mm (body length of North American specimens slightly greater. Only female specimens have been discovered in Oriental Region)	36

- Body size medium to large, body length greater than 2.40 mm 33
- 33. Body color metallic blue; elytra only slightly costate at sides *Chaetocnema philippina* Medvedev, 1996
- Body color brown; elytra strongly costate 34
- 34. Body length exceeding 3.50 mm; body cylindrical and longitudinal; ventral-lateral sides of aedeagus without prominent oblique ridges *Chaetocnema wallacei* Baly, 1877
- Body length 2.90–3.20 mm; body ovate and broad; two oblique ridges and numerous streaks occur on ventral-lateral sides of aedeagus 35
- 35. Two oblique ridges present on ventral sides of aedeagus, conspicuously expanded, forming a narrow wing-like sclerotization *Chaetocnema sumatrana* Jacoby, 1896
- Two oblique ridges on aedeagus narrow, ridge-like, not expanded *Chaetocnema montivaga* Maulik, 1926
- 36. Antero-lateral calli of pronotum prominently facing forward, acute, very weak at sides; body strongly narrowing anteriorly, head rather narrow (much narrower than width of anterior margin of pronotum) 37
- Antero-lateral calli of pronotum not acute and facing forward, usually rounded or truncate 39
- 37. Interspaces of elytral puncture rows prominently covered with transverse wrinkles; each side of head near eye covered with approximately 15 punctures; body narrowing both anteriorly and posteriorly *Chaetocnema fusiformis* Chen & Wang, 1980
- Interspaces of elytral puncture rows covered with circular minute punctures; each side of head near eye covered with approximately 5–10 punctures 38
- 38. Body length: 1.70–1.85 mm; tibiae dark brown, with base near femora slightly yellowish brown *Chaetocnema parafusiformis* sp. nov.
- Body length: 1.40–1.70 mm; tibiae yellowish brown *Chaetocnema gracilis* Motschulsky, 1858
- 39. Body length approximately 2.5 mm; body metallic blue, with pronotum slightly greenish *Chaetocnema yonyonae* Chen, 1934
- Body length less than 2.5 mm; body not metallic blue 40
- 40. Dorsum with green to greenish blue metallic luster; each side near base of pronotum without indistinct longitudinal strip *Chaetocnema laotica* Medvedev, 2009
- Dorsum without greenish or bluish luster, regularly with bronzy to coppery luster; each side near base of pronotum with or without short longitudinal depression 41
- 41. Each side near base of pronotum without short longitudinal depression; body shape broad, very much resembles *C. nigrica*, however without transverse row of enlarged punctures along pronotal base; body entirely black, with very slight bronzy luster *Chaetocnema subbasalis* sp. nov.
- Each side near base of pronotum with very short and indistinct (sometimes nearly invisible) longitudinal impression; body narrow 42
- 42. Appendages stronger and longer than in regular species; length of antenna to length of body ratio: about 0.70; pronotum long, almost parallel-sided; humeral calli extremely weak 43
- Appendages as normal as regular species; length of antenna to length of body ratio smaller than 0.70 44
- 43. Aedeagus somewhat narrowed at apex, with apical denticle weak and angulate *Chaetocnema kingpinensis* Ruan, Konstantinov & Yang, 2014
- Aedeagus parallel-sided, apex as wide as middle and base, apical denticle entirely absent *Chaetocnema baoshanica* sp. nov.
- 44. Body black, with or without metallic luster; antennae and legs deep brown to black 45
- Body brown, with bronzy to coppery luster; antennae and legs brown to yellow 46
- 45. Body color black, elytra without any metallic luster, pronotum with bronzy luster; appendages with brown color *Chaetocnema salix* Ruan, Konstantinov & Yang, 2014
- Body black with very slight bronzy luster; appendages mostly dark brown *Chaetocnema malaisei* Bryant, 1939
- 46. In ventral view, aedeagus dilated or widened at apical part 47
- In ventral view, aedeagus narrower at apical part than middle 49
- 47. In ventral view, aedeagus with perfect straight lateral sides, evenly expanding from base to apical part; apical part of aedeagus nearly triangulate, with tip broadly angulated *Chaetocnema cheni* Ruan, Konstantinov & Yang, 2014
- In ventral view, aedeagus parallel-sided, not expanding from base to apical part, only dilated and rounded at apex 48
- 48. Aedeagus symmetrical, very slightly dilated at apex in ventral view *Chaetocnema fortcostata* Chen, 1939
- Aedeagus asymmetrical, distorted at base, strongly dilated at apex in ventral view *Chaetocnema granulosa* Baly, 1874
- 49. Ventral groove present at ventral side of aedeagus; aedeagus abruptly narrowed and constricted right before apical top; body color usually bronzy *Chaetocnema constricta* Ruan, Konstantinov and Yang, 2014
- Ventral groove absent at ventral side of aedeagus 50
- 50. In lateral view, aedeagus evenly curved, slightly sinuate at apex; body color usually bronzy *Chaetocnema deqinensis* Ruan, Konstantinov & Yang, 2014
- In lateral view, aedeagus straight at basal half, bent ventrally at apical half, slightly sinuate at apex; body color usually coppery *Chaetocnema yulongensis* Ruan, Konstantinov & Yang, 2014

1. *Chaetocnema* (*Chaetocnema*) *appendiculata* Ruan, Konstantinov & Yang, New Species

(Fig. 16)

Etymology: This species is named after its disproportionately elongate antenna and legs, the name is derived from the Latin word ‘appendicula’, it is a noun in apposition.

FIGURE 16. *Chaetocnema appendiculata* **sp. nov.** **A** Holotype, dorsal view. **B** Pronotum and peri-scutellar area. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view.

Diagnosis: *Chaetocnema appendiculata* **sp. nov.** resembles *C. yiei* Kimoto. It can be differentiated from *C. yiei* and other Oriental *Chaetocnema* species by the disproportionately robust and long antennae and legs; hind tibia with extremely deep excavation and strongly produced tooth; and elytra rather short compared to pronotum and head.

Distribution: India.

Host plants: Unknown.

Description: Body length: 1.80–1.85 mm. Body width: 1.00–1.05 mm. Ratio of length of antenna to length of body: 0.74–0.75. Ratio of elytron length (along suture) to width (maximum): 2.25–2.30. Ratio of pronotum width

(at base) to length: 1.50–1.75. Ratio of length of elytron to length of pronotum (along middle): 2.10–2.15. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.03–1.05.

Dorsum dark brown, with extremely slight bronzy luster. Head and pronotum finely reticulated. Antennomeres 1–5 completely yellow brown, 6–11 brown, not dark. Pro- and meso- tarsi and tibiae yellow brown. Pro- and meso- femora generally brown, with apex yellow brown. Metatarsi and tibiae red brown. Metafemora deep red brown.

Head hypognathous. Frontal ridge narrow and convex. Frontolateral sulcus present. Suprafrontal sulcus poorly developed, shallow, gently curved upwards. Orbital, supra-antennal sulci moderately developed. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 1.80–1.90. Number of punctures on vertex: 7–10 on each side near eye. Punctures absent on orbit and frons (triangular area surrounded by frontolateral sulcus and clypeus). Number of setae on clypeus: approximately 10–12. Number of setae on labrum: 6. Anterior margin of labrum straight.

Pronotum without longitudinal impressions near basal margin. Deep, conspicuous row of large punctures at base of pronotum present. Pronotal base convex. Lateral margins of pronotum slightly and evenly convex, not obviously converging forward. Anterolateral prothoracic callosity weak, merge with lateral margin. Posterolateral prothoracic callosity poorly developed. Pronotal punctures extremely shallow and tiny, longitudinal. Diameter of pronotal punctures 2–4 times smaller than distance between adjacent punctures.

Elytra with slightly convex sides. Elytral punctures many times larger than those on pronotum. Punctures on elytron arranged in regular single rows, including peri-scutellar row. Elytral interspaces between puncture rows slightly costate at middle, strongly costate at sides. Elytral humeral callus moderately developed.

First male protarsomere larger than second. Excavation on metatibia extremely deep. Large lateral denticle on metatibia produced and sharp. Metatibial serration proximal to large lateral denticle absent.

Aedeagus in ventral view narrowing gradually towards apex. Ventral longitudinal groove absent. Apical denticle in ventral view absent. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view unevenly curved, somewhat sinusoidal near apex. Maximum curvature in lateral view situated at middle.

Type: Holotype: ♂ (BMNH), labels: **India**, Shembaganur Madura, Inde, Collection J. Achard; 2) Holotype *Chaetocnema appendiculata* **sp. nov.** Des. Ruan *et al.*, 2016.

2. *Chaetocnema* (*Chaetocnema*) *babai* Kimoto, 1991

(Fig. 17)

Chaetocnema babai Kimoto, 1991: 17. TL: Taiwan. TD: Unknown (to the best of our knowledge, the Holotype is not present in KMNH, KUZZ or TARI).

Distribution: China (Taiwan).

Host plants: Unknown.

Description: Body length: 2.20–2.40 mm. Body width: 1.30–1.35 mm. Ratio of elytron length (along suture) to width (maximum): 2.40–2.45. Ratio of pronotum width (at base) to length: 1.85–1.90. Ratio of length of elytron to length of pronotum (along middle): 2.70–2.80. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.10–1.15.

Body entirely black, without metallic luster. Dorsum and head smooth and shiny. Antennae with basal antennomeres yellow brown and distal ones dark brown. Tibiae with apical half darker than basal half, tarsi generally yellow brown. All femora dark brown, hind femur darker than pro- and mesofemora.

Head hypognathous. Frontal ridge moderately wide, convex. Frontolateral sulcus present. Suprafrontal sulcus deep, slightly and evenly curved. Orbital sulcus deep, straight and oblique. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 1.85–1.90. Number of punctures on vertex: 4–6 on each side near eye. Number of punctures on orbit: 3–5 on each side. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: approximately 20. Number of setae on labrum: 6. Anterior margin of labrum straight.

Pronotum without longitudinal impressions near basal margin. A deep row of large punctures present along basal margin of pronotum. Pronotal base evenly convex. Lateral margins of pronotum slightly convex, slightly converging forward. Anterolateral prothoracic callosity weak, rounded. Posterolateral prothoracic callosity poorly developed. Pronotal punctures extremely small, 3 to 5 times smaller than distance between them.

FIGURE 17. *Chaetocnema babai* (photograph of paratype). **A** Dorsal habitus (paratype). **B** Head, frontal view (paratype). **C** Lateral view of head (paratype). **D** Pronotum (paratype).

Elytra with slightly convex sides. Elytral punctures many times larger than those on pronotum, arranged in regular single rows, including peri-scutellar row. Interspaces between striae of punctures smooth, glabrous, strongly costate. Humeral callus well developed.

Excavation on metatibia moderately deep. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent or poorly developed.

Type: Paratype: 1 (KMNH), labels: 1) Tien Chi, Alt. 2200m. Kao Hsiung Hsien, S-Taiwan, 7.VIII.1986, Col. K. Baba. 2) *Chaetocnema babai* Kimoto, **sp. nov.** Det. S. Kimoto, 1991. 3) Paratype.

Remarks: *Chaetocnema babai* is rather unique by its entirely black body, extremely minutely and weakly punctate pronotum and strongly costate interstices between elytral striae. We could not locate the Holotype, as it is not present in KMNH, KUZC or TARI.

3. *Chaetocnema* (*Chaetocnema*) *baoshanica* Ruan, Konstantinov & Yang, New Species

(Fig. 18)

Etymology: This species is named after the type locality. Specific epithet is a noun in apposition.

Diagnosis: *Chaetocnema baoshanica* sp. nov. is endemic to China. It is characteristic in having very weak humeral calli and complete but fragile hind wings. This species is close to *C. kingpinensis*, however, differs from the latter by the absence of apical denticle of aedeagus (present and small in *C. kingpinensis*) and dark appendages (antennae and legs yellow to brown in *C. kingpinensis*).

Distribution: China (Yunnan).

Host plants: Unknown.

Description: Body narrow, legs and antennae robust and long. Body length: 2.00–2.35 mm, body width: 0.90–1.05. Ratio of length of antenna to length of body: 0.68–0.70. Ratio of elytron length (along suture) to width (maximum): 2.40–2.50. Ratio of pronotum width (at base) to length: 1.30–1.35. Ratio of length of elytron to length of pronotum (along middle): 1.85–1.95. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.00–1.05.

Dorsum strongly bronze colored. Pronotum and head strongly reticulate. Antennomeres 1–7 yellow brown, with 5 and 6 darker. Antennomeres 8–11 brown. Tibiae and tarsi yellow brown. Pro- and mesofemora dark brown. Metafemora dark brown to black, with slight metallic luster.

Head hypognathous, slightly produced forward. Frontal ridge between antennal sockets narrow, long and convex. Frontolateral sulcus present. Suprafrontal sulcus shallow, faint. Orbital sulcus and supra-antennal sulcus not deep. Ratio of width of frontal ridge to width of antennal socket: 0.80–0.90. Surface of vertex sparsely and shallowly covered with 5–6 punctures close to each eye. Number of punctures on orbit on each side: 3–4. Number of punctures along frontolateral sulcus on each side: 5–6. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: about 10. Number of setae on labrum: 6. Anterior margin of labrum slightly convex in middle.

Pronotum with two short longitudinal impressions visible only near basal margin. Deep row of large punctures at base of pronotum absent or obscurely present on sides. Pronotal base convex. Lateral margins of pronotum very slightly convex. Anterolateral prothoracic callosity protruding antero-laterally, forms strong obtuse angle. Posterolateral prothoracic callosity poorly developed. Wrinkles forming strongly reticulated patterns on the interspace of punctures of pronotum. Diameter of pronotal punctures subequal to distance between them.

Elytra with convex sides. Punctures on elytra arranged in regular rows, including one peri-scutellar row. Elytral humeral calli poorly developed, almost absent. Interspaces between rows of punctures on elytra densely covered with minute punctures. Number of minute puncture lines on each interspace: 2.

First male protarsomere only slightly larger than second. Large lateral denticle on metatibia sharp. Dorsal side of metatibia serrated.

Aedeagus parallel-sided, apex in ventral view narrowed abruptly. Ventral longitudinal groove of aedeagus poorly developed, apically as wide as basally. Apical denticle of aedeagus in ventral view poorly differentiated, in lateral view absent. Minute transverse wrinkles absent on ventral side of aedeagus. Distal half of aedeagus in lateral view slightly sinusoidal. Aedeagus narrow in lateral view.

Spermathecal receptacle pear-shaped, slightly narrow in middle. Spermathecal duct gently curved, not distorted. Spermathecal pump much shorter than receptacle. Apex of spermathecal pump cylindrical. Maximum width of receptacle situated basally. Receptacle basally wider than apically. Apex of vaginal palpus subtriangular, with convex lateral side. Vaginal palpus gently narrowing from base till middle, thence slightly widening towards apex. Anterior sclerotization of vaginal palpus slightly narrowing anteriorly. Anterior sclerotization of vaginal palpus slightly and evenly curved along length. Anterior end of anterior sclerotization broadly rounded. Posterior sclerotization longer than wide. Posterior sclerotization about as wide as anterior.

FIGURE 18. *Chaetocnema baoshanica* sp. nov. **A** Holotype, dorsal view. **B** Head, frontal view. **C** Pronotum and peri-scutellar area. **D1–D2** Aedeagus, ventral view. **E1–E2** Aedeagus, lateral view. **F** Apex aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female.

Type: Holotype: ♂ (USNM): 1) **China**, Yunnan, 60 km W Baoshan, Gaolingong Shan, 14.VI.2012, N25.18 W98.47, h–1557m, WP–344, leg. A. Konstantinov. 2) Holotype *Chaetocnema baoshanica* sp. nov., Des. Ruan Yong Ying, 2016.

Paratypes: 1♂ (IZCAS): 1) **China**, Yunnan, 60 km W Baoshan, Gaolingong Shan, 14.VI.2012, N25.18 W98.47, h–1557m, WP–344, leg. A. Konstantinov; 2) Paratype; 3) Paratypes *Chaetocnema baoshanica* sp. nov., Des. Ruan et

al. 2017. 3♀2♂ (IZCAS): 1) **China**, Menghun, Menghai, Xishuangbanna, Yunnan; 2) alt. 1200–1400m, 20.V.1958, Leg. Chunpei Hong; 3) Paratype; 4) Paratypes *Chaetocnema baoshanica* **sp. nov.**, Des. Ruan *et al.* 2017.

4. *Chaetocnema (Chaetocnema) cheni* Ruan, Konstantinov & Yang, 2014

(Figs. 19, 20)

Chaetocnema (Chaetocnema) cheni Ruan, Konstantinov and Yang, 2014: 21. TL: China, Yunnan. TD: IZCAS.

FIGURE 19. *Chaetocnema cheni*. **A** Holotype, habitus. **B** Prothorax. **C** Head. **D** Aedeagus, ventral and lateral views. **E** Apex of Aedeagus, dorsal view. **F** Vaginal palpi. **G** Spermatheca. **H** Tignum.

Distribution: China (Jiangxi, Hunan, Sichuan, Yunnan).

Host plants: *Solanum tuberosum*.

Description: Male body length: 1.85–2.05 mm, excluding head: 1.79–1.93 mm. Male body width: 1.00–1.05. Female body length: 2.10 ± 0.1 mm. Ratio of length of antenna to length of body: 0.60–0.62. Ratio of elytron length (along suture) to width (maximum) 2.50–2.60. Ratio of pronotum width (at base) to length: 1.46 ± 0.05 . Ratio of length of elytron to length of pronotum (along middle): 2.90 ± 0.05 . Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.16 ± 0.05 . Ratio of maximum width of elytra to that of pronotum: 1.53 ± 0.05 .

FIGURE 20. *Chaetocnema cheni*. A–B Habitus, indicating variation in color. C Ventral view of body. D Lateral view of body.

Elytra concolorous with pronotum or slightly different. Elytra coppery, sometimes blue black. Color of pronotum coppery, sometimes bronzy. Head dorsally coppery, sometimes bluish black. Antennomere 1 partially dark brown, 2–3 yellow, 4–5 partially brown, rest black. Pro- and mesofemora brown with yellow apex. Metafemora brown. Tarsi brown with yellow on base of each tarsomere.

Head hypognathous. Frontal ridge between antennal sockets narrow, convex. Frontolateral sulcus present. Suprafrontal sulcus shallow and faint or deep laterally, shallow in middle. Suprafrontal sulcus retuse. Orbital sulcus (above antennal socket) deep. Ratio of width of frontal ridge to width of antennal socket: 1.19 ± 0.05 . Ratio of width of orbital sulcus (above antennal socket) to width of frontolateral sulcus: $0.64\text{--}0.66$. Surface of vertex sparsely and unevenly covered with 6–7 punctures close to each eye. Number of punctures on orbit on each side: 1. Number of setae along frontolateral sulcus on each side: 9–10. Frons (triangular area surrounded by frontolateral sulcus and clypeus) without punctures. Number of setae on clypeus: 7. Number of setae on labrum: 6. Anterior margin of labrum slightly concave in middle.

Pronotum with two short, obscure longitudinal impressions near basal margin. Longitudinal impressions lack punctures. Deep row of large punctures at base of pronotum present laterally, absent in middle. Shape of pronotal base evenly convex. Anterolateral prothoracic callosity protruding laterally, poorly developed. Posterolateral prothoracic callosity projects up to lateral margin of pronotum. Diameter of pronotal punctures 2 to 4 times smaller than distance between them.

Elytra with convex sides. All rows of punctures on elytra regular. Elytral humeral calli well developed. Interspaces of puncture rows smooth and glabrous. Number of minute puncture rows on each interspace: 2.

First male protarsomere distinctly larger than second. First male protarsomere, length to width ratio: 1.50 ± 0.05 . First and second male protarsomeres, length to length ratio: 1.68 ± 0.05 , width to width ratio: 1.23 ± 0.05 . Ratio of first male protarsomere, width at apex to width at base: $1.87\text{--}2.00$. Length of metatibia to distance between denticle and metatibial apex: $2.34\text{--}2.47$. Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle obtuse. Metatibia proximad to denticle convex in dorsal view. First male metatarsomere, length to width ratio: $2.47\text{--}2.68$. First and second male metatarsomeres, length to length ratio: $1.58\text{--}1.62$; width to width ratio: $0.92\text{--}1.00$. Third and fourth male metatarsomeres, length to length ratio: 0.71 ± 0.05 . Metatibia length to the metafemora length: 0.75 ± 0.05 .

Aedeagus gradually widening towards apex. Apex of aedeagus in ventral view narrowing abruptly forming a subtriangular apex. Ventral surface of aedeagus lateral to median groove apically convex. Ventral longitudinal groove shallow basally, not extending to middle or apex. Apical denticle of aedeagus in ventral view absent. Apex of aedeagus in lateral view slightly curved ventrally. Minute transverse wrinkles on ventral side of aedeagus absent. Aedeagus in lateral view slightly sinusoidal near apex. Aedeagus narrow in lateral view. Maximum curvature of aedeagus in lateral view situated medially. Ratio of width (in middle) to length of aedeagus (in ventral view) about: 0.14.

Spermathecal receptacle barrel-shaped. Basal part of spermathecal duct straight. Spermathecal pump much shorter than receptacle, with cylindrical apex. Receptacle basally wider than apically, with maximum width situated medially. Posterior sclerotization of tignum spoon-shaped, wider than mid-section. Anterior sclerotization of tignum wider than mid-section. Apex of vaginal palpus subtriangular, with lateral margin slightly convex. Sides of mid part of vaginal palpus (before apex) narrowing from base, slightly widening towards apex. Anterior sclerotization of vaginal palpus slightly widening anteriorly, slightly and evenly curved along length. Anterior end of anterior sclerotization nearly rectangular. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

Types (in IZCAS): 1♂ (Holotype), Longling, Yunnan (**China**), alt. 1600m, 1955.V.20, leg. B. Попов (B. Popov); 2♀1♂ (Paratypes), Tianping Mountain, Sangzhi, Hunan (**China**), alt. 1370, 1988.VIII.15, leg. Shuyong Wang; 3♀1♂ (Paratypes), Jiujiang, Jiangxi (**China**), 1958.VII–VIII; 2♀ (Paratypes), Jiujiang, Jiangxi (**China**), 1948.VII; 2♀4♂ (Paratypes), Jinfou Mountain, Sichuan (**China**), 1945.VIII.16, leg. Shuyong Wang; 20 (Paratypes), Liziping, Wushan, Sichuan (**China**), alt. 1850m, 1993.V.18–19, leg. Youwei Zhang; 4♂5♀ (Paratypes), Liziping, Wushan, Sichuan (**China**), alt. 1850m, 1993.VIII.5–6, leg. Xingke Yang, **feed on *Solanum tuberosum* Linn.**; 1♂ (Paratypes), Jinpinghe, Yunnan (**China**), alt. 1700m, 1956.V.14, leg. Keren Huang.

Remarks: Color vary significantly among the specimens examined. The holotype (from Longling, Yunnan) is copper colored, while the paratypes from Jinfou Mountain, Sichuan have greenish-bronze pronotum and blue-black elytra.

Chaetocnema cheni may be differentiated from *C. kingpinensis* and *C. constricta* by the following characters:

first male protarsomere obviously larger than the second, appendages darker in color, anterolateral angles of pronotum round. *Chaetocnema cheni* may be differentiated from *C. picipes* and *C. granulosa* based on the following characters: metatibia proximad to denticle in dorsal view convex, apex of aedeagus is subtriangular and broad.

5. *Chaetocnema (Chaetocnema) confinis* Crotch, 1873

(Figs. 21, 22, 23) (introduced species in Asia, originally from North America)

Chaetocnema confinis Crotch, 1873: 75. TL: USA (Southern States), TD: MCZC.

Chaetocnema flavicornis LeConte, 1878: 418.

Chaetocnema etiennei Jolivet, 1979: 641. Synonymized by Döberl, 2010: 509.

Distribution: China (Fujian, Jiangsu, Guangxi, Guangdong, Taiwan); Japan (Ryukyu island), Thailand, Vietnam, India, Philippines; Australian region; Nearctic region; Neotropical region; Afrotropical region.

Host plants: Members of Convolvaceae are the host plants of *C. confinis*, commonly known as the sweet potato flea beetle. This is an economically important, invasive pest of sweet potato *Ipomoea batatas* (White, 1983; 1996) and *I. aquatica*, a popular vegetable in Asia. In its native North America, *C. confinis* has also been reported on a variety plants across families (Blatchley, 1924; Hallock, 1939). Kalaichelvan *et al.* (2001) reported its occurrence in India.

We find that *Chaetocnema confinis* Crotch feed on *Ipomoea cairica* (L.) Sweet in Shenzhen, Guangdong, China. The phenomenon can be frequently seen in the field, city parks and gardens in Shenzhen. Currently, *Ipomoea cairica* is considered as an introduced plant species or noxious weed to China and many other contries across the world, it cause harm to other plants in southern China.

Host plant records: Blatchley (1924: 39): soy-beans, basswood, wild cherry, buckeye, velvet beans, oak, and maple.

Hallock (1939: 122): tobacco, potato, tomato, morning glory, Indian mallow, sweet potato, wheat, rape, artichoke, pigweed, and burdock.

White (1996): sweet potato; cultivated morning glory; on corn; on *Convolvulus arvensis*; *Convolvulus sepium*; on cotton; on fruit of grapes; on *Pharbitis cathartica*; accidental on *Hibiscus*; peach foliage; pokeroor in tob. field; on nightshade leaves; orchard grass; on Norway maple; on tobacco, swept from alfalfa; on strawberry; on turnip leaves; on bean foliage; *Prunus americana*; apple; from B. blue stem; from L. blue stem; on tomato; on *Catalpa*; *Ipomoea* sp.; *Ipomoea batatas*; on lima bean; on flowers of *Prunus virginiana*; on foliage of white ash; flowers and foliage of *Viburnum prunifolium*; night sweeps in resaca; *Convolvulus*.

Kalaichelvan and Verma (2005): *Ipomoea aquatica*, *I. batatas*, *I. carnea* ssp. *fistulosa*, *I. cairica* and *I. violacea*.

Prathapan and Balan (2010): *I. batatas*, *I. cairica*, *I. nil*, *I. obscura*, *I. pes-caprae*, *I. pes-tigridis*, *I. pileata*, *Merremia tridentata* and *M. vitifolia*.

Description: Body length: 1.50–1.70 mm (size of Oriental specimens. North American specimens are slightly larger). Body width: 0.80–1.00 mm (measured on Oriental specimens). Ratio of length of antenna to length of body: 0.64–0.65. Ratio of elytron length (along suture) to width (maximum): 2.00–2.20. Ratio of pronotum width (at base) to length: 1.70–1.75. Ratio of length of elytron to length of pronotum (along middle): 2.70–2.80. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.02–1.10.

Dorsum bronzy. Dorsum, head finely reticulated. Antenna completely yellow brown. Tibiae, profemora and mesofemora light brown. Metafemora dark brown. Tarsi yellow.

Head hypognathous. Frontal ridge narrow and convex. Frontolateral sulcus present. Suprafrontal sulcus poorly developed. Orbital sulcus deep. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 1.40–1.45. Number of punctures on vertex: 5–6 on each side near eye. Number of punctures on orbit: 0–2 on each side. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: approximately 20. Number of setae on labrum: 6. Anterior margin of labrum slightly convex at middle.

FIGURE 21. *Chaetocnema confinis* (specimens from Nearctic Region). **A** Male habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, dorsal view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum absent. Pronotal base evenly convex. Lateral margins of pronotum slightly convex, converging forward. Anterolateral prothoracic callosity truncate, oblique and long. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 2 to 4 times smaller than distance between them.

Excavation on metatibia moderately deep. Large lateral denticle on metatibia sharp. Metatibial serration obtuse.

FIGURE 22. *Chaetocnema confinis* (specimens from Oriental Region). **A** Female habitus. **B** Pronotum. **C** Head, frontal view. **D** Vaginal palpi. **E** Spermatheca. **F** Pygidium (tergite 7) of female. **G** Feeding troughs on leaf of *Ipomoea batatas*.

Elytra with slightly convex lateral sides. Elytral punctures larger than those on pronotum. Punctures on elytra arranged in regular rows, including peri-scutellar row. Interspaces between striae of punctures smooth and glabrous. Number of rows of minute punctures on each interspace: 1–2. Elytral humeral callus well developed.

First male protarsomere slightly larger than second, not distinctly larger than that of female. Excavation on metatibia moderately deep. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent or poorly developed.

Apex of aedeagus in ventral view narrowing gradually with obscure polygonal markings laterally. Ventral lon-

gitudinal groove absent. Apical denticle absent in ventral view. Minute transverse wrinkles absent on ventral side. Aedeagus in lateral view unevenly curved, somewhat sinusoidal near apex. Maximum curvature in lateral view situated at middle.

Spermatheca with receptacle globose. Spermathecal duct curved. Spermathecal pump much shorter than receptacle, with rounded apex. Apex of vaginal palpus subtriangular. Anterior end of anterior sclerotization broadly rounded. Vaginal palpus parallel-sided. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

Last visible abdominal tergite of female with a longitudinal groove in middle. Two rows of punctures present in longitudinal groove. Last visible abdominal tergite of female fully covered with distant punctures, punctures closer to each other in apical half.

FIGURE 23. *Chaetocnema confinis* on host plant (specimens from Oriental Region). **A** individual on host plant, lateral view. **B** Host plant: *Ipomoea cairica* (Convolvulaceae) [the host plant is a well-known invasive plant in China]. **C** patterns of injuries on leaves of host plant caused by adults. **D** a photo of collecting location [Guangdong province, Shenzhen, Nei-lingding island, 2018-V-4, N22.4043° \ E113.8024°, 23m].

Types: Photos of Holotype examined: 1♂ (Holotype) (MCZC), 1) orange disc = Southern States; 2) Gulf States; 3) Va., N.C., S.C., eastern Tenn.?, Ga., Ala., Miss., Fla., Ark.?, La.; 4) J. L. LeConte Coll.; 5) Type 5007; 6) *confinis* Crotch; 7) Lectotype *Chaetocnema confinis* Cr. by R. White '96".

Material: 1♀ (IZCAS), **China**, Guangxi, Longzhou, Nonggang, 330m, 2000.VI.16, Jian Yao, IZCAS, *Chaetocnema confinis* Crotch., 1873, Det. Yongying Ruan, 2016; 5♀ (IZCAS), **China**, Fujian, Yongtai, 1997, leg. Bangkan Huang, **Host plant:** *Ipomoea aquatica*, *Ipomoea batatas*; 4♀ (IZCAS), **China**, Fujian, Yongtai, 1990, **Host plant:** *Ipomoea aquatica*; 16♀ (BMNH), Taiwan (**China**), Sanhsia, Nantou Hsia, 13. X. 1995, Ex *Ipomoea aquatica*, L. Y. Chou leg., Pres. by Int. Inst. Ent., BMNH (E) 1997–202; 9♀ (TARI), Taiwan (**China**), Chiayi (#28668), Agri. Res. Inst., 06.II.2017, Leg. Y.-P. Liang; 13♀ (IZCAS), **China**, Guangdong province, Shenzhen, Nei-lingding Is., Leg. Ruan, 2018-V-4, N22.4043° \ E113.8024°, 23m, **host plant:** *Ipomoea cairica* (Convolvulaceae). 1♀ (BMNH), **Thailand**, Nan Province, Lainan, 21–22.IX.2012, cabbage farm, 18.579N, 100.757E, LN3 Malaise trap, leg. D. L. J. Quicke, BMNH(E) 2015–75; 1♀ (BMNH), Sabah, **Malaysia**, A. R. C. Tuaran, V. F. Wong, French

bean, 16.VII.1982, 94, C.I.E. Coll., A.14281, *Chaetocnema* sp. det. M. L. Cox, 1982, Pres. by Comm Inst Ent, B.M. 1982–1; 6♀ (USNM), **Malaysia**, Sabah, Tanjung Aru Beach, 8.VIII.1983, leg. G. F. Hevel & W. E. Steiner. Loan from USNMNH 2065634; 10♀ (BMNH), Sabah, **Malaysia**, A. R. C. Tuaran, Peter Goh, P. G.160, **on sweet potatoes leaf**, 26.X.1994, I.S.A.F. 1319, 874, Pres. by Int. Inst. Ent., BMNH{E} 1997–III; 19♀ (USNM), **Malaysia**, Sabah, VIII–IX.1983, leg. G. F. Hevel & W. E. Steiner, loan from USNMNH 2065634; 2♀ (USNM), South **India**, Eastern Ghats Karnataka, 14 km, E. Tumkur, leg. Konstantinov, Prathapan, Saluk; 2♀ (USNM), **Sri Lanka**, Gan-noruwa, 13.II.2002 on Kankung, leg. S. Basnagala, loan from USNMNH 2065634.

Material from Palearctic Region: 4♀ (BMNH), Kunigami Okinoerabu Ryukyu (**Japan**), 5. XI. 1996, A. Tanaka; Pres. by Int. Inst. Ent., BMNH(E) 1997–202.

Material from Austrilian Region: 3♀ (USNM), **New Caledonia**, 20m, Koumac, 6–12.I.1991, leg. Wiesner & Worm, *Chaetocnema indica* det. Döberl.

Material that has been compared with type by R. White: 1♀ (USNM), **USA**, San Antonio, *Chaetocnema confinis* Crotch det. White, Compared with type; 1♂ (USNM), **USA**, on Spinach, Hill, N. M. 13.X.1943, *Chaetocnema confinis* Crotch det. White, 1992; 1♀ (USNM), **USA**, Iowa, Polk Co., Walnut Woods Pk., 16.V.1983, J. E. Wappes.

Remarks: *Chaetocnema confinis* is native to Nearctic Region (see White, 1996), and was introduced to China and Oriental Region. Specimens from the Oriental Region are distinctly smaller (body length: 1.50–1.70 mm) than those from North America (body length: about 2.00 mm); Males do not occur outside North America, where it is introduced, and only females occur in the Oriental Region, indicating parthenogenesis (we have examined 80 specimens from the Oriental Region and all of them are females, which is very unusual for Oriental *Chaetocnema*).

This species closely resembles *C. indica* and *C. jinxiuensis* **sp. nov.** However, punctures on pronotum are much closer and coarser in *C. confinis* compared to the other two species. Three females from New Caledonia were examined and they are slightly larger in size compared to the Oriental specimens.

Chaetocnema minutissima from south America appears to be identical with *C. confinis*, based on external characters. More studies may prove them to be conspecific.

6. *Chaetocnema* (*Chaetocnema*) *constricta* Ruan, Konstantinov & Yang, 2014

(Figs. 24, 25)

Chaetocnema (*Chaetocnema*) *constricta* Ruan, Konstantinov and Yang, 2014: 24. TL: China, Fujian. TD: IZCAS.

Distribution: China (Jiangsu, Anhui, Zhejiang, Jiangxi, Fujian, Guangxi, Sichuan, Chongqing, Guizhou, Yunnan); South Korea, South Japan, India.

Host plants: *Rubus corchorifolius* Linn. f. (Ruan *et al.*, 2014), *R. fruticosus* Linn. (Ruan *et al.*, 2014) (Rosaceae), *Polygonum* sp. (Polygonaceae) (Ruan *et al.*, 2014).

Description: Body rather narrow. Male body length: 1.71–1.80 mm. Female body length: 2.14–2.30 mm. Male body width: 0.89–0.93 mm. Ratio of length of antenna to length of body: 0.61–0.62. Ratio of elytron length (along suture) to width (maximum): 1.45±0.05. Ratio of pronotum width (at base) to length: 1.44±0.05. Ratio of length of elytron to length of pronotum (along middle): 2.55±0.05. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.12±0.05. Ratio of maximum width of elytra to maximum width of pronotum: 1.37±0.05.

Elytra, pronotum and head bronzy. Antennomere 1 partially dark brown, 2–4 yellow, 5–6 yellow with brown apex. Remaining antennomeres brown with yellow at base. Pro- and mesofemora brown with apex yellow. Metafemora brown. Tibia mostly yellow, dark at distal half. Tarsi yellow.

Head hypognathous. Frontal ridge between antennal sockets narrow and convex. Frontolateral sulcus present. Suprafrontal sulcus shallow and faint or deep laterally, shallow in middle. Suprafrontal sulcus slightly concave. Orbital sulcus (above antennal socket) very deep. Ratio of width of frontal ridge to width of antennal socket: 0.70–0.75. Surface of vertex sparsely and unevenly covered with 5–6 punctures on each side near eye. Number of punctures on orbit on each side: 1–2. Number of setae along frontolateral sulcus on each side: 9–10. Number of setae on frons (triangular area surrounded by frontolateral sulci and clypeus): 0. Number of setae on clypeus: about 4. Number of setae on labrum: 6. Anterior margin of labrum slightly concave in middle.

FIGURE 24. *Chaetocnema constricta* on foliage of its host plant, *Rubus simplex*. Photographed by Ruan Y., 13.VI. 2017., Fu-an, Fujian Province.

Pronotum with two short longitudinal impressions visible only near basal margin. Row of deep large punctures near basal margin, present laterally absent in middle. Pronotal base evenly convex. Anterolateral prothoracic callosity forms moderately developed obtuse angle protruding anterolaterally. Posterolateral prothoracic callosity projects beyond lateral margin of pronotum. Diameter of pronotal punctures subequal to distance between adjacent punctures.

Elytra with convex lateral sides. Scutellar row of punctures regular, single. Remaining rows regular. Humeral calli well developed. Interspaces of rows of punctures smooth and glabrous. Two rows of minute punctures present on each interspace.

First male protarsomere slightly larger than second. First male protarsomere, length to width ratio: 1.90–2.00. First and second male protarsomeres, length to length ratio: 1.60–1.80, width to width ratio: 1.05–1.13. First male protarsomere, ratio of width at apex to width at base: 1.70–1.88. Large lateral denticle on metatibia sharp. Metatibial serration present, obtuse. First male metatarsomere, length to width ratio: 1.86–1.91. First and second male metatarsomeres, length to length ratio: 1.91–1.93, width to width ratio: 0.95–1.07. Third and fourth male metatarsomeres, length to length ratio: 0.59–0.76. Ratio of metatibia length to metafemora length: 0.82 ± 0.05 . Ratio of length of hind leg to length of body: 0.91 ± 0.05 .

Aedeagus parallel-sided in distal third, apex in ventral view narrowed abruptly and forms a cap. Ventral longitudinal groove of aedeagus poorly developed, narrowed beyond middle, widened towards apex, apically as wide as basally. Apical denticle of aedeagus absent in ventral view. Minute transverse wrinkles on ventral side of aedeagus absent. Aedeagus in lateral view sinusoidal near apex. Maximum curvature of aedeagus in lateral view situated medially. Aedeagus thickened in lateral view. Ratio of width (in middle) to length of aedeagus in ventral view: 0.17.

FIGURE 25. *Chaetocnema constricta*. **A** Holotype, habitus. **B** Prothorax. **C** Head. **D** Aedeagus, ventral and lateral views. **E** Apex of Aedeagus, dorsal view. **F** Vaginal palpi. **G** Spermatheca. **H** Tignum.

Spermathecal receptacle cylindrical. Spermathecal duct straight. Spermathecal pump much shorter than receptacle, with cylindrical apex. Basal part of receptacle about as wide as middle and apical parts separately. Posterior sclerotization of tignum spoon-shaped, wider than middle part. Apex of vaginal palpus subtriangular, with lateral margin convex. Vaginal palpus slightly narrowing from base till middle and thence slightly widening towards apex. Anterior sclerotization of vaginal palpus slightly narrowing anteriorly. Anterior end of anterior sclerotization narrowly rounded. Posterior sclerotization longer than wide. Posterior sclerotization about as wide as anterior.

Remarks: *Chaetocnema constricta* may be differentiated from *C. picipes*, *C. granulosa* and *C. cheni* by the following characters: first male protarsomere only slightly larger than second, appendages light in color, anterolateral angles of pronotum obtuse and thickened. Exteriorly this species resembles *C. kingpinensis*. But *C. kingpinensis* is larger in body size, having relatively longer appendages and pronotum. Under soft light, *C. constricta*'s is entirely bronzy, while *C. kingpinensis* has usually bronzy pronotum and black brown elytra.

Types (in IZCAS, except a few paratypes were transferred to USNM and BMNH): 1♂ (Holotype), **China**, Shuyang, Fujian, alt. 200m, 2013.VIII.12, leg. Yongying Ruan; 30♀20♂ (Paratypes), **China**, Huangshan, Anhui, alt. 630m, 18.VIII.1978, leg. Shuyong Wang; 6♀7♂ (Paratypes), **China**, Shaping, Sichuan, 29.XI; 6♀6♂ (Paratypes), **China**, Ebian, Sichuan, X; 1♀ (Paratype), **China**, Beibei, Chongqing, 11.VI.1940; 6♀3♂ (Paratypes), **China**, Huaxi Guizhou, 8.VI.1980; 6♀1♂ (Paratypes), **China**, Sanmuping, Tianmu Mountain, Zhejiang, 30.VII.1998, leg. Hong Wu; 2♂4♀ (Paratypes), **China**, Tianmu Mountain, Zhejiang, 6.VI.1999, leg. Mingyuan Gao; 3♀1♂ (Paratypes), **China**, Longwang Mountain, Anji, Zhejiang, 1995–1996, leg. Hong Wu; 1♂ (Paratype), **China**, Nanjing, Jiangsu, 1994, leg. Miao Hu; 20♀8♂ (Paratypes), **China**, Jiulianshan, Jiangxi, 20–23.IX.1978, leg. Peiyu Yu, feed on *Rubus* sp.; 1♂2♀ (Paratypes), **China**, Dazhulan, Fujian, 15–20.VI.1948; 5♀ (Paratypes), **China**, Wuyi Mountain, Fujian, alt. 500–1100m, V.1997, leg. Jiashe Wang; 1♀ (Paratype), **China**, Wuyi Mountain, Fujian, alt. 1200m, 1997.VII, leg. Jiashe Wang; 83♀30♂ (Paratypes), Wuyi Mountain, Fujian, 5–26.V.1997, leg. Jiashe Wang; 1♀2♂ (Paratypes), **China**, Nanping, Fujian, 22.VII.1957 leg.; 1♂ (Paratype), **China**, Aotou, Huangkeng, Jianyang, Fujian, alt. 750–950m, 3.VI.1997, leg. Yong Zuo; 1♀ (Paratype), **China**, Longling, Yunnan, alt. 1600m, 20.V.1995, leg. Zifeng Xue; 1♂ (Paratype), **China**, Fangcheng, Guangxi, alt. 650m, 14.III.1998, leg. Gexia Qiao; 10♀8♂ (Paratypes), **China**, Jinxiu, Guangxi, alt. 600m, V.1999, leg. Mingyuan Gao; 5♀2♂ (Paratypes), **China**, Yanshan, Guilin, Guangxi, 15.VI.1963. leg. Shuyong Wang; 1♂ (Paratype), **China**, Tianping Mountain, Longsheng, Guangxi, 9.VI.1963. leg. Shuyong Wang; 17♀10♂ (Paratypes), **China**, Yaoshan, Xiuren, Guangxi, 1938.V.6.

Additional specimens: 1♂ (BMNH), Doherty, **India**, Fry coll. 1905.100, *Chaetocnema constricta* Ruan et al, 2014, det. Yongying Ruan, 2016; 2♂4♀ (IZCAS), **Korea**, GN Prov., Mt., Jiri, Sancheong City, Sicheonmyeon, Sincheonri, 17.V.2000 B. Korotyaev. *Chaetocnema* sp. det. A.S. Konstantinov, 2003, *Chaetocnema constricta* det. Ruan. 1♂ (USNM), **Japan**, Ryukyu IS., Ishigaki I, Kara-Yama, 18.III.1964.

7. *Chaetocnema* (*Chaetocnema*) *dapitanica* Ruan, Konstantinov & Yang, New Species

(Fig. 26)

Etymology: This species is named after the type locality ‘Dapitan’. Specific epithet is a noun in apposition.

Diagnosis: This species is close to *C. sabahensis* sp. nov. and *C. hainanensis* in the shape of aedeagus and spermatheca. It can be differentiated from the latter two species by the difference in body shape, larger body size and weaker punctuation on pronotum. It also resembles *C. trapezoida* sp. nov. by the more or less trapezoidal pronotum, however, they differ in body size, shape and color.

Distribution: Philippines.

Host plants: Unknown.

Description: Body Length 2.35–2.50 mm, body width 1.40–1.50. Ratio of elytron length (along suture) to width (maximum): 2.50–2.60. Ratio of pronotum width (at base) to length: 1.70–1.75. Ratio of length of elytron to length of pronotum (along middle): 2.60–2.70. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.25–1.35. Ratio of maximum width of elytra to maximum width of pronotum: 1.40–1.50.

Dorsum deep brown, with very slight bronzy luster. Pronotum black with obscure bronzy metallic luster. All antennomeres yellow brown. Tibiae pro- and mesofemora yellow. Metafemora dark brown.

Head hypognathous. Frontal ridge narrow, convex. Frontolateral sulcus present. Suprafrontal sulcus shallow and faint. Suprafrontal sulcus straight to shallowly retuse. Ratio of width of frontal ridge to width of antennal socket: 1.14–1.15. Frons with long setae on sides. Vertex flat, situated on same level as orbit, with 4–7 punctures near each eye, punctures rugged.

Base of pronotum without short longitudinal impressions or transverse antebasal impression. Deep row of large punctures at base of pronotum absent. Pronotum somewhat trapezoidal, pronotal base distinctly expanded in middle, forming a lobe. Lateral margins of pronotum nearly straight, converging anteriorly. Anterolateral prothoracic callosity obtuse, weak, protruding laterally. Posterolateral prothoracic callosity poorly developed. Pronotal punctures extremely weak, diameter of pronotal punctures 6 to 10 times smaller than distance between them.

FIGURE 26. *Chaetocnema dapitanica* sp. nov. **A** Male habitus (Holotype). **B** Pronotum (Holotype). **C** Head, frontal view (Holotype). **D** Aedeagus, ventral view (Paratype). **E** Aedeagus, lateral view (Paratype). **F** Apex of aedeagus, ventral view (Paratype). **G** Vaginal palpi (Paratype). **H** Spermatheca (Paratype). **I** Pygidium (tergite 7) of female (Paratype).

Elytra with convex sides. Scutellar row of punctures on elytron regular and single. Second to eleventh rows of punctures regular. Interspaces between puncture rows costate and smooth, with 3–4 rows of minute punctures. Base of elytra obviously impunctate. Humeral calli well developed.

First and second male protarsomeres, length to length ratio: 1.40–1.50. First male protarsomere, length to width ratio: 1.30–1.50. Excavation on metatibia moderately developed. Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle absent. Metatibia proximad to denticle in dorsal view convex.

Apex of aedeagus in ventral view narrowing abruptly. Ventral longitudinal groove slightly developed or absent. Apical denticle of aedeagus in ventral view well formed, with narrowly rounded apex. Apical denticle of aedeagus in lateral view strongly curved dorsally. Minute transverse wrinkles on ventral side of aedeagus absent. Aedeagus in lateral view sinusoidal near apex. Maximum curvature of aedeagus in lateral view situated apically.

Spermathecal pump much shorter than receptacle. Apex of spermathecal pump cylindrical. Spermathecal receptacle pear-shaped. Maximum width of receptacle situated basally. Receptacle basally wider than apically. Apex of vaginal palpus subtriangular, with lateral margin slightly convex. Vaginal palpus (before apex) narrowing from base till middle, thence slightly widening towards apex. Anterior sclerotization of vaginal palpus sinusoidal. Anterior end of anterior sclerotization broadly rounded. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior. Last visible abdominal tergite of female without punctures.

Types: Holotype: ♂ (USNM), labels: 1) Dapitan, Mindanao, leg. Baker, 1927, C. F. Baker collection; 2) Loan from USNMNH 2065634; 3) *Chaetocnema dapitanica* **sp. nov.** Des. Ruan *et al.*, 2016.

Paratypes: 4♂8♀ (USNM), labels: 1) **Philippines**, Dapitan, Mindanao, leg. Baker, 1927, C. F. Baker collection; 2) Loan from USNMNH 2065634; 3) *Chaetocnema dapitanica* **sp. nov.** Des. Ruan *et al.*, 2016. 2♀ (USNM), labels: 1) **Philippines**, Mt. Makiling, Luzon, Baker; 2) Loan from USNMNH 2065634; 3) *Chaetocnema dapitanica* **sp. nov.** Des. Ruan *et al.*, 2016.

8. *Chaetocnema* (*Chaetocnema*) *deginensis* Ruan, Konstantinov & Yang, 2014

(Fig. 27)

Chaetocnema (*Chaetocnema*) *deginensis* Ruan, Konstantinov and Yang, 2014: 70. TL: China, Yunnan. TD: IZCAS.

Distribution: China (Guizhou, Yunnan), India.

Host plants: *Duchesnea indica* (Andr.) Focke (recorded by Ruan *et al.*, 2014).

Description: Body length: 1.80–2.15 mm, excluding head: 1.60–1.95 mm. Body width: 0.90–1.10 mm. Ratio of length of antenna to length of body: 0.64–0.65 mm. Ratio of elytron length (along suture) to width (maximum): 2.40–2.60. Ratio of pronotum width (at base) to length: 1.60–1.60. Ratio of length of elytron to length of pronotum (along middle): 2.95–2.97. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.14–1.15. Ratio of maximum width of elytra to maximum width of pronotum: 1.46–1.48.

Elytra, pronotum and head bronzy. Antennomere 1 partially dark brown, 2–4 completely yellow, 5 partially brown, 6–11 brown. Tibiae partially brown. Pro- and mesofemora light brown. Metafemora brown.

Head hypognathous. Frontal ridge narrow, convex. Frontolateral sulcus present. Suprafrontal sulcus deep laterally, absent in middle. Orbital sulcus deep. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 1.04–1.07. Ratio of width of orbital sulcus to width of frontolateral sulcus: 0.88–0.90. Number of punctures on vertex: 8–10. Number of punctures on orbit: 4. Number of setae along frontolateral sulcus: 9–10. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: 9. Number of setae on labrum: 6. Anterior margin of labrum slightly concave in middle.

Pronotum with two obscure longitudinal impressions visible only near basal margin. Deep row of large punctures at base of pronotum present laterally, absent in middle. Pronotal base evenly convex. Lateral margins of pronotum slightly convex, converging forward. Anterolateral prothoracic callosity protruding laterally, forming an obtuse angle fronto-laterally. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 2 to 4 times smaller than distance between them.

Elytra with convex lateral sides. All rows of elytral punctures regular and single. Interspaces between striae of punctures smooth and glabrous. Number of rows of minute punctures on each interspace: 2. Humeral calli well developed.

First male protarsomere slightly larger than second. First male protarsomere, length to width ratio: 1.80–1.86. First and second male protarsomeres, length to length ratio: 1.51–1.57. First and second male protarsomeres, width to width ratio: 0.90–0.92. First male protarsomere, ratio of width at apex to width at base: 1.60–1.90. Ratio of length of metatibia to distance between denticle and metatibial apex: 2.30–2.80. Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle present, obtuse. First male metatarsomere, length to width ratio: 2.68. First and second male metatarsomeres, length to length ratio: 1.60–1.70. First and second male metatarsomeres, width to width ratio: 0.83–0.85. Third and fourth male metatarsomeres, length to length ratio: 1.45–1.60.

FIGURE 27. *Chaetocnema deqinensis*. **A** Male habitus (Holotype). **B** Prothorax, dorsal view. **C** Head, frontal view. **D1–D2** Aedeagus, ventral view; **D3** Aedeagus, lateral view. **E** Apex of aedeagus, dorsal view. **F** Vaginal palpi. **G** Spermatheca. **H** Tignum.

Apex of aedeagus in ventral view narrowing abruptly with obscure oblique lines on lateral sides. Ventral surface of apical fourth of aedeagus deeply concave. Ventral longitudinal groove poorly developed. Apical denticle in ventral view absent. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view unevenly curved, sinusoidal near apex. Maximum curvature in lateral view near apex.

Spermathecal receptacle barrel-shaped. Basal part of spermathecal duct straight. Spermathecal pump much

shorter than receptacle, with cylindrical apex. Receptacle wider basally than apically. Posterior sclerotization of tignum spoon-shaped, wider than mid-section. Mid-section of tignum nearly straight or slightly curved. Anterior sclerotization of tignum about as wide as mid-section. Apex of vaginal palpus subtriangular, with lateral margin convex. Vaginal palpus (before apex) narrowing from base till middle, thence slightly widening towards apex. Anterior sclerotization of vaginal palpus nearly parallel. Anterior end of anterior sclerotization narrowly rounded. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

Types: 1♂ (Holotype) (in IZCAS), labels: 1) **China**, east slope of Baiman snow mountain, Deqin, Yunnan, alt. 3300m. 2) 28.VIII.1981, leg. Shuyong Wang, host: *Duchesnea indica*. 3) Holotype, *Chaetocnema deqinensis* **sp. nov.**, Des. Ruan *et al.* 2014.

8♂23♀ (Paratypes), Baiman snow mountain, Deqin, Yunnan, alt. 3300m, 28.VIII.1981, leg. Shuyong Wang, host: *Duchesnea indica*, 1♀ (USNM); 1♂, Liuku, Yunnan, alt. 900m, 13.VI.1981, leg. Shuyong Wang; 1♂ (Paratype), Zhiben Mountain, Yunlong, Yunnan, alt. 2250m, 21.VI.1981, leg. Shuyong Wang; 1♂1♀ (Paratypes), Xinzhu, Ludian, Lijiang, Yunnan, alt. 2800m, 29.VII.1981, leg. Shuyong Wang; 1♀ (Paratype), Baoshan, Yunnan, alt. 1500m, 18.VI.1981, leg. Shuyong Wang; 1♂ (Paratype), Heilongtang, Kunming, Yunnan, alt. 2000m, 14.V.1981, leg. Shuyong Wang (USNM); 1♂4♀ (Paratypes), Tsengyih, Meitan, Guizhou, 15.VII.1940, leg. Gressitt (SYSU). Paratypes all in IZCAS, except those indicated as in USNM.

Material: 1♂ (USNM), South **India**, Western Ghats Karnataka Prov, env. Mudigere, 14.XI.2003, 904m, river, leg. Konstantinov, Prathapan, Saluk.

Remarks: *Chaetocnema deqinensis* resembles *C. yulongensis*. It can be separated from the latter by the following characters: maximum curvature of aedeagus in lateral view situated close to apex; apex of aedeagus broadly rounded in ventral view; suprafrontal sulcus absent in middle. In *C. yulongensis*, maximum curvature of aedeagus in lateral view situated medially; apex of aedeagus narrowly rounded; suprafrontal sulcus obtuse in middle.

9. *Chaetocnema* (*Chaetocnema*) *duvivieri* Jacoby, 1892

(Fig. 28)

Chaetocnema duvivieri Jacoby, 1892: 939. TL: Myanmar (Tenasserim). TD: MCSN??

Distribution: China (Tibet); India (Arunachal Pradesh), Myanmar (Tenasserim).

Host plants: Unknown.

Description: Body length: 2.40–2.65 mm. Body width: 1.30–1.40 mm. Ratio of elytron length (along suture) to width (maximum): 2.30–2.35. Ratio of pronotum width (at base) to length: 1.80–1.85. Ratio of length of elytron to length of pronotum (along middle): 3.00–3.10. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.05–1.10.

Dorsum bronzy with green metallic luster. Dorsum and surface of head smooth and shiny, without rugose pattern. Antennomeres 1–6 light yellow brown, distal ones deep yellow brown. Tibiae and tarsi yellow brown, pro- and mesofemora deep yellow brown. Metafemora brown with slight metallic luster.

Head hypognathous. Frontal ridge narrow, slightly convex. Frontolateral sulcus present. Suprafrontal sulcus shallow, arched. Orbital sulcus and supra-antennal sulcus deep. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 0.80–0.85. Vertex with numerous irregularly placed tiny punctures. Orbit smooth, shiny, without punctures. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: approximately 10. Number of setae on labrum: 6. Anterior margin of labrum almost straight.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum present, with punctures distantly placed, especially in middle. Pronotal base gently convex at sides, strongly convex at middle. Lateral margins of pronotum very slightly convex, more or less converging forward. Anterolateral prothoracic callosity somewhat obtusely angulate, not prominent. Posterolateral prothoracic callosity poorly developed. Pronotal punctures tiny, with diameter 2–4 times smaller than distance between them. Punctures more distantly placed towards sides of pronotum.

Elytra with slightly convex lateral sides. Elytral punctures distinctly larger than those on pronotum and head. Elytral punctures arranged in regular rows, including peri-scutellar row. Interspaces between striae of punctures smooth and glabrous, with extremely minute punctures. Humeral calli well developed.

FIGURE 28. *Chaetocnema duvivieri*. **A** Male habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Tignum of female.

Excavation on metatibia shallow. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

Apex of aedeagus in ventral view narrowing abruptly. Ventral longitudinal groove shallow. Apical denticle in ventral view weak, somewhat acute. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view curved in basal half and straight in distal half, with maximum curvature in lateral view situated at middle.

Material: 1♂ (BMNH): ‘Burma’, Mishmi Hills, Dingliang, 2450ft., 12.III.1935, M. Steele, Brit. Mus., 1935–312; 1♀ (IZCAS), China, Tibet, 2015–VIII–29, Zhengzhong Huang leg.

Remarks: Type materials are not examined in this study, species concept are based on the original description.

We have examined BMNH collection, there is a drawer with the label '*Chaetocnema duvivieri* Jacoby, 1892', however, no specimen was found. The type is probably housed in MCSN (Italy, Genova, Museo Civico di Storia Naturale "Giacomo Doria") as stated by Maulik (1926: 209). The locality label of a specimen in BMNH states "Burma, Mishmi Hills, Dingliang, 2450ft., 12.III.1935, M. Steele, Brit. Mus., 1935–312" but the Dingliang Village lies within Arunachal Pradesh (Hayuliang Circle Taluk, Lohit District, Pin Code: 792104), the eastern-most state of India, adjacent to Myanmar. Therefore, *C. duvivieri* must also be treated as occurring in Arunachal Pradesh, India.

10. *Chaetocnema (Chaetocnema) excavata* Medvedev, 1997 (Fig. 29)

Chaetocnema excavata Medvedev, 1997: 21. TL: Nepal (Lamobagar Gola, Arun Valley). TD: NHMB.

Distribution: Nepal (Lamobagar Gola, Arun Valley), India.

Host plants: Unknown.

Description: Body length: 2.50–3.30 mm. Body width: 1.30–1.70 mm. Antennae elongate, stretching to the middle of elytra, ratio of length of antenna to length of body: 0.75–0.80. Ratio of elytron length (along suture) to width (maximum): 2.40–2.50. Ratio of pronotum width (at base) to length: 1.45–1.50. Ratio of length of elytron to length of pronotum (along middle): 2.40–2.50. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.10–1.15.

Body elongate, different from most *Chaetocnema* species. Color of dorsal surface bronzy. Antennomeres 1–4 completely yellow brown, the remaining ones brown black. Femur brown, tibiae and tarsi yellow brown.

Head hypognathous. Frontal ridge moderately wide, convex. Frontolateral sulcus present, but short. Suprafrontal sulcus poorly developed. Orbital sulcus deep. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 1.40–1.45. One large puncture bearing setae on each side near eye, a few minute punctures scattered on vertex. Number of punctures on orbit: 1–2 on each side. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: approximately 10. Number of setae on labrum: 6. Anterior margin of labrum slightly convex at middle.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum absent. Pronotum more or less quadrate. Pronotal base almost straight or slightly sinuated. Lateral margins of pronotum slightly convex, not converging forward. Anterolateral prothoracic callosity more or less truncate. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 2 to 4 times smaller than distance between them. Pronotal punctures scattered, rugged.

Elytra with sides more or less parallel. Elytral punctures slightly larger than those on pronotum. Punctures on elytra arranged in single regular rows, including peri-scutellar row. Interspaces between rows of punctures smooth, glabrous. Humeral callus well developed.

First male protarsomere larger than that of female, slightly larger than second. Excavation on metatibia extremely deep. Large lateral denticle on metatibia elongate, forming a process. Metatibial serration proximal to large lateral denticle absent or poorly developed.

Apex of aedeagus in ventral view narrowing abruptly. Ventral longitudinal groove poorly developed. Apical denticle in ventral view sharp and narrow. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view slightly curved. Maximum curvature in lateral view situated at apex and base.

Spermathecal receptacle oblong. Spermathecal duct coiled. Spermathecal pump shorter than receptacle, with apex pointed. Vaginal palpus (before apex) slightly narrowing from base till middle, thence approximately parallel-sided. Anterior sclerotization of vaginal palpus slightly narrowing anteriorly. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

Type: 1♀ (Holotype) (NHMB), 1) Lamobagar Gola, 1400m, 28–31.V; 2) O–Nepal, Arun V.1980, C. Holzschuh; 3) *Chaetocnema* det. L. Medvedev; 3) Holotypus *Chaetocnema excavata* m. L. Medvedev det. 1996.

FIGURE 29. *Chaetocnema excavata*. **A** Male habitus. **B** Pronotum and peri-scutellar area. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female.

Material: 3♂3♀ (USNM), **Nepal**, Pokhara–Kathmandu road, env. Damauli, Seti river 24.IV.2000, Konstantinov, Lingafelter, Volkovitsh; 1♂ (BMNH), **India**, Namsou, Darjeeling, 2100 ft., 18.VI.1918, H. Stevens, Stevens Coll., B. M. 1916–218.

Remarks: *Chaetocnema excavata* may be differentiated from its congeners by the cylindrical body shape, comparatively longer antennae and deep hind tibial excavation.

11. *Chaetocnema (Chaetocnema) fallaciosa* Heikertinger, 1951

(Fig. 30)

Chaetocnema fallaciosa Heikertinger, 1951: 72. TL: Borneo. TD: NHMB.

Distribution: Malaysia, Indonesia.

Host plants: Unknown.

Description: Body length 1.50–1.70 mm; width 1.10–1.15 mm. Ratio of elytron length at suture to maximum width, 1.80–1.95. Ratio of pronotum width at base to length at middle, 1.90–1.95. Ratio of length of elytron at suture to length of pronotum at middle, 2.55–2.65. Ratio of width of both elytra at base to width of pronotum at base, 1.15–1.20. Ratio of maximum width of both elytra to maximum width of pronotum, 1.40–1.45.

Dorsum black, with slight metallic luster. Antennomeres 1–4 completely yellow. Antennomere 5 partly brown. Tibiae and tarsi yellow. Pro- and mesofemora yellow brown. Metafemur black or dark brown. Head hypognathous. Frontal ridge narrow, convex. Frontolateral sulcus present. Suprafrontal sulcus absent. Ratio of width of frontal ridge between outer ridge of antennal sockets to width of antennal socket, 1.40–1.45. Vertex flat, situated on same level as orbit, without punctures, except 2–3 on each side near eye.

Base of pronotum without longitudinal impressions. Deep row of large punctures at base of pronotum present only laterally. Basal margin of pronotum slightly expanded in middle.

Elytron with scutellar row of punctures single and regular. Second to eleventh rows of elytral punctures regular. Humeral callus well-developed.

Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

Apex of aedeagus narrowing gradually. Ventral longitudinal groove of aedeagus absent or poorly developed. Apical denticle of aedeagus absent in ventral view. Minute, transverse wrinkles on ventral side of aedeagus absent. Aedeagus in lateral view nearly straight. Maximum curvature of aedeagus in lateral view situated apically.

Types: 1♀ (Holotype) (NHMB), labels: 1) Banguay b. Borneo; 2) *fallaciosa* m. det. Heiktgr.; 3) *fallaciosa* Typus; 4) 1935 Coll. Heikertinger; 3♂1♀ (Paratypes) (NHMB), labels: 1) Banguay b. Borneo; 2) *fallaciosa* det. Heiktgr.; 3) *fallaciosa* Cotypus; 4) 1935 Coll. Heikertinger.

Material: 21 (BMNH), Sarawak (**Malaysia**): 4th Division, Gn. Mulu NP., Long Melinau Island, alluvial forest, Malaise trap, nr. Camp 50–100m, P. M. Hammond & J.E. Marshall, v–viii.1978–49, *Chaetocnema fallaciosa* Heik., 1951, Det. Yongying Ruan, 2016; 3 (BMNH), **Indonesia**: Borneo Kalimantan Tengah Busang / Rekut confl., 0 03S, 113 59E, Brendell / Mendel, August 2001, General collecting, 2001–191, ‘Barito Ulu 2001’, BMNH (E), *Chaetocnema* sp. det. K. Nadein 2007, *Chaetocnema fallaciosa* Heik., 1951, Det. Yongying Ruan, 2016.

Remarks: This species closely resembles *C. resplendens* in the shape of the body. However, it can be distinguished from *C. resplendens* by the following characters: aedeagus without pointed and acute denticle (present in *C. resplendens*), basal margin of pronotum flat (depressed in *C. resplendens*), strong punctures occur on lateral sides of basal margin, absent in middle.

Structure of the aedeagus resembles that of *C. yiei*. However, they obviously differ in many other characters.

12. *Chaetocnema (Chaetocnema) fortcostata* Chen, 1939

(Fig. 31)

Chaetocnema fortcostata Chen, 1939: 33. TL: China, Yunnan. TD: IZCAS.

Distribution: China (Shaanxi, Zhejiang, Hubei, Jiangxi, Hunan, Fujian, Taiwan, Guangxi, Chongqing, Sichuan, Yunnan); Japan, India.

Host plants: *Polygonum* sp. (Polygonaceae) (Ruan *et al.*, 2014).

Description: Male body length: 1.75–1.90 mm. Female body length: 2.03–2.12 mm. Male body width: 0.95–1.08 mm. Ratio of length of antenna to length of body: 0.64 ± 0.05 . Ratio of elytral length (along suture) to width (maximum): 2.64 ± 0.05 . Ratio of pronotum width (at base) to length: 1.62 ± 0.05 . Ratio of length of elytron to length of pronotum (along middle): 2.98 ± 0.05 . Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): $1.07–1.19$. Ratio of maximum width of elytra to maximum width of pronotum: 1.34 ± 0.05 .

FIGURE 30. *Chaetocnema fallaciosa*. **A** Habitus. **B** Pronotum and peri-scutellar area. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view.

Dorsum, including head, entirely bronzy. Antennomere 1 partially dark brown, 2–3 yellow, 4 yellow or partly brown, 5 partially brown, 6–11 black. Pro- and mesofemora brown with yellow apex. Metafemora brown. All tarsomeres brown with yellow basally.

Head hypognathous. Frontal ridge between antennal sockets narrow and convex. Frontolateral sulcus present. Suprafrontal sulcus shallow and faint or deep laterally, shallow in middle. Suprafrontal sulcus slightly concave. Orbital sulcus (above antennal socket) obscure and narrow. Ratio of width of frontal ridge to width of antennal socket:

0.56–0.66. Ratio of width of orbital sulcus to width of frontolateral sulcus: 0.71 ± 0.05 . Surface of vertex sparsely and unevenly covered with 5–6 punctures near each eye. Number of punctures on orbit: 1–2 on each side. Number of setae along frontolateral sulcus: 5–6 on each side. Number of setae on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: 5. Number of setae on labrum: 6. Anterior margin of labrum slightly convex in middle.

FIGURE 31. *Chaetocnema fortcostata*. **A** Male habitus. **B** Pronotum. **C** Head. **D** Aedeagus, ventral and lateral view. **E** Apex of Aedeagus, dorsal view. **F** Vaginal palpi. **G** Spermatheca. **H** Tignum.

Base of pronotum with two short, obscure longitudinal impressions, without punctures near basal margin. Deep row of large punctures at base of pronotum present laterally, absent in middle. Basal margin of pronotum evenly convex. Lateral margins of pronotum slightly convex with maximum width near base. Anterolateral prothoracic

callosity longer than wide, protruding laterally, with evenly curved outer margin. Posterolateral prothoracic callosity reaching up to lateral margin of pronotum. Diameter of pronotal punctures 2 to 4 times smaller than distance between adjacent punctures.

Elytra with convex sides. Scutellar row of punctures regular and single. Remaining rows regular. Humeral calli well developed. Interspaces smooth and glabrous. Two rows of minute punctures present on each interspace.

First male protarsomere, length to width ratio: 1.65 ± 0.05 . First and second male protarsomeres, length to length ratio: 1.94–2.24, width to width ratio: 1.42–1.45. First male protarsomere, ratio of width at apex to width at base: 1.60–1.75. Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle present, obtuse. Metatibia proximad to denticle in dorsal view concave. First male metatarsomere, length to width ratio: 3.60–3.67. First and second male metatarsomeres, length to length ratio: 1.87–1.93, width to width ratio: 0.83. Third and fourth male metatarsomeres, length to length ratio: 0.60–0.65. Ratio of metatibia length to metafemora length: 0.76 ± 0.05 . Ratio of length of hind leg to length of body: 0.87 ± 0.05 .

Aedeagus robust and thick in lateral view. Apical third of aedeagus widening evenly in ventral view, thence narrowing abruptly towards apex. Ventral longitudinal groove of aedeagus absent towards apex, poorly developed in middle and basal part. Apical denticle of aedeagus in ventral view poorly differentiated, curved ventrally in lateral view. Minute transverse wrinkles on ventral side of aedeagus absent. Aedeagus in lateral view slightly sinuous near apex. Maximum curvature of aedeagus in lateral view situated medially. Ratio of width (in middle) to length of aedeagus (in ventral view) about: 0.146.

Spermathecal receptacle oblong. Spermathecal duct straight. Spermathecal pump much shorter than receptacle with cylindrical apex. Maximum width of receptacle situated basally. Receptacle basally wider than apically. Posterior sclerotization of tignum spoon-shaped, wider than mid-section. Anterior sclerotization of tignum narrower than mid-section. Apex of vaginal palpus subtriangular, with gently convex lateral margin. Vaginal palpus (before apex) narrowing from base till middle, thence widening towards apex. Anterior sclerotization of vaginal palpus slightly widening anteriorly, slightly and evenly curved along length. Anterior end of anterior sclerotization broadly rounded. Length of posterior sclerotization greater than width. Posterior sclerotization about as wide as anterior.

Types: Lectotype of *Chaetocnema fortcostata*: 1♂, 1) Yangshuo, 21.VIII.1938, 2) Lectotype, *Chaetocnema fortcostata* Chen, 1939, des. Yongying Ruan *et al.*, 2014.

Paralectotypes of *Chaetocnema fortcostata*: 2♂5♀, 1) Yangshuo, 21.VIII.1938, 2) Paralectotype, *Chaetocnema fortcostata* Chen, 1939, des. Yongying Ruan *et al.*, 2014.

Paratypes of *Chaetocnema kimotoi*: Paratype female: 1) Korea, Kum-gang san, 3–4 km S, Hotel Kum-gang, 12.VII.1977, 2) No. 363—netting in grasses, Dely & Draskovits, 3) Paratype (1 USNM); Paratype female: 1) Korea, Sa Gam. 30–40 km N Pyongyang environs water-basin, 24.VII.1977, 2) No. 384—netting in grasses, Dely & Draskovits, 3) Paratype, 4) *Chaetocnema kimotoi* m., det. B. Gruev (1 USNM); Paratype. 1) Korea, Kum-gang san, 3–4 km S, Hotel Kum-gang, 12.VII.1977, 2) No. 363—netting in grasses, Dely & Draskovits, 3) Paratype (1 USNM).

Lectotype and Paralectotype of *Chaetocnema granulosa*: 1 male (BMNH): 1) Japan, 2) Type, 3) Type, H.T., 4) Baly Coll., 5) *Chaetocnema granulosa* Baly, Nagasaki; 6) Lectotype *Chaetocnema granulosa* Baly des. A. S. Konstantinov *et al.* 2009; Paralectotype (1 BMNH): 1) Baly Coll.; 2) *Plectroscelis granulosa* Bal Japan; 3) Paralectotype *Chaetocnema granulosa* Baly des. A. S. Konstantinov *et al.* 2009.

Material: 19♀14♂ (IZCAS), **China**, Huoditang, Qinling Mountain, Shaanxi, alt. 1600m, 6.VI.2013, leg. Yongying Ruan, feed on *Polygonum* sp.; 3, Maoping, Yangxian, Qinling Mountain, Shaanxi, alt. 701m, 10.VI.2013, leg. Yongying Ruan; 2♂ (IZCAS), **China**, Longmen River, Xingshan, Hubei, alt. 1300m, leg. Shimei Song; 6, Longmen River, Xingshan, Hubei, 8.IX.1994, alt. 1300m, leg. Jian Yao, feed on *Polygonum* sp.; 1♀2♂ (IZCAS), **China**, Sanxia Linchang, Badong, Hubei, 26.VI.1994, alt. 130m, leg. Jian Yao; 2♀1♂ (IZCAS), **China**, Beibei, Chongqing, 17.V.1941; 3♂ (IZCAS), **China**, Longchi, Sichuan, IX.29; 1♀2♂ (IZCAS), **China**, Fengdu, Sichuan, alt. 200m, 29.IX.1994, leg. Shimei Song; 56, Wangerbao, Wanxian, Sichuan, alt. 1200m, 4.X.1994, leg. Jian Yao; 1♀1♂ (IZCAS), **China**, Chudian, Emei Mountain, Sichuan, 28.VI.1957, leg. Fuxing Zhu; 1♀ (IZCAS), **China**, Tienmu Shan, Zhejiang, 20.IX.1953; 24, Shanmuhe, Hunan, alt. 600, 14.VIII.1988, leg. Shuyong Wang; 7♀4♂ (IZCAS), **China**, Xingzi, Jiangxi, 1932; 1♀1♂ (IZCAS), **China**, Shuyang, Fuan, Fujian, IV.2013, leg. Yongying Ruan, feed on *Polygonum* sp.; 5♀2♂ (IZCAS), **China**, Sangxiang, Xingcun, Chongan, Fujian, alt. 740m, 7.VI.1960, leg. Yong Zuo; 31 (USNM), **China**, Fujian, Dayushan Island, 4.VI.2014, 443 m, leg. A. Konstantinov; 18 (USNM), **China**, Fujian, env. of Fuan, 03.VI.2014, 1088 m, leg. A. Konstantinov; 73 (USNM), **China**, Wuyi Mountain, Fujian, 31.V.2014, leg. A. Konstantinov; 23 (USNM), **China**, Youxi City, Fujian, 179–197 m, 30.V.2014, leg. A. Konstantinov; 187, Baijixun, Weixi, Yunnan, alt. 1780m, leg. Shuyong Wang, feed on *Polygonum* sp.; 14♀3♂

(IZCAS), **China**, Xiaomengyang, Yunnan, alt. 900m, III–IV.1957, leg. Shuyong Wang; 1♂ (IZCAS), Damenglong, Xishuangbanna, Yunnan, alt. 650m, 6.X.1958, leg. Zhizhi Chen; 3♀1♂ (BMNH), Tsur I., Holst., 98–214; 1♂2♀ (USNM), **India**, Assam, 10mile N Tinsukia, in jungle, 29.III.1944, D. E. Hardy; 4♂13♀ (USNM); **Japan**, Mitsu-kuri, 25–IX–1924.

Remarks: *C. fortcostata* is similar to *C. picipes* and *C. cheni*. It can be separated from the latter two species by the following characters: the aedeagus in lateral view is robust in *C. fortcostata* and slender in both *C. picipes* and *C. cheni*; dorsum is bronzy in *C. fortcostata*, while the same in *C. picipes* and *C. cheni* are coppery.

13. *Chaetocnema* (*Chaetocnema*) *furthi* Medvedev, 1996

(Fig. 32)

Chaetocnema furthi Medvedev, 1996: 68. TL: Philippines, Luzon, Mount Makiling. TD: USNM.

Distribution: Philippines (Luzon, Mount Makiling), India.

Host plant: Unknown.

Description: Body Length 2.10–2.20 mm, body width 1.20–1.25 mm. Ratio of elytron length (along suture) to width (maximum): 2.30–2.40. Ratio of pronotum width (at base) to length: 1.40–1.50. Ratio of length of elytron to length of pronotum (along middle): 2.45–2.55. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.10–1.15. Ratio of maximum width of elytra to maximum width of pronotum: 1.50–1.60.

Elytra and pronotum brownish black. Antennomeres yellow brown to dark brown, darker distally. Tibiae and tarsi yellow brown. Pro- and mesofemora yellow brown. Metafemora brownish black.

Head hypognathous. Frontal ridge narrow, convex. Frontolateral sulcus present. Suprafrontal sulcus shallow. Ratio of width of frontal ridge to width of antennal socket: 1.25–1.35. Frons laterally with long setae. Vertex strongly raised above level of orbit. Vertex with scattered punctures bearing white seta in middle, and 3–4 punctures on each side near eye.

Base of pronotum without short longitudinal impressions, deep transverse row of large punctures absent. Pronotal base moderately expanded in middle. Pronotum without shallow antebasal transverse impression. Lateral margins of pronotum straight, converging forward. Anterolateral prothoracic callosity protruding forward, angulate. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 2 to 4 times less than distance between them.

Elytra with convex sides. Elytral punctures larger than those on pronotum. Scutellar row of punctures on elytron regular and single. Second to eleventh rows of punctures regular. Humeral callus well developed.

Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle absent or poorly developed

Type: ♂ (Holotype) (USNM), 1) Mt. Makiling, Luzon, Baker; 2) Holotypus, *Chaetocnema furthi* m., L. Medvedev det., 1996. 3) Type Number 10553, U. S. N. M.

2♀ (Paratypes) (USNM), 1) Mt. Makiling, Luzon, Baker; 2) Paratypus, Medvedev det.

Material: 1♂ (USNM), Dolores Luzon PI (**Philippines**), Altitude 1200ft, XI.1945, BMalkin, *Chaetocnema* sp. det. A.Konstantinov, *Chaetocnema furthi* Medvedev det. Yongying Ruan, 2016; 1 male (BMNH), Belgaum (**India**), 1966, Andrewes, Bequest, B. M. 1922–221, *Chaetocnema furthi* Med., 1996, Det. Yongying Ruan, 2016; 2♀ (BMNH), H. L. Andrewes, Nilgiri Hills (**India**), Andrewes, Bequest, B. M. 1922–221, *Chaetocnema furthi* Med., 1996, Det. Yongying Ruan, 2016.

Remarks: *Chaetocnema furthi* very closely resembles *C. simplicifrons*. However, the frons and frontal ridge are distinctly narrower in *C. furthi* than in *C. simplicifrons*. Antero-lateral callosity of pronotum is narrow, right-angled and produced forward in *C. furthi*, while the same is well formed, obtusely angulate and facing antero-laterally in *C. simplicifrons*.

C. furthi also resembles *C. puncticollis*, but they differ in the shape of pronotum (antero-lateral angle of pronotum weak and pointed in *C. furthi* while strong and truncate in *C. puncticollis*) and aedeagus (from lateral view, apex of aedeagus only slightly bent ventrally in *C. furthi* while strongly bent ventrally in *C. puncticollis*).

FIGURE 32. *Chaetocnema furthi*. **A** Holotype, dorsal view. **B** Pronotum and peri-scutellar area (Holotype). **C** Head, frontal view (Holotype). **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Lateral view of head (Holotype), indicating strongly raised vertex

14. *Chaetocnema* (*Chaetocnema*) *fusiformis* Chen & Wang, 1980
(Fig. 33)

Chaetocnema fusiformis Chen & Wang, 1980: 4, 17. TL: China, Yunnan. TD: IZCAS.

Distribution: China (Yunnan).

Host plant: Unknown.

Description: Body elongate, obviously narrowed anteriorly and posteriorly in dorsal view. Body length 1.80–1.90 mm, body width 1.00–1.10 mm. Ratio of elytron length (along suture) to width (maximum): 2.30–2.40. Ratio of pronotum width (at base) to length: 1.40–1.45. Ratio of length of elytron to length of pronotum (along middle): 2.70–2.80. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.15–1.25. Ratio of maximum width of elytra to maximum width of pronotum: 1.30–1.35.

Elytra and pronotum bronzy to golden bronzy. Antennomeres 1–3 completely yellow, 4–5 partially brown. Tibiae partially brown. Pro- and mesofemora partially brown. Metafemora dark brown.

FIGURE 33. *Chaetocnema fusiformis*. **A** Male habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, ventral and lateral views. **E** Apex of aedeagus, dorsal view. **F** Vaginal palpi. **G** Spermatheca. **H** Tignum.

Head hypognathous to subprognathous. Frontal ridge narrow, convex. Frontolateral sulcus present. Suprafrontal sulcus retuse, deep laterally, shallow in middle. Ratio of width of frontal ridge to width of antennal socket: 1.30–1.50. Frons with long setae laterally, glabrous in middle. Vertex flat, situated on same level as orbit. Vertex densely and evenly covered with punctures, except along midline.

Base of pronotum without short longitudinal impressions, deep row of large punctures near basal margin absent. Pronotal base strongly expanded in middle. Basal margin of pronotum covered with punctures in middle. Pronotum without shallow antebasal transverse impression. Lateral margins of pronotum slightly convex or nearly straight, converging anteriorly. Anterolateral prothoracic callosity protruding forward. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures larger than or subequal to distance between punctures.

Elytra with convex sides. Scutellar row of elytral punctures regular and single. Second to eleventh row of punctures regular. Humeral callus well developed. Interspaces between rows of punctures with heart shaped minute punctures.

First protarsomere in male slightly larger than second. Excavation of hind tibia moderately deep. Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle very sharp.

Aedeagus parallel-sided. Apex of aedeagus in ventral view narrowing gradually. Ventral surface of apical fourth of aedeagus with a longitudinal ridge in middle, both sides of ridge being concave. Apical denticle of aedeagus in ventral view weak, with narrowly rounded apex. Apical denticle of aedeagus in lateral view slightly curved ventrally. Minute transverse wrinkles on ventral side of aedeagus absent. Aedeagus in lateral view evenly and strongly curved.

Spermathecal pump much shorter than receptacle, with cylindrical apex. Spermathecal receptacle cylindrical. Receptacle widest near middle, basally wider than apically. Apex of vaginal palpus subtriangular, with lateral margin abruptly narrowing. Vaginal palpus parallel-sided in middle, slightly widening preapically and anteriorly. Anterior sclerotization of vaginal palpus widening anteriorly, proximal end broadly rounded. Length of posterior sclerotization greater than width. Posterior sclerotization wider than anterior.

Type: 1♀ (Holotype) (IZCAS), 1) Mangshi, Yunnan, 900m; 2) 1955.V.17, leg. Le Wu & Buxike; 3) *Chaetocnema fusiformis*; 4) holotype. 1♀ (Paratype) (IZCAS), **China:** Puer, Yunnan, alt. 400m, 18.IV.1955, leg. B. Попов.

Material: 3♂7♀ (IZCAS), **China:** Yunnan, Jinghong, alt. 550m, 1982.IV.14, leg. Subai Liao; 19♂20♀ (IZCAS), **China:** Jinghong, Yunnan, 15.IV.1982, leg. Jingruo Zhou & Sumei Wang.

Remarks: This species closely resembles *C. tibialis*. However, *C. fusciformis* can be separated from *C. tibialis* based on structure of the aedeagus and pronotum. Aedeagus in *C. fusciformis* is strongly curved in lateral view compared to *C. tibialis*, and the posterior margin of the pronotum is expanded in the middle to form a distinct lobe in *C. fusciformis*.

15. *Chaetocnema (Chaetocnema) gracilis* Motschulsky, 1858

(Figs. 34, 35)

Chaetocnema gracilis Motschulsky, 1858: 107. TL: India. TD: Moscow University??.

Chaetocnema minuta Jacoby, 1896: 271, nec. *Chaetocnema minuta* Melsheimer, 1847; **Lectotype designated here.**

Chaetocnema indica Weise, 1916: 39. (new name for *Chaetocnema minuta* Jacoby, 1896); synonymized by Medvedev, 2006.

Distribution: China, Vietnam, Myanmar, Nepal, Bhutan (Döberl, 2010), India, Pakistan (Döberl, 2010); Australian Region: New Caledonia.

Host plants: *Alternanthera* sp. (Amaranthaceae) (Reddy et al., 1980), *Brassica campestris* L. ssp. *pekinensis* (Lour) Olsson (Khaire and Lawande, 1976), *Brassica oleracea* Linn. var. *botrytis* Linn. (Khire et al., 1986), *Brassica oleracea* Linn. var. *capitata* Linn. (Brassicaceae) (Khire et al., 1986), *Firmiana colorata* R.Br. (Sterculiaceae) (Narayanawamy et al., 1985), *Lagerstroemia indica* Linn. (Lythraceae) (Govindan et al., 1986), “millets” (Poaceae) (Kishore, 1996; Nair, 1986), *Oryza sativa* L. var. *terrestris* Makino (Gressitt & Kimotto); *Sorghum vulgare* Pers. (Poaceae) (Mote and Ghule, 1989a, b).

Description: Body length 1.40–1.70 mm, body width 0.80–0.90 mm. Ratio of pronotum width (at base) to length: 1.70–1.80. Ratio of length of elytron to length of pronotum (along middle): 2.70–2.80. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.15–1.20. Ratio of maximum width of elytra to maximum width of pronotum: 1.30–1.40.

Elytra usually bronzy or dark bronzy, sometimes red brown, with weak metallic luster. Color of pronotum usually different from that of elytra, bronzy, with greater metallic luster than elytra. Antennomeres 1–5 yellow, 5–11 brown. Pro- and mesofemora yellow, metafemora brown. Tibiae partially brown.

Head pro-hypognathous, bronzy, granulose. Frontal ridge slightly wider than antennal socket, convex. Frontolateral sulcus present. Frons with relatively long setae laterally. Vertex flat, situated on same level as orbit, with 9–13 shallow punctures on each side near eye.

FIGURE 34. *Chaetocnema gracilis*. **A** Habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, ventral and lateral views. **E** Apex of aedeagus, ventral view. **F** Vaginal palpi. **G** Spermatheca. **H** Tignum.

Base of pronotum without longitudinal impressions. Deep row of large punctures at base of pronotum absent. Pronotal base strongly expanded in middle as in *C. fusiformis*. Area adjacent to mid basal margin of pronotum covered with punctures. Pronotum without shallow antebasal transverse impression. Lateral margins of pronotum

slightly convex, converging forward. Anterolateral prothoracic callosity acutely produced forward. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures subequal to distance between adjacent punctures.

Elytra with convex sides. Scutellar row of punctures regular and single. Second to eleventh rows of punctures regular. Humeral callus poorly developed.

Metatibial excavation moderately deep. Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle present, sharp. Metatibia proximal to denticle in dorsal view convex. First metatarsomere cylindrical and long, as long as remaining tarsomeres together.

Ventral longitudinal ridge in middle of aedeagus absent. Apex of aedeagus abruptly narrowed.

Spermathecal pump much shorter than receptacle, with apex curved and narrowed. Spermathecal receptacle cylindrical. Receptacle basally wider than apically, with maximum width situated basally. Posterior sclerotization of tignum gradually narrowing, narrower than mid-section. Mid-section of tignum slightly curved. Anterior sclerotization of tignum wider than mid-section. Apex of vaginal palpus subtriangular, with convex lateral margin. Vaginal palpus narrowing from base to middle, thence slightly widening towards apex. Anterior sclerotization of vaginal palpus slightly narrowing anteriorly. Anterior end of anterior sclerotization nearly rounded. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

Types: Lectotype of *Chaetocnema minuta* Jacoby (= *Chaetocnema indica* Weise, 1916): 1♀, labels: 1) Belgaum. N; 2) Type; 3) Jacoby Coll. 1909–28a; 4) *Chaetocnema minuta* Jacoby; 5) Examined K. Prathapan 2005; 6) Lectotype *Chaetocnema minuta* Jacoby, 1896, Des. Ruan *et al.*, 2016.

Paralectotypes of *Chaetocnema minuta* Jacoby (= *Chaetocnema indica* Weise, 1916) (in BMNH): 1♀, labels: 1) Belgaum. N; 2) Type; 3) *Chaetocnema minuta* Jacoby; 4) Andrewes Bequest 1922–221. Paralectotype *Chaetocnema minuta* Jacoby, 1896, Des. Ruan *et al.*, 2016. 2 specimens, labels: 1) Belgaum. N; 2) Coype; 3) *Chaetocnema minuta* Jacoby; 4) H. E. Andrewes Bequest B.M. 1922–221. 5) Examined K. Prathapan 2005; 6) Paralectotype *Chaetocnema minuta* Jacoby, 1896, Des. Ruan *et al.*, 2016. 1 specimen, labels: 1) Belgaum. N; 2) H. E. Andrewes Bequest B.M. 1922–221; 3) Paralectotype *Chaetocnema minuta* Jacoby, 1896, Des. Ruan *et al.*, 2016.

Material: 2♂2♀ (IZCAS), **China**, Damenlong, Yunnan, *Chaetocnema indica* det. Chen, 11.IV.1957; 4♂8♀ (IZCAS), **Vietnam**, Tonkin, Hoa-binh, VII.1939, leg. A. de. Cooman; 2♂2♀ (USNM), **Myanmar**, Tenasserim, MUS. PRAGENSE, Coll. Helfer, *Chaetocnema indica* Weise det. I. Lopatin, 1961; 1♂3♀ (BMNH), **Nepal**, Dhunibesi, 22.VI.65, on paddy, Dept. Agric, CIE. A. 573, Coll. 155; 1♀ (USNM), **Nepal**: env., 08.V.2000, Kathmandu, Bonipa, agricultural fields, Konstantinov, Lingafelter, Volkovitch; 1 (BMNH), **Nepal**: 2070', Kathmandu dist., 13–30/VII/1984, Malaise trap, BMNH(E), 1984–136, coll. M. G. Allen, *Chaetocnema gracilis* (Motschlsky, 1858), Det. Yongying Ruan, 2016; 13 (BMNH), **Nepal**, 1350–2070m, Kathmandu, vi–vii/1984, Lt–col. M. G. Allen, Malaise trap, *Chaetocnema gracilis* Motschlsky, Det. Yongying Ruan, 2016; 1 (BMNH), **Nepal**, 8800', Kathmandu dist., Phulcoki, 27–31.v.1983, low herbage in open oak forest, *Chaetocnema gracilis* Motschlsky, Det. Yongying Ruan, 2016; 1♂ (BMNH), **India**, Rajasthan, Bharatpur, 12.VIII.1989; 2♂3♀ (USNM), South **India**, Easten Ghats Karnataka, Chikmagalur, 15.XI.2003, leg. Konstantinov, Prathapan, Saluk; 1 (BMNH), Chipurupalle, Vizagapatam Distr., **India**, R. S. Patuck, B. M. 1923–430, *Chaetocnema indica* Weise; 3 (BMNH), **India**, Rahuri, 18. ix. 1986, sorghum seedling, CIE A19195, BMNH{F}, 2012–16; 2 (BMNH), **India**, Dharwad, 13.VIII.1982, S. Hosur coll., Sp No. 28, a Sorghum, C.I.E. A.14269, *Chaetocnema indica* Weise, det. M. L. Cox, 1982, Pres by Comm Inst Ent, B. M. 1982–1; 7 (BMNH), **India**, Mah. Phule, Agr. Univ., Rahuri, 18.IX.86, V. N. Mote, Sp. 3 on lvs. of, Sorghum seedlings CIE A19195, Pres by Comm Inst Ent, B. M. 1987–1; 3 (BMNH), H. L. Andrewes, Nilgiri Hills (**India**), Andrewes, Bequest, B. M. 1922–221, *Chaetocnema gracilis* Motschlsky, Det. Yongying Ruan, 2016; 2 (BMNH), Kanara (**India**), Andrewes, Bequest, B. M. 1922–221; 1 (BMNH), T. R. Bell, Khandesh (**India**), Andrewes, Bequest, B. M. 1922–221, *Chaetocnema gracilis* Motschlsky, Det. Yongying Ruan, 2016; 1 (BMNH), E. Coll. Laferte, N. **India**, 67.56, *Chaetocnema gracilis* Motschlsky, Det. Yongying Ruan, 2016; 1 (BMNH), debris on beach, **Pakistan**, I. nr. Karachi, 16.XII.1951, INDIA.1952., T. Clay, B.M. 1952–143, *Chaetocnema gracilis* Motschlsky, Det. Yongying Ruan, 2016; 3♀ (USNM), **New Caledonia**, 20m, Coumac, 6–12.I.1991, leg. Wiesner & Worm *Chaetocnema indica* det. Döberl, 1995; 1 (BMNH), Brit. Mus. 1978–16, *Chaetocnema gracilis* Motschlsky, Det. Yongying Ruan, 2016.

Remarks: Species concept is based on the original description provided by Motschulsky (1858).

In *C. gracilis*, body color varies considerably between specimens from different localities. Color of the elytra may be different from that of the pronotum in most cases.

FIGURE 35. *Chaetocnema gracilis*. **A** Male habitus (example for variation in color). **B** Head, frontal view. **C** Pygidium (tergite 7) of female.

16. *Chaetocnema (Chaetocnema) granulicollis* Jacoby, 1896
(Fig. 36)

Chaetocnema granulicollis Jacoby, 1896: 439. TL: Sumatra. TD: BMNH. **Lectotype designated here.**

Chaetocnema flavipennis Medvedev, 1996: 68. TL: Philippines (Luzon, Mount Makiling). TD: Medvedev Collection. (**Syn. Nov.**)

Distribution: Malaysia, Singapore, Philippines (Medvedev, 1996), Indonesia (Sumatra), India.

Host plants: Unknown.

Description: Body length: 1.70–1.90 mm. Body width: 1.00–1.10 mm. Ratio of elytron length (along suture) to width (maximum): 2.15–2.25. Ratio of pronotum width (at base) to length: 1.80–1.90. Ratio of length of elytron to length of pronotum (along middle): 2.40–2.50. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.05–1.10.

Color variable, typical individuals have yellow elytra with brown area near scutellum, or elytra entirely brown in some cases. Head and pronotum bronzy to brown. Antennomeres 1–5 yellow brown, 6–11 brown. Tibiae yellow brown. Pro- and mesofemora light brown. Metafemora dark brown. Pronotum and head rugose.

Head hypognathous. Frontal ridge wide, slightly convex. Frontolateral sulcus present. Suprafrontal sulcus shallow laterally, deep in middle. Orbital sulcus deep and straight. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 2.95–3.00. Number of punctures on vertex: 60–90, punctures sometimes extremely weak. Number of punctures on orbit: 1–2 on each side. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: 13. Number of setae on labrum: 6. Anterior margin of labrum slightly convex at middle.

Base of pronotum without short longitudinal impressions near basal margin, with deep row of large punctures at sides, weak in some specimens. Pronotal base slightly convex, with middle prominently expanded. Lateral margins of pronotum nearly straight, converging forward with maximum width near base. Anterolateral prothoracic callosity strongly developed, forming obtuse angle laterally. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 2 to 3 times smaller than distance between them.

FIGURE 36. *Chaetocnema granulicollis*. **A** Male habitus. **B** Pronotum and peri-scutellar area. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female.

Elytra with slightly convex lateral sides. All rows of elytral punctures regular and single. Interspaces between rows of punctures smooth and glabrous except the few near scutellum are rugged. Humeral callus well developed.

First male protarsomere slightly larger than second. Excavation of hind tibia moderately deep. Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle absent.

Apex of aedeagus unique, arrow-head shaped in ventral view. Ventral longitudinal groove absent. Apical denticle in ventral view absent. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view unevenly curved, apex sinusoidal. Maximum curvature in lateral view situated near apex.

Spermathecal receptacle pear-shaped. Basal part of spermathecal duct coiled. Spermathecal pump much shorter than receptacle, with cylindrical apex. Receptacle basally wider than apically. Apex of vaginal palpus rounded, with slightly convex lateral margin. Anterior end of anterior sclerotization evenly rounded. Posterior sclerotization longer than wide. Both width and length of posterior sclerotization greater than that of anterior sclerotization.

Types: Lectotype: 1♂ (BMNH), labels: 1) Type H.T.; 2) Sumatra Siboga X.90–III.91 E. Modigliani; 3) Jacoby Coll. 1909–28a; 4) *Chaetocnema granulicollis* Jac.; 5) Lectotype *Chaetocnema granulicollis* Jacoby, 1896 Des. Ruan *et al.*, 2016.

Paralectotype: 3♀ (BMNH), labels: 1) Sumatra Balighe X.90–III.91 E. Modigliani; 2) Jacoby Coll. 1909–28a.; 3) Lectotype *Chaetocnema granulicollis* Jacoby, 1896 Des. Ruan *et al.*, 2016.

Material: 1♀ (USNM), **Malaysia**, Sabah, 7km NNW Kudat, Tanjung Tajau, 19.IX.1983, loan from USNMNH 2065634; 1♂ (BMNH), Sarawak (**Malaysia**), on vegetable, 8–vii–63, coll. S. KUEH, *Chaetocnema granulicollis* Jacoby, 1896, Det. Yongying Ruan, 2016; 1♂ (BMNH), **Singapore**, C. J. Saunders, B.M. 1933–227, *Chaetocnema granulicollis* Jacoby, 1896, Det. Yongying Ruan, 2016; 3♂1♀ (USNM), **India**, Assam Chabua, 20.II.1944, D. E. Hardy, loan from USNMNH 2065634; 1♂, Chabua, Assam, **India**, 2–X–43, DEHardy, *Chaetocnema flavipennis* Medvedev, 1996 det. Yongying Ruan, 2016.

Remarks: Specimens of *C. granulicollis*, even from the same locality, vary greatly. For instance, the general color of elytra vary from yellow to dark brown; punctation of head and pronotum range from weak to strong and even the shape of the apex of aedeagus may vary slightly.

17. *Chaetocnema (Chaetocnema) granulosa* Baly, 1874 (Fig. 37)

Chaetocnema granulosa Baly, 1874: 207. TL: Japan. TD: BMNH.

Distribution: China: Taiwan (Chûjô, 1935); Korea (Gruev, 1980), Japan.

Host plants: *Rubus hirsutus* (Chûjô 1954; Chûjô & Kimoto 1961); *R. trifidus* (Ohno 1960).

Description: Description is not provided here, as this species has been revised by Konstantinov *et al.*, (2011).

Type: Lectotype male (1 BMNH), labels: 1) Japan, 2) Type, 3) Type, H.T., 4) Baly Coll., 5) *Chaetocnema granulosa* Baly, Nagasaki; 6) Lectotype *Chaetocnema granulosa* Baly des. A. S. Konstantinov *et al.* 2009.

Paralectotype: 1 (BMNH), labels: 1) Baly Coll.; 2) *Plectroscelis granulosa* Bal Japan; 3) Paralectotype *Chaetocnema granulosa* Baly des. A. S. Konstantinov *et al.* 2009.

Remarks: There is no significant difference between *C. granulosa* and *C. fortcostata* in external characters, however, apex of the aedeagus of *C. granulosa* is more dilated and is generally wider and robust.

Chaetocnema granulosa can easily be confused for *C. fortcostata* due to the similarity of external characters. There were numerous museum specimens of *C. fortcostata* labeled as *C. granulosa*.

18. *Chaetocnema (Chaetocnema) hainanensis* Chen, 1933 (Figs. 38, 39)

Chaetocnema hainanensis Chen, 1933: 228. TL: China, Hainan. TD: MNHN??.

Chaetocnema kwangsiensis Chen, 1939: 32. TL: China, Yaoshan. TD: IZCAS. **Lectotype designated here. (Syn. Nov.)**

Chaetocnema assamensis Scherer, 1969: 161. TL: Assam, India. TD: NHMB. **(Syn. Nov.)**

Distribution: China (Jiangxi, Fujian, Guangdong, Hainan, Hongkong, Guangxi), Vietnam, India, Sri Lanka, Indonesia, Singapore.

Host plants: Unknown.

Description: Body length 1.80–1.95 mm, body width 0.95–1.00 mm. Ratio of elytron length (along suture) to width (maximum): 2.30–2.40. Ratio of pronotum width (at base) to length: 1.55–1.65. Ratio of length of elytron to length of pronotum (along middle): 2.35–2.50. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.10–1.15. Ratio of maximum width of elytra to maximum width of pronotum: 1.20–1.30.

Elytra, pronotum and head coppery. Antennomeres 1–5 completely yellow, 6–11 brownish yellow. Tibiae and tarsi completely yellow. Color of pro- and mesofemora light brown. Color of metafemora dark brown.

FIGURE 37. A comparison of aedeagi of *Chaetocnema fortcostata* and *Chaetocnema granulosa*. A–B Aedeagus of *C. fortcostata*, ventral and lateral views. C Apex of aedeagus of *C. fortcostata*, dorsal view. D–E Aedeagus of *C. granulosa*, ventral and lateral views. F Apex of aedeagus of *C. granulosa*, dorsal view.

Head hypognathous. Frontal ridge wide and slightly convex. Frontolateral sulcus present. Suprafrontal sulcus shallow, but distinct, arched. Ratio of width of frontal ridge to width of antennal socket: 2.00–2.10. Frons with long setae laterally. Vertex flat, situated on same level as orbit, with 5–8 punctures near eye.

Base of pronotum without longitudinal impressions. Pronotum without deep row of large punctures at base. Pronotal base evenly convex. Area adjacent to mid basal margin of pronotum covered with punctures. Pronotum without shallow antebasal transverse impression. Lateral margins of pronotum nearly straight, slightly converging anteriorly. Anterolateral prothoracic callosity truncate, facing anterolaterally. Posterolateral prothoracic callosity slightly projects beyond lateral margin of pronotum. Diameter of pronotal punctures 2 to 3 times smaller than distance between them.

Elytra with sides parallel to each other. Scutellar row of elytral punctures regular and single. Second to eleventh rows of punctures regular. Humeral callus moderately developed.

First and second male protarsomeres, length to length ratio: 1.30–1.40. Large lateral denticle on metatibia moderately sharp. Metatibial serration proximal to large lateral denticle absent.

Apical third of aedeagus slightly widening. Apex of aedeagus in ventral view narrowing abruptly. Ventral longitudinal ridge in middle of aedeagus absent. Apical denticle of aedeagus in ventral view well differentiated, narrowly rounded apically. Apical denticle of aedeagus in lateral view strongly curved dorsally. Minute transverse wrinkles on ventral side of aedeagus absent. Aedeagus in lateral view abruptly curved at base and apex, straight at middle. Maximum curvature of aedeagus in lateral view near apex.

Spermathecal pump much shorter than receptacle, apex flattened. Spermathecal receptacle oblong-flask shaped.

Maximum width of receptacle situated basally. Receptacle basally wider than apically. Apex of vaginal palpus sub-triangular, with convex lateral margin. Vaginal palpus narrowing from base till middle, thence slightly widening towards apex. Anterior sclerotization of vaginal palpus strongly widened anteriorly. Anterior end of anterior sclerotization broadly rounded. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

Types: We could not locate the Holotype neither in MNHN nor IZCAS. However, we could examine a Topotype determined by Prof. Chen in BMNH.

FIGURE 38. *Chaetocnema hainanensis*. A Male habitus. B Pronotum. C Head, frontal view. D Aedeagus, ventral view. E Aedeagus, lateral view. F Apex of aedeagus, ventral view. G Vaginal palpi. H Spermatheca. I Pygidia (tergite 7) of females.

Topotype of *Chaetocnema hainanensis* (with the same accurate locality as the type, and the label is in the author's handwriting): 1♂ (BMNH) 1) Hainan Is. LohMaChuen, S.W. of Noda Aug. 10; 2) Lingnan University 5th. Hainan Is. Exped. 1929; 3) Press by Inp. Inst. Ent. Brit. Mus. 1933–295; 4) *Chaetocnema hainanensis* Chen.

Holotype of *Chaetocnema assamensis* Scherer, 1969: 1♂ (NHMB): 1) Assam, Khasi–Hills, Cheerapunji, 1300 m, V.1961, leg. G. Scherer; 2) ♂; 3) Holotypus, *Chaetocnema assamensis* **sp. nov.** det. Dr. G. Scherer, 1965.

Paratype of *Chaetocnema assamensis* Scherer, 1969: 2♀ (NHMB): 1) Assam, Khasi–Hills, Cheerapunjica, 1300 m, V.1961, leg. G. Scherer; 2) ♀; 3) Paratypus, *Chaetocnema assamensis* **sp. nov.** det. Dr. G. Scherer, 1965.

FIGURE 39. *Chaetocnema hainanensis*. **A** Lateral view of habitus. **B** Head, frontal view. **C** Labrum, indicating special latero-frontal angle. **D** Ventral view of habitus. **E** abdominal ventrites.

Lectotype of *Chaetocnema kwangsiensis* Chen, 1939: 1 (IZCAS), labels: 1) Yaosan, V–VI, 1938; 2) *Chaetocnema kwangsiensis* Chen; 3) *Chaetocnema hainanensis* Chen; 4) Lectotype *Chaetocnema kwangsiensis* Chen Des. Ruan *et al.*

Material: 1♂1♀ (IZCAS), **China**, Hongkong, *Chaetocnema hainanensis* Chen; 1♂ (IZCAS), **China**, Shaluodong, Hongkong, V. 2013, leg. Yongying Ruan; 1♂ (IZCAS), **China**, Hong Kong, Shaluodong, V. 2013, Yongying Ruan, *Chaetocnema hainanensis* Chen, 1933, det. Ruan; 1♀ (IZCAS), **Vietnam**, Mont Bavi, Tonkin, VIII.1940, leg. P. A. Cooman; 4 (BMNH), SULAWESI TENGAH (**Indonesia**): Nr. Morowali, Ranu River Area, 27.i.–20.iv.1980, M.J.D. Brendell, B.M. 1980–280, *Chaetocnema* spp. det. K. Nadein 2007, *Chaetocnema hainanensis* Chen, 1933, Det. Yongying Ruan, 2016; 1♂1♀ (BMNH), **Singapore**, C. J. Saunders, B.M. 1933–227, (near) *Chaetocnema hainanensis* Chen, 1933, Det. Yongying Ruan, 2016; 1♂, **Sri Lanka**, Pol. Dist. 10 mile east of Habarana, blacklight, 650 foot, 12.XII.1976, leg. G. F. Hevel *et al.* (USNM).

Remarks: *Chaetocnema hainanensis* closely resembles *C. lusiadae* Medvedev from the Australian Region as the base of elytra is narrower than the base of pronotum in both of them. However, *C. lusiadae* has larger punctures on dorsum and head. *Chaetocnema hainanensis* has apex of aedeagus abruptly narrowed with broader denticle, while *C. lusiadae* has apex of aedeagus gradually narrowed without denticle.

Chaetocnema hainanensis has a distinct oblique ridge on either side ventrally on the aedeagus. Aedeagus of this species resembles that of *C. philippina* which also has ridges on either side ventrally. However, these two species are distinctly different in the general shape of aedeagus and other external characters.

Some specimens from Singapore and Hongkong have comparatively sharper and more prominent apical denticle of aedeagus. However, all other characters are identical with other specimens. We treat them conspecific till more evidences are gathered in support of differentiating them from *C. hainanensis*.

Chaetocnema kwangsiensis was originally described by Chen in 1939 based on a single specimen. We could not locate the type in IZCAS. However, we found a single specimen collected in Yaoshan with dating V–VI, 1938 and labeled as ‘*Chaetocnema kwangsiensis* Chen’. This has an extra label: ‘*Chaetocnema hainanensis* Chen’. The label data on this specimen (Yaoshan, V–VI) is the same as given by Chen in his original description. Another circumstantial evidence is that *C. fortetostata* was published in the same manuscript without a ‘type label’. Based on these findings, we are convinced that the single specimen with the label ‘Yaoshan, V–VI, 1938’ in IZCAS is the Holotype of *Chaetocnema kwangsiensis* Chen. Most probably the label ‘*C. hainanensis*’ was added by the author himself or another worker who found that *C. hainanensis* and *C. kwangsiensis* are conspecific. Hence we consider this single specimen as the Holotype of *Chaetocnema kwangsiensis* Chen.

Based on the original description of *C. kwangsiensis* (Chen, 1939: 32) and *C. hainanensis* (Chen, 1933: 228), all the characters are identical with each other. Hence we synonymize *C. kwangsiensis* with *C. hainanensis*.

19. *Chaetocnema* (*Chaetocnema*) *hongkongensis* Ruan, Konstantinov & Yang, New Species

(Figs. 40, 41)

Etymology: This species is named after the type locality. Specific epithet is a noun in apposition.

Diagnosis: This species is close to *C. tonkinensis* and *C. yiei*. It may be differentiated from *C. tonkinensis* by the shape of aedeagus and lighter body color, and from *C. yiei* by much smaller body and shape of the aedeagus.

Host plants: Convolvulaceae (probably *Ipomoea* sp.). All the specimens were collected on the leaves of the host plant (see Fig. 41). Adult feeding results in characteristic winding patterns along the veins of leaves.

Distribution: China, Vietnam, Thailand.

Description: Body length: 1.70–1.80 mm. Body width: 0.98–1.04 mm. Ratio of length of antenna to length of body: 0.63–0.67. Ratio of elytron length (along suture) to width (maximum): 2.35–2.40. Ratio of pronotum width (at base) to length: 1.65–1.70. Ratio of length of elytron to length of pronotum (along middle): 2.62–2.67. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.01–1.15.

Dorsum coppery brown. Head and pronotum finely reticulated. Antennomeres completely yellow brown, apical ones slightly darker. Tarsi and tibiae bright yellow brown. Pro- and mesofemora yellow brown, slightly darker than tarsi and tibiae. Metafemora red brown.

FIGURE 40. *Chaetocnema hongkongensis* sp. nov. **A** Holotype, habitus. **B** Pronotum (Paratype). **C** Head, frontal view (Paratype). **D** Aedeagus, ventral view (Paratype). **E** Aedeagus, lateral view (Paratype). **F** Apex of aedeagus, ventral view (Paratype). **G** Vaginal palpi (Paratype). **H** Spermatheca (Paratype). **I** Pygidium (tergite 7) of female (Paratype).

Head hypognathous. Frontal ridge wide and convex. Frontolateral sulcus present. Suprafrontal sulcus shallow and narrow, very slightly convex. Orbital, supraantennal sulci moderately to poorly developed. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 1.90–2.10. Number of punctures on vertex: 5–6 on each side near eye. Number of punctures on orbit: 1–2 on each side. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: approximately 20. Number of setae on labrum: 6. Anterior margin of labrum slightly concave.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum present, basal margin of pronotum depressed. Pronotal base evenly convex. Lateral margins of pronotum slightly convex, converging forward. Anterolateral prothoracic callosity weak, slightly truncate. Posterolateral prothoracic callosity poorly developed. Pronotal punctures shallow, longitudinal. Diameter of pronotal punctures 2–3 times smaller than distance between them.

Elytra with slightly convex lateral sides. Elytral punctures conspicuously larger than those of pronotum, arranged in single rows, including peri-scutellar row. Elytral interspaces between puncture rows slightly costate at sides. Number of rows of minute punctures on each interspace: 2–3. Humeral callus well developed.

First male protarsomere slightly larger than second, larger than that of female. Excavation on metatibia moderately deep. Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle absent or poorly developed.

Apex of aedeagus in ventral view narrowing gradually. Ventral longitudinal groove absent. Apical denticle in ventral view present, weak, merge with apex of aedeagus. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view curved at base and almost straight near apex.

Spermathecal receptacle oblong. Spermathecal duct coiled. Spermathecal pump much shorter than receptacle. Apex of spermathecal pump narrowed, pointed. Vaginal palpus slightly narrowing from base till middle, thence approximately parallel sided. Posterior sclerotization longer than wide. Posterior sclerotization as wide as anterior.

Types: Holotype: ♂ (IZCAS), labels: 1) **China**, Dayu Mountain, Hongkong, 13.IV.2013, leg. Yongying Ruan, **host plant:** Convolvulaceae; 2) ♂; 3) Holotype; 4) *Chaetocnema hongkongensis* **sp. nov.** Des. Yongying Ruan, 2016.

Paratypes: 1♀ (IZCAS), **China**, Dayu Mountain, Hongkong, 13.IV.2013, leg. Yongying Ruan, **Host plant:** *Pericampylus* sp., paratype, *Chaetocnema hongkongensis* **sp. nov.** Des. Yongying Ruan, 2016; 2♂ (USNM), **China**, Lantou Isl., Hongkong, 12.XI.1977, leg. Gary F. Hevel; 11♂10♀ (IZCAS), **China**, Dayu Mountain, Hongkong, 13.IV.2013, leg. Yongying Ruan, **Host plant:** *Pericampylus* sp.; 2♂ (IZCAS), **China**, Honghualing, Hongkong, 14.IV.2013, leg. Yongying Ruan, **Host plant:** *Pericampylus* sp. *Chaetocnema hongkongensis* **sp. nov.** Des. Yongying Ruan, 2016.

Material: 2♂3♀ (IZCAS), **China**, Guangxi, Yangsuo; 3♂2♀ (IZCAS), **China**, Nanking, 30.VIII.1923, *Chaetocnema tonkinensis* Chen det. Chen; 3♀ (IZCAS), **China**, Fujian, Dazhulan, 15.VIII.1948; 2♂ (USNM), **Vietnam**, Tonkin, Hoa-binh, VII.1939, leg. A. de. Cooman; 1♂2♀ (USNM), **Thailand** (North), Nan, 500m, 31.VIII.1985, J. Reacher & Huber, *Chaetocnema tonkinensis* Chen det. H. Takizawa.

20. *Chaetocnema* (*Chaetocnema*) *jinxuensis* Ruan, Konstantinov & Yang, New Species

(Fig. 42)

Etymology: This species is named after the type locality. Specific epithet is a noun in apposition.

Distribution: China (Guanxi: Jinxiu).

Diagnosis: This species is very close to *C. hainanensis*. It can be separated from the latter by the shape of aedeagus and pronotum. It also resembles *C. granulicollis*, however it may be distinguished from the latter by the metallic body color and the shape of aedeagus.

Host plants: Unknown.

Description: Body length: 1.60–1.90 mm. Body width: 0.90–1.05 mm. Ratio of length of antenna to length of body: 0.55–0.65. Ratio of elytron length (along suture) to width (maximum): 2.50–2.60. Ratio of pronotum width (at base) to length: 1.60–1.65. Ratio of length of elytron to length of pronotum (along middle): 2.95–3.00. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.05–1.10.

Dorsum bronzy to coppery. Head and dorsum finely reticulated. Antennae entirely yellow brown. Tibiae and tarsi yellow brown, pro- and mesofemora brown. Metafemora deep brown.

Head hypognathous. Frontal ridge wide, slightly convex. Frontolateral sulcus present. Suprafrontal sulcus absent or poorly developed. Orbital sulcus deep. Frontal ridge rather wide, ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 2.60–2.70. Vertex shallowly punctate, with 17–20 punctures on each side, leaving middle longitudinal area impunctate. Orbit deeply punctate, with 2–3 punctures on each side. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of

setae on clypeus: approximately 20. Number of setae on labrum: 6. Anterior margin of labrum straight or slightly convex at middle.

FIGURE 41. *Chaetocnema hongkongensis* sp. nov. on the host plant (Hong Kong, China, May, 2013). **A–B** Adults on host plant. **C** Host plant: unknown species of Convolvulaceae (probably *Ipomoea* sp.). **D** Eating patterns by adults on the leaves of the host plant (larger holes on the leaf lamina were caused by unknown larger insects). **E** Host plant: unknown species of Convolvulaceae (probably *Ipomoea* sp.).

Pronotum without short longitudinal impressions near basal margin. A few deep and large punctures placed on either side near basal margin of pronotum. Pronotal base evenly convex. Lateral margins of pronotum almost

straight, converging forward. Anterolateral prothoracic callosity truncate and oblique. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 2 to 4 times smaller than distance between them.

Elytra with slightly convex lateral sides. Elytra slightly costate laterally on either side. Elytral punctures distinctly larger than those on pronotum. Elytral punctures arranged in single rows, including peri-scutellar row. Interspaces between striae of punctures smooth and glabrous. Number of rows of minute punctures on each interspace: 1–2. Humeral callus well developed.

First male protarsomere slightly larger than second. First male protarsomere larger than that of female. Excavation on metatibia rather deep. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent or poorly developed.

Apex of aedeagus in ventral view narrowing gradually. Ventral longitudinal groove absent. In ventral view, apical denticle narrowly rounded, merge with apex of aedeagus. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view unevenly curved, straight basally and medially, curved near apex.

Spermathecal receptacle oblong, duct short and coiled. Spermathecal pump much shorter than receptacle, apex flattened. Vaginal palpus approximately parallel-sided. Posterior sclerotization longer than wide. Width of posterior sclerotization greater than that of anterior.

Type: Holotype: ♂ (IZCAS), labels (the first label is written in Chinese): 1) Guangxi, Jinxiu, Daping, grass slope, 10.IX.1981; 2) *Chaetocnema*; 3) Holotype *Chaetocnema jinxiuensis* **sp. nov.** Des. Ruan *et al.*, 2017.

Paratypes: 4♀ (IZCAS), labels (the first label is written in Chinese): 1) Guangxi, Jinxiu, Daping, grass slope, 10.IX.1981; 2) Paratype; 3) *Chaetocnema jinxiuensis* **sp. nov.** Des. Ruan *et al.*, 2017.

21. *Chaetocnema* (*Chaetocnema*) *kingpinensis* Ruan, Konstantinov & Yang, 2014

(Fig. 43)

Chaetocnema (*Chaetocnema*) *kingpinensis* Ruan, Konstantinov & Yang, 2014: 27. TL: China, Yunnan. TD: IZCAS.

Chaetocnema (*Chaetocnema*) *kingpinensis* Chen (MS), (Wang, 1992, In: SH Chen (ed.), *Insects of the Hengduan Mountains Region*, 1: 681. Manuscript species, species name is mentioned without description or designation of types).

Distribution: China (Jiangxi, Guangxi, Yunnan).

Host plants: *Rubus* sp.

Description: Body narrow. Male body length: 1.80–2.50 mm, female body length: 2.10–2.63 mm. Male body width: 0.88–1.04. Ratio of length of antenna to length of body: about 0.70. Ratio of elytron length (along suture) to width (maximum): 2.55–2.60. Ratio of pronotum width (at base) to length: about 1.32. Ratio of length of elytron to length of pronotum (along middle): about 1.90. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): about 1.14. Ratio of maximum width of elytra to maximum width of pronotum: 1.44–1.46.

Color of elytra usually differ from that of pronotum. Elytra often brown to black, sometimes bronzy. Pronotum bronzy. Head dorsally dark bronzy. Antennomere 1 yellow but darker than antennomeres 2–5. Antennomeres 2–5 yellow, 6–7 partially brown, 8–11 brown with yellow proximally. Tibiae yellow, tarsomeres yellow with claw segment brown at apex. Pro- and mesofemora light brown with yellow apex. Metafemora brown.

Head hypognathous. Frontal ridge between antennal sockets narrow and convex. Frontolateral sulcus present. Suprafrontal sulcus shallow and faint or deep laterally, shallow in middle. Suprafrontal sulcus retuse. Orbital sulcus (above antennal socket) deep. Ratio of width of frontal ridge to width of antennal socket: 0.84–0.88. Vertex sparsely and unevenly covered with 5–6 punctures close to each eye. Number of punctures on orbit on each side: 3–5. Number of setae along frontolateral sulcus on each side: 8–10. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: 7. Number of setae on labrum: 6. Anterior margin of labrum slightly concave in middle.

Base of pronotum with two short longitudinal impressions. Deep row of large punctures at base of pronotum present only laterally, absent in middle. Pronotal base evenly convex. Lateral sides of pronotum thickened, lateral margin slightly convex with maximum width near base. Pronotum quite convex from lateral view. Anterolateral prothoracic callosity protruding antero-laterally, forms strong obtuse angle. Posterolateral prothoracic callosity projects beyond lateral margin of pronotum. Setae on each callosity long, exceeding half of pronotal length. Wrinkles between punctures on pronotum well developed. Diameter of pronotal punctures subequal to distance between them.

FIGURE 42. *Chaetocnema jinxiuensis* sp. nov. **A** Male habitus (Holotype). **B** Pronotum (Holotype). **C** Head (Holotype), frontal view. **D** Aedeagus, ventral view (Holotype). **E** Aedeagus, lateral view (Holotype). **F** Apex of aedeagus, ventral view (Holotype). **G** Vaginal palpi (Paratype). **H** Spermatheca (Paratype). **I** Pygidium (tergite 7) of female (Paratype).

Elytra with convex lateral sides. Elytral punctures arranged in regular rows, including single peri-scutellar row. Humeral calli well developed. Interspaces between rows of punctures on elytra smooth and glabrous. Number of minute puncture rows on each interspace: 2.

First male protarsomere only slightly larger than second. First male protarsomere, length to width ratio: 1.95–2.03. First and second male protarsomeres, length to length ratio: 1.43–1.52, width to width ratio: 0.89–0.91. First

male protarsomere, width at apex to width at base ratio: 1.45–1.55. Large lateral denticle on metatibia sharp. First male metatarsomere, length to width ratio: 2.78–2.85. First and second male metatarsomeres, length to length ratio: 1.80–1.90, width to width ratio: 0.92–0.95. Length of hind leg to length of body ratio about: 1.04.

Apical third of aedeagus parallel-sided. Apex of aedeagus in ventral view narrowing abruptly. Ventral longitudinal groove of aedeagus poorly developed in apical and basal part, narrow or absent in middle part. Longitudinal groove apically as wide as basally. Apical denticle of aedeagus in ventral view poorly differentiated. Apical denticle of aedeagus in lateral view strongly curved ventrally. Minute transverse wrinkles absent on ventral side of aedeagus. Aedeagus in lateral view slightly sinusoidal near apex. Maximum curvature of aedeagus in lateral view situated medially. Ratio of width (in middle) to length of aedeagus (in ventral view) about: 0.18. Aedeagus narrow in lateral view.

Spermathecal receptacle oblong, slightly narrowed in middle. Basal part of spermathecal duct straight. Spermathecal pump much shorter than receptacle, apex cylindrical. Maximum width of receptacle situated basally. Basal part of receptacle wider than apical. Posterior sclerotization of tignum spoon-shaped, wider than mid-section. Mid-section of tignum nearly straight. Anterior sclerotization of tignum wider than mid-section. Apex of vaginal palpus subtriangular, with lateral margin gently convex. Vaginal palpus narrowing from base till middle, thence slightly widening towards apex. Anterior sclerotization of vaginal palpus slightly narrowing anteriorly, slightly and evenly curved along length. Anterior end of anterior sclerotization broadly rounded. Posterior sclerotization longer than wide. Posterior sclerotization about as wide as anterior sclerotization.

Types (all in IZCAS): ♂ (Holotype), **China**, Lushui, Yunnan, alt. 1900m, 8.VI.1981, leg. Shuyong Wang, feed on *Rubus* sp.; 2♀1♂ (Paratypes), **China**, Jiulianshan national reserve, Jiangxi, 8.IX.1978, leg. Youjiao Liu; 16♀11♂ (Paratypes), **China**, Lushui, Yunnan, alt. 1900m, 8.VI.1981, leg. Shuyong Wang, feed on *Rubus* sp.; 8♀4♂ (Paratypes), **China**, Changpotou, Jinping, Yunnan, 22.V.1952, leg. Keren Huang *et al.*, feed on *Rubus* sp.; 1♂ (Paratype), **China**, Hetouzhai, Jinping, Yunnan, alt. 2000m, 22.V.1952, leg. Keren Huang *et al.*; 1♂ (Paratype), **China**, Baoshan, Yunnan, alt. 1600m, 13.V.1955, leg. Bu-xi-ke & Le Wu.; 2♂ (Paratypes), **China**, Menghun, Menghai, Xishuangbanna, Yunnan, alt. 1200–1400m, 20–23.V.1958; 1♂ (Paratype), **China**, Tiantanshan, Jinxiu, Guangxi, alt. 600m, 11.V.1999, leg. Mingyuan Gao; 4♀4♂ (Paratypes), **China**, Tianping Mountain, Longsheng, Guangxi, 9.VI.1963. leg. Shuyong Wang; 1♂ (Paratype), **China**, Tianping Mountain, Longsheng, Guangxi, 740m, feed on *Rubus* sp. 4♀4♂ (Paratypes), **China**, Tianping Mountain, Longsheng, Guangxi, 9.VI.1963. leg. Shuyong Wang; 1♂ (Paratype), **China**, Tianping Mountain, Longsheng, Guangxi, 740m, feed on *Rubus* sp.

Material: 2♀ (USNM), **China**, Yunnan, 60 km W Baoshan, nr. Pumanshao, 3.VI.2012, N24.55 E98.47, Alt. 1925m, WP-343, leg. A. Konstantinov.

Remarks: *Chaetocnema kingpinensis* can be differentiated from *C. picipes*, *C. granulosa* and *C. cheni* by the following characters: first male protarsomere only slightly larger than second, antennae and legs lighter in color, anterolateral angles of pronotum obtuse and thickened and the unique shape of aedeagus. It also resembles *C. constricta*, however, *C. kingpinensis* is larger, with longer appendages and pronotum relatively longer compared to body length. Viewed under white light, elytra of *C. constricta* is entirely bronzy, while it is usually blackish brown without distinct metallic luster in *C. kingpinensis*.

Specimens collected from Tianping Mountain are extremely large. The largest specimen of male (from Guanxi, China) is 2.54 mm long, and some female specimens are upto 2.65 mm. The anterolateral calli of pronotum are strongly developed in rare cases.

This species was originally determined as new by SH Chen. The species name also appeared in Chinese in the book “Insects of the Hengduan Mountains Region” by SH Chen. However, the name remained unavailable till 2014, when it was formally described by Ruan *et al.*

22. *Chaetocnema* (*Chaetocnema*) *laotica* Medvedev, 2009

Chaetocnema laotica Medvedev, 2009: 48. TL: Laos. TD: Moscow, Russia, L. Medvedev collection.

Distribution: Laos, Vietnam (Medvedev, 2009).

Host plants: Unknown.

Description (after Medvedev, 2009): Dark or black green, antennae fulvous with infusate apical segments, all femora black, but fore- and middle ones with fulvous apices, tibiae and tarsi fulvous.

FIGURE 43. *Chaetocnema kingpinensis*. **A** Holotype, habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, ventral and lateral views. **E** Apex of Aedeagus, dorsal view. **F** Vaginal palpi. **G** Spermatheca. **H** Tignum.

Body comparatively narrow. Head densely microsculptured, with a few punctures near eyes, interantennal ridge narrow and convex. Antennae almost reach middle of elytra, antennomeres 2–10 subequal, preapical antennomeres about 2.5 times as long as wide. Prothorax 1.5 times as wide as long, lateral margins straight, anterior angles oblique and slightly thickened, surface microsculptured, with dense and deep punctures, which are smaller than those on elytra. Scutellum broader than long, impunctate. Elytra 1.5 times as long as wide, broadest in middle, basally as wide as base of pronotum, humeral tubercle feeble. Elytra shining, with regular rows of large punctures, interstices flat, very finely punctate. Wings strongly reduced, not longer than elytra. Length of body 1.8–2.2 mm.

Remarks: We could not access the types, despite our best efforts. Illustration was not provided with the original description of this species by the author, however, based on the author's description, this species resembles *C. kingpinensis* and *C. baoshanica* **sp. nov.** in having feeble humeral calli and fairly long antennae. It may be distinguished from the latter two species by the wider pronotum and the green to greenish blue metallic luster on dorsum.

23. *Chaetocnema (Chaetocnema) longipunctata* Maulik, 1926

(Fig. 44)

Chaetocnema longipunctata Maulik, 1926: 205. TL: Ceylon. TD: BMNH. **Lectotype designated here.**

Distribution: Brunei (Mohamedsaid, 2004), Sri Lanka (Maulik, 1926).

FIGURE 44. *Chaetocnema longipunctata*. A Male habitus (Holotype). **B** Peri-scutellar area of elytra (Holotype). **C** Head, frontal view (Holotype), red arrow indicating anterolateral angle of labrum. **D** Pronotum (Holotype).

Host plants: Unknown.

Description: Body Length 2.05–2.25 mm, body width 1.20–1.30 mm. Ratio of elytron length (along suture) to width (maximum): 2.20–2.30. Ratio of pronotum width (at base) to length: 1.60–1.65. Ratio of length of elytron to length of pronotum (along middle): 2.40–2.50. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.15–1.20. Ratio of maximum width of elytra to maximum width of pronotum: 1.40–1.45.

Elytra and pronotum black, without metallic luster. Antennomeres 1–6 completely yellow, 7–11 light brown to brown. Tibiae yellow. Pro- and mesofemora partly brown.

Head hypognathous. Frontal ridge wide and convex. Frontolateral sulcus present. Suprafrontal sulcus deep laterally, shallow in middle. Ratio of width of frontal ridge to width of antennal socket: 2.20–2.40. Frons with relatively long setae only laterally. Vertex flat, with minute microsculpture, situated on same level as orbit. Vertex with 8–12 punctures aggregated on either side near eye. Labrum wider than long, anterior margin distinctly concave forming obtuse angle anterolaterally.

Base of pronotum without short longitudinal impressions. Deep row of large punctures at base of pronotum present. Pronotal base slightly expanded in middle. Area near middle of basal margin of pronotum covered with punctures. Lateral margins of pronotum slightly convex, converging forward. Anterolateral prothoracic callosity weak, protruding forward. Posterolateral prothoracic callosity poorly developed. Punctures on pronotum long. Length of pronotal punctures subequal to distance between adjacent punctures. Width of pronotal punctures about 2–4 times less than distance between them.

Elytra with convex sides. Elytra slightly costate dorsally, strongly costate laterally. Peri-scutellar punctures regular, form single row. Second to eleventh rows of punctures regular. Humeral callus well developed.

Large lateral denticle on metatibia sharp. Excavation on tibia moderately developed. Metatibial serration proximal to large lateral denticle present, poorly developed.

Type: Lectotype: 1♀, 1) Halupahani, Haldummulle, Ceylon, 1904–171; 2) *Chaetocnema longipunctata* M., S. Maulik det., Type, 1926; 3) Lectotype *Chaetocnema longipunctata* Maulik, 1926 Des. Ruan *et al.*, 2016.

Remarks: *C. longipunctata* closely resembles *C. nigrilata* sp. nov, but differs from *C. nigrilata* sp. nov by having fewer punctures on either side of vertex and much denser punctures on pronotum. It differs from *C. yiei* by the distinctly elongate punctures on pronotum.

24. *Chaetocnema* (*Chaetocnema*) *malaisei* Bryant, 1939

(Fig. 45)

Chaetocnema malaisei Bryant, 1939: 16. TL: Myanmar. TD: BMNH.

Distribution: Myanmar.

Host plants: Unknown.

Description: Body length 1.80–2.00 mm, body width 1.10–1.15 mm. Ratio of elytron length (along suture) to width (maximum): 2.30–2.40. Ratio of length of elytron to length of pronotum (along middle): 2.40–2.50. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.10–1.20. Ratio of maximum width of elytra to maximum width of pronotum: 1.30–1.40.

Elytra and pronotum black, without metallic luster. Antennomere 1 partially dark brown, 2–4 completely yellow, 5 partially brown, 6–11 brown. Tibiae partially brown. Pro- and mesofemora light brown, metafemora brown.

Head hypognathous. Frontal ridge narrow, convex. Frontolateral sulcus present. Suprafrontal sulcus relatively deep, well recognized. Suprafrontal sulcus straight to shallowly retuse. Ratio of width of frontal ridge to width of antennal socket: 1.10–1.30. Frons with long setae on sides. Vertex flat, situated on same level as orbit. Surface of vertex with 3–5 punctures on each side near eye.

Pronotum with two short indistinct longitudinal impressions visible near basal margin. Deep row of large punctures at base of pronotum absent. Pronotal base evenly convex. Area adjacent to mid basal margin of pronotum covered with punctures. Surface of pronotum near base without shallow transverse impression. Lateral margins of pronotum slightly convex, converging forward. Anterolateral prothoracic callosity protruding laterally, moderately developed. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures subequal to distance between them.

FIGURE 45. *Chaetocnema malaisei*. A Male habitus (Cotype). B Pronotum (Cotype). C Head, frontal view (Cotype).

Elytra with convex lateral sides, scutellar row of elytral punctures regular and single. Second to eleventh rows of punctures regular. Humeral callus well developed.

First and second male protarsomeres, length to length ratio: 1.50–1.60. Excavation on tibiae moderately developed. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle present, obtuse. Metatibia proximal to denticle in dorsal view convex.

Type: 1 female (Cotype) (BMNH), 1) N. E. Burma, Kambaiti, 7000ft, 5/4 1939, R. Malaise; 2) Cotype; 3) N. E. Burma: R. Malaise, B.M. 1939–101; 4) *Chaetocnema malaisei* Bryant, Det. G. E. Bryant; 5) examined Ruan Y. Y., 2014.

Remarks: This species is close to *C. cheni*, however, it differs from the latter by the darker appendages and entirely black elytra without conspicuous metallic luster.

25. *Chaetocnema* (*Chaetocnema*) *melonae* Chen, 1934 (Status Restored)

(Fig. 46)

Chaetocnema melonae Chen, 1934: 252. TL: Vietnam (Tonkin centr.: Env. de Tuyen–Quan). TD: MNHN?? We could not locate the types in MNHN or IZCAS. (This species was previously synonymized with *C. duvivieri* Jacoby, 1892 in Medvedev, 2001: 613. **Status restored here**)

Chaetocnema himalayana Medvedev, 1993: 372. TL: India. TD: NHMB. (**Syn. Nov.**)

FIGURE 46. *Chaetocnema melonae*. **A** Holotype of *C. himalayana*, habitus. **B** Holotype of *C. himalayana*, pronotum and periscutellar area. **C** Holotype of *C. himalayana*, head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Holotype of *C. himalayana*, hind tibia. **H** Last abdominal ventrite of male.

Distribution: China (Tibet); Vietnam (Chen, 1934), India (Medvedev, 1993).

Host plants: Unknown.

Description: Body length 2.90–3.30 mm, body width 1.75–1.95 mm. Ratio of elytron length (along suture) to width (maximum): 2.60–2.70. Ratio of pronotum width (at base) to length: 1.75–1.80. Ratio of length of elytron to length of pronotum (along middle): 2.85–2.95. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.10–1.15. Ratio of maximum width of elytra to maximum width of pronotum: 1.40–1.45.

Dorsum metallic blue. Antennae with antennomeres 4–5 yellow brown, distal 6–7 dark brown. Legs dark brown, with slightly lighter color near femoro-tibial joints.

Head hypognathous. Frontal ridge narrow. Frontolateral sulcus present. Suprafrontal sulcus poorly developed. Orbital sulcus deep. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 1.10–1.20. Vertex with irregular sparse and extremely minute punctures. Number of punctures on orbit: none. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 2–3. Number of setae on clypeus: approximately 15. Number of setae on labrum: 6. Anterior margin of labrum more or less straight.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum absent. Pronotal base evenly convex. Lateral margins of pronotum slightly convex, converging forward. Anterolateral prothoracic callosity moderately developed, somewhat rounded. Posterolateral prothoracic callosity poorly developed. Pronotal punctures as minute as those on head. Diameter of pronotal punctures 3 to 5 times smaller than distance between them.

Elytra with slightly convex sides. Elytral punctures much larger than those on pronotum. Elytral punctures arranged in single rows, including peri-scutellar row. Interspaces between striae of punctures smooth and glabrous. Humeral callus well developed.

First male protarsomere distinctly larger than second. First male protarsomere larger than that of female. Excavation on metatibia moderately deep. Large lateral denticle on metatibia absent. Metatibial serration proximal to large lateral denticle absent or poorly developed.

Aedeagus extremely robust in both lateral and ventral views, round in cross-section. Apex of aedeagus in ventral view narrowing abruptly. Lateral sides of aedeagus in ventral view almost parallel to each other. Ventral longitudinal groove absent. Apical denticle in ventral view minute and acute. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view evenly curved, somewhat straight near apex. Maximum curvature in lateral view situated at middle.

Types: *Chaetocnema himalayana*: ♂ (Holotype) (NHMB), labels: 1) Makal Dara, 31.V.1987; 2) Indien, Darjeeling D. Bhakta B.; 3) Holotypus, *Chaetocnema himalayana* m. L. Medvedev, det. 1992. 1♂ (Paratype) (NHMB), labels: 1) Makal Dara, 31.V.1987; 2) Indien, Darjeeling D. Bhakta B.; 3) PARATYPUS.

Material: 1 (IZCAS), labels: 1) Tibet, Motuo, Bangxin, 1200–1400 m, 1982.xi.28, coll. Yinheng Han; 2) *Chaetocnema melonae* Chen; 3) *Chaetocnema melonae* Chen, 1934, Det. Yongying Ruan, 2016.

Remarks: The type of *Chaetocnema melonae* Chen, 1934 is probably lost. Chen (1934) stated that the type is in “Paris Museum” (i.e., MNHN), but we can not locate the material in the same museum.

Chen (1934) provided a thorough description for *C. melonae*, we compared it with the holotype of *C. himalayana*. *C. himalayana* is synonymized with *C. melonae* as they are identical in all characters we can compare, for instance: both of the two species with large body size (approximately 3 mm), body color metallic blue, femora deep piceous with metallic luster, tibiae and tarsi red brown, head minutely and sparsely punctate, pronotum also with minute punctures, antennae long and reaching middle of elytra.

Chaetocnema melonae closely resembles *C. duvivieri*. However, it can be differentiated from *C. duvivieri* by the larger body size, broader and more convex body shape and the differences in the shape of aedeagus.

26. *Chaetocnema* (*Chaetocnema*) *montivaga* Maulik, 1926

(Fig. 47)

Chaetocnema montivaga Maulik, 1926: 204. TL: India. TD: BMNH. **Lectotype designated here.**

Distribution: Myanmar (Mohamedsaid, 2004), Malaya Halbina, Peninsular Malaysia (Mohamedsaid, 2004), India (Assam).

Host plants: Unknown.

Description: Body length: 2.80–3.20 mm. Body width: 1.65–1.75 mm. Ratio of elytron length (along suture) to width (maximum): 2.55–2.60. Ratio of pronotum width (at base) to length: 1.70–1.75. Ratio of length of elytron to length of pronotum (along middle): 2.80–2.90. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.10–1.11.

FIGURE 47. *Chaetocnema montivaga*. **A** Male habitus (Lectotype). **B** Head, frontal view (Lectotype). **C** Pronotum and periscutellar area (Lectotype). **D–D1** Aedeagus, ventral view (Lectotype and Paralectotype). **E** Aedeagus, lateral view (Paralectotype). **F** Apex of aedeagus, ventral view (Lectotype). **G** Middle part of aedeagus, ventral view (Lectotype), indicating two ridges and numerous streaks. **H** Hand drawing of middle part of aedeagus, ventral view, indicating two ridges and numerous streaks.

Body unicolorous, red brown to deep brown entirely. Pronotum and head finely reticulated. Antennae completely yellow brown, with distal ones slightly darker. Pro- and mesofemora red brown—concolorous with tibiae and tarsi. Color of metafemora deep red brown, deeper than that of pro- and mesofemora.

Head hypognathous. Frontal ridge narrow and convex. Frontolateral sulcus present. Suprafrontal sulcus moderately developed. Supraantennal, orbital sulci deep. Ratio of width of frontal ridge (excluding margin) to width of

antennal socket (excluding margin): 1.40–150. Three to five weak punctures on vertex on each side near eye. Orbit glabrous, occasionally with few small rugged punctures. Number of setae on clypeus: 15–20. Number of hairs on labrum: 6. Anterior margin of labrum slightly convex.

Pronotum with two barely visible longitudinal impressions near basal margin on either side. Deep row of large punctures at base of pronotum absent. Pronotal base convex, slightly expanded at middle. Lateral margins of pronotum almost straight, converging forward. Anterolateral prothoracic callosity truncate, oblique and long. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 2 to 3.5 times smaller than distance between them.

Elytra gently convex at sides. Elytral punctures larger than those on pronotum. Elytral punctures arranged regularly in single rows, including peri-scutellar row. Interspaces between striae of punctures strongly costate. Number of rows of minute punctures on each interspace: 2–3. Humeral calli well developed.

First male protarsomere slightly larger than second, larger than that of female.

Apex of aedeagus in ventral view narrowing gradually. Ventral longitudinal groove absent. Apical denticle in ventral view moderately developed, acute. In ventral view, apex of aedeagus streaked with oblique wrinkles and grooves, which is quite unique amongst Oriental *Chaetocnema* species. Aedeagus in lateral view unevenly curved, more or less straight near apex, maximum curvature in lateral view situated at base.

Types: Lectotype: 1 male (BMNH), labels: 1) Type; 2) Doherty; 3) Assam Patkai Mts.; 4) Fry Coll., 1905.100; 5) *Chaetocnema montivaga* M., Det. S. Maulik, Type, 1925; 6) Lectotype *Chaetocnema montivaga* Maulik, 1926 Des Ruan *et al.*, 2016.

Paralectotype: 1 male and 2 female (BMNH), labels: 1) Doherty; 3) Assam Patkai Mts.; 4) Fry Coll., 1905.100; 5) *Chaetocnema montivaga* M., Det. S. Maulik, Type, 1925; 6) Paralectotype *Chaetocnema montivaga* Maulik, 1926 Des Ruan *et al.*, 2016.

Remarks: *Chaetocnema montivaga* resembles *C. wallacei* and *C. sumatrana*. *Chaetocnema wallacei* differs from *C. sumatrana* and *C. montivaga* by its larger body size and narrower body shape. Body length of *wallacei* is about 3.5–4.5 mm, while *C. sumatrana* and *C. montivaga* are much smaller, usually about 2.9–3.2 mm. In *C. sumatrana* and *C. montivaga*, there are two oblique ridges on ventro-lateral side of aedeagus. However, the oblique ridges in *C. montivaga* are much weaker than in *C. sumatrana*.

27. *Chaetocnema* (*Chaetocnema*) *nagpurensis* Duvivier, 1892

Chaetocnema nagpurensis Duvivier, 1892: 422. TL: Bihar, India. TD: Unknown.

Distribution: Bihar, India.

Host plants: Unknown.

Description (after Duvivier, 1892): Body length: approximately 2 mm. Subovate, moderately convex. Black, with head, prothorax and elytra bronzy, antennae and legs light brown, posterior femora bronzy-black, anterior and intermediate femora marked with pitch black. Head finely rugulose and finely punctate, without frontal carina, with a small depression between eyes, and frons large and declivous. Prothorax about one and a half times broader than long, transversely convex, with anterior lateral angles placed in a lower plane, sides almost straight; surface rugulose, somewhat closely, very finely and uniformly punctate; along the basal margin is an uninterrupted series of strong and deep punctures. Elytra somewhat broader at base than prothorax, with humeral calli moderately prominent; strongly punctate-striate, interstices subconvex, densely punctate and transversely wrinkled, area surrounding scutellum very gently convex.

Remarks: *Chaetocnema nagpurensis* is close to *C. trapezoida* **sp. nov.**, while they differ mainly in coloration. *C. nagpurensis* is somewhat darker, with head, prothorax and elytra bronzy, while *C. trapezoida* is obviously metallic green. Interspaces between puncture rows of elytra are densely punctate and transversely wrinkled in *C. nagpurensis*, while it is finely punctate and not wrinkled (or only slightly wrinkled in peri-scutellar area) in *C. trapezoida* **sp. nov.**

There are several other Oriental *Chaetocnema* species with transverse wrinkles on interspaces of puncture rows of elytra: *C. fusiformis*, *C. gracilis*, *C. hainanensis*. However, none of them have a row of large punctures along base of the pronotum.

28. *Chaetocnema* (*Chaetocnema*) *nigrica* Motschulsky, 1858

(Figs. 48, 49)

Chaetocnema nigrica Motschulsky, 1858: 106. TL: Myanmar. TD: ZMMU.

Chaetocnema basalis Baly, 1877: 310. TL: India. TD: BMNH. Synonymized by Medvedev, 1993: 49. **Lectotype designated here.**

Chaetocnema parvula Baly, 1877: 310. TL: Ceylon. TD: BMNH. Synonymized by Heikertinger, 1951: 214. **Lectotype designated here.**

Chaetocnema nitens Baly, 1877: 312. TL: Indonesia (Batchian Island). TD: BMNH. **Lectotype designated here. (Syn. Nov.)**

Chaetocnema gestroi Jacoby, 1889: 174. TL: Sumatra (Is. Nias). TD: BMNH. Synonymized by Heikertinger, 1951: 214.

Chaetocnema geniculata Jacoby, 1896: 270. TL: Myanmar (Myanmarh). TD: BMNH. Synonymized by Heikertinger, 1951: 214. **Lectotype designated here.**

Chaetocnema lorae Jacoby, 1905. TL: New Guinea. TD: BMNH. **(Syn. Nov.)**

Host plants: *Alternanthera* sp. (Amaranthaceae) (Thakur *et al.*, 1995), *Brachiaria distachya* (Poaceae) (Barrion & Litsinger, 1986); *Brassica campestris* (Cruciferae) (Zaka-ur-Rab, 1991), *Brassica oleracea* . var *gongylodes* (Batra, 1969), *Brassica rapa* var *rapa* (Brassicaceae) (Batra, 1969), *Cajanus cajan* (Fabaceae) (Batra, 1969), *Convolvulus arvensis* (Convolvulaceae) (Fletcher, 1917; Zaka-ur-Rab, 1991), *Crotalaria juncea* (Fabaceae) (Batra, 1969; Nayar *et al.*, 1976; Zaka-ur-Rab, 1991), *Chrysopogon aciculatus* (Poaceae) (Barrion & Litsinger, 1986), *Dactyloctenium aegyptium* (Poaceae) (Barrion & Litsinger, 1986), *Daucus carota* (Apiaceae) (Narayanaswamy *et al.*, 1985), *Digitalis ciliaris* (Poaceae) (Barrion & Litsinger, 1986), *Firmiana colorata* (Sterculiaceae) (Govindan *et al.*, 1986), *Ischaemum rugosum* (Poaceae) (Barrion & Litsinger, 1986), *Lagerstroemia indica* (Lythraceae) (Govindan *et al.*, 1986), *Oryza sativa* (Poaceae) (Cotes, 1891; Fletcher, 1921a; Krishnaswamy *et al.*, 1982; Zaka-ur-Rab, 1991), *Oryza sativa* var *terrestris* (Poaceae) (Gressitt & Kimoto, 1963; Scherer, 1969), *Panicum miliaceum* (Poaceae) (Batra, 1969), *Paspalum conjugatum* (Poaceae) (Barrion & Litsinger, 1986), *Pennisetum polystachyon* (Poaceae) (Barrion & Litsinger, 1986), *Pennisetum purpureum* (Poaceae) (Batra, 1969), *Raphanus sativus* (Apiaceae) (Batra, 1969; Nayar *et al.*, 1975), *Sesamum indicum* (Pedaliaceae) (Ahuja and Bakhietia, 1995), *Setaria italica* (Poaceae) (Barrion & Litsinger, 1986); *Solanum melongena* (Solanaceae) (Zaka-ur-Rab, 1991); *Solanum tuberosum* (Solanaceae) (Thakur and Kashyap, 1994), *Sorghum bicolor* (Poaceae) (Barrion & Litsinger, 1986), wheat (*Triticum* sp) (Thakur and Kashyap, 1994), *Triticum vulgare* (Poaceae) (Joshi, *et al.*, 1967; Nayar *et al.*, 1976; Barrion & Litsinger, 1986; Zaka-ur-Rab, 1991), *Zea mays* (Poaceae) (Nayar *et al.*, 1976; Batra, 1969; Barrion & Litsinger, 1986).

Distribution: China (Zhejiang, Jiangxi, Fujian, Taiwan, Hainan, Sichuan, Tibet), Vietnam, Thailand, Myanmar (Shipley 1889), Singapore, Malaysia, Sumatra (Jacoby, 1889), Indonesia, Bhutan, Bangladesh (Scherer 1969), India, Sri Lanka.

Palearctic Region: Japan (Konstantinov *et al.*, 2011), Pakistan, Afghanistan (Scherer, 1969). Australian Region: New Guinea.

Description: Body length 1.30–1.60 mm; width 0.65–0.95 mm. Ratio of elytron length at suture to maximum width, 2.09–2.11. Ratio of pronotum width at base to length at middle, 1.72–1.77. Ratio of length of elytron at suture to length of pronotum at middle, 2.57–2.58. Ratio of width of both elytra at base to width of pronotum at base, 1.16–1.17. Ratio of maximum width of both elytra to maximum width of pronotum, 1.41–1.43.

Dorsum shiny black, without metallic luster. Antennomeres 1–4 completely yellow, 5 partially brown. Tibiae yellow. Pro- and mesofemora yellow brown. Metafemur black or dark brown.

Head hypognathous. Frontal ridge narrow, convex. Frontolateral sulcus present. Suprafrontal sulcus shallow and faint, obcordate. Ratio of width of frontal ridge between outer ridge of antennal sockets to width of antennal socket, 1.40–1.45. Frons with relatively long setae only laterally. Vertex flat, situated on same level as orbit. Vertex without punctures, except 2–3 on each side near eye.

Base of pronotum without longitudinal impressions. Deep row of large punctures at base of pronotum present throughout. Pronotal base slightly expanded in middle. Elytron with scutellar row of punctures single and regular. Second to eleventh rows of punctures at base of elytron regular. Humeral callus well developed.

First male protarsomere length to width ratio: 1.79–1.83. First and second male protarsomere length to length ratio: 1.40–1.44. First and second male protarsomeres width to width ratio: 0.98–1.02. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent. First male metatarsomere length to width ratio: 3.09–3.13.

FIGURE 48. *Chaetocnema nigrice*. **A** Habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female.

Apical third of aedeagus nearly parallel-sided. Apex of aedeagus in ventral view narrowing gradually. Ventral longitudinal groove of aedeagus absent or poorly developed. Apical denticle of aedeagus in ventral view small and pointed; slightly curved ventrally in lateral view. Minute, transverse wrinkles on ventral side of aedeagus absent. Aedeagus in lateral view nearly straight. Maximum curvature of aedeagus in lateral view situated basally.

Spermathecal pump much shorter than receptacle, with flattened apex. Spermathecal receptacle short and sinuate. Maximum width of receptacle situated preapically. Receptacle basally narrower than apically. Apex of vaginal

palpus evenly rounded. Vaginal palpus (before apex) narrowing from base to middle and thence slightly widening towards apex. Anterior sclerotization of vaginal palpus slightly widening anteriorly. Anterior end of anterior sclerotization broadly rounded. Posterior sclerotization longer than wide. Width of posterior sclerotization subequal to that of anterior.

FIGURE 49. Head of *Chaetocnema nigrica* and *Chaetocnema warchalowskii*. **A** *C. nigrica*, head, frontal view. **B** *C. nigrica*, frons. **C** *C. warchalowskii*, head, frontal view. **D** *C. warchalowskii*, frons.

Type: Lectotype of *Chaetocnema nitens* Baly: 1 (BMNH), labels: 1) Type H.T.; 2) Bat.; 3) Baly Coll.; 4) *Chaetocnema nitens* Baly, Batchian; 5) Lectotype *Chaetocnema nitens* Baly, 1877 Des. Ruan *et al.*, 2016.

Lectotype of *Chaetocnema basalis* Baly: 1♀ (BMNH), labels: 1) Type H.T.; 2) Baly Coll.; 3) *Chaetocnema basalis* Baly, India; 4) Examined K. Prathapan, 2005; 5) Lectotype *Chaetocnema basalis* Baly, 1877 Des Ruan *et al.*, 2016.

Lectotype of *Chaetocnema parvula* Baly: 1♂ (BMNH), labels: 1) Ceylon; 2) Type H.T.; 3) Baly Coll.; 4) *Chaetocnema parvula* Baly, Ceylon; 4) Examined K. Prathapan, 2005. ; 5) Lectotype *Chaetocnema parvula* Baly, 1877 Des Ruan *et al.*, 2016.

Lectotype of *Chaetocnema geniculata* Jacoby: 1♀ (BMNH), labels: 1) Type H.T.; 2) Burmah; 3) Jacoby Coll., 1909–28a; 4) *Chaetocnema geniculata* Jac.; 4) Examined K. Prathapan, 2005.; 5) Lectotype *Chaetocnema geniculata* Jacoby, 1896 Des Ruan *et al.*, 2016.

Paralectotype of *Chaetocnema geniculata* Jacoby: 3 (BMNH), labels: 1) Burmah; 2) Cotype; 3) Paralectotype *Chaetocnema geniculata* Jacoby, 1896 Des Ruan *et al.*, 2016.

Cotype of *Chaetocnema gestroi* Jacoby: 1♀ (BMNH), 1) Cotype; 2) Is. Nias, Gun. Sitoli, Aprile 188g, Modigliani; 3) Jacoby Coll., 1909–28a; 4) *C. gestroi* Jac.

Cotype of *Chaetocnema loriae* Jacoby, 1905: 2 specimens (BMNH), 1) Cotype; 2) New Guinea, Loria, VI.VII; 3) Red label (information can not be provided completely here); 4) Jacoby collection; 5) *Chaetocnema loriae* Jac.

Material: 1 (ZSMC), **China**, Fukien, S. China, Kienyang City, T. C. Maa, 13.VIII.1940, *Chaetocnema basalis*, Gressitt & Kimoto det.; 1 (USNM), **China**, Youxi City, 179–197 m, 30.V.2014, leg. A. Konstantinov; 1♂1♀, **China**, Hainan, Tongshi, alt. 340m, 27.III.1927, leg. Suofu Li; 4, **China**: Hainan, Jianfengling, 1980.IV.17, alt. 75m, leg. Shuyong Wang; 1♂12♀, **China**, Guizhou, Guilin, Yaoshan, Sept. 24, 1980, *Chaetocnema basalis*, Gruév det. (BMNH); 1♂1♀ (USNM), **Vietnam**, Ha-Son-Binh. Cho Bo, 16.X.1976, L. Medvedev leg., *Chaetocnema basalis* Baly, 1877 det. L. Medvedev; 1♀ (USNM), **Vietnam**, Trang Bom, N W Saigon, 18.VII.1932; 2♀, **Thailand**, Khao Yai National Park, 8.IX.1977, leg. Gary F. Hevel & Mushtaq Ahmad (USNM); 1 (BMNH), **Thailand**, Nan Province, Lainan, 20–21.ix.2012, cabbage farm, 18.576N, 100.759E, LN2 Light trap, leg. D. L. J. Quicke, BMNH(E) 2015–75, *Bikasha nipponica* (Chûjô, 1959) det. M. Geiser 2016; 1 (BMNH), **Thailand**, Nan Province, Lainan, 21–22.ix.2012, cabbage farm, 18.574N, 100.759E, LN1 Light trap, leg. D. L. J. Quicke, BMNH(E) 2015–75, *Bikasha nipponica* (Chûjô, 1959) det. M. Geiser 2016; 1 (BMNH), **Thailand**, Nan Province, Lainan, 15–23.ix.2012, cabbage farm, 18.579N, 100.757E, LN3 Light trap, leg. D. L. J. Quicke, BMNH(E) 2015–75; 1 (BMNH), Sakaerat, Yellow bucket, D5, *Sindora siamensis*, June 1995, Site burnt 4 months before collecting, E. **Thailand**, Nakhon Ratchasima Prov., Sakaerat Biosphere Reserve, 14 30 N, 101 55E, BMNH(E) 1997–07, Ghazoul & Inward, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 2 (BMNH), **Singapore**, C. J. Saunders, B.M. 1933–227, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 1♂1♀ (USNM), **Malaysia**, Banguay, b. Borneo, *Ch. gestroi* Jac. Ogl.; 2 (BMNH), SARAWAK (**Malaysia**), on leaves of bean/on leaves of young padi, 7–10.63, coll. R. Lav, Pres by Comm Inst Ent, B. M. 1971–1, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 2 (BMNH), SARAWAK (**Malaysia**), SUNDAR–TRUSAN, on padi, 16–ix–1963, coll. G. R., Pres by Comm Inst Ent, B. M. 1971–1, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 2 (BMNH), SARAWAK (**Malaysia**), i.1965–ii.1967, coll. G. H. L. Rothschild, Pres by Comm Inst Ent, B. M. 1971–1, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 1 (BMNH), SARAWAK (**Malaysia**), on grass, 16–vii–68, Pres by Comm Inst Ent, B. M. 1971–1, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 11 (BMNH), **Malay Penin**, Jan: 19th 1919, Ex F.M.S. Museum, B. M. 1955–354, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 7 (BMNH), Doherty, **Borneo**, Peugaron, Fry coll. 1905.100, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 1 (BMNH), **Java**, Bowring, 63.47*, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 1 ♂19 (BMNH), Lowland rain forest, At MV light, SULAWESI TENGAH (**Indonesia**): Nr. Morowali, Ranu River Area, 27.i.–20.iv.1980, M.J.D. Brendell, B.M. 1980–280, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 31 (BMNH), At MV light, SULAWESI TENGAH (**Indonesia**): Solato R., Taronggo, 1 45 S–121 40E, 27–30.III.1980, M.J.D. Brendell, B.M. 1980–280, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 1 (BMNH), **Indonesia**, SULAWESI UTARA, Gng. Ambang F. R., nr. Kotamobagu, 18–24 May 1985, Gunung Muajat, summit, 1760m, Malaise trap, R.Ent.Soc.Lond., PROJECT WALLACE, B.M. 1985–10, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 3 (BMNH), **Indonesia**, SULAWESI UTARA, Gng. Ambang F. R., nr. Kotamobagu, 18–24 May 1985, Yellow pan trap, lower montane forest 1750m, R.Ent.Soc. Lond., PROJECT WALLACE, B.M. 1985–10, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 1 (BMNH), **Indonesia**, SULAWESI UTARA, Dumoga–Bone N.P., 1–6 March 1985, Plot A, ca 200m, Malaise trap up tree, R.Ent.Soc.Lond., PROJECT WALLACE, B.M. 1985–10, *Chaetocnema* sp. det. K. Nadein 2007, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 6 (BMNH), on leaves of upland rice, Sintang, leg. kdj. lbc, 16.iii.1933, I. V. Pl., Halticinae, Pres by Comm Inst Ent, B. M. 1981–315, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 6 (BMNH), on padibibil, leg. l.b.c, Pontianak (**Indonesia**), 10. 8.34, I. v. Pl., Pres by Comm Inst Ent, B. M. 1981–315, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 2 (BMNH), SULAWESI TENGAH (**Indonesia**): Solato R., Taronggo, 1 45 S–121 40E, 27–30.III.1980, *Chaetocnema* sp., det. M. L. Cox, 1982, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 1♂, **Indonesia**, Haimahera Isl. 1–14. VII.1981, leg. AC Messer & PM Taylor (USNM); 1 (USNM), **Bhutan**, Rd. from Damphu to Wangdi, river valley N27 07 779 E90 04 160, 16.IX.2005, 584m, wp–108, Leg. K. Mahat, P. Loday, A. Konstantinov & K. D. Prathapan, *Chaetocnema* (*Chaetocnema*) *nigrica* Motschulsky det. Yongying Ruan, 2016; 9 (BMNH), **S. India**, 10. x. 91, G. Ravi, Vial. 11, feed on seedlings, of upland rice (*Oryzae* sp.), IIE 22207, Pres. by Int. Inst. Ent., B. M. 1992–1, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 1 (BMNH), **India**, T.N., 7. xi. 91?, G.

Ravi, Vial. 16, pred. on? *Brevennia rehi* on, upland rice, IIE 22207, Pres. by Int. Inst. Ent., B. M. 1992–1, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 2♂6♀, **India**, Chabua, Assam, X–XII.1943, leg. DE Hardy (USNM); 1♂1♀, **India**, Uttar Prad. Kanpur, 21–24.IX.1968, leg. K. E. Gibson (USNM); 1♂1♀, **India**, New Delhi, 28–29.VIII.1968, leg. K. E. Gibson (USNM); 115♂♀ (USNM), **India**, Assam, 10miN Tinsukia, 30.III.1944, D. E. Hardy; 1, **India**, H. L. Andrewes, Nilgiri Hills, Andrewes Bequest., B. M. 1922–221., *Chaetocnema basalis* Baly, det. G. E. Bryant (ZIN); 2, Vietnam, Song Dingh, Annam 10.VIII, *Chaetocnema basalis* Baly (ZIN); 1 (BMNH), Galle distr (**Sri Lanka**), Udugama, 14.ii.1974, **Sri Lanka**, (CEYLON), BMNH 1974–624, A.E. Stubbs, *Chaetocnema nigrica* Motsch., 1858, Det. Yongying Ruan, 2016; 5♂9♀, **Pakistan**, 2–18.X.1977, leg. Gary F. Hevel & Mushtaq Ahmad (USNM); 1♀ (USNM), **Pakistan**, Punj, Rawalpindi, 2.X.1977, 1674 feet, G. F. Hevel.

Remarks: *C. warchalowskii* closely resembles *C. nigrica*, however, they can be separated by the differences in punctuation on frons and structure of the aedeagus. In *C. warchalowskii* (Fig. 48 C, D), more punctures are present on frons above clypeus than in *C. nigrica* (Fig. 49 A, B). Aedeagus in *C. warchalowskii* is thinner in lateral view than that of *C. nigrica*. In ventral view, aedeagus is gradually narrowed towards apex in *C. warchalowskii*, while in *C. nigrica*, apex of aedeagus is narrowed abruptly.

The New Guinean species *C. lorae* Jacoby, 1905 (synonymized here with *C. nigrica*) is identical with *C. nigrica* in almost every aspect. Aedeagus in *C. lorae* is slightly slender, however, such variation is common in this widely distributed species. Hence both of them are treated here as conspecific.

29. *Chaetocnema (Chaetocnema) nigrilata* Ruan, Konstantinov & Yang, New Species

(Fig. 50)

Etymology: This species is named after its nearly black color and broader body. Specific epithet is a noun in apposition.

Diagnosis: *Chaetocnema nigrilata* **sp. nov.** closely resembles *C. yiei*. However, *C. nigrilata* is much broader with dark color and aedeagus much thicker in lateral view.

Chaetocnema nigrilata **sp. nov.** also resembles *C. longipunctata* and *C. kanmiyai* (Palearctic Region). It differs from *C. longipunctata* in having fewer punctures on either side of vertex and sparsely punctate pronotum. It differs from *C. kanmiyai* by the elongate punctures on pronotum.

Distribution: India.

Host plants: Unknown.

Description: Body rather broad. Body length: 1.85–1.95 mm. Body width: 1.18–1.22 mm. Ratio of elytron length (along suture) to width (maximum): 1.75–1.85. Ratio of pronotum width (at base) to length: 1.70–1.75. Ratio of length of elytron to length of pronotum (along middle): 2.00–2.10. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.05–1.10.

Dorsum black, with bronzy sheen. Head somewhat finely reticulate. Antennomeres 1–5 completely yellow, 5–11 brown, with apical ones darkened. Apical half of tibiae brown, basal half yellow brown, tarsi dark yellow brown. Pro- and mesofemora light brown. Metafemora dark brown.

Head hypognathous. Frontal ridge narrow and convex. Frontolateral sulcus present. Suprafrontal sulcus poorly developed. Orbital sulcus shallow; supraantennal sulcus deep. Width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 2.30–2.40. Number of punctures on vertex: 5–6 on each side near eye. Number of punctures on orbit: 0–2 on each side. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: approximately 10. Number of setae on labrum: 6. Anterior margin of labrum slightly convex at middle.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum present. Pronotal base convex, strongly expanded at middle. Lateral margins of pronotum very slightly convex, converging forward. Anterolateral prothoracic callosity not strong, somewhat truncate. Posterolateral prothoracic callosity poorly developed. Pronotal punctures longitudinal. Diameter of pronotal punctures 2–4 times smaller than distance between them.

Elytra with slightly convex lateral sides. Elytral punctures obviously larger than those of pronotum, arranged in single rows, including peri-scutellar row. Elytral interspaces between puncture rows slightly costate at sides. Humeral callus well developed.

FIGURE 50. *Chaetocnema nigrilata* sp. nov. **A** Holotype habitus (Male). **B** Pronotum and peri-scutellar area (Holotype). **C** Head, frontal view (Holotype). **D** Aedeagus, ventral view (Paratype). **E** Aedeagus, lateral view (Paratype). **F** Apex of aedeagus, ventral view (Paratype). **G** Vaginal palpi (Paratype). **H** Spermatheca (Paratype). **I** Pygidium (tergite 7) of female (Paratype).

First male protarsomere slightly larger than second, larger than that of female. Excavation on metatibia moderately deep. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent or poorly developed.

In ventral view, aedeagus asymmetrical apically, apical denticle obviously slanted to right side. Apex of aedeagus in ventral view narrowing gradually. Ventral longitudinal groove poorly developed. Minute transverse

wrinkles on ventral side absent. Aedeagus in lateral view only slightly curved at base and near middle, apical half straight; apical denticle bent ventrally.

Spermathecal receptacle pear-shaped. Spermathecal duct convoluted. Spermathecal pump much shorter than receptacle, with acutely narrowed apex. Vaginal palpus slightly narrowing from base till middle, thence approximately parallel sided. Anterior sclerotization of vaginal palpus slightly widening anteriorly. Posterior sclerotization longer than wide. Width of posterior sclerotization slightly less than that of anterior.

Type: Holotype: ♂, (USNM). labels: 1) South **India**, Western Ghats Karnataka, Chikmagalur, 7 km N. Chikmagalur, 15.XI.2003, 1800m alp. meadow, 13 23 23N; 75 43 09E, leg. Konstantinov, Prathapan, Saluk; 2) Holotype *Chaetocnema nigrilata* **sp. nov.** Des Ruan Yongying, 2016.

Paratypes: 1♂3♀ (USNM), South **India**, Western Ghats Karnataka, Chikmagalur, 7 km N. Chikmagalur, 15.XI.2003, 1800m alp. meadow, 13 23 23N; 75 43 09E, leg. Konstantinov, Prathapan, Saluk, Paratype, *Chaetocnema nigrilata* **sp. nov.** Des Ruan Yongying, 2016.

30. *Chaetocnema* (*Chaetocnema*) *parafusiformis* Ruan, Konstantinov & Yang, New Species

(Fig. 51)

Etymology: This species is named after the close resemblance to *C. fusiformis* Chen. Specific epithet is a noun in apposition.

Diagnosis: This species is close to *C. fusiformis* Chen, *C. gracilis* Motschulsky and *C. laotica* Medvedev. It may be distinguished from *C. laotica* by darker antennae, tibiae and tarsi, and the strongly metallic bronzy pronotum and head. It can be differentiated from *C. fusiformis* Chen by fewer punctures (5–8 in *C. parafusiformis* **sp. nov.** and 12–15 in *C. fusiformis*) on vertex and elytral surface without transverse wrinkles. *Chaetocnema parafusiformis* can be differentiated from *C. gracilis* by larger body size and darker antennae and tibiae; the structure of last visible tergite of females of these two species are also different, for instance: punctures on the last tergite large and deep in *C. parafusiformis*, while weak and shallow in *C. gracilis* (see Fig 51 I and Fig 35 C).

Distribution: Bhutan, Nepal, India, Iran.

Host plants: Unknown.

Description: Body length: 1.70–1.85 mm. Body width: 1.00–1.05 mm. Ratio of length of antenna to length of body: 0.57–0.62. Ratio of elytron length (along suture) to width (maximum): 2.50–2.60. Ratio of pronotum width (at base) to length: 1.64–1.66. Ratio of length of elytron to length of pronotum (along middle): 2.85–2.88. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.05–1.10.

Pronotum and head bronzy, with very slight greenish luster, elytra dark brown with slight bronzy luster. Pronotum and vertex finely reticulated. Antennomeres 1–4 brown, 5–11 dark brown, with apical ones being darker. Tarsi deep yellow brown, tibiae dark brown, with area near femora brown. Pro- and mesofemora dark brown, with distal area near tibiae brown. Metafemora dark brown, with slight metallic luster.

Head hypognathous. Frontal ridge narrow but somewhat flat. Frontolateral sulcus present. Suprafrontal sulcus poorly developed, shallow, convex. Orbital, supraantennal sulci moderately developed. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 1.15–1.25. Number of punctures on vertex: 5–8 on each side near eye. Number of punctures on orbit: 1–2 on either side. A few punctures bearing setae present on frons near clypeus. Number of setae on labrum: 6. Anterior margin of labrum slightly concave or almost straight.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum absent. Pronotal base strongly convex at middle, oblique and straight at sides. Lateral margins of pronotum slightly convex, strongly converging forward. Anterolateral prothoracic callosity weak, developed along lateral margin, produced forward forming acute angle. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 2–3 times smaller than distance between them.

Elytra with slightly convex lateral sides. Elytral punctures only slightly larger than those of pronotum. Elytral punctures, including peri-scutellar row, arranged in single rows. Elytral interspaces between puncture rows slightly costate at sides. Number of rows of minute punctures on each interspace: 2–3. Elytral humeral callus weakly developed.

FIGURE 51. *Chaetocnema parafusiformis* sp. nov. **A** Holotype, habitus. **B** Pronotum and peri-scutellar area (Holotype). **C** Head, frontal view (Holotype). **D** Aedeagus, ventral view (Paratype). **E** Aedeagus, lateral view (Paratype). **F** Apex of aedeagus, ventral view (Paratype). **G** Vaginal palpi (Paratype). **H** Spermatheca (Paratype). **I** Pygidium (tergite 7) of female (Paratype).

First male protarsomere slightly longer and larger than second, only slightly larger than that of female. Excavation on metatibia moderately deep. Large lateral denticle on metatibia very sharp. Metatibial serration proximal to large lateral denticle present.

Apex of aedeagus in ventral view narrowing abruptly. Ventral longitudinal groove absent. Apical denticle in ventral view absent. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view evenly curved.

Spermathecal receptacle oblong. Spermathecal duct coiled. Spermathecal pump much shorter than receptacle with apex cylindrical and narrowed. Vaginal palpus parallel-sided in middle. Anterior sclerotization of vaginal palpus narrowing anteriorly and posteriorly. Posterior sclerotization longer than wide. Anterior sclerotization wider than posterior.

Type: Holotype: ♂ (USNM): 1) **Bhutan**, env. Punakha, N27°36.35' E 89°52.43', 19.IX.2005, 1400m, leg. K. Mahat, K. D. Prathapan, 2) Holotype, 3) *Chaetocnema parafusiformis* **sp. nov.** des. Yongying Ruan, 2016.

Paratypes: 1♂ (USNM): 1) **Bhutan**, env. Punakha, N 27 36.35 E 89 52.43, 19.IX.2005, 1400m, leg. K. Mahat, K. D. Prathapan, 2) Paratype, 3) *Chaetocnema parafusiformis* **sp. nov.** des. Yongying Ruan, 2016; 1♀ (BMNH): 1) **Nepal**, B. M. Nepal Exp., 1949, B. M. 1949–637, E. D, TIMURE, 8000–10000 ft, 2) Paratype, 3) *Chaetocnema parafusiformis* **sp. nov.** des. Yongying Ruan, 2016; 1♂ (USNM): 1) **Nepal**, Pokhara Lumle St.,–Thulakharka, 1640–2140m, 22.IV.2000, N 28 17.82 E 83 49.11, Konstantinov, Lingafelter, Volkovitsh, 2) Paratype, 3) *Chaetocnema parafusiformis* **sp. nov.** des. Yongying Ruan, 2016; 1♀ (USNM): 1) **Nepal**, Jiri reg, Shivalaya–Deorali, 1770–2710m, 10.V.2000, N 27 35.51 E 86 19.59, forest, small valley with stream, Konstantinov, Lingafelter, Volkovitsh, 2) Paratype; 1♀ (USNM): 1) **Nepal**, Lantang Nat. Park, env. of Dhunche, 1900–2100m, 30.IV.2000, N 28 07 00 E 85 17 00, Konstantinov, Lingafelter, Volkovitsh, 2) Paratype. 1♀ (USNM): **India**, New Delhi IARI plots V–24–1968, sweeping weeds and cowpeas, Collected by K. E. Gibson; 1♀ (USNM): **Iran**, Varamin 3 July 1969 K. E. Gibson IARI plots V–24–1968, sweeping weeds and cowpeas, Collected by K. E. Gibson.

31. *Chaetocnema* (*Chaetocnema*) *philippina* Medvedev, 1996

(Fig. 52)

Chaetocnema philippina Medvedev, 1996: 68. TL: Philippines, Luzon, Limay. TD: Medvedev collection.

Distribution: Philippines, Malaysia.

Host plants: Unknown.

Description: Body Length 2.40–3.00, body width 1.45–1.70. Ratio of elytron length (along suture) to width (maximum): 2.00–2.10. Ratio of pronotum width (at base) to length: 1.65–1.75. Ratio of length of elytron to length of pronotum (along middle): 2.45–2.55. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.15–1.20. Ratio of maximum width of elytra to maximum width of pronotum: 1.35–1.45.

Dorsum blue with metallic luster. Antennomeres yellow to yellow brown, distal ones being darker. Tibiae yellow brown. Pro- and mesofemora yellow brown. Metafemora dark brown.

Head hypognathous. Frontal ridge extremely wide, slightly convex, width of frontal ridge subequal to length of 1st antennomere. Frontolateral sulcus present. Suprafrontal sulcus deep laterally, absent in middle. Orbital sulcus deep. Ratio of width of frontal ridge (excluding margin) to width of antennal socket variable: 1.50–2.20. Number of punctures on vertex: 8–10 on each side near eye. Number of punctures on orbit: 1–2 on each side. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: approximately 15. Number of setae on labrum: 6. Anterior margin of labrum straight.

Pronotum without short longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum absent. Pronotal base slightly sinuated, obviously expanded in middle. Lateral margins of pronotum almost straight, converging forward. Anterolateral prothoracic callosity weak, protruding laterally, somewhat truncate. Posterolateral prothoracic callosity poorly developed. Pronotal punctures elongate. Diameter of pronotal punctures 4 to 6 times smaller than distance between them.

Elytra with convex lateral sides. Elytral punctures many times larger than that of pronotum. All rows of elytral punctures regular and single. Interspaces between striae of punctures smooth and glabrous. Number of rows of minute punctures on each interspace: 2. Humeral calli well developed.

Excavation on metatibia moderately deep. Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle absent.

Spermathecal receptacle flask-shaped. Spermathecal duct nearly straight proximally, coiled distally. Spermathecal pump with cylindrical apex, much shorter than receptacle. Receptacle basally much wider than apically. Apex of vaginal palpi widened. Anterior end of anterior sclerotization narrowly rounded. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

FIGURE 52. *Chaetocnema philippina*. **A** Male habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female.

Type: 1♂ (Paratype) (NHMB): 1) Philippines, 150 m, Palawan, Port Barton, 14–18.Dec.1990, Bolm lgt.; 2) *Chaetocnema granulicollis* Jac. det. L. Medvedev; 3) Paratypus *Chaetocnema philippina* m. L. Medvedev det. 1996.

Material: 1♂ (IZCAS), **Malaysia**, Borneo, Sabah W, II.2000, leg. Snizek, *Chaetocnema philippina* det. Döberl, 2001; 3♂2♀ (USNM), **Malaysia**, Sabah, Telipok, 12.VIII.1983, leg. G. F. Hevel & W. E. Steiner.; 1♀ (USNM), **Malaysia**, Sabah, Domeo. Sabah W Ranau– Tambunan route, 30.VI.1999, leg. M. Snizek, *Chaetocnema philippina* det. Döberl, 2001; 2♂ (USNM), **Malaysia**, Sabah, Telipok, 12.VIII.1983, G. F. Hevel & W. W. Steiner; 1♂1♀ (USNM), **Philippines**: Mt. Makiling, Luzon, leg. Baker, 1927.

Remarks: *C. philippina* is close to *C. sumatrana*, *C. montivaga* and *C. wallacei* in the general body shape, but it differs from the latter three species by its metallic blue dorsum. Aedeagus of *C. philippina* resembles that of *C. hainanensis* which also has ridges on either side ventrally. However, these two species are distinctly different in body size and color, general shape of aedeagus and other external characters.

32. *Chaetocnema* (*Chaetocnema*) *puncticollis* (Motschulsky, 1858)

(Fig. 53)

Plectroscelis puncticollis Motschulsky, 1858: 107. TL: India. TD: ZMUM.

Plectroscelis discreta Baly, 1876: 596. TL: China, Xinjiang (Kin Kiang). TD: BMNH. Synonymized by Medvedev, 2006.

Plectroscelis granulifrons Baly, 1876: 596. TL: China. TD: BMNH. Synonymized by Heikertinger, 1951: 214.

Chaetocnema kanika Maulik, 1926: 216. TL: India. TD: IMCI. Synonymized by Scherer, 1969: 163.

Chaetocnema discreta: Chen, 1933: 229.

Chaetocnema (*Chaetocnema*) *puncticollis*: Konstantinov *et al.*, 2011: 19.

Distribution: China (Zhejiang, Hubei, Jiangxi, Hunan, Fujian, Taiwan, Guangdong, Hainan, Hongkong, Guangxi, Sichuan, Guizhou, Yunnan, Xinjiang, Xizang), Vietnam, Thailand, India, Sri Lanka, Indonesia(Sumatra); Palearctic Region: Japan (Kimoto & Gressitt, 1966), North Korea (Konstantinov *et al.*, 2011), South Korea (Takizawa, 1980).

Host plants: *Achyranthes japonica* (Miq.) Nakai (Amaranthaceae) (Gressitt & Kimoto, 1963; Scherer, 1969); *Alternanthera sessilis* (Linn.) (Amaranthaceae) (recorded here, also recorded in Gressitt & Kimoto, 1963; Scherer, 1969); *Beta vulgaris* (Chenopodiaceae) (Gressitt & Kimoto, 1963; Scherer, 1969); *Duchesnea indica* (Andr.) Focke (Rosaceae) (Chûjô, 1958; Gressitt & Kimoto, 1963; Scherer, 1969); *Glycine max* Merr. (Fabaceae) (Gressitt & Kimoto, 1963; Scherer, 1969); *Polygonum filiforme* Thumb. (Polygonaceae) (Gressitt & Kimoto, 1963; Scherer, 1969), *Rubus buergeri* Miquel (Gressitt & Kimoto, 1963; Scherer, 1969), *R. parvifolius* L. (Gressitt & Kimoto, 1963; Scherer, 1969), *R. sieboldii* (Rosaceae) (Chûjô, 1958; Gressitt & Kimoto, 1963; Scherer, 1969), *Solanum melongena* L. var. *esculentum* Nees (Solanaceae) (Gressitt & Kimoto, 1963; Scherer, 1969).

Description: Description is not provided here, as this species has already been revised by Konstantinov *et al.* (2011) (as *Chaetocnema discreta*).

Type: *Chaetocnema discreta*: Lectotype female: 1) Type HT, 2) Baly Coll., 3) *Chaetocnema discreta* Baly, China; 4) Lectotype *Chaetocnema discreta* Baly des. A. S. Konstantinov *et al.* 2009 (1 BMNH).

Chaetocnema granulifrons: Lectotype female: 1) Type HT, 2) Baly Coll., 3) *Chaetocnema granulifrons* Baly, China; 4) Lectotype *Chaetocnema granulifrons* Baly des. A. S. Konstantinov 2010, 5) *Chaetocnema discreta* Baly det. A. Konstantinov 2010 (1 BMNH).

Material: 1♂ (IZCAS), **China:** Fujian, Wuyi mountain, Aotou, 6.VI.1976, *Chaetocnema discreta* Baly det. Peiyu Yu; 1♂ (IZCAS), **China:** Fujian, Fuzhou, 10.VI.1955; 10♂16♀ (IZCAS), **China:** Fujian, 1945–1946; 1♂ (IZCAS), **China:** Fujian, Fuzhou, 1955.VII.1; 10♂17♀ (IZCAS), **China:** Jiangxi, nanchang, 1979.IX.9, leg. Peiyu Yu, **Host plant:** *Alternanthera sessilis* (Linn.) DC.; 1♂1♀ (IZCAS), **China:** Zhejiang, Hangzhou, 1951, **Host plant:** *Solanum melongena*; 3♂6♀ (IZCAS), **China:** Zhejiang, Hangzhou; 2♂1♀ (IZCAS), **China:** Chongqing, Beipei, 17.V.1941; 1♂4♀ (IZCAS), **China:** Sichuan, Wushan, Jiangdong village, 2.VIII.1993, alt. 140m, leg. Xingke Yang *et al.*; 1♂ (IZCAS), **China:** Hainan, Jianfengling, 1980.IV.17, alt. 75m, leg. Shuyong Wang; 4♂5♀ (IZCAS), **China:** Hainan, Wangning, 1960.IV.15, alt. 10m, leg. Suofu Li; 57 (IZCAS), **China:** Hainan, Wangning, 1960.IV.15, alt. 10m, leg. Suofu Li; 1♂ (IZCAS), **China:** Guangxi, Daxing, 1998.III.30, leg. Chunsheng Wu, alt. 280m; 1♂ (IZCAS), **China:** Guangxi, Jinxiu, alt. 600m, 11.V.1999, leg. Mingyuan Gao; 6♂9♀ (IZCAS), **China:** Yunnan, Jingping, 21.IV.1956, alt. 420m, leg. Keren Huang *et al.*; 4♂6♀ (IZCAS), **China:** Yunan, Xishuangbanna, 15.IV.1982, leg. Shengqiao Jiang. 1♂1♀ (IZCAS), **Vietnam:** Tonkin, 16.VI.04, MUSEUM PARIS, Coll. L. BEDEL 1922, *Chaetocnema discreta* Baly; 1♀ (IZCAS), **Vietnam:** Tonkin, leg. ade Cooman; 1♀ (BMNH), **Thailand:** Siam, Bangkok, leg. H. Hillman, B.M.1928–366; 25 (USNM), **Thailand:** Korat, Si Kheu, Pak Chong, 22. August, 1952, R. E. Elbel, Loan from USNM 2065634; 1 (USNM), **Malaysia:** Selangor Serdang, II.1940, NLH Krauss, Loan from USNM 2065634; 1 (BMNH), Kepahiang, **Sumatra**, 1960ft, *Chaetocnema puncticollis* det. Yongying Ruan, 2016; 1 (BMNH), Calcutta (**India**), Atkinson Coll, 92–3, *Chaetocnema puncticollis* Motsch., 1858, Det. Yongying Ruan, 2016; 4 (BMNH), 10207, *Alternanthera triandra*, **SRI LANKA**, Cent. Agric. Res. Inst. Peradeniya, 12. xi. 91, ex *Alternanthera triandra*, C. Kudagamage collection, IIE 22822, *Chaetocnema* sp.2. det. M.L. Cox, 1993, *Chae-*

tocnema puncticollis Motsch., 1858, Det. Yongying Ruan, 2016; 1 (BMNH), LOT 1894, SUBL. 11, TO BM, LIST 070–05, LOT 1896/11, 95., Pres by Comm Inst Ent, B. M. 1981–315, *Chaetocnema puncticollis* Motsch., 1858, Det. Yongying Ruan, 2016.

Remarks: *C. puncticollis* closely resembles *C. furthi* (see “Remarks” section under *C. furthi*).

FIGURE 53. *Chaetocnema puncticollis*. **A** Male habitus. **B** Pronotum and peri-scutellar area. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female. **J** Lateral view of head, indicating strongly raised vertex.

33. *Chaetocnema (Chaetocnema) purerulea* Ruan, Konstantinov & Yang, New Species
(Fig. 54)

Etymology: This species is named after its body color. The name is a combination of Latin words ‘purpura’ and ‘caeruleus’ meaning ‘purple’ and ‘blue’ respectively. Specific epithet is a noun in apposition.

Diagnosis: This species is close to *C. himalayana* and *C. duvivieri*. It may be distinguished by the shorter antennae, unique frontal ridge decorated with wrinkles and dark purple blue dorsum. It is also close to *C. taiwanensis*, however, they are entirely different in coloration.

FIGURE 54. *Chaetocnema purerulea* sp. nov. **A** Habitus (Holotype). **B** Pronotum and peri-scutellar area (Holotype). **C** Head, frontal view (Holotype). **D** Vaginal palpi (Holotype). **E** Spermatheca (Holotype). **F** Pygidium (tergite 7) of female (Holotype).

Distribution: India.

Host plants: Unknown.

Description: Body length: 2.50–2.60 mm. Body width: 1.35–1.37 mm. Ratio of length of antenna to length of body: 0.55–0.57. Ratio of elytron length (along suture) to width (maximum): 2.50–2.60. Ratio of pronotum width (at base) to length: 1.60–1.65. Ratio of length of elytron to length of pronotum (along middle): 2.55–2.60. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.10–1.11.

Dorsum deep purple blue. Dorsum and head smooth, not reticulated. Antennomeres 1–4 yellow, 5–11 dark brown, with apical ones darker. Tarsi and tibiae dark red brown. Pro- and mesofemora dark red brown. Metafemora dark brown.

Head hypognathous. Frontal ridge wide, slightly convex, covered with transverse wrinkles. Frontolateral sulcus present. Suprafrontal sulcus absent, frontal ridge entirely merge with vertex. Orbital, supraantennal sulci deep. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 2.00–2.05. Vertex covered with inconspicuous wrinkles and minute, rugged and sparse punctures. Number of punctures on orbit: 2–3 on each side. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: approximately 10. Number of setae on labrum: 6. Anterior margin of labrum slightly convex in middle.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum absent. Pronotal base evenly convex. Lateral margins of pronotum convex, not conspicuously converging forward. Anterolateral prothoracic callosity rounded, moderately to poorly developed. Posterolateral prothoracic callosity poorly developed. Pronotal punctures tiny and rugged. Diameter of pronotal punctures 3–6 times smaller than distance between adjacent punctures.

Elytra with slightly convex lateral sides. Elytral punctures larger than those on pronotum, arranged in single regular rows, including peri-scutellar row. Elytral interspaces between puncture rows slightly costate at sides. Number of rows of minute punctures on each interspace: 2–3. Humeral callus well developed.

Excavation on metatibia shallow. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent or poorly developed.

Spermathecal receptacle pear-shaped. Spermathecal duct curved. Spermathecal pump much shorter than receptacle, with cylindrical apex. Vaginal palpus slightly narrowing from base till middle, approximately parallel-sided beyond middle. Anterior sclerotization of vaginal palpus slightly widening anteriorly. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

Type: Holotype: ♀ (BMNH), labels: 1) **India:** Assam, Mishmi Hills, Delai Valley, Taphlogam, 8.xi.1936; 2) Alt. 7400ft, M. Steele, B. M. 1937–324; 3) *Chaetocnema purerulea* **sp. nov.** Des. Ruan *et al.*, 2016.

34. *Chaetocnema (Chaetocnema) resplendens* Warchalowski, 1973

(Fig. 55)

Chaetocnema (Tlanoma) resplendens Warchalowski, 1973: 48. TL: Vietnam (Nam-Dinh prov., Van-Diem). TD: Warchalowski Collection??.

Distribution: Vietnam (Warchalowski, 1973), Myanmar, Nepal, Bhutan, India, Pakistan, Philippines.

Host plants: Paddy seedling (Rice) leaf.

Description: Body length 1.45–1.80 mm, body width 0.90–1.00 mm. Ratio of elytron length (along suture) to width (maximum): 2.20–2.25. Ratio of pronotum width (at base) to length: 1.60–1.65. Ratio of length of elytron to length of pronotum (along middle): 2.40–2.50. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.15–1.20. Ratio of maximum width of elytra to maximum width of pronotum: 1.40–1.50.

Dorsum yellow brown to red brown, scarcely dark brown, shiny without metallic luster. Antennomeres 1–4 completely yellow, 5–10 brown. Tibiae and tarsi yellow to dark yellow. Pro- and meso- femur yellowish brown. Metafemur black or dark brown.

Head hypognathous. Frontal ridge narrow, flat. Frontolateral sulcus present. Suprafrontal sulcus shallow and faint, nearly straight. Ratio of width of frontal ridge between outer ridge of antennal sockets to width of antennal socket, 1.65–1.75. Frons with two rows of long setae laterally. Vertex flat, situated on same level as orbit, without punctures, except a few closely placed punctures bearing setae present on each side near eye.

FIGURE 55. *Chaetocnema resplendens*. **A** Male habitus. **B** Head, frontal view. **C** Pronotum and peri-scutellar area. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female.

Base of pronotum without longitudinal impressions. Deep row of large punctures at base of pronotum present throughout. Pronotal base obviously expanded in middle. Elytron with scutellar row of punctures single and regular. Second to eleventh rows of punctures at base of elytron regular. Humeral callus well-developed.

First protarsomere of male almost as large as that in female. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent. Excavation on metatibia moderately deep.

Apex of aedeagus in ventral view narrowing gradually. Ventral longitudinal groove of aedeagus absent or poorly developed. Apical denticle of aedeagus in ventral view long and pointed; curved ventrally in lateral view. Minute, transverse wrinkles on ventral side of aedeagus absent. Aedeagus in lateral view nearly straight. Maximum curvature of aedeagus in lateral view situated near apical denticle.

Spermathecal pump much shorter than receptacle, with flat apex. Spermathecal receptacle short and sinuate. Maximum width of receptacle situated medially. Receptacle basally narrower than apically. Apex of vaginal palpus evenly rounded. Vaginal palpus narrowing from base to middle, thence slightly widening towards apex. Anterior sclerotization of vaginal palpus slightly widening anteriorly. Anterior end of anterior sclerotization broadly rounded. Posterior sclerotization longer than wide. Posterior sclerotization about as wide as anterior.

Material: 2♂3♀ (USNM), **Myanmar**, Tenasserim, MUS. PRAGENSE, Coll. Helfer, ?*Ch. tonkinensis* Chen; 1 (USNM), **Nepal**, Katmandu, Oct.–Nov. 1958, J. Maldonado, sweeping, *Chaetocnema* det. A. Konstantinov, *Chaetocnema resplendens* det. Yongying Ruan, 2016; 1♂1♀ (USNM), **Bhutan**, Rd from Damphu to Wangdi, river valley N 27 07.779 E 90 04.160, 16.ix.2005, 584m, wp–108, leg. K. Mahat, P. Loday, A. Konstantinov & K. D. Prathapan; 3♀ (USNM), **Bhutan**, 24km N Damphu 16.IX.2005, wp–109, leg. K. Mahat, P. Loday, A. Konstantinov & K. D. Prathapan; 1♀ (USNM), **India**: Punjab, Patialai, V.1978. J. S. mann, *Chaetocnema resplendens*, det. Döberl, 2001 (USNM); 2♂3♀ (USNM), South **India**, Eastern Ghats Karnataka, Chikmagalur, 15.XI.2003, leg. Konstantinov, Prathapan, Saluk; 8 (USNM), Swept at night, New delli, **India**, 20.Aug.1968, *Chaetocnema* det. A. Konstantinov, *Chaetocnema resplendens* Warchalowski Det. Yongying Ruan, 2016; 1♂3♀, India W.Bengal, 1963, **ex. paddy seedling** (leaf) 63–26319, *Chaetocnema* d.G.B.Vogt, *Chaetocnema resplendens* det. Yongying Ruan, 2016; 1 (USNM), Chabua Assam **India**, 4–XII–43, DEHardy, *Chaetocnema* det. A. Konstantinov, *Chaetocnema resplendens* det. Yongying Ruan, 2016; 4 (USNM), Assam **India**, III–44, D. E. Hardy, *Chaetocnema* det. A. Konstantinov, *Chaetocnema resplendens* det. Yongying Ruan, 2016; 2 (USNM), Chabua Assam **India**, XII–44, DEHardy, *Chaetocnema* det. A. Konstantinov, *Chaetocnema resplendens* det. Yongying Ruan, 2016; 2 (USNM), 6 mile NW of Digboi, Assam **India**, 30–III–44, D. E. Hardy, *Chaetocnema* det. A. Konstantinov, *Chaetocnema resplendens* det. Yongying Ruan, 2016; 2 (USNM), Chabua Assam **India**, 4–XII–43, DEHardy, *Chaetocnema* det. A. Konstantinov, *Chaetocnema resplendens* det. Yongying Ruan, 2016; 4 (USNM), Mt. Makiling, Luzon (**Philippines**), Baker, *Chaetocnema* spp. det. A. Konstantinov, *Chaetocnema resplendens* det. Yongying Ruan, 2016; 2 (USNM), **Pakistan**: N.W.F. Swat Valley, 15mi SW Barikot, 16 October 1977, Collectors: Gary F. Hevel & Mushtaq Ahmad, *Chaetocnema* det. A. Konstantinov, *Chaetocnema resplendens* det. Yongying Ruan, 2016.

Remarks: Type materials are not available for this study, the species concept is based on the original description and illustration of aedeagus provided by Warchalowski (1973).

This species resembles *C. yaosanica* and *C. tonkinensis*, however, it can be differentiated from *C. yaosanica* and *C. tonkinensis* by the unique shape of the aedeagus and broader body.

35. *Chaetocnema* (*Chaetocnema*) *sabahensis* Ruan, Konstantinov & Yang, New Species (Fig. 56)

Etymology: This species is named after the type locality. Specific epithet is a noun in apposition.

Distribution: Malaysia, Singapore.

Host plants: Unknown.

Diagnosis: This species resembles *C. hainanensis* by the following characters: a distinct ridge present on each side of aedeagus on ventral side, in lateral view, aedeagus is strongly curved near apex and base, while straight at middle. However, they can be distinguished by the difference in shape of the body and aedeagus.

This species also resembles *C. lusiadae* from Bagaman Islands in the Louisiade Archipelago [Papua New Guinea], however, it differs from the latter by narrower frontal ridge and sinuated base of pronotum.

The female of *Chaetocnema sabahensis* is rather unique among the Oriental species of the genus in having a trilobed (usually simple in other species) last abdominal ventrite (Fig. 56 J).

Description: Body length (excluding head): 1.85–2.10 mm, body width 1.10–1.20 mm. Ratio of elytron length (along suture) to width (maximum): 2.40–2.50. Ratio of pronotum width (at base) to length: 1.60–1.70. Ratio of length of elytron to length of pronotum (along middle): 2.30–2.40. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.00–1.05. Ratio of maximum width of elytra to maximum width of pronotum: 1.20–1.30.

FIGURE 56. *Chaetocnema sabahensis* sp. nov. **A** Holotype, habitus. **B** Pronotum of Holotype, red arrow indicates strongly thickened and truncate anterolateral callus. **C** Head of Holotype, frontal view. **D** Aedeagus of Holotype, ventral view. **E** Aedeagus of Holotype, lateral view. **F** Apex of aedeagus of Holotype, ventral view. **G** Vaginal palpi (Paratype). **H** Spermatheca (Paratype). **I** Pygidium (tergite 7) of female (Paratype). **J** last abdominal ventrite of female (Paratype), red arrow indicates unique shape of the hind margin.

Dorum coppery to bronzy. Antennomeres 1–6 completely yellow, 7–11 dark yellow to light brown. Tibiae and tarsi yellow. Pro- and mesofemora dark yellow. Metafemora dark brown.

Head hypognathous. Frontal ridge narrow and convex. Ratio of width of frontal ridge to width of antennal

socket: 1.10–1.20. Frontolateral sulcus present. Suprafrontal sulcus not deep, obcordate. Orbital sulcus deep. Number of punctures on vertex: 4–6 on each side near eye. Vertex evenly and minutely granulose. Number of punctures on orbit: 2–3 on each side. Punctures on orbit close to each other, forming a short longitudinal row. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: approximately 20. Number of setae on labrum: 6. Anterior margin of labrum straight or slightly convex at middle.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum absent. Pronotal base sinuated, expanded in middle. Lateral margins of pronotum almost straight or slightly convex with maximum width near base. Anterolateral prothoracic callosity truncate, long, oblique, protruding antero-laterally. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 1.5 to 3 times smaller than distance between them.

Elytra with convex lateral sides. All rows of elytral punctures regular and single. Interspaces between striae of punctures smooth and glabrous. Number of rows of minute punctures on each interspace: 1–2. Elytral humeral callus well developed. Width of elytral base equal to or slightly exceed width of pronotal base.

First male protarsomere slightly larger than second. First and second male protarsomeres, length to length ratio: 1.00–1.05. First male protarsomere, length to width ratio: 0.95–1.10. First male protarsomere, width at apex to width at base ratio: 1.90–1.95. Excavation on metatibia moderately deep. Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle absent. First male metatarsomere, length to width ratio: 3.40–3.50.

Aedeagus widening towards apex in ventral view. Ventral longitudinal groove poorly developed. Two ridges (sometimes obscure) present along lateral sides of ventral longitudinal groove. Apical denticle in ventral view long and prominent with widely rounded tip. Apical denticle in lateral view strongly curved dorsally. Minute transverse wrinkles absent on ventral side. Aedeagus in lateral view unevenly curved, sinusoidal near apex. Maximum curvature in lateral view situated apically.

Spermathecal receptacle oblong-flask shaped. Basal part of spermathecal duct straight. Spermathecal pump much shorter than receptacle, with thin, acute apex. Receptacle basally much wider than apically. Apex of vaginal palpus subtriangular, with lateral margin slightly convex. Anterior end of anterior sclerotization somewhat flattened. Posterior sclerotization longer than wide. Width of posterior sclerotization greater than that of anterior.

Type: Holotype: ♂, (USNM): 1) **Malaysia**, Sabah, Tanjung Aru Beach, 8.VIII.1983, leg. G. F. Hevel & W. E. Steiner. 2) Holotype. 3) *Chaetocnema sabahensis* **sp. nov.** des. Ruan, 2015.

Paratypes: 3♂5♀ (USNM), **Malaysia**, Sabah, 3–12.VIII.1983, leg. G. F. Hevel & W. E. Steiner; 1♀ (USNM), **Malaysia**, Sarawak, Bako National Park, 28.IX.1966, J. F. G. Clarke; 1 (BMNH), 1) Sarawak (**Malaysia**): 4th Division, Gn. Mulu NP., 2) nr. Base Camp 50–100m, 4) Malaise trap, ix–77, 5) *Chaetocnema* sp., 6) Paratype, 7) *Chaetocnema sabahensis* **sp. nov.** Des. Ruan, Konstantinov & Yang, 2016; 1♂2 (BMNH), 1) Seliliw, 16.9.22, 2) **Singapore**, C. J. Saunders, B.M. 1933–227, 3) Paratype, 4) *Chaetocnema sabahensis* **sp. nov.** Des. Ruan, Konstantinov & Yang, 2016; 2 (BMNH), 1) B.7im.Rd.8, 9.7.22, 2) **Singapore**, C. J. Saunders, B.M. 1933–227, 3) Paratype, 4) *Chaetocnema sabahensis* **sp. nov.** Des. Ruan, Konstantinov & Yang, 2016; 2 (BMNH), 1) Reg.W., 12.8.22, waterside, 2) **Singapore**, C. J. Saunders, B.M. 1933–227, 3) Paratype, 4) *Chaetocnema sabahensis* **sp. nov.** Des. Ruan, Konstantinov & Yang, 2016; 1 (BMNH), 1) Res.S.(W), jungle, 8.4.23, 2) **Singapore**, C. J. Saunders, B.M. 1933–227, 3) Paratype, 4) *Chaetocnema sabahensis* **sp. nov.** Des. Ruan, Konstantinov & Yang, 2016; 2 (BMNH), 1) Reg.W., 12.8.22, waterside, 2) **Singapore**, C. J. Saunders, B.M. 1933–227, 3) Paratype, 4) *Chaetocnema sabahensis* **sp. nov.** Des. Ruan, Konstantinov & Yang, 2016; 1 (BMNH), 1) **Singapore**, C. J. Saunders, B.M. 1933–227, 2) Paratype, 3) *Chaetocnema sabahensis* **sp. nov.** Des. Ruan, Konstantinov & Yang, 2016.

36. *Chaetocnema* (*Chaetocnema*) *salix* Ruan, Konstantinov & Yang, 2014

(Fig. 57)

Chaetocnema (*Chaetocnema*) *salix* Ruan, Konstantinov & Yang, 2014: 64. TL: China, Shannxi; TD: IZCAS.

Host plants: *Salix* sp. (Salicaceae) (Ruan *et al.*, 2014).

Distribution: China (Shannxi, Gansu, Sichuan).

Description: Body length: 2.10–2.45 mm. Body width: 1.13–1.17 mm. Ratio of length of antenna to length

of body: 0.60. Ratio of elytron length (along suture) to width (maximum): 2.70–2.75. Ratio of pronotum width (at base) to length: 1.74–1.79. Ratio of length of elytron to length of pronotum (along middle): 3.47–3.49. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.16–1.19. Ratio of maximum width of elytra to maximum width of pronotum: 1.44–1.47.

Elytra and pronotum not concolorous: elytra entirely black, without metallic luster, pronotum and head bronzy. Antennomere 1 partially dark brown, 2–3 partially brown or completely yellow, 4 brown, 5–11 black to dark brown. Tibiae and tarsi partially brown. Femora brown.

Head hypognathous. Frontal ridge narrow and convex. Frontolateral sulcus present. Suprafrontal sulcus deep laterally, absent in middle. Orbital sulcus deep. Width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 1.20–1.25. Ratio of width of frontolateral sulcus to width of antennal socket: 0.29–0.38. Ratio of width of orbital sulcus to width of frontolateral sulcus: 0.72. Number of punctures on vertex near each eye: 7–9. Number of punctures on orbit: 2. Number of setae along frontolateral sulcus: 9–11. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: 8. Number of setae on labrum: 6. Anterior margin of labrum slightly concave in middle.

Pronotum with two obscure longitudinal impressions visible only near basal margin. Deep row of large punctures at base of pronotum present laterally, absent in middle. Pronotal base slightly expanded in middle. Lateral margins of pronotum slightly convex, converging forward. Anterolateral prothoracic callosity protruding laterally, forming sharp angle laterally. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 2 to 4 times smaller than distance between them.

Elytra with convex sides. All rows of punctures regular. Humeral callus well developed. Interspaces between striae of punctures smooth and glabrous. Number of striae of minute punctures on each interspace: 2.

First male protarsomere slightly wider than second. First male protarsomere, length to width ratio: 1.74–1.78. First and second male protarsomeres, length to length ratio: 1.60–1.80. First and second male protarsomeres, width to width ratio: 1.04–1.20. First male protarsomere, width at apex to width at base ratio: 1.50–1.53. Length of metatibia to distance between denticle and metatibial apex: 2.28–2.36. Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle absent or obscure. First male metatarsomere, length to width ratio: 2.80–3.40. First and second male metatarsomeres, length to length ratio: 2.03–2.15. First and second male metatarsomeres, width to width ratio: 0.87–0.97. Third and fourth male metatarsomeres, length to length ratio: 0.52–0.55.

Apex of aedeagus in ventral view narrowing gradually with polygonal marks on sides. Ventral longitudinal groove absent. Apical denticle absent in ventral view. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view evenly and strongly curved, slightly sinusoidal near apex. Maximum curvature of aedeagus in lateral view situated medially.

Spermathecal receptacle oblong. Basal part of spermathecal duct straight. Spermathecal pump much shorter than receptacle, narrowed towards apex. Receptacle basally as wide as apically. Posterior sclerotization of tignum spoon-shaped, wider than mid-section. Mid-section of tignum nearly straight. Anterior sclerotization of tignum about as wide as mid-section. Apex of vaginal palpus subtriangular, with slightly convex lateral margin. Vaginal palpus narrowing from base till middle, thence slightly widening towards apex. Anterior sclerotization of vaginal palpus nearly parallel sided. Anterior end of anterior sclerotization broadly rounded. Posterior sclerotization longer than wide. Anterior sclerotization wider than posterior.

Types: ♂ (Holotype) (IZCAS), 1) Yangxian, Qinling Mountains, Shannxi, alt. 1700m, VII.2013, leg. Yongying Ruan, host: *salix* sp. 2) Holotype, *Chaetocnema salix* **sp. nov.**, Des. Ruan, Konstantinov, Yang. 2014; 2♂4♀ (Paratypes), Qinling Mountain, Shannxi, VII–VIII.2013, leg. Yongying Ruan, host: *Salix* sp.; 3♂4♀ (Paratypes), same label except leg. A. Konstantinov (USNM); 1♂2♀ (Paratypes), Shatang forestry station, Zhouqu, Gansu, alt. 2400m, 5–27.VII.1998, leg. Shuyong Wang *et al.*; 1♀ (Paratype), Bifenggou, Bikou, Wenxian, Gansu, 25.VII.1998, alt. 2360m, leg. Xingke Yang; 1♀ (Paratype), Daheba, Tanchang, Gansu, 5.VII.1998, alt. 1700–2350m, leg. Shuyong Wang; 4♀ (Paratypes), Miyaluo, Lixian, Sichuan, alt. 2780–3300m, 7.VII.1963, leg. Xuezhong Zhang; 19♂48♀ (Paratypes), Sanshenggou, Wolong, Sichuan, alt. 2500–2700m, 6–8.VIII.1983, leg. Shuyong Wang. All paratypes are in IZCAS, except those indicated as deposited in USNM.

Remarks: *Chaetocnema salix* resembles the Palearctic species *C. transbaicalica*. It may be distinguished from the latter by the following characters of *C. salix*: anterolateral callosity of pronotum long and sharp laterally (Fig. 57 B2); both longitudinal groove and transverse wrinkles on ventral surface of aedeagus absent; metatibial serration proximal to large lateral denticle absent or obscure.

FIGURE 57. *Chaetocnema salixis*. **A** Holotype, habitus. **B1** Prothorax, dorsal view; **B2** anterolateral callosity of pronotum. **C** Head, frontal view. **D** Aedeagus, ventral and lateral views. **E** Apex of aedeagus, dorsal view. **F** Vaginal palpi. **G** Spermatheca. **H** Tignum.

37. *Chaetocnema* (*Chaetocnema*) *simplicifrons* (Baly, 1876)
(Fig. 58)

Plectroscelis simplicifrons Baly, 1876: 594. TL: China, “Kin Kiang” (i.e. ‘XinJiang’). TD: BMNH. **Lectotype designated here.**

Chaetocnema simplicifrons: Chen, 1934: 249.

Distribution: China (Xinjiang, Jiangxi, Yunnan, Tibet), Vietnam, Nepal, India, Pakistan.

Host plants: *Rubus* sp.

Description: Body length: 1.65–1.80 mm. Body width: 1.01–1.04 mm. Ratio of elytron length (along suture) to width (maximum): 2.30–2.33. Ratio of pronotum width (at base) to length: 1.75–1.77. Ratio of length of elytron to length of pronotum (along middle): 2.59–2.61. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.08–1.10.

Dorsum black, without metallic luster. Dorsum and head not rugose. Antennae yellow brown, with distal antennomeres darker. Tibiae and tarsi yellow brown, pro- and mesofemora dark yellow brown. Metafemora dark brown.

Head hypognathous. Vertex raised, at higher plane than orbit. Frontal ridge narrow and convex. Frontolateral sulcus present. Numerous punctures present on and below frontolateral sulcus. Suprafrontal sulcus poorly developed. Orbital, supraantennal sulci very deep. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 0.95–1.05. One large puncture bearing setae present on vertex on each side near eye. Several small punctures scattered on orbit on each side. Number of setae on clypeus: approximately 16. Number of setae on labrum: 6. Anterior margin of labrum almost straight at middle.

Pronotum rather convex, Pronotal punctures rugged, variable in size, with diameter 3–6 times smaller than distance between them. Pronotum without longitudinal impressions near basal margin. Pronotum depressed near basal margin. Deep row of large punctures at base of pronotum absent. Pronotal base convex, expanded posteriorly in middle. Lateral margins of pronotum slightly convex, converging forward. Anterolateral prothoracic callosity truncate, oblique and thick. Posterolateral prothoracic callosity poorly developed.

Elytra with slightly convex lateral sides. Elytral punctures larger than those on pronotum, arranged in single lines, including peri-scutellar row. Interspaces between striae of punctures smooth and glabrous. Number of rows of minute punctures on each interspace: 1–2. Humeral callus well developed.

Excavation on metatibia moderately deep. Large lateral denticle on metatibia obtuse, serration proximal to large lateral denticle absent.

Apex of aedeagus in ventral view narrowing gradually. Ventral longitudinal groove absent. Apical denticle in ventral view not prominent. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view almost straight at apex and middle, strongly curved near base.

Spermathecal receptacle pear-shaped. Spermathecal duct coiled several times. Spermathecal pump much shorter than receptacle, with cylindrical, narrowed apex. Vaginal palpus slightly narrowing from base till middle, thence approximately parallel sided. Anterior sclerotization of vaginal palpus slightly widening anteriorly. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

Types: Lectotype: 1 (BMNH), labels: 1) Type H.T.; 2) **China**; 3) Baly Coll.; 4) *Chaetocnema simplicifrons* Baly, China; 5) Lectotype *Chaetocnema simplicifrons* (Baly, 1876) Des. Ruan *et al.*, 2016.

Paralectotype: 1 (BMNH), labels: 1) Baly Coll.; 2) Paralectotype *Chaetocnema simplicifrons* (Baly, 1876) Des. Ruan *et al.*, 2016.

Material: 2♀ (IZCAS), **China:** Yunnan, Jinghong, Ganlanju, alt. 700m, 1957.III.21, *Chaetocnema simplicifrons*, Baly det. Chen; 1♀ (IZCAS), **China:** Yunnan, Damenglong, alt. 700m, 1957.IV.11, *Chaetocnema simplicifrons*, Baly det. Chen; 6♀ (IZCAS), **China:** Yunnan, Jingping, 21.IV.1956, alt. 420m, leg. Keren Huang *et al.*; 4♀ (IZCAS), **China:** Yunnan, Jingping, Changpotou, leg. Keren Huang *et al.*, 22.V.1956, alt. 1000m; 4♂ (IZCAS), **China:** Sichuan, Chengdu, 11.VIII.1963, alt. 500m, NanKai University, leg. Huangguang Zhou; 1♀ (IZCAS), **China,** Tibet, 2015–VIII–29, Zhengzhong Huang leg.; 1♂ (IZCAS), **Vietnam:** Hanoi, Coll. L. BEDEL 1922, MUSEUM PARIS; 1♂ (USNM), **Nepal:** env., 08.V.2000, Kathmandu, Bonipa, agricultural fields, Konstantinov, Lingafelter, Volkovitch; 1♂ (USNM), **India,** Eastern Ghats Karnataka, 14km E. Tumkur, 13.XI.2003, 1170m, 13° 22'24" N, 77° 12'05" E, leg. Konstantinov, Prathapan, Saluk, loan from USNMNH 20665634; 4♀ (USNM) **India,** Assam, 10 mi N Tinsukia, in jungle, 5.IV.1944, D. E. Hardy, loan from USNMNH 20665634; 1 (BMNH), **Pakistan,** Jamalpur, 23.iv.68, Chinese paddy, CIE.A.2420, Pres by Comm Inst Ent, B. M. 1981–315, *Chaetocnema simplicifrons* Baly, 1876, Det. Yongying Ruan, 2016.

Remarks: This species resembles *C. yaosanica*, and *C. basalis*, but for the strongly raised vertex. It is also close to *C. tristis* and *C. puncticollis*. However, it can be distinguished from *C. tristis* by the smaller body size, and from *C. puncticollis* by the unusually convex pronotum and wider body.

FIGURE 58. *Chaetocnema simplicifrons*. **A** Habitus. **B** Pronotum and peri-scutellar area. **C** Head, lateral and frontal views (in lateral view, vertex strongly raised above the level of eye and orbit). **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female. **J** Tignum.

38. *Chaetocnema* (*Chaetocnema*) *sticta* Maulik, 1926

(Fig. 59)

Chaetocnema sticta Maulik, 1926: 205. TL: India. TD: BMNH. **Lectotype designated here.**

Distribution: China (Gansu), India, Myanmar (Tenasserim).

Host plants: Unknown.

Description: Body length: 2.20–2.35 mm. Body width: 1.20–1.30 mm. Ratio of elytron length (along suture) to width (maximum): 2.45–2.50. Ratio of pronotum width (at base) to length: 1.80–1.82. Ratio of length of elytron to length of pronotum (along middle): 2.80–2.85. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.09–1.12.

Dorsum black with bronzy luster. Dorsum and surface of head not reticulate. Antennae completely yellow brown, with distal antennomeres darker. Tarsi, tibiae, pro- and mesofemora yellow brown. Metafemora brown.

Head hypognathous. Frontal ridge moderately wide, convex. Frontolateral sulcus present. Suprafrontal sulcus present, arched in middle. Orbital, supraantennal sulci deep. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 1.48–1.52. Vertex with numerous scattered minute punctures. Orbit wide, with 6–8 punctures slightly larger than those on vertex. Frontal ridge with numerous scattered rugged punctures. Number of setae on clypeus: approximately 10. Number of setae on labrum: 6. Anterior margin of labrum slightly concave at middle.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum absent. Pronotal base slightly and evenly convex. Lateral margins of pronotum slightly convex, converging forward. Anterolateral prothoracic callosity truncate, moderately developed. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 1.5–3.5 times smaller than distance between them.

Elytra with slightly convex lateral sides. Elytral punctures distinctly larger than those on pronotum, arranged in single rows, including peri-scutellar row. Elytral interspaces between puncture rows strongly costate at sides, slightly costate at middle. Number of rows of minute punctures on each interspace: 3–4. Humeral callus well developed.

Excavation on metatibia moderately deep. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent or poorly developed.

Apex of aedeagus in ventral view slightly dilated, narrowing abruptly to apical denticle. Ventral longitudinal groove absent. Apical denticle in ventral view minute and acute. Minute transverse wrinkles absent on ventral side. Aedeagus in lateral view evenly curved at middle and base, apical third almost straight. Apical denticle bent ventrally in lateral view.

Spermathecal receptacle flask-shaped. Spermathecal duct coiled. Spermathecal pump much shorter than receptacle, with cylindrical apex. Vaginal palpus slightly narrowing from base to apex, thence approximately parallel-sided. Anterior sclerotization of vaginal palpus slightly narrowing anteriorly. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

Types: Lectotype: 1 (BMNH), 1 Type; 2) Ranikhet, Kumaon, **India**, H. G. C.; 3) *Chaetocnema sticta* Mlk., Det. S. Maulik, Type, 1925; 4) examined Ruan Y. Y., 2014; 5) Lectotype *Chaetocnema sticta* Maulik, 1926 Des. Ruan *et al.*, 2016.

Paralectotypes: 3 (BMNH), 1) Ranikhet, Kumaon, **India**, H. G. C.; 2) *Chaetocnema sticta* Maulik, Cotype, 1925, Det. S. Maulik; 3) B. M. 1927–92, G. C. Champion; 4) Paralectotype *Chaetocnema sticta* Maulik, 1926 Des. Ruan *et al.*, 2016.

Paralectotypes: 7 (BMNH), 1) Bhatkot, Ranikhet, **India**, H. G. C.; 2) H. G. C. Champion Coll., B. M. 1953–156; 3) *Chaetocnema sticta* Maulik, Cotype, 1925, Det. S. Maulik; 4) Ruan Yongying examined, 2014; 5) Paralectotype *Chaetocnema sticta* Maulik, 1926 Des. Ruan *et al.*, 2016.

Paralectotypes: 2♀ (BMNH), 1) Ranikhet, Kumaon, H. G. C.; 2) *Chaetocnema sticta* Maulik, Det. S. Maulik, Cotype, 1925; 3) B. M. 1927–92, G. C. Champion; 4) Ruan Yongying examined, 2014; 5) Paralectotype *Chaetocnema sticta* Maulik, 1926 Des. Ruan *et al.*, 2016.

Materials: Probable materials used for original description by Maulik (1926) (these are uncertain Cotype materials, they are not designated as Paralectotypes here): 3 (BMNH), 1) Doherty; 2) Tenasserim; 3) Fry Coll., 1905–100; 4) *Chaetocnema sticta* Maulik, Cotype, 1925, Det. S. Maulik. 1 (BMNH), 1) Doherty; Tenasserim; 2) Fry Coll., 1905.100; 3) *Chaetocnema sticta* Mlk., Cotype, 1923, Det. S. Maulik.

Remarks: *Chaetocnema sticta* is rather unique in Oriental *Chaetocnema* species by the structures on head : numerous extremely minute punctures present through out the frons and vertex; upper part of frontal ridge distinctly wider than lower part.

FIGURE 59. *Chaetocnema sticta*. **A** Lectotype, habitus. **B** Head, frontal view (Lectotype). **C** Pygidium (tergite 7) of female (Paralectotype). **D** Aedeagus (Paralectotype), ventral view. **E** Aedeagus (Paralectotype), lateral view. **F** Apex of aedeagus (Paralectotype), ventral view. **G** Vaginal palpi (Paralectotype). **H** Spermatheca (Paralectotype). **I** Tignum (Paralectotype).

39. *Chaetocnema* (*Chaetocnema*) *subbasalis* Ruan, Konstantinov & Yang, New Species
(Fig. 60)

Etymology: This species was named and designated as new by Prof. Sicien Chen (Shixiang Chen), however, he did not publish the name. We use the name originally proposed by Prof. Chen, it is a noun in apposition.

Diagnosis: This species resembles *C. tonkinensis*, *C. nigrilata* **sp. nov.** and *C. yiei*. However, it differs from all the three by the unique coloration of antennae, narrower frontal ridge and distinct shape of aedeagus. This species superficially resembles *C. nigrica*, due to the black dorsum. However, the body length of *C. subbasalis* **n. sp.** is conspicuously greater than that of *C. nigrica* and the punctuation of the pronotum is quite different in these two species.

FIGURE 60. *Chaetocnema subbasalis* **sp. nov.** A Holotype, habitus. B Pronotum and peri-scutellar area. C Head, frontal view. D Aedeagus, ventral view. E Aedeagus, lateral view. F Apex of aedeagus, ventral view. G Ventral view of Holotype

Distribution: China (Yunnan).

Host plants: Unknown.

Description: Body length: 1.85–1.95 mm. Body width: 1.10–1.15 mm. Ratio of length of antenna to length of body: 0.64–0.66. Ratio of elytron length (along suture) to width (maximum): 2.10–2.15. Ratio of pronotum width (at base) to length: 1.68–1.72. Ratio of length of elytron to length of pronotum (along middle): 2.45–2.50. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.10–1.12.

Dorsum black, with slight bronzy luster. Antennomeres 1–10 completely yellow brown, 11 black brown. Tarsi and tibiae yellow brown. Pro- and mesofemora deep yellow brown. Metafemora deep brown.

Head hypognathous, finely reticulated. Frontal ridge narrow, convex. Frontolateral sulcus present. Suprafrontal sulcus shallow. Orbital sulcus, supraantennal sulci deep. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 1.05–1.10. Number of punctures on vertex: 5–6 on each side near eye. Number of punctures on orbit: 2–3 on each side. One row of punctures present on frons below frontolateral sulcus on each side. Number of setae on clypeus: approximately 24. Number of setae on labrum: 6. Anterior margin of labrum slightly convex at middle.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum present, but not prominent. Pronotal base convex. Lateral margins of pronotum slightly convex, converging forward. Anterolateral prothoracic callosity moderately developed, rounded or slightly truncate. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 1–2 times smaller than distance between them.

Elytra with slightly convex lateral sides. Elytral punctures larger than those on pronotum, arranged in single rows, including peri-scutellar row. Elytral interspaces between puncture rows slightly costate. Number of rows of minute punctures on each interspace: 2–3. Humeral callus well developed.

First male protarsomere slightly larger than second. First male protarsomere larger than that of female. Excavation on metatibia moderately deep. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

Aedeagus robust and short, extremely wide in ventral view. Apex narrowing abruptly in ventral view. Ventral longitudinal groove present. Apical denticle moderately developed in ventral view. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view evenly curved, somewhat straight near apex. Maximum curvature in lateral view situated at middle.

Type: Holotype: ♂, 1) **China:** Yunnan, Jinghong, Ganlangju alt. 700m 21.III.1957, Chinese Academy of sciences; 2) Holotype; 3) *Chaetocnema subbasalis* **sp. nov.**, Det. Shixiang Chen, 19; 4) Holotype, *Chaetocnema subbasalis* **sp. nov.**, Des. Ruan, Konstantinov & Yang. 2017. (in the ‘type collection’ of IZCAS).

40. *Chaetocnema* (*Chaetocnema*) *sumatrana* Jacoby, 1896

(Fig. 61)

Chaetocnema sumatrana Jacoby, 1896: 440. TL: Sumatra. TD: BMNH. **Lectotype designated here.**

Distribution: China, Singapore, Philippines, Indonesia (Sumatra).

Host plants: Unknown.

Description: Body length: 2.90–3.20 mm. Body width: 1.70–1.75 mm. Ratio of elytron length (along suture) to width (maximum): 2.55–2.60. Ratio of pronotum width (at base) to length: 1.70–1.75. Ratio of length of elytron to length of pronotum (along middle): 2.80–2.90. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.09–1.11.

Elytra red brown, pronotum and head deep red brown. Pronotum and head finely reticulated. Antennae completely yellow brown, with distal ones slightly darker. Color of all legs red brown, except tarsi yellow.

Head hypognathous. Frontal ridge moderately wide, slightly convex. Frontolateral sulcus present. Suprafrontal sulcus moderately developed. Shallow mid-cranial suture evident in some specimens. Supraantennal, orbital sulci not very deep. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 1.70–1.80. Three to five weak punctures present on vertex on each side near eye. Orbit narrow, glabrous, occasionally with a few small rugged punctures. Number of setae on clypeus: 15–20. Number of setae on labrum: 6. Anterior margin of labrum slightly convex.

Pronotum with two extremely obscure, barely visible longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum absent. Pronotal base convex, slightly expanded at middle. Lateral margins of pronotum straight, converging forward. Anterolateral prothoracic callosity truncate and oblique, moderately developed. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 2 to 3.5 times smaller than distance between them.

FIGURE 61. *Chaetocnema sumatrana*. **A** Lectotype, habitus. **B** Head of Lectotype, frontal view. **C** Pronotum and peri-scutellar area of Lectotype. **D** Aedeagus, ventral view (Paralectotype). **E** Aedeagus, lateral view (Paralectotype). **F** Apex of aedeagus, ventral view (Paralectotype). **G** Middle part of aedeagus, ventral view (Paralectotype). **H** Hand drawing of middle part of aedeagus, red arrow indicates wing like ridges. **I** Middle part of aedeagus, lateral view, red arrow indicates wing like ridges (Paralectotype).

Elytra generally convex at lateral sides. Elytral punctures larger than those on pronotum, arranged in single rows, including peri-scutellar row. Interspaces between striae of punctures strongly costate. Number of rows of minute punctures on each interspace: 2–3. Humeral callus well developed.

Excavation on tibia very deep, tooth before excavation long and acute.

Apex of aedeagus in ventral view narrowing gradually. Ventral longitudinal groove absent. In ventral view, apex of aedeagus streaked with oblique wrinkles and grooves, which is unique amongst Oriental *Chaetocnema* species. Apical denticle in ventral view moderately developed. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view unevenly curved, more or less straight near apex, maximum curvature in lateral view situated at base.

Types: Lectotype: 1 (BMNH), 1) Type H. T.; 2) Sumatra, PANGHERANG—PISANG, X.90–III.91, E. MODIGLIANI; 3) Jacoby Coll., 1909–28a; 4) *Chaetocnema sumatrana* Jacoby; 5) Lectotype *Chaetocnema sumatrana* Jacoby, 1896 Des. Ruan *et al.*, 2016.

Paralectotype: 2♂ (BMNH), 1) Sumatra, PANGHERANG—PISANG, X.90–III.91, E. MODIGLIANI; 2) Jacoby Coll., 1909–28a.; 3) Paralectotype *Chaetocnema sumatrana* Jacoby, 1896 Des. Ruan *et al.*, 2016.

Material: 1♂3♀, **China**, Xishuanbanna, Yunnan, VII–IX.1958, *Chaetocnema sumatrana* Jacoby, 1896 det. Ruan, 2016 (IZCAS).

Remarks: *Chaetocnema wallacei*, *C. sumatrana* and *C. montivaga* are very close to each other. *Chaetocnema wallacei* differs from *C. sumatrana* and *C. montivaga* by its larger body size. Body length of *C. wallacei* is about 4.0 mm, while *C. sumatrana* and *C. montivaga* are much smaller, usually about 3.2 mm. *Chaetocnema wallacei* could also be differentiated from the latter two species by the following characters: body obviously narrower; elytra extremely narrow and long; base of elytra hardly wider than that of pronotum; pronotum with fairly dense and minute punctures.

In *C. sumatrana* and *C. montivaga*, there are two oblique ridges on the ventro-lateral side of aedeagus. However, the oblique ridges in *C. montivaga* are much weaker than in *C. sumatrana*.

41. *Chaetocnema* (*Chaetocnema*) *taiwanensis* Chûjô, 1965 (New Status, elevated to species) (Fig. 62)

Chaetocnema tonkinensis taiwanensis Chûjô, 1965: 99; TL: China (Musha, Taiwan). TD: KMNH. (New Status, elevated to species)

Distribution: China (Taiwan).

Host plants: Unknown.

Description: Body length: 1.95–2.10 mm. Body width: 1.10–1.13 mm. Ratio of elytron length (along suture) to width (maximum): 2.62–2.65. Ratio of pronotum width (at base) to length: 1.65–1.70. Ratio of length of elytron to length of pronotum (along middle): 3.10–3.20. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.06–1.08.

Dorsum dark brown. Dorsum and head smooth and shiny, not rugose. Antennomeres 1–6 completely yellow brown, 7–11 brown. Tarsi yellow brown. Tibiae, pro- and mesofemora light brown. Metafemur dark brown.

Head hypognathous. Frontal ridge narrow and convex. Frontolateral sulcus present, with numerous punctures and white setae. Suprafrontal sulcus shallow, concave at middle. Orbital, supraantennal sulci deep. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 1.20–1.25. Number of punctures on vertex: 2–4 on each side near eye. Number of punctures on orbit: 2–3 on each side. Number of setae on clypeus: approximately 20. Number of setae on labrum: 6. Anterior margin of labrum straight.

Pronotum without longitudinal impressions near basal margin. Deep transverse row of large punctures at base of pronotum poorly developed, present laterally, absent in middle. Pronotal base convex, slightly expanded in middle. Lateral margins of pronotum evenly convex, somewhat converging forward. Both anterolateral and posterolateral prothoracic callosities poorly developed. Pronotal punctures extremely minute and shallow. Diameter of pronotal punctures 3–5 times smaller than distance between them.

Elytra with slightly convex sides. Elytral punctures many times larger than those on pronotum, arranged in single lines, including peri-scutellar row. Elytral interspaces between puncture rows costate. Number of rows of minute punctures on each interspace: 1–2. Humeral callus well developed.

Excavation on metatibia shallow. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent or poorly developed.

Type: ♂ (Holotype) (KMNH), 1) Musha Formosa 23.VI.1961; 2) Holotype; 3) *Chaetocnema (Tlanoma) tonkinensis taiwanensis* Chûjô, Det, M. Chûjô, 1962; 4) a blank yellow label.

Remarks: This species was originally published as a sub-species of *Chaetocnema tonkinensis* Chen, and was subsequently synonymized with the same species by Kimoto (1970: 208). However, based on the study of the Holotype, we conclude that it is quite distinct from *Chaetocnema tonkinensis* Chen and here we elevate it to species level. *Chaetocnema tonkinensis* has longer pronotum, darker and broader body and larger punctures along the base of pronotum compared to *C. taiwanensis*.

FIGURE 62. *Chaetocnema taiwanensis* (New status). **A** Holotype (female), habitus. **B** Head, frontal view (Holotype). **C** Head (frons and vertex), frontal view (Holotype). **D** Pronotum and peri-scutellar area (Holotype).

Chaetocnema taiwanensis also resembles *C. yiei* and *C. babai*. It can be easily distinguished from the latter two species by the narrower frontal ridge and the presence of a notch in the middle of suprafrontal sulcus. *Chaetocnema babai* is entirely black with strongly costate elytra while *C. taiwanensis* is dark brown with weakly costate elytra.

42. *Chaetocnema* (*Chaetocnema*) *tonkinensis* Chen, 1934

(Fig. 63)

Chaetocnema tonkinensis Chen, 1934: 246, 250. TL: Vietnam, Tonkin. TD: MNHN

Distribution: China: Fujian, Jiangxi (Gressitt & Kimoto, 1963), Jiangsu (Yu *et al.*, 1996), Hainan (Gressitt & Kimoto, 1963), (Chen, 1939); Vietnam (Chen, 1934, Warchalowski, 1973); Thailand (Kimoto, 2000).

FIGURE 63. *Chaetocnema tonkinensis*. **A** Male habitus. **B** Pronotum and peri-scutellar area. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view.

Host plants: Poaceae.

Description: Body length: 1.70–1.80 mm. Body width: 1.00–1.05 mm. Ratio of length of antenna to length of body: 0.65–0.68. Ratio of elytron length (along suture) to width (maximum): 2.25–2.30. Ratio of pronotum width (at base) to length: 1.70–1.72. Ratio of length of elytron to length of pronotum (along middle): 2.48–2.52. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.05–1.10.

Dorsum black, with hardly visible bronzy tinge on pronotum and head. Head finely reticulated. Antennae completely yellow brown, with distal 4 antennomeres darker. Tarsi and tibiae yellow brown. Pro- and mesofemora light brown. Metafemur black brown.

Head hypognathous. Frontal ridge narrow, convex. Frontolateral sulcus present. Suprafrontal sulcus poorly developed. Orbital, supraantennal sulci deep. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 1.15–1.20. Number of punctures on vertex: 3–5 on each side near eye. Number of punctures on orbit: 1–2 on each side. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: approximately 7. Number of setae on labrum: 6. Anterior margin of labrum slightly convex at middle.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum present, rather prominent. Pronotal base convex, expanded at middle. Lateral margins of pronotum almost straight, converging forward. Anterolateral prothoracic callosity truncate, oblique and prominent. Posterolateral prothoracic callosity poorly developed. Pronotal punctures longitudinal, weak.

Elytra with slightly convex sides. Elytral punctures larger than those of pronotum, arranged in single rows, including peri-scutellar row. Elytral interspaces between puncture rows slightly costate at sides. Number of rows of minute punctures on each interspace: 1–2. Humeral callus well developed.

First male protarsomere slightly larger than second. Excavation on metatibia moderately deep. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

Apex of aedeagus in ventral view narrowing gradually. Ventral longitudinal groove absent. Apical denticle present in ventral view. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view unevenly curved, sinusoidal. Maximum curvature in lateral view situated at base.

Material: 1♂ (USNM), **China**, Fujian, You-xi city env. WP-437/438, N 26° 17'806" E 118° 15'448", 30.V.2014, leg. A. Konstantinov.

Remarks: We could not locate the type specimen, species concept is based on original description provided by Chen (1934).

This species resembles *C. hainanensis* and *C. longipunctata*. It can be separated from *C. longipunctata* by the sparser punctures on pronotum and narrower body. It closely resembles *C. hainanensis* in the external characters, but obviously the shape of aedeagus is different.

We removed *Chaetocnema tonkinensis taiwanensis* Chûjô, 1965: 99 from synonymy with *C. tonkinensis*, as the former has been elevated to species. *Chaetocnema tonkinensis* has longer pronotum, darker body color, broader body and larger punctures along the base of pronotum.

43. *Chaetocnema* (*Chaetocnema*) *trapezoida* Ruan, Konstantinov & Yang, New Species

(Figs. 64, 65)

Etymology: This species is named after its trapezoidal pronotum. Specific epithet is a noun in apposition.

Distribution: Thailand.

Diagnosis: Based on the original description (Duvivier, 1892), *C. nagpurensis* Duvivier and *C. trapezoida* sp. nov. resemble each other superficially. However, they may be easily distinguished from each other by the body color. *Chaetocnema nagpurensis* is somewhat darker with head, prothorax and elytra bronzy, while pronotum and head in *C. trapezoida* are obviously metallic green. Interspaces between puncture rows of elytra are densely punctate and transversely wrinkled in *C. nagpurensis*, the same is finely punctate and not wrinkled (or only slightly wrinkled on peri-scutellar area) in *C. trapezoida*.

Host plants: Unknown.

FIGURE 64. *Chaetocnema trapezoida* sp. nov. Male habitus (hand drawing).

Description: Body length: 2.15–2.25 mm. Body width: 1.20–1.25 mm. Ratio of length of antenna to length of body: 0.57–0.60. Ratio of elytron length (along suture) to width (maximum): 2.45–2.50. Ratio of pronotum width (at base) to length: 1.65–1.68. Ratio of length of elytron to length of pronotum (along middle): 2.25–2.35. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.00–1.05.

Pronotum and head metallic green. Elytra metallic green to bronzy brown. Pronotum and head finely reticulate. Antennomeres 1–6 completely yellow brown, 7–11 brown. Tarsi and tibiae yellow brown. Pro- and mesofemora light brown. Metafemur dark brown.

FIGURE 65. *Chaetocnema trapezoida* sp. nov. **A** Holotype (male), habitus. **B** Pronotum and peri-scutellar area of Holotype. **C** Head of Holotype, frontal view. **D** Aedeagus of Holotype, ventral view. **E** Aedeagus of Holotype, lateral view. **F** Apex of aedeagus of Holotype, ventral view.

Head hypognathous. Frontal ridge wide, flat. Frontolateral sulcus present. Suprafrontal sulcus poorly developed, frons more or less merge with vertex. Orbital, supraantennal sulci poorly developed. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 2.20–2.30. Sides of vertex covered with numerous shallow and medium sized punctures, leaving a longitudinal area in middle impunctate. Number of punctures on vertex: 45–55 on each side of vertex. Number of punctures on orbit: 2–4 on each side. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: approximately 10–15. Number of setae on labrum: 6. Anterior margin of labrum slightly convex at middle.

Pronotum without longitudinal impressions near basal margin. Deep transverse row of large punctures at base of pronotum present laterally, absent at middle. Pronotal base convex, with middle expanded. Lateral margins of pronotum almost straight, converging forward. Anterolateral prothoracic callosity almost absent, slightly developed along lateral margin. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 1.5–3 times smaller than distance between them.

Elytra with slightly convex lateral sides. Elytral punctures larger than those on pronotum. Punctures on elytron arranged in single rows, including peri-scutellar row. Elytral interspaces between puncture rows slightly costate at sides. Number of rows of minute punctures on each interspace: 2–3. Humeral callus moderately developed.

First male protarsomere slightly larger than second. Excavation on metatibia moderately deep. Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle absent or poorly developed.

Apex of aedeagus in ventral view narrowing gradually. Ventral longitudinal groove absent or poorly developed. Apical denticle in ventral view absent. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view evenly and slightly curved, somewhat sinusoidal near apex.

Types: Holotype: ♂ (BMNH), labels: 1) Siam: Bangkok, H. Hillman, B. M. 1928–366; 2) Holotype *Chaetocnema trapezoida* sp. nov. Des Yongying Ruan *et al.*, 2016.

Paratypes: 1♂ (BMNH), labels: 1) Siam: Bangkok, H. Hillman, B. M. 1928–366; 2) Paratype; 3) *Chaetocnema trapezoida* sp. nov. Des Yongying Ruan *et al.*, 2016. 1♂ (USNM), labels: 1) Thailand: Kanchanasuri, alt. 50m, 28.vi.1989, V. Kuban leg.; 2) *Chaetocnema singala* Maulik, 1926, det. Ruan, 2016; 3) *Chaetocnema trapezoida* sp. nov. Des Yongying Ruan *et al.*, 2016.

44. *Chaetocnema* (*Chaetocnema*) *tristis* Allard, 1889

(Fig. 66)

Chaetocnema tristis Allard, 1889: 307. TL: Saigon, Vietnam. TD: MNHN.

Chaetocnema tristis (var.) *fulvocostata* Chen, 1933: 229. TL: Vietnam (Tonkin). TD: MNHN.

Distribution: China (Guangxi, Yunnan, Tibet), Vietnam, Thailand, Indonesia.

Host plants: Unknown.

Description: Body Length: 3.50–4.00 mm, body width: 2.15–2.30 mm. Ratio of elytron length (along suture) to width (maximum): 2.30–2.40. Ratio of pronotum width (at base) to length: 1.30–1.50. Ratio of length of elytron to length of pronotum (along middle): 2.50–2.60. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.15–1.20. Ratio of maximum width of elytra to maximum width of pronotum: 1.40–1.50.

Dorsum brown with obscure metallic luster, red yellow or yellow brown in some specimens. Antennomeres 1–6 completely yellow, 7–11 dark yellow to light brown. Tibiae and tarsi yellow. Pro- and mesofemora yellow. Metafemora dark brown.

Head hypognathous. Vertex unique: red yellow or red brown; highly raised, at higher plane than eye. Frontal ridge narrow, flat, slightly raised. Ratio of width of frontal ridge to width of antennal socket: 1.10–1.20. Frontolateral sulcus absent, represented by numerous large and closely placed punctures. Suprafrontal sulcus wide and deep, sinuated. Orbital sulcus deep and wide. No large punctures present on vertex, except one seta bearing supraorbital puncture adjacent to eye. A few minute punctures present on middle of vertex. Orbit extremely narrow. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: approximately 15. Number of setae on labrum: 6. Anterior margin of labrum slightly convex at middle.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum absent. Pronotal base sinuated, expanded in middle. Lateral margins of pronotum almost straight or slightly convex with maximum width near base. Anterolateral prothoracic callosity truncate and long, oblique, protruding antero-

laterally. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 2–4 times smaller than distance between them.

Elytra with convex sides, surface obviously costate between puncture rows. All rows of elytral punctures regular and single. Interspaces between striae of punctures with 2–4 rows of minute punctures. Humeral callus well developed. Width of elytral base greater than width of pronotal base

First male protarsomere slightly larger than second. Excavation on metatibia very deep. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

FIGURE 66. *Chaetocnema tristis*. **A** Male habitus. **B** Pronotum and peri-scutellar area. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female. **J** Tignum.

Apex of aedeagus in ventral view gradually narrowing. Ventral longitudinal groove poorly developed. Apical denticle in ventral view small and acute. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view unevenly curved, maximum curvature situated basally.

Spermathecal receptacle flask-shaped. Basal part of spermathecal duct straight. Spermathecal pump much shorter than receptacle, with flat apex. Receptacle basally much wider than apically. Apex of vaginal palpus rounded, with lateral margin slightly convex. Middle part of vaginal palpus obviously narrowed. Anterior end of anterior sclerotization rounded.

Type: *Chaetocnema tristis* (var.) *fulvocostata* Chen: ♂ (Holotype) (MNHN): 1) Museum Paris, Laos, Ou Cam-bodge, Bonnotte, 1911. 2) Type. 3) *C. tristis fulvocostata*, S. H. Chen det.

Material: 1♀, **China:** Guangxi, Yangsuo, 24.VIII.1937; 1♀, **China:** Yunnan, Xishuanbanna, Xiaomenyang, alt. 850m, 17.VII.1957, leg. Shuyong Wang, *Chaetocnema tristis* det. Peiyu Yu; 1♀, **China:** Motuo, Gelin, Xizang, 19.V.1983. leg. Zai Lin, *Chaetocnema* sp., (IZCAS); 1♀, **Vietnam:** Tonkin, *Chaetocnema tristis* det. S. H. Chen; 1 (USNM), **Vietnam:** Buon Loi, 40km W Ankne, alt. 600m, IV.1981, leg. Medvedev *et al.*, *Chaetocnema tristis* det. Med.; 1 (MNHN), **Vietnam,** Reg. De Luc–Nam (Tonkin), L. Blaise, Museum Paris, Coll. L. Bedel, 1922, *Chaetocnema tristis* All., S. H. Chen det.; 1 (BMNH), NW **Thailand**, 19°19'N, 97°59'E, Mae Hong Son, 1991, San Huai Po, 1600–2000m, 17.–23.5., L. Dembicky leg., BMNH(E), 2002–150, *Chaetocnema* spp. det. K. Nadein 2007, *Chaetocnema tristis* Allard, 1889, Det. Yongying Ruan, 2016.

Remarks: *Chaetocnema tristis* is very close to *C. simplicifrons* in the shape of spermatheca and pygidium. However, *C. tristis* (length 3.5–4.0 mm) is distinctly larger than *C. simplicifrons* (length 1.65–1.8 mm).

45. *Chaetocnema* (*Chaetocnema*) *wallacei* Baly, 1877

(Fig. 67)

Chaetocnema wallacei Baly, 1877: 171. TL: Malakka. TD: BMNH. **Lectotype designated here.**

Chaetocnema subcostata Jacoby, 1889: 203. TL: Myanmar. TD: MCZC. (**Syn. Nov.**)

Chaetocnema vietnamica Medvedev, 2009: 50 [nec. *Chaetocnema vietnamica* Chen & Wang, 1980: 4]. (**Syn. Nov.**)

Distribution: China (Taiwan), Myanmar, Peninsular Malaysia (Mohamedsaid, 2004), Singapore, Philippines.

Host plants: Pepper (Piperaceae: *Piper nigrum* L.) (label data on a single specimens in BMNH).

Description: Body length: 3.50–4.50 mm. Body width: 1.70–1.90 mm. Ratio of length of antenna to length of body: 0.60–0.65. Ratio of elytron length (along suture) to width (maximum): 2.55–2.65. Ratio of pronotum width (at base) to length: 1.70–1.75. Ratio of length of elytron to length of pronotum (along middle): 2.60–2.70. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.02–1.05.

Body unicolorous, red brown to deep brown, with slight bronzy luster on pronotum and head. Pronotum and head finely reticulated. Antennae completely yellow brown, with distal ones slightly darkened. Pro- and mesofemora red brown, color slightly deeper than tibiae. Metafemora deep reddish brown, color deeper than pro- and mesofemora.

Head hypognathous. Frontal ridge narrow and convex. Frontolateral sulcus present. Suprafrontal sulcus weak. Orbital sulcus deep. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 1.75–1.80. Four to six weak punctures on vertex on each side near eye. Numerous of rugged punctures scattered on orbit. Number of setae on clypeus: approximately 25. Number of setae on labrum: 6. Anterior margin of labrum flat or slightly convex in middle.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum absent. Pronotal base convex, slightly expanded at middle. Lateral margins of pronotum almost straight, converging forward. Anterolateral prothoracic callosity truncate, oblique and long. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 1.5 to 2 times smaller than distance between them.

Elytra gently convex at lateral sides. Elytral punctures distinctly larger than those on pronotum. Elytral punctures arranged in single rows, including peri-scutellar row. Interspaces between striae of punctures smooth and costate. Number of rows of minute punctures on each interspace: 2–3. Humeral callus well developed.

First male protarsomere slightly larger than second, larger than that of female. Excavation on metatibia moderately deep. Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle absent.

Apex of aedeagus in ventral view narrowing gradually with obscure polygonal impressions laterally. Ventral

longitudinal groove absent. Apical denticle in ventral view poorly developed. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view unevenly curved, more or less straight near apex, maximum curvature in lateral view situated at base.

Spermathecal receptacle pear-shaped. Spermathecal duct coiled. Spermathecal pump much shorter than receptacle, with cylindrical apex. Vaginal palpus (before apex) narrowing from base till middle, thence approximately parallel-sided. Anterior sclerotization of vaginal palpus slightly widening anteriorly. Posterior sclerotization longer than wide. Anterior sclerotization wider than posterior.

Types: Lectotype of *Chaetocnema wallacei* Baly: 1 male (BMNH), 1) Type H.T.; 2) MT. Ophir, 4000; 3) Baly Coll.; 4) *Chaetocnema wallacei* Baly, Malacca; 5) Lectotype *Chaetocnema wallacei* Baly, 1877 Des. Ruan *et al.*, 2016.

FIGURE 67. *Chaetocnema wallacei*. **A** Lectotype, habitus. **B** Head (Lectotype), frontal view. **C** Lectotype, pronotum. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Vaginal palpi. **G** Spermatheca. **H** Pygidium (tergite 7) of female.

Material: 1♀ (USNM, probable type material used for original description by Baly), **Singapore**, G. Lewis, 1915–38, *Chaetocnema wallacei* Baly (in regular white label), *Chaetocnema wallacei* Baly (in red label). 1 (BMNH), Baly coll. 1 (BMNH), Ex. F. M. S. Museum, B. M. 1955–354, **Singapore** S. S., Dec: 1922, H. C. Alsham; 2 (BMNH), **Singapore**, G. Lewis, 1915–28; 1 (BMNH), **Singapore**, 96–10; 2 (BMNH), **Singapore**, 22.XI–19, XII.1915, Dr. M. Cameron; 11 (BMNH), **Singapore**, C. J. Saunders, B. M. 1933–227. 1 (BMNH), PAHANG F.M.S., Kuala, jungle c 350', Nov.25, 1921, H. M. Pendlebury, Ex F.M.S. Museum, B. M. 1955–354, *Chaetocnema wallacei* Baly, Det. G. E. Bryant; 1 (BMNH), Malay Penin: Selangor, F.M.S., Kuala Lumpur, July 26, 1922, H. M. Pendlebury; 1 (BMNH), Perak F.M.S., Larut Hills, 3700–4000ft, 11 Feb: 1932, H. M. Pendlebury, Ex F.M.S. Museum, B. M. 1955–354; 1 (BMNH), Malay Penin, Kuala Lumpur, Aug: 22nd, 1920, Ex F.M.S. Museum, B. M. 1955–354; 1 (BMNH), Malaya, Kuala Lumpur, Oct. 2nd, 1934, Ex F.M.S. Museum, B. M. 1955–354; 1 (BMNH), Selangor, F.M.S., Kuala Lumpur, April 1st, 1923, H. M. Pendlebury, Ex F.M.S. Museum, B. M. 1955–354; 1 (BMNH), Malay Penin, PAHANG, F.M.S., Kuala, 300', Nov. 27, 1921, Ex F.M.S. Museum, B. M. 1955–354; 1 (BMNH), Malaya, Kuala Lumpur, Nr. L. Gardens, Coll. H. M. Pendlebury, 25–8–1935, Ex F.M.S. Museum, B. M. 1955–354; 1 (BMNH), Perak F.M.S., Larut Hills, 4500ft, 21 Feb: 1932, H. M. Pendlebury, Ex F.M.S. Museum, B. M. 1955–354; 1 (BMNH), Selangor, F.M.S., Kuala Lumpur, Aug. 12, 1922, H. M. Pendlebury, *Chaetocnema wallacei* Baly, Det. G. E. Bryant; 1 (BMNH), SIAM, KWAI NOI, WAN PO, JUNE 1943, E.J.H. BERWICK, *Chaetocnema wallacei* Baly, Det. G. E. Bryant, Brit. Mus., 1954–365; 3 (BMNH), Mt. Matang, W. Sarawak, G. E. Bryant, XII.1913, G. Bryant Coll., 1919–147; 2 (BMNH), Sarawak: C. J. Brooks, B. M. 1928–193; 1 (BMNH), Quop, W. Sarawak, III–IV.1914, G. E. Bryant, G. Bryant Coll., 1919–147; 1 (BMNH), Sarawak: Taiton Bav, pepper, 8–4–63, Coll. R. Lav., *Chaetocnema wallacei* Baly, Det. Yongying Ruan, 2016; 3♂4♀ (USNM), **Singapore**, Col. Baker, 1927, *Chaetocnema sumatrana*, det. Medvedev; 4♂5♀ (USNM), **Singapore**, Col. Baker, 1927, Baker Colln 1927; 1♂2♀ (USNM), **Philippines**, Mt. Makiling, Luzon, leg. Baker, 1927, *Chaetocnema sumatrana*, det. Medvedev; 1♀ (USNM), Malaya Selangor, 16miNof Kuala Lumpur, Mar 1949, RTraub, BInsoll, NLHKrauss, Col'n, *Chaetocnema* sp. det. A. Konstantinov, *Chaetocnema sumatrana* det. Yongying Ruan, 2016.

Remarks: Based on the study of the original description and photos of Syntype of *Chaetocnema subcostata* (provided by MCZC), we treat *C. subcostata* and *C. wallacei* as conspecific.

Medvedev (2009) did not illustrate *Chaetocnema vietnamica* Medvedev. However, from the original description, it is clear that *C. vietnamica* Medvedev is conspecific with *C. wallacei*. More over, *C. vietnamica* Medvedev is a junior homonym of *C. vietnamica* Chen & Wang, 1980.

Chaetocnema wallacei closely resembles *C. montivaga* and *C. sumatrana*. *Chaetocnema wallacei* can be easily differentiated from *C. sumatrana* and *C. montivaga* by its larger body size, and narrower body shape. Body length of *wallacei* is about 3.5–4.5 mm, while *C. sumatrana* and *C. montivaga* are much smaller (about 2.9–3.2 mm long). In *C. sumatrana* and *C. montivaga*, there are two oblique ridges on the ventro-lateral side of aedeagus. However, the oblique ridges in *C. montivaga* are much weaker than in *C. sumatrana*.

46. *Chaetocnema* (*Chaetocnema*) *warchalowskii* Döberl, 2009

(Fig. 68)

Chaetocnema punctatula Warchalowski, 1973: 48 [nec. *Chaetocnema punctatula* Mulsant & Rey, 1874: 222]. TL: Pakistan, TD: Warchalowski collection.

Chaetocnema warchalowskii Döberl, 2009: 22 (new name for *Chaetocnema punctatula* Warchalowski, 1973)

Distribution: China (Taiwan) (Döberl, 2010); India, Bhutan, Pakistan, Malaysia.

Host plants: Unknown.

Description (based on examined specimens): Body length 1.30–1.65 mm; width 0.65–0.85 mm. Ratio of elytron length at suture to maximum width, 2.08–2.10. Ratio of pronotum width at base to length at middle, 1.70–1.75. Ratio of length of elytron at suture to length of pronotum at middle, 2.55–2.58. Ratio of width of both elytra at base to width of pronotum at base, 1.15–1.17. Ratio of maximum width of both elytra to maximum width of pronotum, 1.40–1.43.

Dorsum shiny black, without metallic luster. Antennomeres 1–4 completely yellow, 5 partially brown. Tibiae yellow. Pro- and mesofemora yellow brown. Metafemur black or dark brown.

Head hypognathous. Frontal ridge narrow and convex. Frontolateral sulcus present. Suprafrontal sulcus shallow

and faint, obcordate. Ratio of width of frontal ridge between outer ridge of antennal sockets to width of antennal socket, 1.40–1.45. Frons with numerous relatively long setae situated on punctures near fronto-lateral sulcus, which is a major difference in comparison with the closely related *C. nigrica*. Vertex flat, situated on same level as orbit. Surface of vertex without punctures, except 2–3 on each side near eye.

Base of pronotum without longitudinal impressions. Deep transverse row of large punctures at base of pronotum present throughout. Pronotal base slightly expanded in middle. Scutellar row of elytral punctures single and regular. Second to eleventh rows of punctures at base of elytron regular. Humeral callus well developed.

Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

FIGURE 68. *Chaetocnema warchalowskii*. **A** Male habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female.

Apex of aedeagus in ventral view narrowing gradually. Ventral longitudinal groove of aedeagus absent or poorly developed. Apical denticle of aedeagus in ventral view absent or obsolete. Apex of aedeagus slightly curved ventrally in lateral view. Minute, transverse wrinkles on ventral side of aedeagus absent. Aedeagus in lateral view nearly straight at base and middle, slightly curved ventrally at apex.

Spermathecal pump much shorter than receptacle, with apex flattened. Spermathecal receptacle oblong, bent distally. Apex of vaginal palpus evenly rounded. Vaginal palpus narrowing from base till middle, thence slightly widening towards apex. Anterior sclerotization of vaginal palpus slightly widening anteriorly. Anterior end of anterior sclerotization broadly rounded. Posterior sclerotization longer than wide. Width of posterior sclerotization about as great as that of anterior.

Material: 1♂1♀ (USNM), **Malaysia**, Sabah, VII–VIII.1983, leg. G. F. Hevel & W. E. Steiner; 1♂1♀ (USNM), **Bhutan**, Damphu 16.IX.2005, wp–108, leg. K. Mahat, P. Loday, A. Konstantinov & K. D. Prathapan; 1♂6♀ (USNM), **Bhutan**, env. Punakha, N 27 36.35 E 89 52.43, 19.IX.2005, 1400m, Leg. K. Mahat, K. D. Prathapan; 1♂3♀ (USNM), South **India**, Western Ghats Karnataka Prov, env. Mudigere, 14.XI.2003, 904m, river, leg. Konstantinov, Prathapan, Saluk; 1 (BMNH), **Pakistan**: N.W.F. Swat Valley, 15miSW Barikot, 16 October 1977, Collectors: Gary F. Hevel & Mushtaq Ahmad, *Chaetocnema* det. A. Konstantinov, *Chaetocnema warchalowskii* Döberl det. Yongying Ruan, 2016.

Remarks: Type specimens are not available for this study, species concept is based on the original description and illustration of aedeagus provided by Warchalowski (1973).

C. warchalowskii closely resembles *C. nigrica* in external characters, but they may be distinguished from each other by the difference in punctation on frons (in *C. warchalowskii*, frons more densely punctate above clypeus). Moreover, aedeagus in *C. warchalowskii* is thinner in lateral view compared to that in *C. nigrica*. Apex of aedeagus in *C. warchalowskii* is gradually narrowed, while the same in *C. nigrica* is abruptly narrowed.

This species also resembles *C. resplendens*, from which it can be separated by shorter antennae, yellow pro- and mesofemur and shape of the aedeagus. In *C. warchalowskii*, antennae reach only slightly beyond humeral callus; while in *C. resplendens*, the antennae are longer and extend beyond middle of the elytra.

Chaetocnema warchalowskii resembles *C. yaosanica* Chen in the punctation on clypeus. However, they can be easily separated by the difference in punctures on pronotum and the shape of aedeagus.

47. *Chaetocnema* (*Chaetocnema*) *yaosanica* Chen, 1939

(Fig. 69)

Chaetocnema yaosanica Chen, 1939: 31. TL: China, Guangxi. TD: IZCAS.

Distribution: China (Fujian, Guangxi, Yunnan), Malaysia.

Host plants: Unknown.

Description: Body length 1.50–1.75 mm; width 0.75–0.95 mm. Ratio of elytron length at suture to maximum width, 2.10–2.20. Ratio of pronotum width at base to length at middle, 1.60–1.70. Ratio of length of elytron at suture to length of pronotum at middle, 2.50–2.55. Ratio of width of both elytra at base to width of pronotum at base, 1.10–1.16. Ratio of maximum width of both elytra to maximum width of pronotum, 1.35–1.45.

Dorsum shiny black, almost without metallic luster. Antennomeres 1–6 completely yellow, 7–11 yellow brown. Pro- and mesolegs, hind tibia and tarsi completely yellow. Metafemur dark brown.

Head hypognathous. Frontal ridge narrow and convex. Frontolateral sulcus present. Suprafrontal sulcus shallow and faint, obcordate. Ratio of width of frontal ridge between outer ridge of antennal sockets to width of antennal socket, 1.20–1.25. Frons with numerous relatively long setae situated on punctures near fronto-lateral sulcis, which is similar to those in *C. warchalowski* and *C. resplendens*. Vertex flat, situated on same level as orbit, without punctures, except 2–3 on each side near eye.

Base of pronotum without longitudinal impressions. A deep row of large punctures present along basal margin of pronotum. Pronotal base slightly expanded in middle. Elytron with scutellar row of punctures single and regular. Second to eleventh rows of punctures regular at base of elytron. Humeral callus well-developed.

Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

Apex of aedeagus in ventral view narrowing gradually, truncate. Ventral longitudinal groove of aedeagus absent or poorly developed. Apical denticle of aedeagus in ventral view long, flattened on top. Apex of aedeagus slightly

curved ventrally in lateral view. Minute, transverse wrinkles on ventral side of aedeagus absent. Aedeagus in lateral view nearly straight at base and middle, slightly curved ventrally at apex.

Spermathecal pump much shorter than receptacle, with apex flattened. Spermathecal receptacle longer than wide, barrel shaped, weakly sinuate. Receptacle widest near base. Base of receptacle narrower than apex. Apex of vaginal palpus evenly rounded. Vaginal palpus narrowing from base till middle, thence slightly widening towards apex. Anterior sclerotization of vaginal palpus slightly widening anteriorly. Anterior end of anterior sclerotization broadly rounded. Posterior sclerotization longer than wide. Posterior sclerotization about as wide as anterior.

FIGURE 69. *Chaetocnema yaosanica*. **A** Male habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female. **J** Head, frontal view.

Type: 1♀ (Holotype, in IZCAS): 1) China, Yaosan, Guangxi. 2) *Chaetocnema yaosanica*. 3) Holotype. 4) *Chaetocnema yaosanica* **sp. nov.** Sicien Chen.

Material: 1♂ (IZCAS), **China**, Fujian, Huangkeng, 3.VII.1980, leg. Bangkan Huang; 1♂ (IZCAS), **China**, Fujian, Huangkeng, Dazhulan to Xianfengling, 28.V.1960, alt. 950–1170m, leg. Yong Zuo; 3♂6♀ (IZCAS), **China**, Fujian, Chong An, Xingcun, 4.V.1960, alt. 1170m, leg. Yong Zuo; 1♂2♀ (IZCAS), **China**, Fujian, Dazhulan, 15–20.VI.1948; 15 (IZCAS), **China**, Fujian, Wuyishan, Guanping, IZCAS, 1997.VII.28, *Chaetocnema yaosanica* Chen det. Shuyong Wang; 72 specimens (IZCAS), **China**, Fujian, Dazhulan, 15–20.VI.1948, IZCAS, *Chaetocnema yaosanica* Chen; 5 specimens (IZCAS), **China**, Fujian, 15.IV.1948, IZCAS, *Chaetocnema yaosanica* Chen det S.H. Chen; 1♂ (IZCAS), **China**, Guangxi, Huaping, Anjiaping, 1.VIII.2006, leg. Meiyong Lin; 1♀ (IZCAS), **China**, Yunnan, Mengla, 20.IV. 1982, leg. Shengqiao Jiang; 1♀ (USNM), **Malaysia**, Banguay, b. Borneo, *Ch. sticta* Motch.

Remarks: This species closely resembles *C. warchalowskii* in the punctation on frons near clypeus and they can be differentiated by differences of punctures on pronotum and shape of aedeagus. This species also resembles *C. resplendens* that has narrower body, darker color and round punctures on frons (punctures on frons somewhat rugged in *C. yaosanica*).

48. *Chaetocnema (Chaetocnema) yiei* Kimoto, 1970

(Fig. 70)

Chaetocnema yiei Kimoto, 1970: 208. TL: Taiwan. TD: KUZC.

Chaetocnema ebenina Warchalowski, 1973: 47. TL: Cha Pa, Laokay, Vietnam. TD: Warchalowski collection. (**Syn. Nov.**)

Distribution: China (Taiwan), Vietnam, India.

Host plants: Unknown.

Description: Body length: 1.65–1.85 mm. Body width: 0.95–1.10 mm. Ratio of length of antenna to length of body: 0.55–0.65 mm. Ratio of elytron length (along suture) to width (maximum): 2.20–2.25. Ratio of pronotum width (at base) to length: 1.75–1.80. Ratio of length of elytron to length of pronotum (along middle): 2.65–2.70. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.04–1.06.

Dorsum brown, with coppery luster.

Head hypognathous. Frontal ridge wide and flat, without punctures. Frontolateral sulcus present. Suprafrontal sulcus poorly developed. Orbital sulcus deep. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 2.00–2.15. Number of punctures on vertex: 7–8 on each side near eye. Number of punctures on orbit: 0–1 on each side. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: approximately 25. Number of setae on labrum: 6. Anterior margin of labrum slightly convex in middle.

Pronotum without longitudinal impressions near basal margin. A deep row of large punctures present at base of pronotum. Pronotal base evenly convex. Lateral margins of pronotum slightly convex, converging forward. Anterolateral prothoracic callosity somewhat truncate, weak. Posterolateral prothoracic callosity poorly developed. Pronotal punctures distinctly longitudinal, sparse and minute.

Elytra with lateral sides slightly convex. Elytral punctures larger than those on pronotum, arranged in single rows, scutellar row regular and single. Interspaces between striae of punctures smooth and glabrous. Number of rows of minute punctures on each interspace: 2. Humeral callus well developed.

First male protarsomere slightly larger than second.

Apex of aedeagus in ventral view narrowing gradually. Ventral longitudinal groove absent or poorly developed. Apical denticle distinct, weak, rounded. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view moderately curved at base, almost straight near apex.

Types: ♂ (Holotype) (KUEC): 1) (**Taiwan**) Nanshanchi Nantou Hisien; 2) 30.vi.1965 S. Kimoto; 3) Japan—U. S. Co-op. Sci. Programme; 4) Holotype; 5) *Chaetocnema (Tlanoma) yiei* Kimoto, **sp. nov.**

1♂2♀ (Paratypes) (KMNH), 1) 30.vi.1965, S. Kimoto; 2) (**Taiwan**) Nanshanchi Nantou Hisien; 2) 30.vi.1965 S. Kimoto; 3) Japan—U. S. Co-op. Sci. Programme; 4) Paratopotype; 5) *Chaetocnema (Tlanoma) yiei* Kimoto, **sp. nov.**

Material: 3 (BMNH), H. L. Andrewes, Nilgiri Hills (**India**), Andrewes, Bequest, B. M. 1922–221, (near) *Chaetocnema yiei* Kimoto, 1991, Det. Yongying Ruan, 2016.

Remarks: *C. yiei* resembles *C. nigrilata* **sp. nov.**, and it can be differentiated from the latter by smaller size (*C. yiei* 1.65–1.85 mm; *C. nigrilata* 1.85–1.95 mm), lighter body color, and aedeagus slender in lateral view.

Despite concerted efforts, we could not examine the type of *C. ebenina*. However, based on the original description and illustration of aedeagus provided by the author (Warchalowski, 1973), we synonymize *C. ebenina* with *C. yiei*.

FIGURE 70. *Chaetocnema yiei*. **A** Holotype, habitus. **B** Pronotum and peri-scutellar area of Holotype. **C** Head of Holotype, frontal view. **D** Aedeagus (Paratype), ventral view. **E** Aedeagus (Paratype), lateral view. **F** Apex of aedeagus (Paratype), ventral view. **G** Vaginal palpi (Paratype). **H** Spermatheca (Paratype). **I** Pygidium (tergite 7) of female (Paratype).

49. *Chaetocnema* (*Chaetocnema*) *yonyonae* Chen, 1934

Chaetocnema yonyonae Chen, 1934: 246. TL: Vietnam (Tonkin). TD: MNHN.

Distribution: Vietnam (Tonkin).

Host plants: Unknown.

Description (after Chen 1934): Body length 2.5 mm. Antennae stout, pronotum with posterior angle rounded, somewhat produced. Body ovate, rather strongly narrowed behind. Shining metallic blue, with the pronotum slightly green; four basal antennomeres and legs dark red-brown; apical antennomeres piceous; posterior femora metallic.

Head finely granulose, very sparsely and finely punctate, with frontal transverse depression very shallow and clypeus with a few setae on each side. Antennae reach a little beyond humeral calli, second antennomere thicker but not shorter than the third or fourth, each of the following antennomeres slightly longer than fourth and thicker than most other species of the genus. Pronotum finely and very closely reticulate, covered with moderately strong but fairly close punctation, basal transverse row of punctures absent; lateral margins converging in front; posterior angles rounded, somewhat produced. Scutellum semi-circular, impunctate. Elytra rather strongly punctate, punctures very regularly arranged; interstices distinctly and closely punctate, lateral ones subcostate.

Remarks: We could not locate the type in MNHN. Based on the original description, this species closely resembles *C. yunnanica* in almost all aspects. However, in *C. yonyonae*, the vertex is punctate in the middle and not raised (in *C. yunnanica*, vertex is impunctate in the middle and distinctly raised). This species can be separated from its other Oriental congeners by the strongly narrowed hind part of the body and the strongly and very closely punctate elytral interspaces (Chen, 1934).

50. *Chaetocnema* (*Chaetocnema*) *yulongensis* Ruan, Konstantinov & Yang, 2014

(Fig. 71)

Chaetocnema (*Chaetocnema*) *yulongensis* Ruan, Konstantinov & Yang, 2014: 67. TL: China (Yunnan); TD: IZCAS.

Distribution: China (Yunnan).

Host plants: Unknown.

Description: Body length: 1.66–2.15 mm. Body width: 0.92–1.17 mm. Ratio of length of antenna to length of body: 0.60–0.61. Ratio of elytron length (along suture) to width (maximum): 2.54–2.65. Ratio of pronotum width (at base) to length: 1.72–1.73. Length of elytron to length of pronotum (along middle): 3.25–3.30. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.10–1.15. Ratio of maximum width of elytra to maximum width of pronotum: 1.41–1.43.

Dorsum coppery. Antennomere 1 partially dark brown, 2–4 completely yellow, 5 partially brown, 6–11 brown. Protibia partially brown. Meso- and metatibia partially brown. All femora brown.

Head hypognathous. Frontal ridge narrow and convex. Frontolateral sulcus present. Orbital sulcus deep. Suprafrontal sulcus deep laterally, shallow in middle. Suprafrontal sulcus obcordate. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 0.86–0.90. Ratio of width of orbital sulcus to width of frontolateral sulcus: 0.54–0.61. Number of punctures on vertex: 8–12. Number of punctures on orbit: 2. Number of setae along frontolateral sulcus: 8–9. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): 0. Number of setae on clypeus: 7. Number of setae on labrum: 6. Anterior margin of labrum slightly concave in middle.

Pronotum with two obscure longitudinal impressions visible only near basal margin. Deep row of large punctures near basal margin of pronotum distinct laterally, absent in middle. Pronotal base evenly convex. Lateral margins of pronotum slightly convex, converging forward. Anterolateral prothoracic callosity protruding laterally, forming rounded anterolateral corners. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 2 to 4 times smaller than distance between them.

Elytra with convex sides. All elytral rows of punctures, including peri-scutellar, regular and single. Humeral callus well developed. Interspaces between striae of punctures smooth and glabrous. Number of rows of minute punctures on each interspace: 2.

First male protarsomere slightly larger than second. First male protarsomere, length to width ratio: 1.64–1.70.

Ratio of length of first and second male protarsomeres: 1.57–1.62. Ratio of width of first and second male protarsomeres: 1.03–1.04. First male protarsomere, width at apex to width at base ratio: 1.53–1.58. Ratio of length of metatibia to distance between denticle and metatibial apex: 2.38–2.41. Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle present, obtuse. First male metatarsomere, length to width ratio: 2.63–2.73. First and second male metatarsomeres, length to length ratio: 1.91–2.04. First and second male metatarsomeres, width to width ratio: 0.93–0.96. Third and fourth male metatarsomeres, length to length ratio: 0.60–0.61.

FIGURE 71. *Chaetocnema yulongensis*. **A** Male habitus (Holotype). **B** Prothorax, dorsal view. **C** Head, frontal view. **D1–D2** Aedeagus, ventral view; **D3** Aedeagus, lateral view. **E** Apex of Aedeagus, dorsal view. **F** Vaginal palpi. **G** Spermatheca. **H** Tignum.

Apical third of aedeagus narrowing with polygonal marks on sides. Apex in ventral view narrowing abruptly. Ventral longitudinal groove absent. Apical denticle in ventral view absent. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view evenly and slightly curved with apex sinuated. Maximum curvature in lateral view situated medially.

Spermathecal receptacle oblong. Basal part of spermathecal duct straight. Spermathecal pump much shorter than receptacle, with cylindrical apex. Receptacle basally wider than apically. Posterior sclerotization of tignum spoon-shaped, wider than mid-section. Mid-section of tignum nearly straight. Anterior sclerotization of tignum narrower than mid-section. Apex of vaginal palpus subtriangular, with lateral margins slightly convex. Vaginal palpus narrowing from base till middle, thence slightly widening towards apex. Anterior sclerotization of vaginal palpus narrowed at apex and base, widened in middle. Anterior end of anterior sclerotization narrowly rounded. Anterior sclerotization wider than posterior.

Type: ♂ (Holotype, in IZCAS), 1) **China:** Yulong Mountain, Lijiang, Yunnan, alt. 2700m. 2) 1984.VII.21, leg. Shuyong Wang; 3) Holotype, *Chaetocnema yulongensis* **sp. nov.**, Des. Ruan, Konstantinov & Yang, 2014.

Paratypes: 8♂10♀ (IZCAS, 1♀ in USNM), **China:** Yulong Mountain, Lijiang, Yunnan, alt. 2700m, 1984.VII.21, leg. Shuyong Wang; 2♂5♀ (IZCAS, 1♂ in USNM), **China,** Gezan, Zhongdian, Yunnan, alt. 3150m, 1981.VIII.4, leg. Shuyong Wang; 1♂5♀ (IZCAS), **China,** Xiaozhongdian, Yunnan, alt. 2500–3200m, 1984.VIII.5, leg. Shuyong Wang; 4♀ (IZCAS, 1♀ in USNM), **China,** Lidiping, Weixi, Yunnan, alt. 3400m, 1984.VIII.13, leg. Shuyong Wang; 1♂ (IZCAS), **China,** Fengyi, Yunnan, alt. 2000m, 1955.VI.1, leg. B. Popov; 2♂ (IZCAS), **China,** Xiaguan, Yunnan, alt. 2050m, 1955.V.30, leg. B. Popov; 6♂ (SYSU), **China,** Kunming, Yunnan, alt. 1900m, 1940.VII.4, leg. J. L. Gressitt.

Remarks: *C. yulongensis* and *C. deqinensis* are extremely alike externally, but differ well in the shape of the aedeagus. In *C. yulongensis*, maximum curvature of the aedeagus in lateral view is situated medially; apical end of the aedeagus is narrowly rounded and the suprafrontal sulcus is obtuse in middle. In *C. deqinensis*, maximum curvature of the aedeagus is situated apically; the apex of aedeagus is broadly rounded and the suprafrontal sulcus is absent in the middle.

51. *Chaetocnema* (*Chaetocnema*) *yunnanica* Heikertinger, 1951 (New Status, elevated to species) (Fig. 72)

Chaetocnema discreta yunnanica Heikertinger, 1951: 205. TL: China, “Yunnan, Vallis flumin. Soling-ho”. TD: NHMB. (New Status, elevated to species)

Distribution: China (Yunnan).

Host plants: *Rubus* sp. (new record here).

Description: Body length 2.00–2.40 mm, body width 1.10–1.30 mm. Ratio of elytron length (along suture) to width (maximum): 2.30–2.50. Ratio of pronotum width (at base) to length: 1.80–1.82. Ratio of length of elytron to length of pronotum (along middle): 3.0–3.1. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.10–1.15. Ratio of maximum width of elytra to maximum width of pronotum: 1.40–1.50.

Elytron blue to blue brown. Pronotum metallic blue. Antennomeres 1–2 partially dark brown, 3–4 partially brown, 5–11 completely brown. Tibiae partially brown. Profemora light brown. Mesofemora light brown or brown. Metafemora dark brown.

Head hypognathous. Frontal ridge narrow and convex. Frontolateral sulcus present. Suprafrontal sulcus shallow and faint, straight to shallowly retuse. Ratio of width of frontal ridge to width of antennal socket: 1.50–1.55. Frons with long setae laterally. Vertex strongly raised, situated well above level of orbit. Vertex with 9–14 weak punctures bearing seta on each side near eye. One strong puncture bearing long seta situated on each side of supraorbital sulcus.

Base of pronotum without longitudinal impressions. Deep row of large punctures at base of pronotum absent. Pronotal base moderately expanded in middle. Area adjacent to mid basal margin of pronotum covered with punctures. Pronotum without shallow transverse impression near base. Lateral margins of pronotum slightly convex, strongly converging forward. Anterolateral prothoracic callosity protruding forward, acutely angulate. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 2 to 4 times smaller than distance between them.

Elytra with convex lateral sides. Elytral punctures larger than those of pronotum. Scutellar row of punctures confused or more than one. Second row of punctures confused near elytral base. Third to eleventh rows of punctures regular. Humeral callus well developed.

Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle present, obtuse. Dorsal surface of metatibia proximal to denticle concave.

FIGURE 72. *Chaetocnema yunnanica* (New status). **A** Habitus. **B** Pronotum and peri-scutellar area. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female. **J** Tignum. **K** Head, lateral view, indicating strongly raised vertex.

Apical third of aedeagus narrowed in lateral view. Distal end of aedeagus in ventral view narrowing abruptly, forming angular apex. Ventral longitudinal groove of aedeagus absent or poorly developed. Apical denticle of ae-

deagus in ventral view absent. Minute transverse wrinkles on ventral side of aedeagus absent. Aedeagus in lateral view evenly and slightly curved. Maximum curvature of aedeagus in lateral view situated medially.

Spermathecal pump much shorter than receptacle, with cylindrical apex. Spermathecal receptacle pear-shaped. Maximum width of receptacle situated basally. Receptacle basally wider than apically. Apex of vaginal palpus subtriangular, with lateral margin slightly convex. Vaginal palpus narrowing from base till middle, thence slightly widening towards apex. Anterior sclerotization of vaginal palpus slightly widening anteriorly. Anterior end of anterior sclerotization broadly rounded. Posterior sclerotization longer than wide. Posterior sclerotization about as wide as or wider than anterior.

Types: ♀ (Holotype) (NHMB): 1) Vallis flumin, Soling-ho, Yun.; 2) *discreta yunnanica* det. Heikertinger Holotypus; 3) *discreta yunnanica* m. Typus; 4) 1953 Coll. Heikertinger.

Material: 10♂15♀, **China**, Yunnan, Lushui, leg. Shuyong Wang, 8.VI.1981, alt. 1900m, **host plant:** *Rubus* sp.; 3♂8♀, **China**, Yunnan, Jingping, Changpotou, leg. Keren Huang *et al.*, 23.V.1956, alt. 1200m; 2♀, **China**, Yunnan, Xishuanbanna, Menhun, leg. Shuyong Wang, 30.VI.1958, alt. 870m; 1♀, **China**, Yunnan, Xishuanbanna, Menhun, leg. Xuwu Meng, 21.V.1958, alt. 1200m; 2♂4♀ (USNM), **China**, Yunnan, 60 km W Baoshan, nr. Pumanshao, 3–VI–2012, N24.55°, E98.47°, Alt. 1925m, WP–343, leg. A. Konstantinov.

Remarks: *C. yunnanica* was described by Heikertinger (1951) as a subspecies of *C. discreta* (*C. puncticollis*). However, it differs from *C. puncticollis* by the shape of pronotum and aedeagus. More over, its dorsum is invariably blue green and the body size is distinctly larger, besides other subtle differences. Hence *C. yunnanica* is here elevated to species level.

Subgenus *Udorpes* Motschulsky

Udorpes Motschulsky, 1845: 107. **Type species:** *Udorpes splendens* Motschulsky, 1845, by monotypy.

Key to species of subgenus *Udorpes*

1. Body length exceeds 3.00 mm 2
- Body length less than 3.00 mm 3
2. Antennae long, reaching middle of elytra, dorsum metallic green *Chaetocnema merguiensis* Bryant, 1941
- Antennae normal, not extending to middle of elytra, dorsum cupreous *Chaetocnema cupreata* Chen, 1934
3. Body length less than 1.70 mm 4
- Body length exceeds 1.70 mm 5
4. Pronotal base obviously expanded and convex at middle; body strongly convex at sides, body strongly narrowed and pointed towards posterior end *Chaetocnema paraumesaoi* sp. nov.
- Pronotal base evenly and very slightly convex at middle; body slightly convex at sides, posterior end of body rounded *Chaetocnema umesaoi* Chûjô, 1961
5. Vertex covered with extremely weak and shallow punctures, hardly visible; vertex impunctate in middle *Chaetocnema reteimpunctata* sp. nov.
- Vertex covered with large punctures, without impunctate area in middle (in rare cases there is an extremely narrow longitudinal impunctate area in middle) 6
6. Antennae very short, not reaching base of elytra; wingless, humeral calli absent *Chaetocnema glabra* sp. nov.
- Without such combination of characters 7
7. Body strongly elongate and narrow; body length to width proportion exceeds 2.00; elytron length (along suture) to width (maximum) proportion exceeds 3.00 8
- Body normal, not strongly elongate 9
8. Pronotal punctures extremely bold; the distance between adjacent punctures equal to or smaller than diameter of punctures; hind wings highly reduced *Chaetocnema alticola* Maulik, 1926
- Pronotal punctures normal, distance between punctures 1-2 times more than the diameter of punctures *Chaetocnema shanxiensis* Chen & Wang, 1980
9. Elytral punctures regular, arranged in single rows (excluding peri-scutellar punctures) 13
- Elytral punctures not placed in single regular rows, confused or geminate 10
10. Elytral punctures partially geminate; peri-scutellar punctures tripled. Pronotal punctures minute, extremely closely placed *Chaetocnema psylloides* Pic, 1909
- Punctures on elytra confused or extremely closely placed with extra rows 11
11. Elytra extremely closely punctate with 15-17 rows of punctures 12
- Elytra not extremely closely punctate; however, confusedly punctate, punctures somewhat arranged in paired rows in the

- middle of elytron *Chaetocnema pusaensis* Maulik, 1926
12. Aedeagus without apical denticle, apical third of aedeagus straight; dorsum with punctures extremely strong and much larger than those in *C. malayana*, interspace of pronotal punctures 0.5-1 times larger than their diameter; interspace of elytral punctures 1-1.5 times larger than their diameter *Chaetocnema concinnipennis* Baly, 1877
- Aedeagus with apical denticle, apical third of aedeagus bent ventrally; dorsum with punctures finer than *C. concinnipennis*, interspace of pronotal punctures 1-2 times larger than their diameter; interspace of elytral punctures 1.5-2.5 times larger than their diameter *Chaetocnema malayana* Baly, 1877
13. Basal third of pronotum strongly narrowed and constricted, narrower than middle; inter-antennal space narrow, width of inter-antennal space to width of antennal socket less than 1.5; pronotum only slightly wider than long, width to length ratio less than 1.5 14
- Base of pronotum not strongly narrowed and constricted, not narrower than middle 15
14. Body robust, cylindrical; lateral sides of elytra parallel *Chaetocnema cylindrica* (Baly, 1874)
- Body normal, ovate; lateral sides of elytra convex *Chaetocnema modesta* Gressitt & Kimoto, 1963
15. Pronotum with a longitudinal impunctate area in middle 16
- Pronotum without an impunctate area in middle 20
16. Hind wings absent, antero-lateral angle of pronotum invisible from dorsal view *Chaetocnema rahlensis* Shukla, 1960
- Hind wings entire, antero-lateral angle of pronotum visible from dorsal view 17
17. Body length exceeds 2.40 mm 18
- Body length less than 2.40 mm 19
18. Elytra strongly costate at sides, peri-scutellar punctures form three or four rows; inter-antennal space about as wide as antennal socket *Chaetocnema westwoodi* Baly, 1877
- Elytra not costate or only slightly costate; peri-scutellar punctures arranged in two short rows, occasionally more than two lines; inter-antennal space obviously wider than antennal socket *Chaetocnema ingenua* (Baly, 1876)
19. Peri-scutellar punctures form four rows; frons and orbit extremely strongly and closely punctate, with interspace of punctures narrower than diameter of punctures *Chaetocnema midimpunctata* **sp. nov.**
- Peri-scutellar punctures geminate; frons and orbit normally punctate, with interspace wider than diameter of punctures *Chaetocnema modiglianii* Jacoby, 1896
20. Head narrow, orbit narrow; ratio of width between inner-margin of eyes to width of diameter of eye less than 2.00; supra-orbital sulcus, supra-antennal and supra-frontal sulci 'W' shaped 21
- Head and orbit normal or wide; ratio of width between inner-margin of eyes to width of diameter of eye more than 2.00 22
21. Pronotum quadrate, lateral sides straight and parallel to each other *Chaetocnema angustifrons* **sp. nov.**
- Pronotum not quadrate, lateral sides convex and slightly converging forward *Chaetocnema belli* Jacoby 1904
22. Elytra strongly costate; vertex strongly punctate, with punctures as large as those on frons 23
- Elytra not strongly costate or only costate at sides 24
23. Body length 1.90–2.00 mm; peri-scutellar punctures single or slightly geminate *Chaetocnema singala* Maulik, 1926
- Body length exceeds 2.20 mm, body robust; peri-scutellar punctures usually form three rows, occasionally geminate *Chaetocnema brethingami* Baly, 1877
24. Body somewhat broad, pronotum broad, base of pronotum as wide as that of elytra 25
- Body normal, pronotum not conspicuously broad, base of pronotum narrower than elytral base 28
25. A shallow transverse depression present near the base of pronotum; hind wings absent *Chaetocnema sulcicollis* Chen & Wang, 1980
- Base of pronotum without a transverse depression 26
26. Dorsum shiny metallic green; supra-antennal and supra-orbital sulci obsolete, covered by punctures; the space between eye and antennal socket wide and densely covered with coarse punctures *Chaetocnema greenica* **sp. nov.**
- Dorsum not metallic green, supra-antennal and supra-orbital sulci present; space between eye and antennal socket narrow 27
27. Peri-scutellar punctures single or partially geminate; apical denticle of aedeagus wide and truncate with concave apex *Chaetocnema paragreenica* **sp. nov.**
- Peri-scutellar punctures geminate; apical denticle of aedeagus narrow and flat at top *Chaetocnema latapronota* **sp. nov.**
28. Antennae robust and shortened, not extending beyond humeral calli over pronotum 29
- Antennae slender and long, extending slightly beyond humeral calli over pronotum 30
29. Anterolateral calli of pronotum well developed, produced antero-laterally, truncate and oblique, prominent from upper view *Chaetocnema zangana* Chen & Wang, 1981
- Anterolateral calli of pronotum not strongly produced, rounded, not prominent from upper view *Chaetocnema kumaonensis* Scherer, 1969
30. Peri-scutellar punctures form three rows *Chaetocnema concinnicollis* (Baly 1874)
- Peri-scutellar punctures geminate 31
31. Head evenly and strongly punctate; frons, orbit and vertex evenly punctate with equally strong punctures *Chaetocnema eastafghanica* Konstantinov *et al.*, 2011
- Head with frons more strongly punctate than vertex; punctures on vertex shallow and distant 32
32. Pronotum widened anteriorly, with base narrower than apex *Chaetocnema bella* (Baly, 1876)
- Pronotum not widened anteriorly, with base as wide as or wider than apex 33
33. Peri-scutellar punctures geminate or occasionally form three rows, peri-scutellar rows of punctures reach the middle of elytra; hind wings reduced *Chaetocnema cognata* Baly, 1877

- Peri-scutellar punctures form single row or geminate, with fewer punctures than in *C. cognata*, peri-scutellar rows of punctures short, not reaching the middle of elytra *Chaetocnema afghana* Gruev, 1988

52. *Chaetocnema (Udorpes) afghana* Gruev, 1988

(Fig. 73)

Chaetocnema afghana Gruev, 1988: 155. TL: Afghanistan, “Nangarhar, Band-e-Darunta, 590m”. TD: HNHM.

Distribution: India (new record), Pakistan (new record), Afghanistan (Gruev, 1988).

Host plants: Unknown.

Description: Body length: 1.80–2.10 mm. Body width: 0.90–1.10 mm. Ratio of length of antenna to length of body: 0.60–0.65 mm. Ratio of elytron length (along suture) to width (maximum): 2.10–2.20. Ratio of pronotum width (at base) to length: 1.40–1.50. Ratio of length of elytron to length of pronotum (along middle): 2.10–2.20. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.10–1.15.

Dorsum and head finely reticulated. Dorsum bronzy. Antennomeres 1–4 yellow, 5 partially brown, 6–11 brown, apical ones being darker. All tibiae and tarsi yellow brown. Pro- and mesofemora light brown. Metafemora deep brown.

Head hypognathous. Frontal ridge normally wide and flat. Frontolateral sulcus absent. Suprafrontal sulcus deep, forming a pit in middle. Orbital sulcus deep. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 2.10–2.20. Number of punctures on vertex: more than 80. Number of punctures on orbit: 4–6 on each side. Number of punctures on frons (triangular area surrounded by frontolateral sulcus and clypeus): numerous. Number of setae on clypeus: more than 20. Number of setae on labrum: 6. Anterior margin of labrum slightly and evenly concave.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum absent. Pronotal base evenly convex. Lateral margins of pronotum almost straight, only slightly converging forward. Anterolateral prothoracic callosity protruding laterally, truncate. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 1.5 to 2.5 times smaller than distance between them.

Elytra with convex lateral sides. Elytral punctures slightly larger than pronotal punctures, arranged in single rows, except peri-scutellar row doubled and appearing confused. Interspaces between striae of punctures smooth and glabrous. Humeral calli poorly developed.

First male protarsomere slightly larger than second. First male protarsomere, length to width ratio: 1.30–1.40, width at apex to width at base ratio: 2.20–2.30. Excavation on metatibia moderately deep. Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle absent.

Apex of aedeagus in ventral view narrowing gradually. Ventral longitudinal groove present. Apical denticle in ventral view absent. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view unevenly curved, straight in apical half. Maximum curvature in lateral view situated near base.

Spermathecal receptacle slightly sinuated. Spermathecal duct coiled. Spermathecal pump much shorter than receptacle, with apex cylindrical. Receptacle basally narrower than apically. Vaginal palpus with narrowly rounded apex, with outer side slightly convex; posterior sclerotization longer than wide. Posterior sclerotization as wide as anterior.

Type: 1 male (Paratype) (USNM), labels: 1) **Afghanistan**, Nangarhar, Band-e, Darunta, 590m, 2) No.86, 8.5.1974, leg. L. Papp, 3) *Chaetocnema afghana* Gruev, det. B. Gruev, 4) Paratype, 5) Konstantinov.

Material: 1♂ (USNM), **India**, Deli, alt. 240m, *Chaetocnema cognata*, det. Döberl, *Chaetocnema afghana* det. Ruan; 1♀ (USNM), **India**, Rajasthan Bharatpur Nat. Park, 07.IV.1998, *Chaetocnema cognata*, det. Döberl, 1998, *Chaetocnema afghana* det. Ruan; 1♀ (USNM), **India**, Meghalaya State, West Garo Hills alt. 450m, 25.v.1996, leg. JENDEK; 1♂ (USNM), **India**, New Delhi, 23.X.1966, leg. K. E. Gibson, light trap; 2♂4♀ (USNM), West **Pakistan**, Lahore, VII–VIII.1957, J. Maldonado.

Remarks: *C. afghana* closely resembles *C. bella* and *C. cognata* in the body shape, punctuation and color, however, it may be distinguished from the latter two species by the shape of aedeagus.

FIGURE 73. *Chaetocnema afghana*. **A** Male habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female.

53. *Chaetocnema (Udorpes) alticola* Maulik, 1926

(Figs. 74, 75)

Chaetocnema alticola Maulik, 1926: 217. TL: Kumaon, India. TD: BMNH. **Lectotype designated here.**

Distribution: China (Xinjiang, Tibet) (new record), India (Maulik, 1926).

Host plants: Unknown.

Description: Body length 2.30–2.65 mm, body width 1.10–1.30. Ratio of length of antenna to that of body: 0.48–0.52. Ratio of elytron length (along suture) to width (maximum): 3.00–3.10. Ratio of pronotum width (at base) to length: 1.40–1.45. Ratio of length of elytron to length of pronotum (along middle): 3.00–3.20. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.04–1.08. Ratio of maximum width of elytra to maximum width of pronotum: 1.30–1.35.

Dorsum coppery to bronzy (occasionally with metallic purple luster). Antennomeres 1–5 dark brown dorsally and yellow ventrally, 6–11 completely dark brown. Antennomeres 3–5 completely yellow. Pro- and mesotibia partially brown. Metatibia yellow. Profemora light brown. Mesofemora light brown to brown. Metafemora brown.

FIGURE 74. *Chaetocnema alticola*. A Male habitus. B Prothorax, dorsal view. C Head, frontal view. D Aedeagus, ventral view. E Aedeagus, lateral view. F Apex part of aedeagus, ventral view.

FIGURE 75. *Chaetocnema alticola* (Photograph of Lectotype and Paralectotype). A Habitus (Lectotype). **B** Prothorax, dorsal view (Lectotype). **C** Head, frontal view (Lectotype). **D** habitus, lateral view (Lectotype). **E** Lateral margin of pronotum (Lectotype). **F** Pygidium (tergite 7) of female, dorsal view (Paralectotype).

Head hypognathous. Frontolateral sulcus absent. Suprafrontal sulcus nearly straight, with a pit in middle. Ratio of width of frontal ridge to width of antennal socket: 3.4–3.6. Lower area of frons covered with short white setae. Vertex flat, situated on same level as orbit. Vertex densely and evenly covered with punctures.

Base of pronotum without longitudinal impressions. Deep row of large punctures at base of pronotum absent. Pronotal base evenly convex. Short longitudinal impressions on base of pronotum absent. Area adjacent to mid basal margin of pronotum covered with or without smaller punctures. Pronotum without shallow antebasal transverse

impression. Lateral margins of pronotum slightly convex, converging forward. Anterolateral prothoracic callosity protruding laterally. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 1.5 to 3 times smaller than distance between them. Elytra somewhat parallel sided. Scutellar row of elytral punctures regular and single. Second to eleventh rows of punctures regular. Humeral callus weak.

Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle present, sharp.

Apex of aedeagus in ventral view narrowing gradually. Ventral longitudinal groove present, shallow. Apical denticle in ventral view absent or poorly developed. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view unevenly curved, straight at base and apex. Maximum curvature in lateral view situated near middle.

Types: Lectotype (there are two specimens mounted on one card, the one on the right is designated as Lectotype): 1 (BMNH), labels: 1) Type; 2) India, N. Kumaon, Laptel, 15,000 ft. H. G.C. 2; 3) *Chaetocnema alticola* Det. S. Maulik, Type. 1925; 4) Lectotype *Chaetocnema alticola* Maulik, 1926 Des. Ruan *et al.*, 2016.

Paralectotype: 3 (BMNH), labels: 1) India, N. Kumaon, Laptel, 15,000 ft. H. G.C. 2; 2) *Chaetocnema alticola* Det. S. Maulik, Type. 1925; 3) Paralectotype *Chaetocnema alticola* Maulik, 1926 Des. Ruan *et al.*, 2016.

Material: 1♂1♀ (IZCAS), **China**, Xinjiang, N slope of Karlyktag Mt. R., alt. 2800 m, 14.VI.2002, Kabak I. I. leg., *Chaetocnema* sp. det. Konstantinov, 2003; 1♂ (BMNH), **China**, Tibet, Shekkar, 14000 ft., 7.V.1924, Maj. R. W. G. Hingston., Everest Exp. Brit. Mus., 1924–386.

Remarks: This species is rather distinct amongst the species of Oriental *Chaetocnema* with unusually elongate body (body length to width ratio exceeds 2.00). It somewhat resembles *C. shanxiensis* and the Palearctic species *C. splendens* in the strongly elongate body shape, however, it can be distinguished from the latter two species by the highly reduced humeral calli (and hind wings), elytral punctation, color and the shape of the aedeagus.

The highest record in Oriental *Chaetocnema* specimens we have examined is *Chaetocnema alticola* Maulik collected from 15000 ft. (=4572 m) above sea level in North Kumaon, India.

54. *Chaetocnema (Udorpes) angustifrons* Ruan, Konstantinov & Yang, New Species

(Fig. 76)

Etymology: This species is named after its narrow frons and interocular space. Specific epithet is a noun in apposition.

Diagnosis: This unique species can be distinguished from other Oriental *Chaetocnema* species by combination of the following characters: pronotum almost quadrate with straight and parallel sides, head and frons narrow (distance between eyes only slightly larger than diameter of one eye), first tarsomere of male long and narrow.

Distribution: Thailand, Cambodia.

Host plants: Unknown.

Description: Body length: 2.10–2.35 mm. Body width: 1.15–1.25 mm. Ratio of length of antenna to length of body: 0.68–0.70. Ratio of elytron length (along suture) to width (maximum): 2.30–2.35. Ratio of pronotum width (at base) to length: 1.60–1.62. Ratio of length of elytron to length of pronotum (along middle): 2.60–2.61. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.12–1.14.

Dorsum bronzy. Antennomeres completely yellow brown, with apical five darkened. Tarsi, tibiae, pro- and mesofemora yellow brown. Metafemora dark brown, sometimes with very slight bronzy luster.

Head hypognathous. Frontal ridge not wide, flat. Frons and frontal ridge covered with large and closely placed punctures and white setae. Ratio of width of frontal ridge to width of antennal socket: 1.70–1.75. Frontolateral sulcus absent. Suprafrontal sulcus obsolete, obcordate, with a pit in middle. Orbital, supraantennal sulci poorly developed. Vertex flat, situated on same level as orbit. Vertex evenly covered with punctures, with an impunctate longitudinal area in middle. Punctures on frons larger than those on vertex.

Base of pronotum without short longitudinal impressions. Pronotal base evenly convex. Deep transverse row of large punctures along base of pronotum absent. Punctures absent on narrow transverse area adjacent to mid-basal margin of pronotum. Anterolateral prothoracic callosity moderately developed, truncate and oblique. Lateral margins of pronotum almost straight, parallel. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 1.5–3 times smaller than distance between them.

Humeral callus well-developed. Elytra with convex lateral sides. Scutellar row of elytral punctures paired and confused. Second to eleventh rows of elytral punctures regular. Elytral interspaces between puncture rows almost flat at sides.

First protarsomere comparatively long and narrow in male. Excavation on metatibia not deep. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

In ventral view, aedeagus parallel-sided, apex narrowing gradually. Ventral longitudinal groove of aedeagus well developed, minute, transverse wrinkles present throughout. Ventral longitudinal ridge in middle of aedeagus absent. Apical denticle of aedeagus present in ventral view, truncate apically. Aedeagus in lateral view curved at base, straight at apex.

FIGURE 76. *Chaetocnema angustifrons* sp. nov. **A** Holotype, dorsal view. **B** Pronotum and peri-scutellar area. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female.

Receptacle of spermatheca sinuated. Spermathecal pump much shorter than receptacle, with apex flattened.

Maximum width of receptacle situated near apex. Receptacle basally narrower than apically. Vaginal palpus slightly narrowing from base till middle, thence approximately parallel sided. Anterior sclerotization of vaginal palpus slightly widening anteriorly. Posterior sclerotization longer than wide. Anterior sclerotization wider than posterior.

Types: Holotype: ♂ (USNM), labels: 1) **Thailand**, Korat. Si Khiu, Pak Chong, 23.VIII.1952; 2) Holotype, *Chaetocnema angustifrons* **sp. nov.**, Des. Ruan, 2016.

Paratypes: 3♂3♀ (USNM), **Thailand**, Korat. Si Khiu, Pak Chong, 23.VIII.1952, Paratype, *Chaetocnema angustifrons* **sp. nov.**, Des. Ruan, 2016; 2♀ (USNM), **Thailand**, Lop Buri Airawan Mt., 9.VII.1953, R. E. Elbel, Paratype, *Chaetocnema angustifrons* **sp. nov.**, Des. Ruan, 2016; 1♀ (USNM), **Cambodia**, Siem Reap, XI.1958, NLH Krauss, Paratype, *Chaetocnema angustifrons* **sp. nov.**, Des. Ruan, 2016.

55. *Chaetocnema (Udorpes) bella* (Baly, 1876)

(Figs. 77, 78)

Plectroscelis bella Baly, 1876: 595. TL: China, Xinjiang. TD: BMNH.

Chaetocnema placida Jacoby, 1896: 441. TL: Sumatra. TD: BMNH. (**Syn. Nov.**).

Chaetocnema bella: Chen, 1934: 245, 247.

Chaetocnema formosensis Chûjô, 1935: 471. TL: Taiwan. TD: TARI. Synonymized by Kimoto, 2000: 214.

Chaetocnema shanensis Bryant, 1939: 16. TL: Myanmar. TD: one Syntype in BMNH. (**Syn. Nov.**)

Chaetocnema nepalensis Scherer, 1969: 158. TL: Nepal, Kathmandu. TD: NHMB. (**Syn. Nov.**)

Distribution: China (Xinjiang, Zhejiang, Hubei, Jiangxi, Fujian, Taiwan, Hainan, Guangxi, Sichuan, Yunnan, Tibet), Vietnam, Thailand, Myanmar, India, Nepal, Bhutan, Indonesia (Sumatra) (Jacoby, 1896), Philippines; Palearctic Region: Japan (Ryukyu Is.), Pakistan (Döberl, 2010).

Host plants: *Raphanus sativus* L. (Yu *et al.*, 1996); *Cyperus* sp. (Cyperaceae) (label data).

Description: Body length 2.00–2.30 mm, body width 1.20–1.30 mm. Ratio of elytron length at suture to maximum width: 2.31–2.39. Ratio of pronotum width at base to length at middle: 1.45–1.60. Ratio of length of elytron at suture to length of pronotum at middle: 2.60–2.66. Ratio of width of both elytra at base to width of pronotum at base: 1.15–1.17. Ratio of maximum width of both elytra to maximum width of pronotum: 1.42–1.44. Ratio of length of antenna to length of body: 1.53–1.54.

Dorsum metallic blue (occasionally coppery, bronzy or metallic purple). Antennomeres 1–4 completely yellow, 5–11 brown, apical ones being darkened. Tibiae yellow. Pro- and mesofemur yellow; metafemur light brown to brown, usually with light metallic luster.

Head hypognathous. Frontal ridge wide and flat. Ratio of width of frontal ridge between outer ridge of antennal sockets to width of antennal socket (including surrounding ridge): 2.5–2.7. Frontolateral sulcus absent. Suprafrontal sulcus deep with a pit in middle. Frons evenly covered with large and closely placed punctures and relatively short, white setae. Vertex flat, situated on same level as orbit. Vertex densely and evenly covered with small punctures.

Base of pronotum without short longitudinal impressions. Pronotal base evenly convex. Deep, transverse row of large punctures at base of pronotum absent. Area adjacent to mid-basal margin of pronotum covered with punctures. Anterolateral prothoracic callosity protruding laterally. Lateral margins of pronotum almost straight, or slightly rounded, with maximum width near middle. Posterolateral prothoracic callosity projecting up to lateral margin of pronotum. Diameter of pronotal punctures 2–4 times less than distance between punctures.

Humeral callus well-developed. Elytra with convex lateral sides. Scutellar row of elytral punctures paired and confused. Second to eleventh rows of punctures at base of elytron regular.

First protarsomere slightly larger in male. First male protarsomere length to width ratio: 1.85–1.89. Excavation on metatibia moderately deep. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

Aedeagus parallel-sided. Apex of aedeagus in ventral view narrowing abruptly. Ventral longitudinal groove of aedeagus poorly developed, shallow, apically much wider than basally. Ventral longitudinal ridge in middle of aedeagus absent. Apical denticle of aedeagus in ventral view well-differentiated, wide, truncate apically; slightly curved dorsally in lateral view. Minute, transverse wrinkles absent on ventral side of aedeagus. Aedeagus in lateral view evenly curved.

Spermathecal pump much shorter than receptacle, with apex flattened. Spermathecal receptacle sinuated. Maxi-

num width of receptacle situated at middle. Receptacle basally as wide as apically. Posterior sclerotization of tignum spatulate, wider than midsection. Midsection of tignum nearly straight. Anterior sclerotization of tignum wider than midsection. Vaginal palpus slightly narrowing from base till apex, thence approximately parallel-sided. Anterior sclerotization of vaginal palpus slightly widening anteriorly. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

FIGURE 77. *Chaetocnema bella*. A Female habitus. B Pronotum. C Head, frontal view. D Aedeagus, ventral view. E Aedeagus, lateral view. F Apex of aedeagus, ventral view. G Vaginal palpi. H Spermatheca. I Pygidium (tergite 7) of female.

Types: *Chaetocnema bella* (Baly, 1876): Lectotype, 1 female (BMNH), labels: 1) [reverse side of specimen card: China, Lewis], 2) Type, H.T., 3) Baly Coll., 4) *Plectroscelis bella* Baly, China, [back-side of label has notes, illegible: 595, Type], 5) *C. bella* Baly, BM, 6) *Chaetocnema bella* Baly, HT, BM. No. 77, 7) Konstantinov; 8) Lectotype *Chaetocnema bella* Baly des. A. S. Konstantinov *et al.* 2009. Paralectotype (1 female, BMNH): 1) [Reverse side of specimen card] China, Leine[?illegible], 2) Baly Coll., 3) Paralectotype *Chaetocnema bella* (Baly) des. A.S. Konstantinov 2009.

Chaetocnema formosensis Chûjô, 1935: Cotype (1 specimen, TARI), labels: 1) Cotype; 2) 20. IV. 1910, Gokinjô, Col. I. NITOBÉ; 3) *Chaetocnema formosensis* Chûjô, DET. M. CHÛJÔ.

Chaetocnema nepalensis Scherer, 1969: Holotype (1♂, NHMB) labels: 1) Nepal, Katmandu, 1326 m, VII.1961, leg. G. Scherer; 2) 1♂; 3) *Chaetocnema nepalensis* **sp. nov.** det. Dr. G. Scherer 1965.

Chaetocnema placida Jacoby: Syntype, 1 female (BMNH), labels: 1) Cotype; 2) Sumatra, Pea, Ragia, X.1890, E. Modigliani; 3) Museo, Civ., Genova; 4) Jacoby, Coll., 1909–28a; 5) *Chaetocnema placida* Jac; 6) *Chaetocnema bella* (Baly, 1876) det. Yongying Ruan, 2016.

Chaetocnema shanensis Bryant, 1939: Syntype: 1 female (BMNH), labels: 1) Paratype; 2) S. Shan States, Burma, 1500m, Taunggyi, I.VIII–22.IX.34, Malaise; 3) N. E. Burma: R. Malaise, B.M. 1939–101; 4) *Chaetocnema shanensis* Bryant, Det. G. E. Bryant; 5) *Chaetocnema bella* (Baly, 1876) det. Yongying Ruan, 2016.

Two Paratypes of *Chaetocnema klapperichi* Lopatin, 1961 were also examined: 1♂, (USNM), 1) O. Afghan. 1953, J. Klapperich, 2) Kunartal, 500 m, Jalalabad, 30.III., 3) *Chaetocnema klapperichi* m., I. Lopatin det., 1961, 4) blank red label; 1♀ (USNM), 1) O. Afghan. 1953, J. Klapperich, 2) Kunartal, 500 m, Jalalabad, 30.III., 3) *Chaetocnema klapperichi* m., I. Lopatin det., 1961, 4) Paratypus.

Material: 6♂12♀ (IZCAS), **China**, Fujian, Huangkeng, Jianyang, alt. 950–1170m, 29.VI.1960, leg. Yong Zuo *et al.*; 6♂4♀, **China**, Fujian, Chong An, Xingcun, VI.1960, alt. 1170m, leg. Yong Zuo *et al.*; 1♂ (IZCAS), **China**: Yunnan, Xishuanbanna, Xiaomenyang, alt. 850m, 26.III.1957, leg. Shuyong Wang; 3♂4♀ (IZCAS), **China**, Zhejiang, Tianmu mountain, 29.VII.1998, leg. Hong Wu; 2♂4♀, **China**, Zhejiang, Tianmu mountain, 20.IX.1953; 1♀ (IZCAS), **China**, Fujian, Nanping, 25.VII.1954; 1♀ (IZCAS), **China**, Jiangxi, *Chaetocnema cognate* Baly; 1♀ (IZCAS), **China**, Jiangsu, Nanjing, 13.V.1926; 1♀ (IZCAS), **China**, Fujian, 8.IX.1947; 1♀ (IZCAS), **China**, Guangxi, Yaoshan, 1935; 1♀ (IZCAS), **China**, Guangxi, Guilin, 30.VIII.1952; 4♂10♀ (IZCAS), **China**, Sichuan; 1♀, **China**, Guangdong, Haian, 20.IV.1954, leg. Keren Huang; 1♀ (IZCAS), **China**, Hainan, 25.IV.1954, leg. Keren Huang; 1♀ (IZCAS), **China**, Yunnan, Kunming, alt. 1900m, 19.III.1955, leg. Buxike; 1♂2♀ (IZCAS), **China**, Yunnan, Lushui, alt. 1670–1850m, 25.VI.1981, leg. Shuyong Wang, **host plant:** *Cyperus* sp.; 1♀ (IZCAS), **China**, Yunnan, Jingping, Mengla, alt. 400m, 24.IV.1956, leg. Keren Huang; 1♂ (IZCAS), **China**, Tibet, Motuo, Madi, alt. 1100m, 14.IX.1998, leg. Yao Jian, *Chaetocnema bella* Baly, det. Shuyong Wang; 1 (USNM), **Japan**, RYUKYU IS. *C. formosensis* Chûjô, J.L.Gressitt det. 1963; 2♂3♀, **Vietnam**, Tonkin, Hoa-Binh, VIII.1940, leg. A de cooman; 1♀ (USNM), **Vietnam**, Hanoi, Fields, garden, 28.IV.1975, L. Medvedev, Dang Dap; 2♂ (BMNH), **Thailand**, Bangkok, H. Hillman, B. M. 1928–366; 2 (BMNH), **Thailand**, Nan Province, Lainan, 22–23.ix.2012, cabbage farm, 18.579°N, 100.757°E, LN3 Light trap, leg. D. L. J. Quicke, BMNH(E) 2015–75; 2 (USNM), **Myanmar**, Mus. Pragensse, Tenasserim, Coll. Helfer, bella Baly, I. Lopatin det.; 1♂3♀ (USNM), **Myanmar**, Tenasserim, MUS. PRAGENSE, Coll. Helfer; 2♂ (USNM), **Myanmar**, Tenasserim, MUS. PRAGENSE, Coll. Helfer, *Chaetocnema bella* det. I. Lopatin, 1961; 1♂1♀ (USNM), **Bhutan**, Shemgang dist. 30 km S. Tingtinbi, 1513m, 13.IX.2005, leg. K. Mahat, P. Loday, A. Konstantinov & K. D. Prathapan; 1♂4♀ (USNM), **Bhutan**, env. Punakha, N 27°36'35" E 89°52'43", 19.IX.2005, 1400m, Leg. K. Mahat, K. D. Prathapan; 2 (BMNH), **Nepal**: 4500', Kathmandu, British Embassy, 20.v.–23.vi.1983, At light, *Chaetocnema* sp. det. K. Nadein 2007, *Chaetocnema bella* (Baly, 1876), Det. Yongying Ruan, 2016; 1♀ (USNM), **India**, Orissa Simlipal Hills, Meghasini Hill, II.1975, 3700', mARY I. Ripley, Loan from USNMNH 2065634; 10♂24♀ (USNM), **India**, Madhya Prad., Jabalpur, 20–21.9.1968, K. E. Gibson, Loan from USNMNH 2065634; 1♂3♀ (USNM), **India**: Hindon River, 4km.w.Ghaziabad 4.X.1985, *Chaetocnema nepalensis*, det. Döberl, 2001; 1 (BMNH), **India**: Atkinson, Coll., 92–3, Calcutta, *Chaetocnema bella* Baly, 1877, Det. Yongying Ruan, 2016; 1♂ (USNM), **Philippines**: Dapitan, Mindanao, leg. Baker, 1927, C. F. Baker collection, Loan from USNMNH 2065634

Remarks: Study of the original descriptions and syntypes of *Chaetocnema placida* Jacoby and *Chaetocnema shanensis* Bryant revealed that they are conspecific with *C. bella*.

Two Paratypes of *Chaetocnema klapperichi* Lopatin, 1961 were also examined. *Chaetocnema klapperichi* is

extremely close to *C. bella*, the only difference being the much weaker (almost obsolete) apical denticle of aedeagus in *C. klapperichi* (apical denticle of aedeagus is well developed in *C. bella*).

Metallic color of dorsum in *C. bella* is highly variable from coppery, blue, bronzy or purple.

FIGURE 78. *Chaetocnema bella*. The specimens used in this figure are different from that used in Fig. 77; the two figures show variation in body color and shape of aedeagus; Fig 77 B and Fig. 78 B also show different shape of pronotum, but in fact, pronotal structure is rather stable in this species, the difference in the two figures is due to viewing the specimens from different angles. **A** Female habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Tergite-8 of female. **J** Pygidium (Tergite-7) of female.

56. *Chaetocnema (Udorpes) belli* Jacoby, 1904

(Fig. 79)

Chaetocnema belli Jacoby 1904: 392. TL: India, Khandesh. TD: BMNH. **Lectotype designated here.**

Distribution: Vietnam (new record), Thailand, India, Bhutan (new record), Nepal (new record), Pakistan (recorded here and in E. Pakistan by Nadein *et al.* (2012)).

Host plants: *Alternanthera* sp. (Amaranthaceae) (Reddy *et al.*, 1980). *Brassica* sp. (new record based on BMNH specimens).

Description: Body length 2.30–2.65, body width 1.40–1.50. Ratio of elytron length (along suture) to width (maximum): 2.60–2.70. Ratio of pronotum width (at base) to length: 1.50–1.55. Ratio of length of elytron to length of pronotum (along middle): 2.50–2.75. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.10–1.20. Ratio of maximum width of elytra to maximum width of pronotum: 1.30–1.40.

Elytra, pronotum and head coppery to bronzy. Antennomeres 1–4 completely yellow, 5–11 yellow brown, tibiae and tarsi yellow. Pro- and mesofemora yellow brown, metafemora reddish brown.

Head hypognathous. Frontal ridge moderately wide and flat. Frontolateral sulcus absent. Suprafrontal sulcus relatively deep, well recognized. Suprafrontal sulcus obcordate. Ratio of width of frontal ridge to width of antennal socket: 1.95–2.00. Frons evenly covered with relatively short white setae. Vertex flat, situated on same level as orbit, densely and evenly covered with punctures.

Base of pronotum without short longitudinal impressions. Deep transverse row of large punctures at base of pronotum absent. Pronotal base evenly convex. A narrow area adjacent to mid basal margin of pronotum impunctate or sparsely punctate. Pronotum without shallow antebasal transverse impression. Lateral margins of pronotum slightly convex, converging forward. Pronotum strongly convex; anterolateral prothoracic callosity moderately developed, invisible in dorsal view. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 2 to 4 times smaller than distance between punctures. Elytra with convex sides. Scutellar row of elytral punctures regular and single. Second to eleventh rows of elytral punctures regular. Humeral callus well developed.

Large lateral denticle on metatibia sharp. Metatibial serration proximal to large lateral denticle absent. Metatibia proximad to denticle in dorsal view convex.

Apical third of aedeagus narrowed in lateral view. Apex of aedeagus in ventral view narrowing gradually, with lateral margin curved unevenly. Ventral longitudinal groove of aedeagus moderately developed. Apical denticle of aedeagus in ventral view well differentiated, short, flat on top. Apical denticle of aedeagus in lateral view strongly curved ventrally. Minute transverse wrinkles on ventral surface of aedeagus absent. Aedeagus in lateral view evenly and moderately curved.

Spermatheca with receptacle sinuated and strongly narrowed basally. Receptacle basally narrower than apically. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

Types: Lectotype: 1 ♀ (BMNH), labels: 1) Type H.T. 2) T.R. Bell, Khandesh; 3) Jacoby Coll. 1909–28a, *Chaetocnema belli* Jac.; 4) Examined K. Prathapan 2005; 5) Examined Ruan Yongying 2014; 6) Lectotype *Chaetocnema belli* Jacoby, 1892 Des. Ruan *et al.*, 2016.

Paralectotype: 1 ♀ (BMNH), labels: 1) T.R. Bell, Khandesh; 2) Type. 3) Examined K. Prathapan 2005; 4) Examined Ruan Yongying 2014; 5) Paralectotype *Chaetocnema belli* Jacoby, 1892 Des. Ruan *et al.*, 2016.

Material: 1 ♀ (BMNH), **Vietnam**, Tonkin: Thai–Nien. Bank of Fleuve Rouge., 1924, H. Stevens; 1 (BMNH), **NW Thailand**, 1991, 18. 26° N, 98. 41° E, Chom... (illegible), 24.–27.4., L. Dembicky leg., BMNH(E), 2002–150, *Chaetocnema belli* Jacoby, 1904, Det. Yongying Ruan, 2016; 1 (BMNH), Punakha, **Bhutan**, 4 Aug. 1987, M. Bigger, 646, **feeding on Brassica ‘Fulmeir’**, C.I.E. A19398, *Chaetocnema* sp. det. M. L. Cox, 1988, Pres by Comm Inst Ent, B. M. 1988–1, *Chaetocnema belli* Jacoby, 1904, Det. Yongying Ruan, 2016. 1 ♀ (USNM), **Bhutan**, Dampphu 16.IX.2005, wp–108, leg. K. Mahat, P. Loday, A. Konstantinov & K. D. Prathapan; 1 ♂ (BMNH), **Nepal**: 4500', Kathmandu, British Embassy, 20.v.–23.vi.1983, M. J. D. Brendell, B. M. 1983–222, At light, *Chaetocnema* sp. det. K. Nadein 2007, (near.) *Chaetocnema belli* Jac., Det. Yongying Ruan, 2016; 1 ♀ 5 ♂ (USNM), **India**, New Delhi, 23.X.1966, leg. K.E. Gibson, light trap; 1 ♂ (USNM), India, New Delhi 13.X.1967, KE Gibson, light trap; 1 ♂ (USNM), **India**, Delhi, X.1958, NLH Krauss, Loan from USNMNH 2065634; 1 ♀ (USNM), **India**, Madhya Prad., Jabalpur, 20–21.9.1968, K. E. Gibson, Loan from USNMNH 2065634; 1 ♀ (BMNH), **India**, Poona, 22.VIII.1944, D. Leston, B. M., 1946–365. 5 (USNM), **India**, New Delhi, X.1966, KE Gibson light trap, *Chaetocnema* sp. det. A. Konstantinov, *Chaetocnema belli* det. Yongying Ruan, 2016; 2 (USNM), **India**, New Delhi, X.1967, KEG ibson

light trap, *Chaetocnema* sp. det. A. Konstantinov, *Chaetocnema belli* det. Yongying Ruan, 2016; 1 (BMNH), Belgau (India), 756, Andrewes, Bequest, B. M. 1922–221, *Chaetocnema belli* Jacoby, 1904, Det. Yongying Ruan, 2016; 1 (USNM), Pakistan: Punj., 16miW Hasanabdal, 1450 feet, 10. October, 1977, collectors: Gary F. Hevel & Mushtaq Ahmad, Loan from USNMNH 2065634, *Chaetocnema belli* det. Yongying Ruan, 2016.

Remarks: Body shape is variable in *C. belli* as some specimens are narrow, while some others are quite broad, however, all the specimens have identical aedeagus. *Chaetocnema belli* is close to *C. angustifrons* **sp. nov.** and it can be differentiated from the latter by the following characters: pronotum, head and vertex broader; distance between eyes much larger; male with first protarsomeres broader.

FIGURE 79. *Chaetocnema belli*. **A** Male habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female.

57. *Chaetocnema (Udorpes) bretinghami* Baly, 1877

(Fig. 80)

Chaetocnema bretinghami Baly, 1877: 170. TL: India. TD: BMNH.

Distribution: Vietnam (new record), Thailand (new record), India, Bhutan (new record), Nepal (new record), Sri Lanka, Pakistan (new record), Israel (new record).

Host plants: *Mangifera indica* L. (Anacardiaceae, common name: Mango) (based on label data of a single specimen).

Description: Body length: 2.20–2.45 mm. Body width: 1.20–1.40 mm. Ratio of length of antenna to length of body: 0.63–0.64. Ratio of elytron length (along suture) to width (maximum): 2.20–2.25. Ratio of pronotum width (at base) to length: 1.60–1.65. Ratio of length of elytron to length of pronotum (along middle): 2.50–2.60. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.09–1.11.

Dorsum brown, with purple coppery luster. Antennomeres 1–6 completely yellow brown, 6–11 brown. Tibiae and tarsi yellow brown. Pro- and mesofemur red brown. Metafemur dark red brown, occasionally with slight metallic luster.

Head hypognathous. Frontal ridge wide and flat. Frons covered with closely placed punctures. Ratio of width of frontal ridge to width of antennal socket: 2.25–2.30. Frontolateral sulcus absent. Suprafrontal sulcus moderately deep, with a pit in middle. Frons and vertex evenly covered with large, closely placed punctures. Vertex situated on same level as orbit.

Base of pronotum without short longitudinal impressions. Pronotal base evenly convex. Deep row of large punctures at base of pronotum absent. Area adjacent to mid-basal margin of pronotum covered with punctures. Pronotum without shallow antebasal impression. Anterolateral prothoracic callosity weakly developed, almost invisible from dorsal view. Lateral margins of pronotum nearly evenly convex, with maximum width near middle. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 1.5–3 times smaller than distance between them.

Humeral callus well-developed. Elytra with convex lateral sides. Scutellar row of elytral punctures doubled (occasionally single or tripled) and confused. Second to eleventh rows of elytral punctures regular.

First protarsomere strongly enlarged in male. Excavation on metatibia moderately developed. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

Apex of aedeagus in ventral view narrowing abruptly. Ventral longitudinal groove of aedeagus extremely deep at middle and apex, poorly developed at base. Ventral longitudinal ridge in middle of aedeagus absent. Apical denticle of aedeagus absent. Aedeagus in lateral view curved at middle, straight at apex and base.

Spermatheca with receptacle sinuated, slender. Spermathecal pump much shorter than receptacle, with apex flattened. Maximum width of receptacle situated near middle. Receptacle basally as wide as apically. Vaginal palpus slightly narrowing from base till middle, thence approximately parallel-sided. Anterior sclerotization of vaginal palpus slightly narrowing anteriorly. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

Type: ♂ (Holotype) (BMNH), labels: 1) Type H. T.; 2) Baly Coll.; 3) *Chaetocnema bretinghami* Baly.

Material: 1♀ (BMNH), **Vietnam**, Tonkin, Hoabinh, VIII.1918, R. V. de Salvaza *Chaetocnema bretinghami* Baly, 1877 det. Yongying Ruan, 2016; 1♀ (IZCAS), **Vietnam**, Tonkin, Hoa-Binh, VII.1940, leg. A de cooman. 1♂1♀ (USNM), **Thailand**, Lop Buri Airawan Mt., 9.VII.1953, R. E. Elbel; 1♂1♀ (USNM), **Thailand**, Korat. Si Khiu, Pak Chong, 23.VIII.1952; 1♂ (USNM), **Thailand**, Khon Kaen Municipality Muaklek, Dan Kak Sat, X.13.1953, R. E. Elbel; 5 (BMNH), **Thailand**, Nan Province, Lainan, 20–23.ix.2012, cabbage farm, 18.579°N, 100.757°E, LN3 Light trap, leg. D. L. J. Quicke, BMNH(E) 2015–75; 1♂ (USNM), **Bhutan**, S of Trashigang road side, N 27°42'652", E 91°33'695", 7.IX.2005, 2219m, A. Konstantinov & K. D. Prathapan; 1♀ (USNM), **Bhutan**, Tongsa dist., 52 km N. Shemgang, N 27°20'045", E 90°35'461", 12.IX.2005, 2131m, dry slope, A. Konstantinov & K. D. Prathapan; 1♀ (USNM), **Nepal**, Chitwan National Park, black light, 820ft, 31.X.1977, Gary F. Hevel; 1♀ (USNM), **Nepal**, Tarai, Env. Chitwan Park 25.IV.2000, 27°28'79"N, 84°52'54"E, 300m, Beating vegetation along river, Konstantinov, Lingafelter, Volkovitsh; 1♂1♀ (BMNH), **India**, W. Almora Divn, Kumaon U.P., III.1917, H. G. O., H. G. Champion Coll., B. M. 1953–156; 1♂1♀ (USNM), **India**, Madhya Prad. Jabalpur, 20–21.IX.1968, KE Gibson, Loan from USNMNH 2065634; 1♂1♀ (USNM), **India**, Bombay, JC Bridwell coll., 16.IX.1924, Loan from USNMNH 2065634; 1♀, Chabus Assam India, 2.X.43, DEHardy, *Chaetocnema* ♀ det. A. Konstantinov, *Chae-*

toecnema bretinghami Baly, 1877 det. Yongying Ruan, 2016; 1, West Bengal (**India**), Singur, Burasanti, 28 April 1972 HBB, Oppenheimer, *Chaetocnema* sp. C.R. Basu det., *Chaetocnema bretinghami* Baly, 1877 det. Yongying Ruan, 2016; 1, West Bengal (**India**), Singur, Burasanti, 9.May.1971 Gc, Oppenheimer, *Chaetocnema* sp. C.R. Basu det., *Chaetocnema bretinghami* Baly, 1877 det. Yongying Ruan, 2016; 1 male (BMNH), **India** U.P., Meerut Univ., V–IX.1983, A. Chandra, *Chaetocnema bretinghami* Baly, det. M. L. Cox, 1984, Pres by Comm Inst Ent, B. M. 1984–1; 1 (BMNH), **Host Mango**, Loc. Delhi (**India**), Date 18.9.1980, Coll. V. V. Ramamurthy, C.I.E. Coll. A12721, *Chaetocnema bretinghami* Baly, det. M. L. Cox, 1981, Pres by Comm Inst Ent, B. M. 1984–1; 1 (BMNH), H. L. Andrewes, Nilgiri Hills (**India**), Andrewes, Bequest, B. M. 1922–221, *Chaetocnema bretinghami* Baly, 1877, Det. Yongying Ruan, 2016; 1♀ (USNM), **Pakistan**, Punj., 16mile W Hasanabdal, 1450feet, 10.X.1977, collectors: Gary F. Hevel & Mushtaq Ahmad, *Chaetocnema* sp. det. Konstantinov; 2♀ (USNM), **Israel**, Bat–Iam, 20–14.I.1968, S. Bleszynski, Leaf litter, Loan from USNMNH 2065634; *Chaetocnema bretinghami* Baly, 1877 det. Yongying Ruan, 2016.

FIGURE 80. *Chaetocnema bretinghami*. **A** Male habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, ventral view. **F** Aedeagus, lateral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female.

Remarks: This species is very close to *C. birmanica* and *C. concinnicollis*. It can be distinguished from *C. birmanica* by the following characters: elytral punctures (excluding peri-scutellar ones) arranged in regular rows, denticle of aedeagus absent, apex of aedeagus concave in ventral view; and from *C. concinnicollis* by the distinctly different shape of aedeagus and strongly costate elytra.

Peri-scutellar rows of punctures in *C. bretinghami* vary from one to three in some specimens.

58. *Chaetocnema (Udorpes) cognata* Baly, 1877

(Figs. 81, 82)

Chaetocnema cognata Baly, 1877: 168. TL: India. TD: BMNH. **Lectotype designated here.**

Chaetocnema squarrosa Baly, 1877: 169. TL: India. TD: BMNH. synonymized by Maulik, 1926: 217. **Lectotype designated here.**

Distribution: China, Thailand, India, Sri Lanka, Pakistan.

Host plants: Unknown.

Description: Body length: 1.70–2.00 mm, body width: 0.95–1.05 mm. Ratio of elytron length at suture to maximum width: 2.20–2.25. Ratio of pronotum width at base to length at middle: 1.55–1.65. Ratio of length of elytron at suture to length of pronotum at middle: 2.50–2.55. Ratio of width of elytra at base to width of pronotum at base: 1.00–1.05. Ratio of maximum width of elytra to maximum width of pronotum: 1.30–1.40.

Dorsum bronzy. Antennomeres 1–5 completely yellow, 5–11 brown, apical ones darkened. Tibiae yellow. Tarsi yellow, slightly darkened distally. Pro- and mesofemur yellow brown. Metafemur dark brown.

Head hypognathous. Frontal ridge wide and flat. Frons covered with closely placed punctures, larger than those on vertex. Ratio of width of frontal ridge between outer ridge of antennal sockets to width of antennal socket (including surrounding ridge): 1.90–2.10. Frontolateral sulcus absent. Suprafrontal sulcus deep with a pit in middle. Frons evenly covered with large and closely placed punctures and with relatively short, white setae. Vertex flat, situated on same level as orbit. Vertex densely and evenly covered with small punctures.

Base of pronotum without short longitudinal impressions. Pronotal base evenly convex. Deep row of large punctures at base of pronotum absent. Area adjacent to mid-basal margin of pronotum covered with punctures. Anterolateral prothoracic callosity moderately developed, truncate and oblique. Lateral margins of pronotum slightly convex, with maximum width near middle. Posterolateral prothoracic callosity projecting up to lateral margin of pronotum. Diameter of pronotal punctures 1–2 times smaller than distance between punctures.

Humeral calli weak. Hind wings reduced, not longer than elytra. Elytra with convex lateral sides. Scutellar row of elytral punctures usually paired (occasionally single or tripled) and confused. Second to eleventh rows of elytral punctures regular.

First protarsomere slightly larger in male. First male protarsomere length to width ratio: 1.10–1.20. Excavation on metatibia not deep. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

Aedeagus parallel-sided in ventral view. Apex of aedeagus in ventral view narrowing abruptly. Ventral longitudinal groove of aedeagus strongly developed, nearly parallel sided. Ventral longitudinal ridge in middle of aedeagus absent. Apical denticle of aedeagus in ventral view well-differentiated, narrow, apparently truncate. Minute, transverse wrinkles present at base of ventral side of aedeagus. Aedeagus in lateral view curved at base, straight at apex.

Spermathecal pump much shorter than receptacle, with apex flattened. Spermathecal receptacle sinuated. Maximum width of receptacle situated at middle. Receptacle basally as wide as apically. Vaginal palpus slightly narrowing from base till apex, thence approximately parallel-sided. Anterior sclerotization of vaginal palpus slightly widening anteriorly. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

Types: *Chaetocnema cognata* Baly. Lectotype (1♂, BMNH), labels: 1) Type H.T.; 2) Baly Coll.; 3) *Chaetocnema cognata* Baly; 4) Examined K. Prathapan 2005; 5) SYNTYPE; 6) Examined Ruan Yongying 2014; 7) Lectotype *Chaetocnema cognata* Baly, 1877 Des. Ruan *et al.*, 2016.

Chaetocnema squarrosa Baly. Lectotype (1♀, BMNH), labels: 1) Type H.T.; 2) Baly Coll.; 3) *Chaetocnema cognata* Baly; 4) Examined K. Prathapan 2005; 5) Lectotype *Chaetocnema squarrosa* Baly, 1877 Des. Ruan *et al.*, 2016.

FIGURE 81. *Chaetocnema cognata*. **A** Lectotype, habitus. **B** None-type specimen, habitus. **C–D** Aedeagus, ventral and lateral views. **E** Apex of Aedeagus, ventral view. **F** Vaginal palpi. **G** Spermatheca. **H** Pygidium (Tergite 7) of female.

Material: 2♀ (BMNH), Baly Coll. (probably, these two specimens are also part of the materials used by Baly in original description); 1♂, Bangkok (**Thailand**), Siam, Nov.1924, H.M. Smith, collected at night, *Chaetocnema* sp. C. R. Basu det., *Chaetocnema cognata* det. Yongying Ruan, 2016; 1 (BMNH), **Thailand**, Nan Province, Lainan, 22–23.ix.2012, cabbage farm, 18.579°N, 100.757°E, LN3 Light trap, leg. D. L. J. Quicke, BMNH(E) 2015–75; 1♀ (BMNH), **India**, W. Almora Divn, Kumaon U.P., III.1917, H. G. O., H. G. Champion Coll., B. M. 1953–156; 1♀ (BMNH), **India**, at light, Bihar Prov., Ranchi, Namkum, 1928; 1♂ (USNM), **India**, Bombay, JC Bridwell coll.,

16.IX.1924; 4, West Bengal (**India**), Singur, Nasibpur, May–June 1971, Oppenheimer, *Chaetocnema* sp. C. R. Basu det., *Chaetocnema cognata* det. Yongying Ruan, 2016; 1♂ (BMNH), **Ceylon**, G. Lewis. 1910–320; 3, **Pakistan**, Lahore, July 1958, light trap, *Chaetocnema* sp. C. R. Basu det., *Chaetocnema cognata* det. Yongying Ruan, 2016. 1 (BMNH), 67.56, *Chaetocnema cognata* Baly, 1877, Det. Yongying Ruan, 2016.

Remarks: This species is extremely similar to *C. afghana* based on external characters, however, they obviously differ from each other by the shape of aedeagus. In *C. cognata*, peri-scutellar punctures are usually paired, reaching the middle of elytra; while in *C. afghana*, peri-scutellar punctures are usually single to slightly geminate (with fewer punctures than in *C. cognata*), not reaching the middle of elytra. It also resembles *C. eastafghanica* in the general body shape, however, they can be well differentiated by the punctation on head and the shape of aedeagus.

FIGURE 82. *Chaetocnema cognata*. **A** Male habitus. **B** Female habitus. **C** Pronotum. **D** Head, frontal view.

59. *Chaetocnema (Udorpes) concinnicollis* (Baly, 1874)

(Figs. 83, 84)

Plectroscelis concinnicollis Baly 1874:208. TL: Japan, “Nagasaki”. TD: BMNH

Plectroscelis philoxena Baly 1877: 595. TL: China, “Kin Kiang”. TD: BMNH; synonymized by Heikertinger, 1951: 215.

Chaetocnema concinnicollis kaibarensis Madar 1960: 48. TL: “Kaibara, Hikami-gun, Hyogo Pref., Honshu, Japan”. TD: not given; synonymized by Kimoto and Takizawa, 1994: 320.

Distribution: China (Zhejiang, Fujian, Taiwan, Hainan), Vietnam, Thailand, India, Nepal; Palearctic Region: Russia, North Korea, Japan, Saudi Arabia.

Host plants: *Raphanus sativus* L. var. *acanthiformis* (Gressitt & Kimoto 1963); *Digitaria* sp. (new record here); *Oryza sativa* (Ohno & Hirano 1970).

Description: Description is not provided here, as this species has recently been revised by Konstantinov *et al.* (2011).

Types: We could not locate the types of *Chaetocnema concinnicollis* in BMNH. Species concept follows Konstantinov *et al.* (2011).

Chaetocnema philoxena: Holotype: 1 (BMNH), labels: 1) Type H.T.; 2) Baly Coll.; 3) *Chaetocnema philoxena* Baly, China. Cotype: 2 (BMNH), labels: 1) Cotype; 2) Baly Coll.

Material: 13♀15♂ (IZCAS), **China**, Fujian, Fuan, 26.VII.2013, leg. Yongying Ruan, host: *Digitaria* sp.; 1♂ (IZCAS), **China**, Fujian, Fuzhou, Kuiki, 2.VIII.1955; 1♀2♂ (IZCAS), **China**, Zhejiang, Tianmu Mountain, Sanmuping, 17–21.VII.1998, leg. Hong Wu; 46 (IZCAS), **China**, Hainan, Jianfengling, 1980.IV.17, alt. 75m, leg. Shuyong Wang; 1 (USNM), Kobe, **Japan**, Baker, *Chaetocnema concinnicollis* det. Yongying Ruan, 2016.

60. *Chaetocnema (Udorpes) concinnipennis* Baly, 1877

(Fig. 85)

Chaetocnema concinnipennis Baly, 1877: 170. TL: India. TD: BMNH. **Lectotype designated here.**

Distribution: China (Hainan, Hongkong, Yunnan), Vietnam, Thailand, Malaysia, Singapore, Indonesia, India, Nepal, Sri Lanka; Palearctic Region: Japan; Australian Region: Australia.

Host plants: *Oryza sativa* Linn. (Poaceae) (Kulshreshtha and Mishra, 1970; Scherer, 1969; Nair *et al.*, 1976; Batra, 1969), *Lagerstroemia indica* (Lythraceae) (Govindan *et al.*, 1986).

Description: Body length 2.00–2.80 mm, body width 1.50–1.60 mm. Ratio of elytron length (along suture) to width (maximum): 2.20–2.20. Ratio of pronotum width (at base) to length: 1.40–1.45. Ratio of length of elytron to length of pronotum (along middle): 2.50–2.60. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.20–1.25. Ratio of maximum width of elytra to maximum width of pronotum: 1.30–1.40.

Dorsum coppery. Antennomere 1 partially dark brown, 2–5 completely yellow, 6–11 yellow brown to yellow black, apical ones being darkened. Pro- and mesotibia partially brown. Metatibia yellow brown. Pro- and mesofemora light brown. Metafemora brown.

Head hypognathous. Frontal ridge wide and flat. Frontolateral sulcus absent. Suprafrontal sulcus wide and deep with a pit in middle. Ratio of width of frontal ridge to width of antennal socket: 1.90–2.00. Frons evenly covered with relatively short white setae. Vertex flat, situated on same level as orbit. Vertex densely and evenly covered with punctures.

Base of pronotum without short longitudinal impressions. Deep row of large punctures at base of pronotum absent. Pronotal base evenly convex. Area adjacent to mid basal margin of pronotum covered with punctures. Pronotum without shallow antebasal transverse impression. Lateral margins of pronotum slightly convex, converging forward. Anterolateral prothoracic callosity protruding laterally. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures more than distance between punctures.

Elytra with convex lateral sides. Punctures on elytra as large as those on pronotum. Diameter of pronotal punctures larger than distance between them. Scutellar row of elytral punctures confused, arranged in 3–4 semiregular rows. Second to 11th row of punctures extremely closely placed. Humeral callus well developed.

First and second male protarsomeres, length to length ratio: 1.20–1.20. Large lateral denticle on metatibia

obtuse. Metatibial serration proximal to large lateral denticle present, obtuse. First male metatarsomere, length to width ratio: 1.20–1.30. First male protarsomere, maximum width to width at base ratio: 1.50–1.60.

In ventral view, aedeagus parallel-sided. Apex of aedeagus in ventral view narrowing abruptly. Ventral surface of apical fourth of aedeagus deeply concave, ventral longitudinal groove of aedeagus well developed, deep, narrowed near basal opening. Apical denticle of aedeagus absent or extremely weak. Minute transverse wrinkles on ventral side of aedeagus well developed. Aedeagus in lateral view evenly and strongly curved. Maximum curvature of aedeagus in lateral view situated medially.

FIGURE 83. *Chaetocnema concinnicollis*. Habitus.

Spermathecal pump much shorter than receptacle. Apex of spermathecal pump flattened. Spermathecal receptacle slightly sinuated. Maximum width of receptacle situated towards middle. Receptacle basally about as wide as apically. Vaginal palpus narrowing from base till middle, thence slightly widening towards apex. Anterior sclerotization of vaginal palpus slightly widening anteriorly. Anterior end of anterior sclerotization broadly rounded. Posterior sclerotization longer than wide. Posterior sclerotization about as wide as anterior.

Type: Lectotype: 1♂ (BMNH), labels: 1) India; 2) Type H.T.; 3) Baly Coll., *Chaetocnema concinnipennis* Baly India; 4) Lectotype *Chaetocnema concinnipennis* Baly, 1877 Des. Ruan *et al.*, 2016.

Material: Oriental Region. 1♂ (BMNH) (probable materials used in Baly's original description), labels: 1) Baly Coll.; 1♀, **China**, Yunnan, Jinghong, Gangnanju, alt. 700m, 21.III.1957; 1♂2♀, **China**, Guangdong, Hainan, Yinggen, alt. 10m, 16.IV.1960, leg. Xuezhong Zhang; 1♂ (BMNH), **China**, Bowring, 63 47 *; 5♂15♀, **Vietnam**, Tonkin, Hoa-Binh, 1937, leg. A de cooman, *Chaetocnema birmanica* Jac.; 1♂, **Vietnam**, Tonkin, Hoa-Binh, 1939, leg. A de cooman, *Chaetocnema concinnipennis* det. S. H. Chen. 2♂2♀, **Vietnam**, Tonkin, Hoa-Binh, 17.I.1967, *Chaetocnema concinnipennis* det. S. H. Chen. 2♂1♀, **Vietnam**, Hanoi, MUSEUM PARIS, (COLL. PH. FRANCOIS), COLL. L DEDEL, 1922; 1♂ (USNM), **Vietnam**, Hoa-Binh, Ha Son-Binh, 15–21.X.1976, leg. L. Medvedev, *Chaetocnema concinnipennis* det. L. Medvedev; 1 (USNM), **Vietnam** Saigon at Dover, 28.VII.67, AEMiller, w. military cargo on plane, 67–17079, *Chaetocnema* sp. d. R. White; 2 (USNM), **Vietnam** at Dover, 19.XI.1968, AEMiller, w. military cargo, 68–26559, *Chaetocnema* sp. d. R. E. White; 1 (USNM), **Vietnam**, at Travis, 10–XII–1968, Larsen with aircraft, 69–8128, *Chaetocnema* sp. d. R.E. White; 2♂2♀ (USNM), **Thailand**, Rajburi Bangpongmuang, 15.IV.1952; 1♀ (USNM), **Thailand**, Khao Yai National Park, 8.XI.1977, Gary F. Hevel, Loan from USNMNH 2065634; 1♂8♀ (USNM), Bangkok (**Thailand**), Siam, Hugh Smith, coll X–XI–1924, *Chaetocnema* sp. det. A. Konstantinov; 1 (BMNH), **Thailand**, Kanchanaburi Prov., Thongpapoom, 11–12.vii.2009, UV light trap, D. Quicke & B&R. Butcher, BMNH(E), 2009–74, *Chaetocnema concinnipennis* (Baly), Det. Yongying Ruan, 2016; 1 (BMNH), MALAY PENIN (**Malaysia**): 200', Nov.1920, Ex F. M. S Museum, B.M. 1955–354, *Chaetocnema concinnipennis* (Baly), Det. Yongying Ruan, 2016; 1♀, **Malaysia**, West Malaysia, Perak, sqsamun, C.I.E. COLL., *Chaetocnema* sp. det. M.L. Cox, 1983; 1, **Malaysia**, Sabah, Tanjung Aru Beach, 29 August 1983, G. F. Hevel & W. E. Steiner; 6(BMNH), Bi. 4.22, flew, **Singapore**, C. J. Saunders, B.M. 1933–227, *Chaetocnema concinnipennis* (Baly), Det. Yongying Ruan, 2016; 1 (USNM), **Indonesia**, Coffea avabila in burlap, H. Shinasato, July 17, 1964, NY 186319, 64 19402, *Chaetocnema* sp. Det. G.B. Vogt; 1♀ (USNM), **Nepal**, Royal Chitwan National Park, 820 feet, 1–2.11.1977, leg. Gary F. Hevel; 1♀ (USNM), **Nepal**, Terrai, W Narayangadh, small valley Rapti river, 26.IV.2000, Konstantinov, Lingafelter, Volkovitsh; 1♀ (USNM), **Nepal**, Terrai, env. Chitawan Nat. Park, river beds, 25.IV.2000, Konstantinov, Lingafelter, Volkovitsh; 1♂ (USNM), **India**, Bengal Pres. Diamond Harbour. R. Hoogly. 1.XII.1927, T. D. A. Cockerell, *Chaetocnema concinnipennis* det. G. E. Bryant.; 1♂♀ (USNM), South **India**, Eastern Ghats Karnataka, 14 km, E. Tumkur, leg. Konstantinov, Prathapan, Saluk; 1♀ (USNM), South **India**, Western Ghats Karnataka Prov, env. Mudigere, 14.XI.2003, 904m, river, leg. Konstantinov, Prathapan, Saluk; 1♀ (USNM), **India**, Madhya Prad., Jabalpur, 20–21.9.1968, K. E. Gibson, Loan from USNMNH 2065634; 1♀ (USNM), **India**, Madhya Prad., Jabalpur, 20–21.9.1968, K. E. Gibson, Loan from USNMNH 2065634; 1 (USNM), West Bengal (**India**), Singur, Nasibpur, 4 AP.71, Oppenheimer, *Chaetocnema* sp. C. R. Basu det.; 3 (BMNH), Calcutta (**India**), Atkinson, Coll., 92–3; 1 (BMNH), **Ceylon**, S.P., Tangalle, Coll. T. B. F., 30. XI. 07, **Ceylon**, T. B. Fletcher, 1909–80; 1 (BMNH), **Ceylon**, S.P., Hamlandola, Coll. T. B. F., 25. 11. 07, AAAX, **Ceylon**, T. B. Fletcher, 1910–134; 8 (BMNH), Calcutta (**India**), Atkinson, Coll., 92–3. 4 (BMNH), Mungphu, Atkinson Coll., 92–3. 1 (BMNH), Belgaum (**India**), N, 1967, *Chaetocnema concinnipennis* Baly; 1 (BMNH), H. L. Andrewes, Nilgiri Hills (**India**), 165, Andrewes, Bequest, B. M. 1922–221; 4 (BMNH), Chipurupalle, Vizagapatam Distr., **India**, R. S. Patuck, B. M. 1923–430; 1 (BMNH), **India**, Bengal Pres, Diamond Harbour, R. Hoogly, 11. xii. 27, T. D. A. Cockerell, Pres. by Imp. Bur. Ent., Brit. Mus., 1928–511; 1 (BMNH), Mardi M (**India**), 8912, 10. 8. 82, Rahim coll., West Malaysia, Kelantan, Telipot, C. I. E. COLL, A. 15188, *Chaetocnema concinnipennis* Baly, det. M. L. Cox, 1983, Pres by Comm Inst Ent, B. M. 1983–1; 1 (BMNH), **India**, Cuttack, 15. iii. 91, ex empty leaf roll of rice, V. N. Rao, coll., 123, I I E 21721, Ex empty leaf roll (rice), 123, *Chaetocnema concinnipennis* Baly, det. M. L. Cox, 1991, Pres by Comm Inst Ent, B. M. 1991–1; 1 (BMNH), **India**, N. Bihar, 1989?, Sp. 41; assoc. with *Euryaia ferox* in, freshwater pools CIE A20368, *Chaetocnema concinnipennis* Baly, det. M. L. Cox, 1987, Pres by Comm Inst Ent, B. M. 1989–1. 2♀ (USNM), **Ceylon**, Kur. Dist., Kurunegala, 7.10.1966. leg. J.F.G. Clarke, Thelma M. Clarke; 1 (USNM), **Sri Lanka**, Kur. Dist. Kurunegala, 7. Oct. 1966, J. F. G. Clarke, Thelma M. Clarke, Loan from USNMNH 2065634; 2 (BMNH), **Ceylon**: Anuradhapura, L. W. S. Pringle, B.M. 1953–175, Light trap, *Chaetocnema concinnipennis* (Baly), Det. Yongying Ruan, 2016.

FIGURE 84. *Chaetocnema concinnicollis*. **A** Female habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female.

Palearctic Region. 1 (USNM), **Japan**, at San Francisco, 1.XI.1968, *Chaetocnema* sp. d. R.E. White.

Australian Region. 1 (BMNH), Semper, Phillip Island (**Australia**), Fry Coll., 1905.100., *Chaetocnema concinnipennis* (Baly), Det. Yongying Ruan, 2016.

Specimens that transported to United States by aircrafts / Specimens intercepted at the United States airports. 1 (USNM), Japan, Thailand, Okinawa?, at Dover, 15.X.67, AEMiller, on aircraft, 67–23126, *Chaetocnema* sp. d. R.E. White; 2 (USNM), Orient, at Seattle, II–5–68, DMPike, in aircraft, 68–5168, *Chaetocnema* sp. d. R.

White; 2 (USNM), Orient, at Seattle, XI.24.–67, DMPike, in aircraft, 68–2140, *Chaetocnema* sp. d. R. White; 14 (USNM), Orient at Travis, 12.23.66, L Rapp in airport, 67–3663, *Chaetocnema* sp. d. R. White; 1 (USNM), Orient at Anchorage, 11.21.66, JFByrnes in airport, 67–3814, *Chaetocnema* sp. d. R. White.

Remarks: Punctuation of dorsum in *C. malayana* and *C. concinnipennis* are extremely alike. However, they can be distinguished from each other by the structure of aedeagus. Moreover, in *C. concinnipennis*, punctures on dorsum are large and extremely closely placed, but in *C. birmanica*, punctures are smaller and the interspaces are wider. This species is also close to *C. bretinghami*, from which it can be distinguished by the closely paced elytral punctures.

FIGURE 85. *Chaetocnema concinnipennis*. **A** Female habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female.

61. *Chaetocnema (Udorpes) cupreata* Chen, 1934

Chaetocnema cupreata Chen, 1934: 245, 249. TL: Tonkin, Vietnam. TD: MNHN.

Distribution: Vietnam (Tonkin).

Host plants: Unknown.

Description (after Chen, 1934): Body length: about 3.5 mm. Dorsum cupreous, resembles *C. concinnicollis* in color, but with the body longer. Antennae with four or five basal antennomeres fulvous, rest darker. Legs red brown, anterior femora slightly and posterior deeply metallic.

Head hypognathous. Frontal ridge flat and wide. Frontolateral sulcus absent. Vertex finely reticulate, strongly and rather closely punctate, but with a longitudinal median impunctate area; clypeus closely punctate and setose. Antennae extending to a little distance beyond humeral calli, second joint slightly shorter than third, 3–6 subequal in length, rest slightly and progressively shortened and thickened towards apex.

Pronotum without short longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum absent. Pronotal base evenly convex. Pronotum rather convex in front, closely punctate; lateral margins almost straight behind, convergent in front; base somewhat rounded in middle.

Elytra slightly broader at base than prothorax, transversely depressed behind basal portion and strongly punctate; each elytron with eleven rows of punctures, short scutellar row geminate; interstices extremely finely granulose when seen under high magnification, lateral interstices costate. Humeral callus well developed.

Material: We have tried several times, however, we could not find the type in MNHN. No material was examined.

Remarks: This species closely resembles *C. merguiensis*, and can be differentiated from the latter by the shorter antennae and color (dorsum cupreous in *C. cupreata* while metallic green in *C. merguiensis*).

62. *Chaetocnema (Udorpes) cylindrica* (Baly, 1874)

(Fig. 86)

Plectroscelis cylindrica Baly, 1874: 208. TL: Japan, “Nagasaki”. TD: BMNH

Chaetocnema cylindrica: Chen, 1933: 215.

Distribution: China (Zhejiang, Hubei, Jiangxi, Guangxi); Korea, Japan.

Host plants: *Triticum aestivum* (Gressitt & Kimoto, 1963); *Oryza sativa* L. (new record based on label data).

Description: Description is not provided here, as this species has been revised by Konstantinov *et al.* (2011).

Types: Lectotype male (1, BMNH): 1) Type, H.T., 2) Baly Coll., 3) *Plectroscelis cylindrica* Baly, Japan, 4) *C. cylindricus* Holotype, BM, 5) blank yellow label, 6) blank pink label, 7) 8 Konstantinov; 8) Lectotype *Chaetocnema cylindrica* Baly, des. A. S. Konstantinov *et al.* 2009;

Paralectotypes (4, BMNH): 1) No specific data, 1910, G. Lewis; 2) Paralectotype *Chaetocnema cylindrica* Baly, des. A. S. Konstantinov *et al.* 2009.

Material: 2♀4♂ (IZCAS), **China**, Guangxi, Guilin, Liangfeng, 30.IV.1952; 1♀ (IZCAS), **China**, Jiangxi, Xingzi, 1932; 1♂ (IZCAS), **China**, Jiangxi, 1954, **Host plant:** *Oryza sativa* L., *Chaetocnema cylindrica* Baly det. Yunqing Gong; 1♂ (IZCAS), **China**, Jiangxi, LianTang, 7.IV.1954, *Chaetocnema cylindrica* (Baly) det. Peiyu Yu; 1♂ (IZCAS), **China**, Zhejiang, Hangzhou, 1925, leg. A. PICHON, MUSEUM PARIS, *Chaetocnema cylindrica* Baly det. S.H. Chen.

Remarks: *Chaetocnema cylindrica* is rather unique in Oriental *Chaetocnema* species by the longitudinal and cylindrical body and the strongly narrowed and constricted pronotal base.

63. *Chaetocnema (Udorpes) eastafghanica* Konstantinov, Baselga, Grebennikov, Prena & Lingalfelter, 2011

(Fig. 87)

Chaetocnema eastafghanica Konstantinov, Baselga, Grebennikov, Prena & Lingalfelter, 2011: 140. TL: Afghan (Kunartal, Jalalabad). TD: USNM.

Host plants: Unknown.

Distribution: Nepal, Afghanistan.

Description: Description is not provided here, as this species has already been revised by Konstantinov *et al.*, (2011).

Types: ♂ (Holotype, in USNM), 1) O. Afghan. 1953, J. Klapperich, 2) Kunartal, 500m, Jalalabad, 30.III, 3) *Chaetocnema klapperichi* m. sp. n. I. Lopatin det., 1961, 4) Paratypus, 5) Holotype *Chaetocnema eastafghanica* Konstantinov *et al.* 2009.

FIGURE 86. *Chaetocnema cylindrica*. **A** Male habitus. **B** Pronotum and peri-scutellar area of elytra. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Tignum. **J** Pygidium (tergite 7) of female.

FIGURE 87. *Chaetocnema eastafghana*. **A** Male habitus. **B** Pronotum and peri-scutellar area. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female.

Material: 1♂ (USNM), **Nepal**, Katmandu, 3400', IX–X.1958, J. Maldonado, sweeping, *Chaetocnema* sp. ♂ det. A. Konstantinov, *Chaetocnema eastafghana* det. Yongying Ruan, 2016; 1♀ (BMNH), **Nepal**, TAPLEJUNG DISTR., edge of mixed forest above Sangu, c 6500', X–XL.1961, BRI. MUS., East Nepal Exp., 1961–1962. R.L. Coe Coll. 2♀ (USNM), **Nepal**, Pokhara–Kathmandu 12km ESE Mugling, Trisuli Riv, 24.IV.2000, Konstantinov, Lingafelter, Volkovitsh; 1♂ (USNM), **Nepal**, Terrai, env., Chitawan Nat. Park, river beds, 25.IV.2000, Konstantinov, Lingafelter, Volkovitsh; 23 specimens (USNM), **Nepal**, Pokhara Lumle St.—Thulakharka, 1640–2140 m, 22.IV.

2000, Konstantinov, Lingafelter, Volkovitsh; 1 (USNM), **Nepal**, Jiri reg., Shivalaya–Jiri, 1770–1900m, wet slop in the forrest, 12.V.2000, Konstantinov, Lingafelter, Volkovitsh; 2♂ (USNM), Mangalore, **India**, JCBridwell, coll Nov, 26, Loan from USNMNH 2065634; 2♂ (USNM), **Pakistan**, Lahore, VI–VIII.1957, J. Maldonado, Loan from USNMNH 2065634;

Remarks: *C. eastafghanica* is closely related to *C. cognata*. However, they can be well differentiated by the punctuation on head and the shape of aedeagus.

64. *Chaetocnema (Udorpes) glabra* Ruan, Konstantinov & Yang, New Species

(Figs. 88, 89, 90)

Etymology: This species is named after its ovate body and smooth surface. Specific epithet is a noun in apposition.

Diagnosis: *C. glabra* sp. nov. is a flightless species, with hind wings and elytral calli absent. It differs from other *Chaetocnema* species in Oriental Region by the very short antennae, extremely wide inter-antennal space (wider than diameter of eye) and the absence of hind wings. Intriguingly, it is morphologically close to the species in *C. denticulata* species group (White, 1993) from North America with the unique frontal characters; it may be differentiated from them by the shape of aedeagus and absence of hind wings.

Distribution: India, Sri Lanka.

Host plants: Unknown.

Description: Body length: 1.80–2.00 mm. Body width: 1.00–1.05 mm. Antennae extremely short, not reaching humerus. Ratio of length of antenna to length of body: 0.40–0.42. Ratio of elytron length (along suture) to width (maximum): 2.35–2.40. Ratio of pronotum width (at base) to length: 1.70–1.72. Ratio of length of elytron to length of pronotum (along middle): 2.40–2.42. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 0.98–1.02.

Dorsum dark bronzy. Antennomeres 1–6 yellow brown, 7–11 brown. Tarsi and tibiae yellow brown. Pro- and mesofemora yellow brown. Metafemora red brown.

Head hypognathous. Frontal ridge wide and flat. Ratio of width of frontal ridge to width of antennal socket: 3.80–4.00. Frontolateral, suprafrontal sulci absent, frontal ridge merge with vertex, with a pit in middle. Orbital, supraantennal sulci moderately developed, straight and oblique. Frons covered with a few to dozen large and irregularly placed punctures. Vertex flat, situated on same level as orbit. Vertex densely and evenly covered with small punctures, with a narrow longitudinal impunctate area in middle.

Base of pronotum without short longitudinal impressions. Pronotal base evenly convex. Deep row of large punctures at base of pronotum absent. Narrow area adjacent to mid-basal margin of pronotum impunctate. Antero-lateral prothoracic callosity poorly developed, invisible from above. Lateral margins of pronotum slightly convex, with maximum width basally. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures small, 3–5 times smaller than distance between adjacent punctures.

Humeral calli and hind wings absent. Elytra with convex lateral sides. Scutellar row of elytral punctures single. Second to eleventh rows of elytral punctures regular. Elytral interspaces between puncture rows not costate.

First protarsomere a little larger in male than in female. Excavation on metatibia deep. Large lateral denticle on metatibia acute. Metatibial serration proximal to large lateral denticle absent.

Aedeagus parallel-sided. Apex of aedeagus in ventral view narrowing gradually. Ventral longitudinal groove of aedeagus moderately to poorly developed. Ventral longitudinal ridge in middle of aedeagus absent. Apical denticle of aedeagus in ventral view well differentiated, narrow, almost truncate apically. Minute, transverse wrinkles absent on ventral side of aedeagus. Aedeagus in lateral view evenly curved.

Spermatheca with receptacle sinuated. Spermathecal pump much shorter than receptacle, with apex flattened. Maximum width of receptacle situated near base. Receptacle basally wider than apically. Vaginal palpus slightly narrowing from base till middle, thence approximately parallel-sided. Anterior sclerotization of vaginal palpus slightly widening anteriorly. Posterior sclerotization longer than wide. Posterior sclerotization narrower than anterior.

Type: Holotype: ♂ (BMNH): 1) **India**, Bandra, Dr. Jayakar, 1905–152, 2) Holotype; 3) *Chaetocnema glabra* sp. nov. des. Yongying Ruan, 2016.

FIGURE 88. *Chaetocnema glabra* sp. nov. Male habitus (hand drawing).

FIGURE 89. *Chaetocnema glabra* sp. nov. **A** Holotype (dorsal view). **B** Pronotum and peri-scutellar area (Holotype). **C** Head, frontal view (Holotype). **D** Aedeagus, ventral view (Holotype). **E** Aedeagus, lateral view (Holotype). **F** Apex of aedeagus, ventral view (Holotype).

Paratypes: 1♀ (USNM), 1) **Sri Lanka**, Anu. Dist. Padaviya, Antiquities Site, 20–23.VII.1978, Collectors: K. V. Krobein T. Wijesime, V. Kulasekare, L. Jayawickrema, 2) Restrictions apply NMNH—Sri Lanka Agreement #6, 3) Loan from USNMNH 2065634. 4) Paratype; 5) *Chaetocnema glabra* sp. nov. des. Yongying Ruan, 2016. 2 (BMNH), 1) West Bengal (**India**), Singur, Nhsibpur, May 1971 GBN, Oppenheimer, 2) *Chaetocnema* sp. C.R. Basu det., 3) Paratype, 4) *Chaetocnema glabra* sp. nov. des. Yongying Ruan, 2016.

FIGURE 90. *Chaetocnema glabra* sp. nov. **A** Paratype (dorsal view). **B** Pronotum (Paratype). **C** Head, frontal view (Paratype). **D** Vaginal palpi (Paratype). **E** Spermatheca (Paratype). **F** Pygidium (tergite 7) of female (Paratype).

65. *Chaetocnema (Udorpes) greenica* Ruan, Konstantinov & Yang, New Species

(Figs. 91, 92)

Etymology: This species is named after its metallic green color. Specific epithet is a noun in apposition.

Diagnosis: This species is unique and differs from other Oriental *Chaetocnema* species by combination of the following characters: dorsum entirely metallic green, prothorax extremely convex and almost as wide as elytral base, orbital, supraantennal sulci absent, orbit merge with vertex.

FIGURE 91. *Chaetocnema greenica* sp. nov. Female habitus (hand drawing).

Distribution: India.

Host plants: Unknown.

Description: Body length: 2.15–2.25 mm. Body width: 1.19–1.21 mm. Antennae short, ratio of length of an-

tenna to length of body: 0.50–0.53. Ratio of elytron length (along suture) to width (maximum): 2.32–2.36. Ratio of pronotum width (at base) to length: 1.61–1.63. Ratio of length of elytron to length of pronotum (along middle): 2.35–2.40. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.00–1.03.

Dorsum (including head) entirely metallic green, finely reticulate. Antennomeres 1–4 completely yellow brown, 5–11 brown, with apical ones darkened. Tarsi and tibiae yellow brown, with apex somewhat infusate. Pro- and mesofemora light brown. Metafemora dark brown with metallic green luster.

FIGURE 92. *Chaetocnema greenica* sp. nov. **A** Holotype (female), habitus. **B** Pronotum and peri-scutellar area of Holotype. **C** Head of Holotype, frontal view. **D** Vaginal palpi of Holotype. **E** Spermatheca of Holotype. **F** Pygidium (tergite 7) of Holotype.

Head hypognathous. Frontal ridge wide and flat. Ratio of width of frontal ridge to width of antennal socket: 2.10–2.12. Frontolateral sulcus absent. Suprafrontal sulcus narrow, moderately deep, almost straight. Orbital, su-

praantennal sulci absent; orbit wide, merge with vertex, extremely closely covered with small punctures and white setae. Frons and vertex evenly covered with small, deep and closely placed punctures and relatively short, white setae.

Base of pronotum without short longitudinal impressions. Pronotal base evenly convex. Deep row of large punctures at base of pronotum absent. Area adjacent to mid-basal margin of pronotum covered with punctures. Pronotum highly convex, anterolateral prothoracic callosity poorly developed, invisible from above. Lateral margins of pronotum strongly convex, converging forward, with maximum width near middle. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 1.5–3 times smaller than distance between them.

Elytra with convex lateral sides, humeral calli well developed. Scutellar row of elytral punctures somewhat geminate. Second to eleventh rows of elytral punctures regular. Elytral interspaces between puncture rows slightly costate at sides.

Excavation on metatibia not deep. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

Spermatheca with receptacle sinuated. Spermathecal pump much shorter than receptacle, with apex flattened. Receptacle basally as wide as apically. Vaginal palpus slightly narrowing from base till middle, thence approximately parallel sided. Anterior sclerotization of vaginal palpus with parallel sides. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

Type: Holotype: ♀ (in USNM): 1) India, Meghalaya State, West Garo Hills, 450m, 25°11'N/90°51'E; 2) *Chaetocnema cognata* Baly, 1877, det Döberl, 2001; 3) Holotype; 4) *Chaetocnema greenica* **sp. nov.**, Des. Ruan, 2016.

66. *Chaetocnema (Udorpes) ingenua* (Baly, 1876)

(Fig. 93)

Plectroscelis ingenua Baly, 1876: 594. TL: China. TD: BMNH.

Chaetocnema japonica Jacoby, 1885: 732. TL: Japan. TD: BMNH. Synonymized by Gressitt & Kimoto, 1963: 780.

Chaetocnema aurifrons Jacoby, 1885: 733. TL: Japan. TD: BMNH. Synonymized by Kimoto & Takizawa 1994: 320.

Chaetocnema fulvipes Jacoby, 1885: 732. TL: Japan. TD: BMNH. Synonymized by Gressitt & Kimoto, 1963: 780.

Chaetocnema ingenua: Weise, 1922: 130.

Chaetocnema micans Palij, 1961: 11 (nomen nudum).

Chaetocnema ogloblini Palij, 1970: 197. TL: North–East China. TD: ZIN. Synonymized by Konstantinov *et al.*, 2011.

Distribution: China (Heilongjiang, Jilin, Inner Mongolia, Hebei, Shanxi, Shaanxi, Shandong, Henan, Gansu, Jiangsu, Hubei, Jiangxi, Hunan, Fujian, Sichuan, Yunnan), Mongolia, Russia, Korea, Japan, India, Sri Lanka.

Host plants: *Oryza sativa*, *Triticum aestivum*, *Zea mays*, *Setaria italica*; *Carex kobomugi* (Chûjô & Kimoto, 1961); *Digitaria adscendens* (Ohno & Hirano, 1970), *Panicum miliaceum* (Palij, 1961).

Description: Body length: 1.90–2.40 mm. Body width: 0.90–1.30 mm. Ratio of length of antenna to length of body: 0.55–0.65 mm. Ratio of elytron length (along suture) to width (maximum): 2.30–2.40. Ratio of pronotum width (at base) to length: 1.60–1.70. Ratio of length of elytron to length of pronotum (along middle): 2.95–3.10. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.10–1.15.

Dorsum variable, usually blue green to coppery, varied. Antennomeres 1–5 yellow to light brown, 6–11 brown to dark brown. Tibiae yellow to light brown. Pro- and mesofemora light brown. Metafemora dark brown with metallic luster.

Head hypognathous. Frontal ridge flat, not wide. Frontolateral sulcus absent. Suprafrontal sulcus poorly developed. Orbital, supraorbital sulci obsolete, covered with punctures. Ratio of width of frontal ridge (excluding margin) to width of antennal socket (excluding margin): 1.55–1.65. Punctures on frons, orbit and vertex extremely close. Number of setae on clypeus: more than 20. Number of setae on labrum: 6. Anterior margin of labrum straight or slightly convex at middle.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum absent. Pronotal base evenly convex. Lateral margins of pronotum slightly convex, converging forward. Anterolateral prothoracic callosity poorly developed. Posterolateral prothoracic callosity poorly developed. Pronotal punctures close, diameter of pronotal punctures 1 to 2 times smaller than the distance between them.

Elytra convex laterally. Elytral punctures larger than those on pronotum. Scutellar punctures form 2 to 3 (occasionally 4) confused rows, remaining rows of elytral punctures regular and single. Interspaces between rows of

punctures smooth and glabrous. Number of rows of minute punctures on each interspace: 2. Humeral callus well developed.

First male protarsomere slightly larger than second. Excavation on metatibia moderately deep.

Apex of aedeagus in ventral view narrowing abruptly. Ventral longitudinal groove well developed, wide in distal half, narrowing basally. Apical denticle in ventral view extremely wide, with apex almost truncate or slightly concave. Minute transverse wrinkles on ventral groove present throughout. Aedeagus in lateral view unevenly curved, straight near apex and base, maximum curvature situated basally.

FIGURE 93. *Chaetocnema ingenua*. **A** Male habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, lateral view. **E** Aedeagus, ventral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female. **J** Tignum.

Types: *Chaetocnema ingenua*: Lectotype (1 female, BMNH): 1) Type, H.T., 2) Baly Coll., 3) *Plectroscelis ingenua* Baly, China, 4) [reverse side of label illegible: Trans....., Dec: 1876, 1–594, Type] 5) Lectotype *Chaetocnema ingenua* Baly des. A. S. Konstantinov *et al.* 2009.

Chaetocnema aurifrons: Lectotype (1 female, BMNH): 1) Type H.T., 2) Japan, G. Lewis, 1910–320, 3) *Chaetocnema aurifrons* Jac., 4) Lectotype *Chaetocnema aurifrons* Jacoby des. A. Konstantinov 2010, 5) *Chaetocnema ingenua* Baly det. A. Konstantinov 2010 (BMNH). *Chaetocnema fulvipes*: Lectotype female: 1) Type H.T., 2) Japan, G. Lewis, 1910–320, 3) *Chaetocnema fulvipes* Jac., 4) Lectotype *Chaetocnema fulvipes* Jacoby des. A. Konstantinov 2010, 5) *Chaetocnema ingenua* Baly det. A. Konstantinov 2010.

Chaetocnema japonica: Lectotype (1 female, BMNH): 1) Type H.T., 2) Japan, G. Lewis, 1910–320, 3) *Chaetocnema japonica* Jac., 4) Lectotype *Chaetocnema japonica* Jacoby des. A. Konstantinov 2010, 5) *Chaetocnema ingenua* Baly det. A. Konstantinov 2010; Paralectotype (1, BMNH): 1) Japan Lewis; 2) Jacoby coll. Paralectotypes (2, BMNH): 1) Japan, G. Lewis, 1910–320. The rest of the labels are the same as lectotype.

Chaetocnema ogloblini: Paratypes: 1 (ZIN), 1) Blagoveschensk, 20.VI.27, 2) Paratypus, *Ch. ogloblini* Palij; 1 (ZIN), 1) Blagoveschensk, 28.VI.27, na prose, 2) Paratypus, *Ch. ogloblini* Palij; 1 (ZIN), 1) na prose, Amurskaya opyt. stantsiya, 19.VII, 2) Paratypus, *Ch. ogloblini* Palij; 9 (ZIN), 1) Voroshilov, Ussur. 15.VI.31, T. Samojlov, 2) Paratypus, *Ch. ogloblini* Palij.

Material: 1♂ (USNM), **China**, Tsinan, Shantung, A. P. Jacot, Sept.10.1922, *Chaetocnema ingenua* det. Yongying Ruan, 2016; 1♂1♀ (IZCAS), **China**: Shanghai, IX.1951; 1♂ (IZCAS), Tongmuguan, Wuyi Mountain, Fujian (**China**), alt. 1100m, 11.X.1997, leg. Jiashe Wang; 1♂ (IZCAS), **China**: Shaanxi, Foping, Liangfengya, alt. 1900–2100, 24.VII.1998, leg. Jun Chen; 1♂ (IZCAS), **China**: Hunan, Sangzhi, Tianping Mountain, alt. 1370, 15.VIII.1988, leg. Jun Chen; 23 (IZCAS), **China**: Sichuan, Wushang, Jiangdong village, 2.VIII.1993, alt. 140m, leg. Xingke Yang *et al.*; 25♂16♀ (IZCAS), **China**: Yunnan, Weixi, Pantiange, alt. 2920m, 17.VII.1981, leg. Shuyong Wang.

Remarks: Color is highly variable in *C. ingenua*, even amongst specimens collected at the same locality and season. The following variants of metallic colors were observed in our study: 1) dorsum entirely coppery; 2) metallic blue pronotum and elytra, coppery head; 3) metallic green pronotum and elytra, coppery head; 4) metallic purple pronotum and elytra, coppery head.

Variation was also observed in the structure of aedeagus. Transverse wrinkles on the ventral side of the aedeagus varied considerably in prominence. Apical denticle too varied in length. This species is close to *C. modiglianii* and *C. bella*. In *C. modiglianii*, aedeagus in ventral view is robust and basally distinctly wider compared to the same in *C. ingenua*. Punctuation on vertex is denser in *C. ingenua* compared to *C. bella*. In *C. bella*, lateral margins of pronotum are almost straight, or slightly rounded and the diameter of pronotal punctures 2–4 times smaller than the distance between adjacent punctures. In *C. ingenua*, lateral margins of pronotum are convex and distinctly converge forward and the pronotal punctures are 1–2 times smaller than the distance between adjacent punctures. Spermathecal receptacle is widest in middle in *C. bella*, while it is distinctly narrowed in middle in *C. ingenua*.

67. *Chaetocnema (Udorpes) kumaonensis* Scherer, 1969

(Fig. 94)

Chaetocnema kumaonensis Scherer, 1969: 158. TL: India. TD: NHMB.

Distribution: China, Nepal, India (Scherer, 1969).

Host plants: Unknown.

Description: Body length 1.90–2.10 mm, body width 1.05–1.10 mm. Ratio of elytron length (along suture) to width (maximum): 2.40–2.50. Ratio of pronotum width (at base) to length: 1.45–1.55. Ratio of length of elytron to length of pronotum (along middle): 2.50–2.60. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.15–1.20. Ratio of maximum width of elytra to maximum width of pronotum: 1.40–1.45.

Dorsum coppery brown to bronzy. Antennomeres 1–5 completely yellow, 6–11 brown. Tibiae yellow brown. Pro- and mesofemora light brown. Metafemora dark brown.

Head hypognathous. Frontal ridge wide and flat. Ratio of width of frontal ridge to width of antennal socket: 2.50–2.70. Frontolateral sulcus absent. Suprafrontal sulcus deep, with a pit in middle. Orbital sulcus moderately developed, shallower than supraantennal sulcus. Punctures on vertex uneven, with smaller ones in middle and larger

ones near eye. Number of punctures on orbit: approximately 5 (extremely closely placed near each eye, rugged). Frons with middle area flat and glabrous, lateral sides more closely covered with large punctures; punctures on frons distinctly larger than those on vertex. Number of setae on clypeus: approximately 20. Number of setae on labrum: 6. Anterior margin of labrum straight.

FIGURE 94. *Chaetocnema kumaoensis*. A Male habitus. B Pronotum and peri-scutellar area. C Head, frontal view. D Aedeagus, ventral view. E Aedeagus, lateral view. F Apex of aedeagus, ventral view.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum absent. Pronotal base evenly convex. Lateral margins of pronotum slightly convex, converging forward. Anterolat-

eral prothoracic callosity moderately developed, truncate, facing fronto-laterally. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 2 to 4 times smaller than distance between adjacent punctures.

Elytra with convex sides. Humeral callus well developed. Scutellar row with punctures geminate. Remaining rows of elytral punctures regular and single. Interspaces between striae of punctures smooth and glabrous, without minute punctures. First male protarsomere slightly larger than second, larger than that in female. Excavation on metatibia shallow. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

Aedeagus parallel-sided. Apex of aedeagus in ventral view narrowing abruptly. Ventral longitudinal groove poorly developed. Apical denticle in ventral view prominent, with truncate apex. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view unevenly curved, with maximum curvature situated basally.

Spermathecal receptacle sinuated. Basal part of spermathecal duct straight. Spermathecal pump much shorter than receptacle, with apex flat. Receptacle basally as wide as apically. Apex of vaginal palpus narrowly rounded. Anterior end of anterior sclerotization angulated. Posterior sclerotization longer than wide. Posterior sclerotization as wide as anterior. Tignum anteriorly curved and a little wider than middle, posterior sclerotization spoon shaped.

Types: 1♂ (Holotype, in NHMB), 1) Dehra Dun, India: Mussoorie, 2006 m, VIII. 1961, leg. G. Scherer; 2) ♂; 3) Holotypus *Chaetocnema kumaonensis* **sp. nov.** det. Dr. G Scherer 1965.

Material: 1♂ (IZCAS), **China**, Yunnan, Dli-Lijiang Rd. 72 km 05.VI.2002, bushes 2500m N26°09'41", E100°10'14", leg. Konstantinov & M. Volkovitsh, *Chaetocnema kumaonensis* Scherer det. Ruan, 2017; 2♂ (USNM), **Nepal**, Lantang Nat. Park Chandanbari-Dhunche, 05.V.2000, 1900–3250 m, Konstantinov, Lingafelter, Volkovitsh; 2♂2♀ (BMNH), **India**, Jhatingri, Mahdi, Punjab, 6000 ft, H. G. C., H. G. Champion Coll., B. M. 1953–156; 1♂ (BMNH), **India**, Punjab, Murree Hills, Thobba, H. Roberts Coll., B. M. 1926–395.

Remarks: This species resembles *C. zangana*. However, in *C. kumaonensis*, lateral margins of pronotum are more convex, and the anterolateral calli are much weakly developed; while in *C. zangana*, lateral margins of pronotum are nearly straight, and the anterolateral calli of pronotum are truncate and strongly developed. In *C. zangana*, head and pronotum are finely granulated, while in *C. kumaonensis* head and pronotum are smooth and shiny, not granulated.

68. *Chaetocnema (Udorpes) latapronota* Ruan, Konstantinov & Yang, New Species

(Fig. 95)

Etymology: This species is named after its wide pronotum. Specific epithet is a noun in apposition.

Distribution: Thailand, India, Pakistan.

Diagnosis: This species resembles *C. cognata*, and it differs from the latter by extremely weak humeral calli and longer pronotum (width to length ratio in *C. cognata* is 1.55–1.65, while the same in *C. latapronota* is 1.48–1.52), which is also different in shape. Shape of aedeagus are also similar in both the species. However, ventral longitudinal groove of aedeagus in *C. cognata* is parallel sided, while the same in *C. latapronota* is widened before middle.

It is also close to *C. paragreenica* and can be distinguished from the latter by the shape of aedeagus, highly reduced hind wings and extremely weak humeral calli.

Host plants: Unknown.

Description: Body length: 1.90–2.00 mm. Body width: 1.10–1.15 mm. Ratio of length of antenna to length of body: 0.56–0.59. Ratio of elytron length (along suture) to width (maximum): 2.40–2.45. Ratio of pronotum width (at base) to length: 1.48–1.52. Ratio of length of elytron to length of pronotum (along middle): 2.30–2.50. Ratio of width of elytra at base to width of pronotum at base: 1.00–1.05.

Dorsum and head bronzy, finely reticulate. Antennomeres completely yellow brown, with proximal 2 and distal 5 darker. Tarsi and tibiae red brown. Pro- and mesofemora light brown. Metafemora dark brown.

Head hypognathous. Frontal ridge wide and flat. Frons covered with closely placed punctures. Ratio of width of frontal ridge to width of antennal socket: 2.55–2.65. Frontolateral sulcus absent. Suprafrontal sulcus obsolete, with a small pit in middle. Orbital, supraantennal sulci weak. Frons evenly covered with medium sized, closely placed punctures and relatively short, white setae. Vertex flat, situated on same level as orbit, densely and evenly covered with small punctures. Punctures on vertex and orbit smaller than those on frons.

Base of pronotum without short longitudinal impressions. Pronotal base evenly convex. Deep row of large

punctures at base of pronotum absent. Area adjacent to mid-basal margin of pronotum covered with punctures. Anterolateral prothoracic callosity moderately developed, truncate and oblique. Lateral margins of pronotum slightly convex. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 1–2 times smaller than distance between adjacent punctures.

FIGURE 95. *Chaetocnema latapronota* sp. nov. **A** Male habitus (Holotype). **B** Pronotum and peri-scutellar area (Paratype). **C** Head, frontal view (Paratype). **D** Aedeagus, ventral view (Paratype). **E** Aedeagus, lateral view (Paratype). **F** Apex of aedeagus, ventral view (Paratype).

Humeral calli extremely weak. Elytra with convex lateral sides. Scutellar row of elytral punctures geminate and confused. Second to eleventh rows of elytral punctures regular. Elytral interspaces between puncture rows slightly costate at sides.

First protarsomere slightly larger in male. Excavation on metatibia moderately deep. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

Aedeagus in ventral view more or less parallel sided, apex narrowing abruptly. Ventral longitudinal groove of aedeagus moderately developed. Ventral longitudinal ridge in middle of aedeagus absent. Apical denticle of aedeagus in ventral view well differentiated, narrow, truncate on top. Minute, transverse wrinkles on ventral side of aedeagus poorly developed or absent. Aedeagus in lateral view curved near base, straight at apex.

Types: Holotype: ♂ (in USNM): 1) **INDIA:** Assam, 6mi N Tinsukia, III–29–1944, D. E. Hardy; 2) Loan from USNMNH 2065634; 3) Holotype; 4) *Chaetocnema latapronota* **sp. nov.**, Des. Yongying Ruan, 2016.

Paratypes: 2♀ (USNM), **Thailand**, Lop Buri Airawan Mt., 9.VII.1953, R. E. Elbel, Paratype, *Chaetocnema latapronota* **sp. nov.**, Des. Yongying Ruan, 2016; 2♂3♀ (USNM), **India**, Bombay, JC Bridwell coll., 16.IX.1924, Loan from USNMNH 2065634, Paratype, *Chaetocnema latapronota* **sp. nov.**, Des. Yongying Ruan, 2016; 4♂6♀ (USNM), **India**, Mangalore, JC Bridwell coll., XI.1926, Loan from USNMNH 2065634, Paratype, *Chaetocnema latapronota* **sp. nov.**, Des. Yongying Ruan, 2016; 6♂5♀ (USNM), **India**, Mangalore, J. C. Bridwell col. Nov, 26, Paratype, *Chaetocnema latapronota* **sp. nov.**, Des. Yongying Ruan, 2016; 1♀ (USNM), West Bengal (**India**) Singur Nasibpur, 9 May, 1971 BBB Oppenheimer, *Chaetocnema* sp.1, C. R. Basu det, Paratype, *Chaetocnema latapronota* **sp. nov.**, Des. Yongying Ruan, 2016; 2♂3♀ (USNM), **Pakistan**, Punj., 16mile W Hasanabdal, 1450feet, 10.X.1977, collectors: Gary F. Hevel & Mushtaq Ahmad, Loan from USNMNH 2065634, Paratype, *Chaetocnema latapronota* **sp. nov.**, Des. Yongying Ruan, 2016.

69. *Chaetocnema (Udorpes) malayana* Baly, 1877

(Fig. 96)

Chaetocnema malayana Baly, 1877: 318. TL: Malaysia. TD: BMNH. **Lectotype designated here.**

Chaetocnema birmanica Jacoby, 1892: 939. TL: Myanmar. TD: BMNH. (**Syn. Nov.**) **Lectotype designated here.**

Distribution: China: Taiwan, Yunnan (Ruan & Yang, 2015), Vietnam, Thailand, Myanmar, Malaysia.

Host plants: Unknown.

Description: Body length 2.20–2.55, body width 1.10–1.30. Ratio of elytron length (along suture) to width (maximum): 2.50–2.60. Ratio of pronotum width (at base) to length: 1.40–10.45. Ratio of length of elytron to length of pronotum (along middle): 2.50–2.60. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.15–1.25. Ratio of maximum width of elytra to maximum width of pronotum: 1.30–1.40.

Dorsum usually metallic green to bronzy, occasionally coppery. Antennae slender, passing beyond humeral callus. Antennomeres 1–4 yellow, 5–11 yellow brown to dark brown. Pro- and mesotibia partially brown. Metatibia yellow brown. Pro- and mesofemora light brown. Metafemora brown.

Head hypognathous. Frontal ridge wide and flat. Frontolateral sulcus absent. Suprafrontal sulcus deep, obcordate. Ratio of width of frontal ridge to width of antennal socket (counting surrounding ridges): 2.10–2.20. Frons evenly covered with relatively short white setae. Vertex flat, situated on same level as orbit. Vertex densely and evenly covered with punctures.

Base of pronotum without short longitudinal impressions. Deep row of large punctures at base of pronotum absent. Pronotal base only slightly convex. Area adjacent to mid basal margin of pronotum covered with punctures. Pronotum without shallow antebasal transverse impression. Lateral margins of pronotum convex with maximum width near base. Anterolateral prothoracic callosity poorly developed, truncate, facing anterolaterally. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures slightly larger than distance between adjacent punctures.

Elytra with convex lateral sides. Peri-scutellar punctures tripled. Besides scutellar row, there are 15–16 regular rows of punctures on each elytron, extremely closely placed. Humeral callus well developed.

First male protarsomere extremely enlarged. First and second male protarsomeres, length to length ratio: 1.30–1.40. First and second male protarsomeres, width to width ratio: 1.70–1.80. First male protarsomere, maximum width to width at base ratio: 1.90–2.00. Large lateral denticle on metatibia obtuse. Metatibial serration present, obtuse.

FIGURE 96. *Chaetocnema malayana*. **A** Male habitus. **B** Pronotum and peri-scutellar area. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female.

Apex of aedeagus in ventral view narrowing abruptly. Ventral surface of apex of aedeagus deeply concave. Ventral longitudinal groove in apical half wide, narrowing towards basal opening. Apical denticle of aedeagus in ventral view well differentiated, short, apex truncate. Apical denticle of aedeagus in lateral view strongly curved ventrally. Minute transverse wrinkles on basal part of ventral side of aedeagus absent. Aedeagus in lateral view evenly and slightly curved.

Spermathecal pump much shorter than receptacle. Apex of spermathecal pump flattened. Spermathecal receptacle sinuate. Maximum width of receptacle situated at apex. Anterior sclerotization of tignum wider than mid-section. Apex of vaginal palpus rounded. Vaginal palpus parallel-sided in middle. Anterior sclerotization of vaginal palpus slightly widening anteriorly. Posterior sclerotization about as wide as long. Posterior sclerotization obviously wider than anterior.

Types: *Chaetocnema malayana* Baly, Lectotype: 1 (BMNH), 1) Type H. T.; 2) Malaysia, Archipelago; 3) Baly, Coll.; 4) *Chaetocnema malayana* Baly, Malaysia, Archipelago; 5) Lectotype *Chaetocnema malayana* Baly, 1877 Des. Ruan *et al.*, 2016.

Chaetocnema birmanica Jac. Holotype: ♂ (BMNH), labels: 1) Type H.T.; 2) Bangoon Birmania Fea. XII 1888; 3) Jacoby Coll. 1909–28a; 4) *Chaetocnema birmanica* Jac.

Material: 1♂ (USNM), **Thailand**, Nakhon, Ratchasima Prov., 9km SE Non Sung, 9.III.1971, P. & P. Spangler; 2♂ (USNM), **Myanmar**, Tenasserim, MUS. PRAGENSE, Coll. Helfer, *Chaetocnema concinnipennis* det. I. Lopatin, 1961; 1♀ (USNM), **India**, New Delhi, 8.VII.1967, leg. K. E. Gibson, light trap; 1 (BMNH), **India**, with *Morus* seed, X.6.36, EQ#045164, 36: 31866, PrinceCdl.

Remarks: *C. malayana* resembles *C. concinnipennis*, it is very easy to confuse these two species. However, in *C. concinnipennis*, apical denticle of aedeagus is absent in ventral view, while the same is distinctly developed in *C. malayana*. Punctures on dorsum in *C. malayana* is much smaller and distantly placed compared to those in *C. concinnipennis*.

70. *Chaetocnema (Udorpes) merguiensis* Bryant, 1941 (Fig. 97)

Chaetocnema merguiensis Bryant, 1941: 409. TL: Myanmar. TD: BMNH. **Lectotype designated here.**

Distribution: Laos, Myanmar.

Host plants: Unknown.

Description: Body length 2.70–3.50 mm, body width 1.05–1.35 mm. Ratio of elytron length (along suture) to width (maximum): 2.40–2.50. Ratio of pronotum width (at base) to length: 1.50–1.60. Ratio of length of elytron to length of pronotum (along middle): 2.60–2.70. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.20–1.25. Ratio of maximum width of elytra to that of pronotum: 1.45–1.50. Dorsum metallic green. Antennomeres 1–4 yellow brown, 5–11 dark brown. Pro- and mesotibia yellow. Metatibia partially brown. Pro- and mesofemora light brown. Metafemora dark brown, with metallic luster.

Head hypognathous. Frontal ridge wide and flat. Frontolateral sulcus absent. Suprafrontal sulcus relatively deep, well recognized. Suprafrontal sulcus obcordate. Ratio of width of frontal ridge to width of antennal socket: 1.45–1.55. Frons evenly covered with short white setae. Vertex flat, situated on same level as orbit. Vertex densely and evenly covered with punctures.

Base of pronotum without short longitudinal impressions. Deep row of large punctures at base of pronotum absent. Pronotal base evenly convex. Area adjacent to mid basal margin of pronotum covered with punctures. Pronotum without shallow antebasal transverse impression. Lateral margins of pronotum slightly convex, converging forward. Anterolateral and posterolateral prothoracic callosities poorly developed.

Elytra with convex lateral sides. Scutellar row of elytral punctures confused, geminate. Second to eleventh rows of punctures regular. Humeral callus well developed.

First and second male protarsomeres, length to length ratio: 1.35–1.40. First and second male protarsomeres, width to width ratio: 1.50–1.60. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent. Metatibia proximal to denticle in dorsal view convex. First male protarsomere, maximum width to width at base ratio: 2.00–2.10.

In ventral view, aedeagus somewhat parallel sided, apex narrowing abruptly. Ventral surface of aedeagus deeply concave, with sharp margins. Ventral longitudinal ridge in middle of aedeagus absent. Longitudinal groove apically wider than basally. Apical denticle of aedeagus in ventral view well differentiated, long, wide, with apex truncate, in lateral view straight. Minute transverse wrinkles present on ventral side of apex. Aedeagus in lateral view evenly and strongly curved. Maximum curvature of aedeagus in lateral view situated medially.

FIGURE 97. *Chaetocnema merguiensis*. **A** Male habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Tignum.

Spermathecal pump much shorter than receptacle. Apex of spermathecal pump flattened. Spermathecal receptacle sinuate. Maximum width of receptacle situated apically. Receptacle basally narrower than apically. Posterior sclerotization of tignum not well formed, as wide as mid-section. Tignum nearly straight in middle. Anterior sclerotization of tignum wider than mid-section. Apex of vaginal palpus evenly rounded. Vaginal palpus parallel sided in middle. Anterior sclerotization of vaginal palpus slightly widening anteriorly. Anterior end of anterior sclerotization broadly rounded.

Types: Lectotype: 1♀ (BMNH), labels: 1) Type; 2) 371; 3) Mergui, Burma, R. N. Parker, I. 1927; 4) *Chaetocnema merguiensis*, Type, Bryant, Det. G. E. Bryant; 5) Lectotype *Chaetocnema merguiensis* Bryant, 1941 Des. Ruan *et al.*, 2016.

Material: 1♂2♀ (USNM), **Myanmar**, Tenasserim, MUS. PRAGENSE, Coll. Helfer, *Chaetocnema harita* det. I. Lopatin, 1961. 1♀ (USNM), **Laos**, Ban Phabat, 27.IV–1V.1997, leg. Jendek, *Chaetocnema harita* det. Döberl, 1998.

Remarks: *Chaetocnema merguiensis* resembles *C. westwoodi*, however, the former can be differentiated from the latter by the metallic green dorsum, longer antennae and much larger size.

71. *Chaetocnema (Udorpes) midimpunctata* Ruan, Konstantinov & Yang, New Species

(Figs. 98, 99)

Etymology: This species is named after the pronotum with a narrow longitudinal impunctate area in middle. Specific epithet is a noun in apposition.

Diagnosis: This species is close to *C. concinnicollis*, *C. modiglianii* and *C. ingenua*. It can be easily differentiated from these three species by the punctuation of the peri-scutellar area (four confused rows of punctures) and the shape of aedeagus. It also resembles *C. westwoodi* and can be differentiated by the shorter antennae and smaller body size.

Distribution: China, Vietnam, Thailand, India, Sri Lanka.

Host plants: Unknown.

Description: Body length 2.00–2.30 mm, body width 1.10–1.23 mm. Ratio of elytron length (along suture) to width (maximum): 2.45–2.50. Ratio of pronotum width (at base) to length: 1.70–1.75. Ratio of length of elytron to length of pronotum (along middle): 3.00–3.05. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.15–1.20. Ratio of maximum width of elytra to maximum width of pronotum: 1.50–1.55.

Color of dorsum variable, commonly bronzy to bronzy brown. Antennae obviously short, just reaching humeral callus. Antennomere 1 yellow, 2–5 partially brown, 6–11 brown, distal antennomeres progressively darkened towards apex. Color of leg slightly variable; generally, anterior and middle legs light brown to pale yellow, meta-femora brown to pale yellow.

Head hypognathous. Frontal ridge narrow and flat, with numerous closely placed punctures. Frontolateral sulcus absent. Suprafrontal sulcus present, shallow. Ratio of width of frontal ridge to width of antennal socket (counting surrounding ridges): 1.90–2.00. Frons evenly covered with large, closely placed punctures. Vertex flat, situated on same level as orbit. Surface of vertex densely and evenly covered with punctures (about more than 200 punctures), some specimens (e.g. those from Ceylon) with a narrow longitudinal impunctate area in middle.

Base of pronotum without short longitudinal impressions. Deep row of large punctures at base of pronotum absent. Pronotal base only slightly convex. Area adjacent to mid basal margin of pronotum covered with punctures. Pronotum without shallow antebasal transverse impression. Lateral margins of pronotum convex, strongly converging forward. Anterolateral prothoracic callosity poorly developed, truncate, facing anterolaterally. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures slightly larger than distance between them. An impunctate area present in middle of pronotum.

Elytra with convex lateral sides. Elytral punctures in peri-scutellar area arranged in 4 confused rows. Remaining rows of elytral punctures regular. Humeral callus well developed.

First male protarsomeres as large as those in females. Large lateral denticle on metatibia obtuse. Metatibial serration absent.

Apex of aedeagus in ventral view narrowing abruptly. Ventral longitudinal groove wide in apical half, narrowing towards basal opening. Apical denticle of aedeagus in ventral view well differentiated, short, apex truncate. Apical denticle of aedeagus in lateral view straight. Minute transverse wrinkles on basal part of ventral side of aedeagus absent. Aedeagus in lateral view evenly and strongly curved.

Spermatheca with pump much shorter than receptacle, with apex flattened. Spermathecal receptacle sinuate. Maximum width of receptacle situated at apex. Apex of vaginal palpus rounded. Vaginal palpus more or less parallel-sided. Anterior sclerotization of vaginal palpus slightly narrowed anteriorly. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

FIGURE 98. *Chaetocnema midimpunctata* sp. nov. **A** Male habitus (Holotype). **B** Pronotum and peri-scutellar area (Holotype). **C** Head, frontal view (Holotype). **D** Aedeagus, ventral view (Paratype). **E** Aedeagus, lateral view (Paratype). **F** Apex of aedeagus, ventral view (Paratype). **G** Vaginal palpi (Paratype). **H** Spermatheca (Paratype). **I** Pygidium (tergite 7) of female (Paratype).

Variability. Color vary from bronzy, bronzy blue, coppery to bronzy brown. Several specimens from Hainan Is., China are with pale yellow appendages and extremely weakly sclerotized aedeagus.

Types: Holotype: ♀ (USNM), labels: 1) **Ceylon**, Anu. Dist. Padaviya, 180m, 2–8.XI.1970, O. S. Flint; 2) *Chaetocnema* (*Chaetocnema*) *singala* det. G. Scherer, 1978; 3) Holotype *Chaetocnema midimpunctata* sp. nov. des. Ruan, Konstantinov & Yang, 2016.

FIGURE 99. *Chaetocnema midimpunctata* sp. nov. **A** Male habitus (Paratype). **B** Peri-scutellar area (Paratype). **C** Head, frontal view (Paratype). **D** Aedeagus, ventral view (Paratype). **E** Aedeagus, lateral view (Paratype). **F** Apex of aedeagus, ventral view (Paratype).

Paratypes: 1 (IZCAS): 1) **China**, Hainan, Jian-feng-ling, 750m IZCAS; 2) 1980.III.28 under lamp, Leg. Shuyong Wang; 3) *Chaetocnema concinnicollis* det. Shuyong Wang; 4) Paratype; 5) paratypes *Chaetocnema midimpunctata* sp. nov. des. Ruan *et al.*, 2017. 11 (IZCAS): 1) **China**, Hianan, South China Tropical Agricultural University, 150m, 19.50°N, 109.47°E, 2007.V.16 Deyan Ge, IZCAS; 2) PARATYPE; 3) paratypes *Chaetocnema midimpunctata* sp. nov. des. Ruan *et al.*, 2017. 1♀1♂ (IZCAS): 1) **Vietnam**, Tonkin Hoa-bin, leg. A. de cooman; 2) Paratype; 3)

Chaetocnema concinnicollis scutellaris **sp. nov.** Chen; 4) Paratype; 5) paratypes *Chaetocnema midimpunctata* **sp. nov.** des. Ruan *et al.*, 2017. 1♀ (USNM), **Thailand**, Khon Kaen, Im Zoo, ad lucem, 26.I.1978, Sunanta Aumphans-irl leg.; 2) Paratype; 3) *Chaetocnema midimpunctata* **sp. nov.** des. Ruan, Konstantinov & Yang, 2016. 1♂ (BMNH) labels: 1) **India**, Mungpha?? Alkinn... Coll. 92–3; 2) Paratype; 3) *Chaetocnema midimpunctata* **sp. nov.** des. Ruan, Konstantinov & Yang. 1♂ (USNM), labels: 1) **Ceylon**, Anu. Dist. Padaviya, 180m, 2–8.XI.1970, O. S. Flint; 2) *Chaetocnema* (*Chaetocnema*) *singala* det. G. Scherer, 1978; 3) Paratype; 4) *Chaetocnema midimpunctata* **sp. nov.** des. Ruan, Konstantinov & Yang, 2016.

72. *Chaetocnema* (*Udorpes*) *modesta* Gressitt & Kimoto, 1963

(Fig. 100)

Chaetocnema modesta Gressitt & Kimoto, 1963: 780. TL: China, Hubei (Hupeh). TD: CASC

Distribution: China (Hubei, Sichuan), Vietnam, India.

Host plants: Unknown.

Description: Body length: 1.90–2.10 mm. Body width: 1.15–1.20 mm. Ratio of length of antenna to length of body: 0.70–0.75 mm. Ratio of elytron length (along suture) to width (maximum): 2.60–2.65. Ratio of pronotum width (at base) to length: 1.40–1.45. Ratio of length of elytron to length of pronotum (along middle): 2.65–2.70. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.15–1.25.

Dorsum metallic blue to coppery. Antennomeres 1–3 completely yellow brown, 5–11 brown to deep brown, apical ones darkened. Tarsi and tibiae yellow brown. Pro- and mesofemur yellow brown. Metafemur dark brown with coppery luster.

Head hypognathous. Frontal ridge narrow and flat. Frons covered with closely placed punctures. Ratio of width of frontal ridge to width of antennal socket: 0.85–1.00. Frontolateral sulcus absent. Head entirely covered with extremely close punctures. Orbit and frons closely covered with white setae. Vertex flat, situated on same level as orbit.

Base of pronotum without short longitudinal impressions. Pronotal base evenly convex. Deep row of large punctures at base of pronotum absent. Area adjacent to mid-basal margin of pronotum covered with punctures. Anterolateral prothoracic callosity weak, truncate and oblique. Lateral margins of pronotum slightly convex, with maximum width situated at apical third. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures as large as distance between them.

Elytra with convex lateral sides. Humeral callus well developed. Scutellar row of elytral punctures geminate and confused. Second to eleventh rows of elytral punctures regular.

First protarsomere slightly larger in male. Excavation on metatibia shallow. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

In ventral view, aedeagus parallel-sided, apex narrowing abruptly. Ventral longitudinal groove of aedeagus well developed. Ventral longitudinal ridge in middle of aedeagus absent. Apical denticle of aedeagus in ventral view well-differentiated, long, apically truncate. Minute, transverse wrinkles present throughout ventral side of aedeagus. Aedeagus in lateral view curved at base and middle, straight at apex.

Spermathecal pump much shorter than receptacle, with apex flattened. Vaginal palpus slightly narrowing from base till middle, rest of it approximately parallel-sided. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

Types: Holotype (female, CASC): 1) Suisapa, 1000 M., Lichuan Distr., W. Hupeh, China, 31.VIII.1948, 2) Gressi, Djou Collrs., 3) Holotype Female, *Chaetocnema* (*Chaetocnema*) *modesta* Gressitt & Kimoto [Red Label], 4) California Academy of Sciences, Type No. 13258, 5) 22 Konstantinov, 6) 013.

Paratypes. 1♂♀ (BMNH): 1) Suisapa, 1000 M., Lichuan Distr., W. Hupeh, China, VII–23–48, 2) J. L. Gressi Collector, 3) Paratype, *Chaetocnema* (*Chaetocnema*) *modesta* Gressitt & Kimoto. 1♂, KUZC: 1) W. Hupeh, China, Lichuan, Hsiaobo, VIII–8–1948. 2) Gressitt & Djou Collrg; 3) Paratype, *Chaetocnema modesta* n Gressitt & Kimoto. 2 CASC: 1) Suisapa, Lichuan Dist., W. Rupah (1000 m.), August 26, 1943, leg. Gressi and Djou. 1 CASC: 1) Suisapa, 1000 M., Lichuan Distr., W. Hupeh, China, VII–23–48, 2) J. L. Gressi Collector, 3) Paratype, *Chaetocnema* (*Chaetocnema*) *modesta* Gressi & Kimoto. 1♂, CASC: 1) Szechuan, China, NE. of Motauchi, Wanhsien. IX.26.48, 4200–4800 ft., 2) Gressi & Djou Collrs., 3) Paratype, *Chaetocnema* (*Chaetocnema*) *modesta* Gressitt & Kimoto.

FIGURE 100. *Chaetocnema modesta*. **A** Male habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi. **H** Spermatheca. **I** Pygidium (tergite 7) of female.

Material: 1♂ (IZCAS), **China**, E-bian, Sichuan; 1♂1♀ (IZCAS), **China**, E-mei Mountain, Sichuan; 1♂ (USNM), **Vietnam**, Hanoi, L. Medvedev @ Dang Dap, fields, gardens, 8.V.1975; 3♀ (BMNH), **Vietnam**, Tonkin: Thai-Nien. Bank of Fleuve Rouge., 1924, H. Stevens; 2♂3♀ (USNM), South **India**, Western Ghats Karnataka Prov, env. Mudigere, 14.XI.2003, 904m, river, leg. Konstantinov, Prathapan, Saluk; 6 (BMNH), H. L. Andrewes, **India**, Nilgiri Hills Andrewes, Bequest, B. M. 1922–221, *Chaetocnema modesta* Gressitt & Kimoto, Det. Yongying Ruan, 2016.

Remarks: *Chaetocnema modesta* is rather unique in Oriental *Chaetocnema* species by the small size of pronotum and the strongly narrowed and constricted pronotal base.

73. *Chaetocnema (Udorpes) modiglianii* Jacoby, 1896

(Figs. 101, 102)

Chaetocnema modiglianii Jacoby, 1896: 438. TL: Sumatra. TD: BMNH.

Chaetocnema vietnamica Chen & Wang, 1980: 4. TL: Vietnam (Hoabin). TD: IZCAS. (**Syn. Nov.**)

Distribution: China (Hainan), Vietnam (Chen & Wang, 1980), Laos, Thailand, Bhutan, Nepal, Sri Lanka (Ceylon), Malaysia, Indonesia (Sumatra) (Jacoby, 1896).

FIGURE 101. *Chaetocnema modiglianii*. A Female habitus (Lectotype). B Head, frontal view (Lectotype).

Host plants: 'on vegetable' (label data on specimens from Malaysia).

Description: Body length 1.95–2.15 mm, body width 1.25–1.35 mm. Ratio of elytron length (along suture) to

width (maximum): 2.20–2.25. Ratio of pronotum width (at base) to length: 1.45–1.55. Ratio of length of elytron to length of pronotum (along middle): 2.50–2.55. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.15–1.20. Ratio of maximum width of elytra to maximum width of pronotum: 1.40–1.45.

FIGURE 102. *Chaetocnema modiglianii*. **A** Holotype of *C. Chaetocnema vietnamica* Chen et Wang (= *Chaetocnema modiglianii*). **B** Pronotum (Holotype of *C. vietnamica* Chen et Wang). **C** Head, frontal view (Holotype of *C. vietnamica* Chen et Wang). **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Vaginal palpi (Holotype of *C. vietnamica* Chen et Wang). **H** Spermatheca (Holotype of *C. vietnamica* Chen et Wang). **I** Pygidium (tergite 7) of female (Holotype of *C. vietnamica* Chen et Wang). **J** Shape of the anterior end of first abdominal ventrite (indicating truncate anterior end).

Dorsum coppery to bronzy. Antennomeres 1–4 yellow brown, 5–11 brown. Tibiae yellow or yellow brown. Pro- and mesofemora light brown. Metafemora brown with obscure metallic luster.

Head hypognathous. Frontal ridge narrow and flat. Ratio of width of frontal ridge to width of antennal socket: 1.10–1.30. Frontolateral sulcus absent. Suprafrontal sulcus shallow, with a pit in middle. Orbital sulcus shallow. Punctures on vertex large, closely placed. Number of punctures on orbit: approximately 14 on each side, large and closely arranged. Orbit and vertex covered with white setae. Frons covered with numerous punctures and short setae. Number of setae on clypeus: approximately 15. Number of setae on labrum: 6. Anterior margin of labrum straight.

Pronotum without short longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum absent. Pronotal base evenly convex. Lateral margins of pronotum slightly convex, converging forward. Anterolateral prothoracic callosity poorly developed, protruding laterally, curved anterolaterally. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 2 to 3 times smaller than distance between adjacent punctures.

Elytra with convex lateral sides. Scutellar row of elytral punctures geminate, confused. Remaining rows of elytral punctures regular and single. Interspaces between striae of punctures smooth, glabrous, slightly granulated, without minute punctures. Humeral callus well developed.

Anterior end of the first abdominal ventrite truncate (Fig. 102-J).

First male protarsomere slightly larger than second. Excavation on metatibia shallow. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

Apex of aedeagus in ventral view narrowing abruptly. Ventral longitudinal groove present on distal half of aedeagus. Apical denticle in ventral view prominent. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view unevenly curved, with maximum curvature situated medially.

Spermatheca with receptacle sinuated. Basal part of spermathecal duct straight. Spermathecal pump much shorter than receptacle, with apex flat. Receptacle basally narrower than apically. Apex of vaginal palpus slightly rounded. Anterior end of anterior sclerotization rounded. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

Types: Cotypes of *Chaetocnema modiglianii*: 4 (BMNH), labels: 1) Cotype; 2) Sumatra, Padang, 1890, E. Modigliani; 3) Museo Civ. Genova; 4) Jacoby Coll., 1909–28a; 5) *Chaetocnema modiglianii* Jac., Type.

Holotype of *Chaetocnema vietnamica*: 1♀ (IZCAS), labels: 1) Vietnam, Hoabin. 2) *Chaetocnema vietnamica*, det. S. H. Chen. 3) Holotype.

Material: 1♀ (IZCAS), **China**, Hainan, Tongshi, alt. 340m, 27.III.1927, leg. Suofu Li; 1 (BMNH), NE **Laos**, Hua Phan Prov., Ban Saleui, Phou Pan (Mt.), N20 12 E104 01, 1300–1900m, 11.iv.–15.v.2012, BMNH(E), 2012–14, C. Holzschuh, *Chaetocnema vietnamica* Chen & Wang, 1980, Det. Yongying Ruan, 2016; 1 (BMNH), **Thailand**, Nan Province, Lainan, 21–22.ix.2012, cabbage farm, 18.574N, 100.759E, LN1 Light trap, leg. D. L. J. Quicke, BMNH(E) 2015–75; 2 (BMNH), **Thailand**, Kanchanaburi Prov., Thongpapoom, 11–12.vii.2009, UV light trap, D. Quicke & B&R. Butcher, BMNH(E), 2009–74, *Chaetocnema vietnamica* Chen & Wang, 1980, Det. Yongying Ruan, 2016; 1♂1♀ (USNM), **Bhutan**, Shemgang dist. 10km S. Shemgang, 1462m, 13.IX.2005, leg. K. Mahat, P. Loday, A. Konstantinov & K. D. Prathapan; 1♂1♀, **Bhutan**, Damphu 16.IX.2005, wp–108, leg. K. Mahat, P. Loday, A. Konstantinov & K. D. Prathapan; 1♂ (USNM), **Nepal**, Pokhara–Kathmandu road, env. Damauli, Seti river 24.IV.2000, Konstantinov, Lingafelter, Volkovitsh; 1♂1♀ (USNM), **Nepal**, Terrai, WNarayangadh, small valley Rapti river, 26.IV.2000, Konstantinov, Lingafelter, Volkovitsh; 1♀ (USNM), **Nepal**, Terrai, env. Chitawan Nat. Park, river beds, 25.IV.2000, Konstantinov, Lingafelter, Volkovitsh; 1 (BMNH), **Nepal**, Chitwan, Sauraha, 5/vi/1983, Sweeping riverside, M. J. D. Brendell, BMNH(E), 1983–222; 1♀ (USNM), **Malaysia**, Island of Penang, Baker, CF Baker collection, 1927; 1 (BMNH), Sarawak (**Malaysia**), Mukah, **On vegetable**, 28.viii.1964, Coll. S. KUEH, 3483, Pres by Com Inst Ent, B M 1971–1; 2 ♂ (BMNH), Sabah (**Malaysia**): 5m.S., Mt. Trus Madi, 1800 ft, 18–28.viii.1977, At light, M. E. Bacchus, B. M. 1978–48; 1♂ (BMNH), Colombo, **Ceylon**, May, H P Green, 1916–157, *Chaetocnema vietnamica* Chen & Wang, 1980, Det. Yongying Ruan, 2016; 1 (BMNH), Peradeniya, **Ceylon**, 10. 6. 28, Dr. J. C. Hutson, *Chaetocnema* sp. n., Det. G. E. Bryant, Pres by Comm Inst Ent, B. M. 1981–315.

Remarks: *C. modiglianii* superficially resembles *C. ingenua*, *C. midimpunctata* and *C. westwoodi*. However, it can be differentiated from all of them by the shape of aedeagus. This species is also quite unique in the shape of the truncate anterior end of the first abdominal ventrite (Fig. 102-J).

74. *Chaetocnema (Udorpes) paragreenica* Ruan, Konstantinov & Yang, New Species

(Fig. 103)

Etymology: This species is named after its resemblance to *C. greenica* **sp. nov.** in the body shape and the punctuation of head. Specific epithet is a noun in apposition.

Diagnosis: This species is close to *C. greenica* **sp. nov.** However, it can be differentiated from the latter by the entirely different body color and the structure of head (e.g., orbital, supraantennal sulci are present in *C. paragreenica* **sp. nov.**, while both of the sulci are absent in *C. greenica* **sp. nov.**). It can be easily differentiated from all other Oriental *Chaetocnema* species by the shape of aedeagus and the structure of head.

Distribution: Nepal, India, Pakistan.

Host plants: Unknown.

Description: Body length: 1.90–2.10 mm. Body width: 1.12–1.15 mm. Antennae short, ratio of length of antenna to length of body: 0.54–0.57. Ratio of elytron length (along suture) to width (maximum): 2.32–2.35. Ratio of pronotum width (at base) to length: 1.59–1.61. Ratio of length of elytron to length of pronotum (along middle): 2.25–2.30. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.05–1.08.

Dorsum bronzy, finely reticulate. Antennomeres 1–5 completely yellow brown, 6–11 brown. Tarsi and tibiae yellow brown. Pro- and mesofemora yellow brown, with color slightly deeper than tibiae and tarsi. Metafemora dark brown with slight bronzy luster.

Head hypognathous. Frontal ridge wide and flat. Ratio of width of frontal ridge to width of antennal socket: 2.35–2.40. Frontolateral sulcus absent. Suprafrontal sulcus narrow, with a pit in middle, gently curved. Orbital, supraantennal sulci shallow, oblique; orbit wide, with a few small punctures on each side. Vertex evenly covered with small and closely placed punctures; frons covered with much larger and deeper punctures and white setae.

Base of pronotum evenly convex, without short longitudinal impressions or deep row of large punctures. Area adjacent to mid-basal margin of pronotum covered with punctures. Pronotum highly convex, anterolateral prothoracic callosity moderately developed, almost invisible in dorsal view. Lateral margins of pronotum convex, converging forward, with maximum width near base. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 1–2 times smaller than distance between them.

Humeral callus weak, hind wing reduced or weak. Elytra with convex lateral sides. Scutellar row of elytral punctures single or slightly geminate. Second to eleventh rows of elytral punctures regular. Elytral interspaces between puncture rows slightly costate at sides.

Excavation on metatibia not deep. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

In ventral view, lateral margins of aedeagus irregularly curved. Ventral longitudinal groove of aedeagus moderately developed. Ventral longitudinal ridge in middle of aedeagus absent. Apical denticle of aedeagus in ventral view well-differentiated, short and wide, with concave apical margin. Minute, transverse wrinkles absent on ventral side of aedeagus. Aedeagus in lateral view highly curved at base and middle, slightly curved at apex.

Spermatheca with receptacle sinuated. Spermathecal pump much shorter than receptacle, with apex flattened. Receptacle basally as wide as apically; slightly narrowed in middle. Vaginal palpus slightly narrowing from base till middle, rest of it approximately parallel-sided. Anterior sclerotization of vaginal palpus parallel sided. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

Types: Holotype: ♂ (USNM): 1) **Nepal**, Pokhara Lumle St. Thulakharka 1640–2140m 22.IV.2000, 28 17.82N/83 49.11E, leg. Konstantinov, Lingafelter, Volkovitsh; 2) Holotype; 3) *Chaetocnema paragreenica* **sp. nov.**, Des. Ruan, 2016.

Paratypes: 1♂3♀ (USNM), **Nepal**, Pokhara Lumle St. Thulakharka 1640–2140m 22.IV.2000, leg. Konstantinov, Lingafelter, Volkovitsh; 2♂3♀ (USNM), South **India**, Western Ghats Karnataka Prov, env. Mudigere, 14.XI.2003, 904m, river, leg. Konstantinov, Prathapan, Saluk; 1♂ (USNM), **India**, Assam, 6 mile N Tinsukia, 29.III.1944, D. E. Hardy, Loan from USNMNH 2065634; 1♀ (USNM), **India**, Madhya Prad. Jabalpur, 20–21.IX.1968, KE Gibson, Loan from USNMNH 2065634; 1♀ (USNM), **Pakistan**, Lahore, VI–VIII.1957, J. Maldonado, Loan from USNMNH 2065634; 1 (BMNH), Mangalore **India**, JCBridwell, coll Aug: 26, *Chaetocnema paragreenica* det. Yongying Ruan, 2016.

FIGURE 103. *Chaetocnema paragreenica* sp. nov. **A** Holotype, habitus. **B** Pronotum and peri-scutellar area (Paratype). **C** Head, frontal view (Paratype). **D** Aedeagus, ventral view (Paratype). **E** Aedeagus, lateral view (Paratype). **F** Apex of aedeagus, ventral view (Paratype). **G** Vaginal palpi (Paratype). **H** Spermatheca (Paratype). **I** Pygidium (tergite 7) of female (Paratype).

75. *Chaetocnema (Udorpes) paraumesai* Ruan, Konstantinov & Yang, New Species
(Figs. 104, 105)

Etymology: This new species is named after its resemblance to *C.umesai*. Specific epithet is a noun in apposition.

FIGURE 104. *Chaetocnema paraumesaoi* sp. nov. Habitus, hand drawing.

Diagnosis: The new species strongly resembles *C. umesaoi* sp. nov. However, it differs from the latter by the following characters: smaller body size; peri-scutellar area of elytron is wider with more punctures; pronotal base obviously expanded and convex at middle; body strongly convex at sides, posterior end of body strongly narrowed

and pointed; vertex with denser punctures, frontal ridge slightly wider. The new species is also close to *C. modiglianii* on external characters, however, they can be easily separated by the shape of aedeagus.

Distribution: Malaysia, India.

Host plants: Unknown.

FIGURE 105. *Chaetocnema paraumesaoi* sp. nov. **A** Holotype, habitus. **B** Pronotum and peri-scutellar area (Holotype). **C** Head, frontal view (Holotype). **D** Aedeagus, ventral view (Paratype). **E** Aedeagus, lateral view (Paratype). **F** Apex of aedeagus, ventral view (Paratype).

Description: Body length 1.50–1.65 mm, body width 0.85–0.90 mm. Ratio of elytron length (along suture) to width (maximum): 2.20–2.25. Ratio of pronotum width (at base) to length: 1.50–1.55. Ratio of length of elytron to length of pronotum (along middle): 2.15–2.25. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.05–1.10. Ratio of maximum width of elytra to maximum width of pronotum: 1.30–1.40.

Dorsum coppery, rarely bronzy. Antennae slender, slightly reach beyond humeral callus. Antennomeres 1–5 more or less yellow brown, 6–11 brown, distal ones gradually turning darker. Tibiae and tarsi brown. Pro- and mesofemora brown. Metafemora deep brown.

Head hypognathous. Frontal ridge wide and flat, with numerous closely placed punctures. Frontolateral sulcus absent. Suprafrontal sulcus present, moderately developed. Ratio of width of frontal ridge to width of antennal socket (counting surrounding ridges): 1.95–2.10. Frons evenly covered with punctures. Vertex flat, situated on same level as orbit. Vertex evenly and closely covered with punctures, punctures more or less sparser in middle of vertex.

Base of pronotum without short longitudinal impressions. Deep row of large punctures at base of pronotum absent. Pronotal base strongly convex at middle. Area adjacent to mid basal margin of pronotum covered with punctures. Pronotum without shallow antebasal transverse impression. Lateral margins of pronotum strongly convex. Anterolateral and posterolateral prothoracic callosities poorly developed. Diameter of pronotal punctures subequal to distance between adjacent punctures.

Elytra strongly converging towards apex, with strongly convex lateral sides. Scutellar row of punctures tripled. Remaining rows of elytral punctures regular. Humeral callus poorly developed.

First male protarsomeres and mesotarsomeres strongly enlarged, obviously larger than those in females. Large lateral denticle on metatibia obtuse. Metatibial serration absent.

Apex of aedeagus narrowing abruptly in ventral view. Ventral longitudinal groove present. In ventral view, apical denticle not well developed. Minute transverse wrinkles on ventral side absent. Aedeagus in lateral view strongly and evenly curved.

Types: Holotype: ♂ (USNM): 1) Malaysia, Sabah, Kinabalu National Park, Headquarters area, alt. 1560m, 7.IX.1983, G.F.Hevel & W.E.Steiner; 2) Holotype; 3) *Chaetocnema paraumesaoi* **sp. nov.**, Des. Ruan, 2016.

Paratypes: 4♂10♀ (USNM), South India, Western Ghats Karnataka Prov, env. Mudigere, 14.XI.2003, 904m, river, N13°07'57", E75°32'41", leg. Konstantinov, Prathapan, Saluk, Paratype, *Chaetocnema paraumesaoi* **sp. nov.**, Des. Ruan, 2016. 1♂ (USNM), Malaysia, Sabah, Kinabalu National Park, Headquarters area, alt. 1560m, 7.IX.1983, G.F.Hevel & W.E.Steiner, Paratype, *Chaetocnema paraumesaoi* **sp. nov.**, Des. Ruan, 2016.

76. *Chaetocnema (Udorpes) psylloides* Pic, 1909

(Fig. 106)

Chaetocnema psylloides Pic, 1909: 139. TL: Uzbekistan, "Buchara". TD: MNHN. Lectotype designated by Konstantinov, 2011: 276

Chaetocnema altisocia Chen & Wang, 1981: 493. TL: China, Tibet. TD: IZCAS. Synonymized by Konstantinov, 2011: 276

Distribution: China (Tibet) (Chen & Wang 1981), India (Haryana, Hissar), Iran (Konstantinov *et al.*, 2011), Iraq (Gruev, 1995), Afghanistan (Gruev, 1988; Konstantinov *et al.*, 2011), Pakistan (Kimoto, 1972), Kazakhstan (Lopatin 1977), Kyrgyzstan (Lopatin 1977), Tajikistan (Lopatin, 1977; Konstantinov *et al.*, 2011), Turkmenistan (Konstantinov *et al.*, 2011), Uzbekistan (Lopatin, 1977; Konstantinov *et al.*, 2011).

Host plants: Unknown.

Description: Description is not provided here, as this species has been revised by Konstantinov *et al.* (2011).

Types: *Chaetocnema altisocia*: Holotype female: 1) China, Tibet, Zhada, Jinge, alt. 4500m; 2) 21.VI.1976, leg. Fusheng Huang; 3) male, 4) Holotype; 5) *Chaetocnema altisocia* det. S. H. Chen (IZCAS). Allotype female: 1) China, Tibet, Zhada, Jinge, alt. 4500m; 2) 21.VI.1976, leg. Fusheng Huang; 3) male, 4) Allotype (IZCAS). Paratype male: 1) China: Tibet, Zhada, Jinge, Zrjian, 4500m; 2) 1976.VI.25, leg. Huang Fusheng; 3) paratype; 4) m; 5) *Chaetocnema altisocia* Chen et Wang, (IZCAS).

Chaetocnema psylloides: Lectotype (1 female, MNHN): 1) type; 2) *Chaetocnema psylloides* Weise, Buchara; 3) Museum Paris, Coll. M. Pic; 4) Lectotype *Chaetocnema psylloides* Pic, des. A. S. Konstantinov 2009.

FIGURE 106. *Chaetocnema psylloides*. **A** Male habitus. **B** Pronotum. **C** Head, frontal view. **D** Aedeagus, ventral view. **E** Aedeagus, lateral view. **F** Apex of aedeagus, ventral view. **G** Elytra, peri-scutellar area.

Material: 2♀ (BMNH): 1) Bucharā, Staudinger; 2) Brit. Mus., 1924–314; 3) ausd. Type Material; 4) *Chaetocnema psylloides* Pic, det. Heiktgr. 1923.

1♀ (BMNH), 1) jug. Hissar, North **India**; 2) Brit. Mus., 1930–500; 3) *Chaetocnema psylloides* Pic, D. Ogloblin det; 2♂2♀ (USNM), **Afghan**, J. Klapperich, Umg. Kabul, 1740m, 20.III.1953, *Chaetocnema psylloides* det. I. K. Lopatin. 1♀ (USNM), **Pakistan**, NWF Prov. Changla Gali, N. of Murree, 27 Sept 1976 G.F. Hevel & R. E. Dietz IV.

Remarks: Type specimens of *Chaetocnema altisocia* were collected from Tibet at an elevation of 4500 m; however, some other specimens are collected from Hissar (India) with an elevation of about 200 m. It indicates that

this species can survive not only in freezing and arid environment with extreme high altitude, but also warm and lowland with humid subtropical climate.

77. *Chaetocnema (Udorpes) pusaensis* Maulik, 1926

(Fig. 107)

Chaetocnema pusaensis Maulik, 1926: 203. TL: India: Bihar, Pusa. TD: BMNH. **Lectotype designated here.**

Distribution: India, Pakistan (Döberl, 2010).

Host plants: Boring in stem of *Panicum miliaceum* (common millet) (Maulik, 1926). *Eleusine coracana* (Jagdish and Ali, 1986), “millets” (Ayyar, 1963), *Panicum* spp (Ayyar, 1963; Anonymous, 1954), *Panicum miliaceum* (Scherer, 1969) (all Poaceae).

Description: Body length 2.20–2.40 mm; width 1.20–1.30 mm. Ratio of elytron length at suture to maximum width: 2.40–2.42. Ratio of pronotum width at base to length at middle: 1.40–1.42. Ratio of length of elytron at suture to length of pronotum at middle: 2.45–2.46. Ratio of width of both elytra at base to width of pronotum at base: 1.11–1.13.

Dorsum coppery. Antennomere 1 bicolorous, partially dark brown. Tarsi and tibiae red brown. Pro- and meso-femur dark red brown; metafemur deep brown.

Head hypognathous. Frontal ridge between antennal sockets wide and flat. Frontolateral sulcus absent. Suprafrontal sulcus relatively deep, well defined, obcordate. Ratio of width of frontal ridge between outer ridge of antennal sockets to width of antennal socket: 2.80–2.90. Frons with punctures 2–3 times larger than those on vertex; covered with relatively short, white setae; with a middle longitudinal area without punctures. Vertex flat, situated on same level as orbit. Surface of vertex densely and evenly covered with small punctures.

Base of pronotum without short longitudinal impressions. Deep row of large punctures at base of pronotum absent. Pronotal base evenly convex. Area adjacent to mid-basal margin of pronotum covered with punctures. Lateral margins of pronotum evenly rounded, with maximum width near middle. Anterolateral and posterolateral prothoracic callosities poorly developed. Diameter of pronotal punctures 1–1.5 times smaller than distance between them.

Elytra with slightly convex lateral sides, elytral punctures confused, with those on sides of elytra more or less paired or tripled. Humeral callus well-developed.

Large lateral denticle on metatibia moderately developed. Metatibial serration proximal to large lateral denticle absent.

Aedeagus almost parallel sided in ventral view, with apex narrowing abruptly. Ventral longitudinal groove well-developed, deep, apically narrower than basally. Apical denticle of aedeagus in ventral view well-differentiated, wide, with truncate apex; straight in lateral view. Minute transverse wrinkles absent or poorly developed on ventral side of aedeagus. Aedeagus in lateral view unevenly curved, with maximum curvature situated near base.

Spermathecal pump much shorter than receptacle, with apex flattened. Spermathecal receptacle sinuate. Maximum width of receptacle situated at base. Vaginal palpus narrowed towards apex, with lateral margin slightly convex. Vaginal palpus narrowing from base till middle, thence slightly widening towards apex. Anterior sclerotization of vaginal palpus strongly widening anteriorly, nearly straight; broadly rounded at anterior end. Posterior sclerotization longer than wide. Posterior sclerotization about as wide as anterior.

Types: Lectotype: 1 (BMNH), labels: 1) Type; 2) P6, vii, 1920, boring stem of *Panicum miliaceum*, Pusa, Rangi Coll., C: no. 2043; 3) *Chaetocnema pusaensis* Mlk., Det. S. Maulik, Type, 1925; 4) Examined K. Prathapan, 2005; 5) Lectotype *Chaetocnema pusaensis* Maulik, 1926 Des. Ruan *et al.*, 2016.

Paralectotype: 6 (BMNH), labels: 1) Cotype; 2) P6, vii, 1920, boring stem of *Panicum miliaceum*, Pusa, Rangi Coll., C: no. 2043; 3) *Chaetocnema pusaensis* Mlk., Det. S. Maulik, Cotype, 1925.; 4) Paralectotype *Chaetocnema pusaensis* Maulik, 1926 Des. Ruan *et al.*, 2016.

Materials: 2♀ (USNM), **India**, Hyderabad, 18.I.67, KEGibson sweeping field, *Chaetocnema* det. A. Konstantinov, *Chaetocnema (Chaetocnema) pusaensis* Maulik det. Yongying Ruan, 2016; 1♀ (USNM), **India**, Uttar Prad. Kanpur, 21–24. Sept. 1968, K. E. Gibson; 3 (BMNH), Chipurupalle, Vizagapatam Distr., **India**, R. S. Patuck, B. M. 1924–7, *Chaetocnema pusaensis* Mlk, Det. S. Maulik, 1925; 2 (BMNH), 19.II.15, South **India**, Coimbatore **on Pari vasagu** plants, C. K. S. Coll., Pres by Imp. Bur. Ent, Brit. Mus. 1929–104; 1 (BMNH), H. L. Andrewes, Nilgiri

Hills, **India**, Andrewes, Bequest, B. M. 1922–221, *Chaetocnema pusaensis* Maulik, 1926, Det. Yongying Ruan, 2016.

FIGURE 107. *Chaetocnema pusaensis*. **A** Female habitus. **B** Head, frontal view. **C** Pronotum and peri-scutellar area. **D** Aedeagus of Paralectotype, ventral view. **E** Aedeagus of Paralectotype, lateral view. **F** Apex of aedeagus, ventral view (Paralectotype). **G** Vaginal palpi. **H** Spermatheca. **I** Tignum. **J** Pygidium (tergite 7) of female.

Remarks: This species is extremely close to the Palearctic species *C. kabakovi* Konstantinov *et al.*, 2011 from Afghanistan and *C. nocticolor* Lopatin, 1995 from Iran (see Konstantinov *et al.*, 2011). They appear to have similar aedeagus and external characters. Further study is required to reveal the true relationship among them.

This species is also close to the following Palearctic Species: *C. grandis* Pic, *C. sinuata* Weise, *C. mannerheimii*

(Gyllenhal), *C. hortensis* (Geoffroy), *C. aridula* (Gyllenhal), *C. igori* Konstantinov *et al.*, *C. arenacea* (Allard) and *C. leonhardi* Heikertinger. However, it may be differentiated from all of them by the shape of aedeagus.

78. *Chaetocnema* (*Udorpes*) *rahlensis* Shukla, 1960

Chaetocnema rahlensis Shukla, 1960: 77. TL: India: Rahla, Upper Beas Vally. TD: Zoological Survey of India, Calcutta, India (type lost).

Distribution: India.

Host plants: Unknown.

Description (after Shukla, 1960): Body length 2.4 mm, width 1.2 mm. Body ovate, strongly convex; light bronze-colored, with cupreous reflections. labrum dark brown; first two antennal segments shiny light brown. Femora shiny bronze-colored; tibiae and tarsi lighter brown.

Head with the labrum strongly transverse, very much broader than long, angulated at the sides, anteriorly narrowed, anterior margin straight, laterally ridged; clypeus anteriorly deeply and triangularly emarginated; just behind anterior margin strongly and deeply punctate, setose; frontal tubercles and interantennal carina absent; from the middle of the interocular space two oblique, deep narrow grooves extend up to orbital border and bounded by an acute carina along the length of groove near the middle of the interocular space; vertex with fine and sparse punctures unlike the strongly punctate interocular space in front.

Eyes entire. Pronotum nearly as wide as long; the sides gently rounded, narrowing anteriorly, strongly convex; lateral margins invisible when viewed from above; rather sparsely punctate; the punctures as large as on the vertex; under higher magnification a smooth impunctate narrow longitudinal line along the middle of the disc; interstices highly granular, without depression on the disc. Scutellum short; very broad; apex acute; impunctate.

Elytral base as wide as pronotum; callus distinct but intrahumeral groove absent; very slightly depressed longitudinally behind the scutellum along the suture; punctate striate in eleven distinct rows, including a short scutellar and an extreme marginal row; the rows tend to form pairs; in the depression behind the scutellum along the suture; the punctures irregular due to the presence of a few extra punctures in addition to those of the scutellar row; interstices granular, at the sides a few of them costate; punctures similar to the apex. Wings absent.

Underside with the gena rugosely punctate and pubescent; flanks of the pronotum with a few punctures at anterior and posterior margins; otherwise smooth and shiny; prosternum rugosely punctate; the meso- and metasterna punctate but not so deeply and closely.

Remarks: The type deposited in the Zoological Survey of India, Kolkata is lost. This species is extremely close to *C. alticola*, which is also apterous. However, in *C. rahlensis*, the pronotum is sparsely and weakly punctate, while in *C. alticola*, it is closely and strongly punctate.

Based on the original description, this species may be differentiated from other Oriental species by the following combination of characters: 1) frons with strong and closely placed punctures, while vertex and pronotum are rather sparsely and weakly punctate; 2) wingless, base of elytra as wide as that of pronotum; 3) pronotum nearly as wide as long, strongly convex, lateral margins invisible from above and with a longitudinal impunctate area in the middle of disc.

79. *Chaetocnema* (*Udorpes*) *reteimpunctata* Ruan, Konstantinov & Yang, New Species

(Fig. 108)

Etymology: This species is named after the reticulated pattern throughout the dorsum (especially on the vertex) and the almost impunctate vertex. Specific epithet is a noun in apposition.

Diagnosis: This species is rather distinct amongst the Oriental *Chaetocnema* species in having extremely shallow punctures on vertex and strongly convex pronotum. It resembles the Palearctic species *C. mannerheimii* in the body shape, however, they differ by the nature of punctation of the head and elytra.

Distribution: Sri Lanka.

Host plants: Unknown.

FIGURE 108. *Chaetocnema reteimpunctata* sp. nov. **A** Holotype, habitus. **B** Pronotum and peri-scutellar area of Holotype. **C** Head of Holotype, frontal view. **D** Spermatheca of Holotype.

Description: Body length: 2.30–2.55 mm. Body width: 1.30–1.45 mm. Ratio of length of antenna to length of body: 0.55–0.58. Ratio of elytron length (along suture) to width (maximum): 2.45–2.48. Ratio of pronotum width (at base) to length: 1.40–1.50. Ratio of length of elytron to length of pronotum (along middle): 2.67–2.70. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.08–1.12.

Dorsum bronzy, finely and strongly reticulate throughout. Antennomeres 1–4 dark yellow brown, 5–11 brown, with apical ones darkened. Tarsi and tibiae dark yellow brown. Pro- and mesofemora dark yellow brown, slightly darker than tibia. Metafemora dark brown, with strong bronzy luster.

Head hypognathous, strongly reticulated throughout. Frontal ridge wide and flat. Frons covered with dense

punctures. Ratio of width of frontal ridge to width of antennal socket: 2.15–2.25. Frontolateral sulcus absent. Suprafrontal sulcus poorly developed, with a large pit in middle. Orbital sulcus deep, supraantennal sulcus deep, forming an oblique, straight line. Frons covered with large and distantly placed punctures and white setae. Vertex flat, situated on same level as orbit. Punctures on vertex barely visible, extremely shallow, leaving a longitudinal impunctate area in middle.

Pronotum strongly convex. Base of pronotum without short longitudinal impressions. Pronotal base evenly convex. Deep row of large punctures at base of pronotum absent. Area adjacent to mid-basal margin of pronotum covered with punctures. Anterolateral prothoracic callosity poorly developed, somewhat truncate. Lateral margins of pronotum very slightly convex, with maximum width near middle. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 1.5–3 times smaller than distance between them.

Elytra with humeral callus well developed, lateral sides convex. Scutellar row of elytral punctures tripled and confused. Second to eleventh rows of elytral punctures regular. Interspaces between puncture rows slightly costate.

Excavation on metatibia not deep. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to lateral denticle absent.

Spermatheca with receptacle sinuated. Spermathecal pump much shorter than receptacle, with flat apex. Maximum width of receptacle situated near base. Vaginal palpus slightly narrowing from base till middle, rest of it nearly parallel sided. Anterior sclerotization of vaginal palpus slightly widening anteriorly. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

Type: Holotype: ♀ (USNM), labels: 1) **Ceylon:** Rat. Dist. Madu vanwala nr. Kolonne, 17.X.1970, 1000' O. S. Flint, Jr. 2) *Chaetocnema* sp.? det. G. Scherer. 3) Holotype. 4) *Chaetocnema reteimpunctata* **sp. nov.**, Des. Yongying Ruan, 2016.

Paratype: 1♀ (USNM) labels: 1) **Ceylon:** Rat. Dist. Panamure, 500' vanwala nr. Kolonne, 15–21.X.1970, O. S. Flint, Jr. 2) Paratype. 3) *Chaetocnema reteimpunctata* **sp. nov.**, Des. Yongying Ruan, 2016.

80. *Chaetocnema (Udorpes) shanxiensis* Chen & Wang, 1980

(Fig. 109)

Chaetocnema shanxiensis Chen & Wang, 1980: 4, 18. TL: China, Shanxi. TD: IZCAS.

Distribution: China (Shanxi).

Host plants: Unknown.

Description: Body strongly elongate in dorsal view, body length 2.30–2.45 mm, body width 1.10–1.20 mm. Ratio of elytron length (along suture) to width (maximum): 3.00–3.10. Ratio of pronotum width (at base) to length: 1.40–1.45. Ratio of length of elytron to length of pronotum (along middle): 3.10–3.20. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.15–1.20. Ratio of maximum width of elytra to maximum width of pronotum: 1.30–1.35.

Dorsum coppery to bronzy. Antennomeres 1–2 dark brown, 3–5 completely yellow or partially brown, 6–11 brown. Pro- and mesotibia partially brown. Metatibia yellow. Femora dark brown, with obscure metallic luster.

Head hypognathous. Frontal ridge wide and flat. Frontolateral sulcus absent. Suprafrontal sulcus deep, slightly arched, well recognized. Ratio of width of frontal ridge to width of antennal socket: 2.00–2.05. Frons evenly covered with relatively short white setae. Vertex flat, without setae, situated on same level as orbit. Vertex densely and evenly covered with punctures, slightly sparser in middle and lower area. Each side of orbit covered with approximately 20 punctures.

Base of pronotum without short longitudinal impressions. Deep row of large punctures at base of pronotum absent. Pronotal base evenly convex. Area adjacent to mid basal margin of pronotum lacks punctures. Pronotum without shallow antebasal transverse impression. Lateral margins of pronotum slightly convex, converging forward. Anterolateral prothoracic callosity not strongly developed. Posterolateral prothoracic callosity weak, obscure. Diameter of pronotal punctures larger than distance between them.

Elytra with lateral sides parallel. Scutellar row of elytral punctures somewhat geminate. Second to eleventh rows of elytral punctures regular. Humeral callus well developed. Punctures on elytra strong, but slightly smaller than those on pronotum.

FIGURE 109. *Chaetocnema shanxiensis*. **A** Holotype, habitus. **B** Pronotum of Holotype. **C** Head of Holotype, frontal view. **D** Aedeagus of Holotype, ventral view. **E** Aedeagus of Holotype, lateral view. **F** Apex of aedeagus of Holotype, ventral view.

First and second male protarsomeres, length to length ratio: 1.60–1.70. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent. Excavation on hind tibia shallow.

Apex of aedeagus in ventral view narrowing gradually. Ventral surface of aedeagus flat to slightly concave. Ventral longitudinal groove absent. Ventral longitudinal ridge in middle of aedeagus absent. Apical denticle of aedeagus in ventral view poorly differentiated, short, with narrowly rounded apex. Apical denticle of aedeagus in lateral view slightly curved ventrally. Minute transverse wrinkles on basal part of ventral side of aedeagus absent or

poorly developed. Aedeagus in lateral view evenly and strongly curved. Maximum curvature of aedeagus in lateral view situated medially.

Type: 1♂ (Holotype) (IZCAS), 1) China: Shanxi, 19.VI.1934, Chinese Academy of Sciences; 2) 19.VI.1934; 3) Holotype, *Chaetocnema shanxiensis*, det. S. H. Chen.

Remarks: *C. shanxiensis* is extremely close to *C. splendens*, but it can be distinguished by the relatively stronger punctuation on dorsum and head and the shape of aedeagus. *C. shanxiensis* also resembles *C. alticola*, but it may be separated from the latter by narrower frontal ridge and stronger punctuation throughout the body.

81. *Chaetocnema (Udorpes) singala* Maulik, 1926

(Fig. 110)

Chaetocnema singala Maulik, 1926: 204, 212. TL: Ceylon. TD: BMNH. **Lectotype designated here.**

Distribution: Sri Lanka (Ceylon).

Host plants: Unknown.

Description: Body length: 1.90–2.00 mm. Body width: 1.05–1.10 mm. Ratio of elytron length (along suture) to width (maximum): 2.20–2.25. Ratio of pronotum width (at base) to length: 1.61–1.64. Ratio of length of elytron to length of pronotum (along middle): 2.50–2.55. Ratio of width of elytra at base (in middle of humeral calli) to width of pronotum at base: 1.05–1.10.

Elytra red brown, with slight bronzy luster; pronotum and head bronzy. Antennomeres completely yellow brown, with distal ones slightly darker. Tibiae and tarsi yellow brown. Pro- and mesofemur red brown. Metafemur deep red brown, with slight metallic luster.

Head hypognathous. Frontal ridge wide and flat. Frons covered with closely placed punctures. Ratio of width of frontal ridge to width of antennal socket: 2.20–2.30. Frontolateral sulcus absent. Suprafrontal sulcus moderately deep, with a pit in middle. Frons and vertex evenly covered with large and closely placed punctures. Vertex situated on same level as orbit.

FIGURE 110. *Chaetocnema singala*. **A** Lectotype, habitus. **B** Head of Lectotype, frontal view. **C** Pronotum of Lectotype.

Base of pronotum without short longitudinal impressions. Pronotal base evenly convex. Deep row of large punctures at base of pronotum absent. Area adjacent to mid-basal margin of pronotum covered with punctures. Anterolateral prothoracic callosity weakly developed, almost invisible in dorsal view. Lateral margins of pronotum nearly evenly convex, with maximum width near middle. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 1.5–3 times smaller than distance between them.

Humeral callus well-developed. Elytra with convex lateral sides. Scutellar row of elytral punctures almost single. Second to eleventh rows of elytral punctures regular.

Excavation on metatibia moderately developed. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

Types: Lectotype: 1 female (BMNH), 1) Type; 2) Colombo, Ceylon, May, H P Green, 1916–157; 3) *Chaetocnema singala* Mlk., Det. S. Maulik, Type, 1925.; 4) Lectotype *Chaetocnema singala* Maulik, 1926 Des. Ruan *et al.*, 2016.

Remarks: *C. singala* is extremely close to *C. bretinghami*, except for the slight difference in body size and elytral punctation (body size slightly smaller in *C. singala*; peri-scutellar punctures single in *C. singala*, while geminate in *C. bretinghami*). It is uncertain to us whether *C. singala* and *C. bretinghami* are conspecific. As the types of *C. singala* comprises only one female specimen, it is hard to reach an unequivocal decision on the status of these two species.

82. *Chaetocnema (Udorpes) sulcicollis* Chen & Wang, 1980

(Fig. 111)

Chaetocnema sulcicollis Chen & Wang, 1980: 5, 18. TL: China, Yunnan. TD: IZCAS.

Distribution: China (Yunnan).

Host plants: Unknown.

Description: Body length: 1.75–2.10 mm, body width: 1.00–1.30 mm. Antenna very short and robust, ratio of length of antenna to length of body: 0.44–0.46. Ratio of elytron length (along suture) to width (maximum): 2.20–2.40. Ratio of pronotum width (at base) to length: 1.30–1.40. Ratio of length of elytron to length of pronotum (along middle): 2.50–2.60. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.10–1.15. Ratio of maximum width of elytra to maximum width of pronotum: 1.25–1.35.

Elytron and pronotum dark coppery. Antennomeres 1–3 completely yellow or partially dark brown, 4 partially brown, 5–11 completely brown. All tibiae yellow brown. All femora dark brown with metallic luster.

Head hypognathous. Frontal ridge narrow, convex. Frontolateral sulcus absent. Suprafrontal sulcus relatively deep, well recognized. Suprafrontal sulcus emarginate or obcordate. Ratio of width of frontal ridge to width of antennal socket: 2.00–2.10. Frons evenly covered with close punctures and short white setae. Vertex flat, situated at same level as orbit, densely and evenly covered with punctures.

Base of pronotum without short longitudinal impressions. Deep row of large punctures at base of pronotum absent. Pronotal base evenly convex. Pronotum with a shallow transverse depression near base. Lateral margins of pronotum strongly convex with maximum width near base. Anterolateral prothoracic callosity poorly developed. Posterolateral prothoracic callosity not prominent. Diameter of pronotal punctures: 2 to 3 times smaller than distance between adjacent punctures.

Elytra with convex lateral sides. Peri-scutellar punctures geminate and confused. Second to eleventh rows of elytral punctures regular. Humeral callus well developed. Large lateral denticle on metatibia obtuse. Metatibial serration near excavation absent.

Spermathecal pump much shorter than receptacle, apex flattened. Spermathecal receptacle sinuate. Maximum width of receptacle situated basally. Receptacle basally wider than apically. Apex of vaginal palpus evenly rounded. Anterior end of anterior sclerotization broadly rounded. Posterior sclerotization longer than wide. Posterior sclerotization wider than anterior.

Type: ♂ (Holotype) (IZCAS), 1) China: Yunnan, Longlin alt. 1600m, 20.V.1955. leg. Xike Bu et. Le Wu. 2) Holotype. 3) *Chaetocnema sulcicollis*, Des. S. H. Chen.

FIGURE 111. *Chaetocnema sulcicollis*. A Holotype, habitus. **B** Pronotum of Holotype. **C** Head, frontal view. **D** Vaginal palpi. **E** Spermatheca. **F** Pygidium (tergite 7) of female.

Additional specimens: 3♀ (IZCAS), **China**, Yunnan, Dali, Cangshan, alt. 1600–2300m, 2.VII.1981, leg. Shuyong Wang; 1♂ (IZCAS), **China**: Gezan, Zhongdian, Yunnan, alt. 3150m, 1981.VIII.4, leg. Shuyong Wang, near *Chaetocnema bella*, without hind wing, antenna shortened; 2♀ (IZCAS), **China**: Gezan, Zhongdian, Yunnan, alt. 3150m, 1981.VIII.4, leg. Shuyong Wang.

Remarks: *Chaetocnema sulcicollis* closely resembles *C. bella*. However, *C. sulcicollis* has a weak antebasal transverse impression on pronotum which is absent in *C. bella*. *Chaetocnema sulcicollis* also resembles *C. zangana* in having very short antennae, and they can be separated by the shape of pronotum and aedeagus.

Body shape varies considerably in specimens of *C. sulcicollis*, for instance: 1) relatively smaller pronotum with reduced body size; 2) pronotum slightly narrowed, body size normal; 3) aedeagus very poorly sclerotized. In spite of such variability, all of them share several stable characters such as wings highly reduced, same coloration throughout body, characters of head capsule, stout and shortened antennae, presence of a transverse antebasal depression near base of pronotum, and the shape of aedeagus.

FIGURE 112. *Chaetocnema umesaoui*. A Holotype, habitus. B Pronotum and peri-scutellar area (Holotype). C Head, frontal view (Holotype). D Aedeagus (Holotype), ventral view. E Aedeagus (Holotype), lateral view. F Apex of aedeagus (Holotype), ventral view.

83. *Chaetocnema (Udorpes) umesaoi* Chûjô, 1961

(Fig. 112)

Chaetocnema umesaoi Chûjô, 1961: 355. TL: Thailand, Bangkok. TD: KMNH.

Distribution: Thailand, India.

Host plants: Unknown.

Description: Body length 1.55–1.70 mm, body width 0.95–1.05 mm. Ratio of elytron length (along suture) to width (maximum): 2.20–2.25. Ratio of pronotum width (at base) to length: 1.50–1.55. Ratio of length of elytron to length of pronotum (along middle): 2.40–2.45. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.05–1.10. Ratio of maximum width of elytra to maximum width of pronotum: 1.50–1.55.

Dorsum bronzy. Antennae slender, reach slightly beyond humeral calli. Antennomeres 1–5 more or less yellow brown, 6–11 brown, distal antennomeres darkened. Tibiae and tarsi brown. Pro- and mesofemora brown. Metafemora deep brown.

Head hypognathous. Frontal ridge wide and flat, with closely placed punctures. Frontolateral sulcus absent. Suprafrontal sulcus present, moderately developed. Ratio of width of frontal ridge to width of antennal socket (counting surrounding ridges): 1.65–1.80. Frons evenly covered with punctures. Vertex flat, situated on same level as orbit, evenly (not closely) covered with punctures (about 60–80 punctures).

Base of pronotum without short longitudinal impressions. Deep row of large punctures at base of pronotum absent. Pronotal base slightly convex. Area adjacent to mid basal margin of pronotum covered with punctures. Pronotum without shallow antebasal transverse impression. Lateral margins of pronotum slightly convex, more or less parallel to each other. Anterolateral, posterolateral prothoracic callosities poorly developed. Diameter of pronotal punctures slightly larger than distance between adjacent punctures.

Elytra with slightly convex lateral sides. Scutellar row of punctures geminate and confused. Remaining rows of elytral punctures regular. Humeral calli poorly developed.

First male pro- and mesotarsomeres strongly enlarged, obviously larger than those in females. Large lateral denticle on metatibia obtuse. Metatibial serration absent.

Types: 1 (Holotype) (KMNH): 1) Bangkok, Thailand. 29.xii.1957, T. Umesao Leg. 2) Holotype. 3) *C. Chaetocnema (Udorpes) umesaoi* Chûjô Det. M. Chûjô, 1959.

Material: 1♀ (USNM), **India**, New Delhi, 23.X.1966, leg. K.E. Gibson, light trap; 1 (USNM), **India** New Delhi, 9.X.1967, KEGibson light trap, *Chaetocnema (Udorpes) umesaoi* Chûjô det. Yongying Ruan, 2016; 1♂ (USNM), **Thailand:** Khon Kaen Municipality Muaklek, DanKakSat, X.13.1953, R. E. Elbel, *Chaetocnema (Udorpes) umesaoi* Chûjô det. Yongying Ruan, 2016.

Remarks: This species is close to *C. paraumesaoi* **sp. nov.**, and it can be differentiated from the latter by the following characters: color of femur yellow brown (brown in *C. paraumesaoi*), base of pronotum evenly convex (obviously expanded in middle in *C. paraumesaoi*), elytra with fewer peri-scutellar punctures, and the differently shaped aedeagus.

84. *Chaetocnema (Udorpes) westwoodi* Baly, 1877

(Fig. 113)

Chaetocnema westwoodi Baly, 1877: 311; TL: Indonesia, Batchian. TL: BMNH. **Lectotype designated here.**

Chaetocnema harita Maulik, 1926: 204. TL: India, Madras. TD: BMNH. **Lectotype designated here. (Syn. Nov.)**

Distribution: India (Maulik, 1926), Nepal, Indonesia (Baly, 1877).

Host plants: Unknown.

Description: Body length 2.50–2.70 mm, body width 1.40–1.50 mm. Ratio of elytron length (along suture) to width (maximum): 2.12–2.16. Ratio of pronotum width (at base) to length: 1.60–1.62. Ratio of length of elytron to length of pronotum (along middle): 2.50–2.55. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.10–1.15. Ratio of maximum width of elytra to maximum width of pronotum: 1.35–1.40.

Dorsum bronzy green. Antennomeres entirely yellow brown, with apical ones deeper in color. Tibiae and tarsi yellow brown. Pro- and mesofemora yellow brown. Metafemora brown with green metallic luster.

FIGURE 113. *Chaetocnema westwoodi*. A–C: Photo of Lectotype of *Chaetocnema harita* Maulik (A habitus. B Head, frontal view. C Pronotum). D–F: Photo of Paralectotype of *Chaetocnema harita* Maulik (D Aedeagus, ventral view. E Aedeagus, lateral view. F Apex of aedeagus, ventral view).

Head hypognathous. Frontal ridge wide and flat. Ratio of width of frontal ridge to width of antennal socket: 2.18–2.20. Frontolateral sulcus absent. Suprafrontal sulcus shallow, with a pit in middle. Orbital sulcus shallow; supraantennal sulcus absent, orbit merge with vertex. Punctures on vertex and orbit large, very closely placed, with interspaces smaller than diameter of a puncture. Number of punctures on orbit: approximately 7-9 on each side, rugged and close. Frons covered with white setae and numerous punctures, a longitudinal impunctate area present at

middle. Number of setae on clypeus: approximately 30. Number of setae on labrum: 6. Anterior margin of labrum more or less straight.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum absent. Pronotal base evenly convex. Lateral margins of pronotum evenly convex, slightly converging forward. Anterolateral prothoracic callosity weak and round. Posterolateral prothoracic callosity absent. Pronotum covered with large and close punctures, leaving a longitudinal area at middle near base impunctate and smooth. Diameter of pronotal punctures 1–1.5 times smaller than distance between adjacent punctures.

Elytra with convex sides. Scutellar punctures form four confused rows. Remaining rows of punctures on elytron regular and single. Interspaces between striae of punctures smooth and glabrous, slightly granulated, strongly costate at sides. Humeral callus well developed.

First male protarsomere slightly larger than second. Excavation on metatibia very shallow. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

Apex of aedeagus in ventral view narrowing abruptly. Ventral longitudinal groove well developed on distal half of aedeagus. Apical denticle in ventral view prominent and produced, truncate apically. Minute transverse wrinkles absent on ventral side. Aedeagus in lateral view unevenly curved, with apex more or less straight.

Types: *Chaetocnema westwoodi* Baly, Lectotype: 1 (BMNH), labels: 1) Type H.T.; 2) M. K.; 3) Baly Coll.; 4) *Chaetocnema westwoodi* Baly, Batchian; 5) Lectotype *Chaetocnema westwoodi* Baly, 1877 Des Ruan *et al.*, 2016.

Chaetocnema harita Maulik, Lectotype: 1♂ (BMNH), 1) Type; 2) Chipurupalli, Vizagapatam Dist, India, R. S. Patuck, B. M. 1924–7; 3) *Chaetocnema harita* Mlk., Det. S. Maulik, Type, 1925; 4) Lectotype *Chaetocnema harita* Maulik, 1926, Des. Ruan *et al.*, 2016.

Chaetocnema harita Maulik, Paralectotypes: 1♂2♀ (BMNH), 1) Chipurupalli, Vizagapatam Dist, India, R. S. Patuck, B. M. 1924–7; 2) *Chaetocnema harita* Mlk., Cotype, 1925, S. Maulik; 3) Paralectotype *Chaetocnema harita* Maulik, 1926, Des. Ruan *et al.*, 2016.

Material: 1 (BMNH), Belgaum, **India**, N, 1965, *Chaetocnema concinnipennis* Baly, Andrewes, Bequest, B. M. 1922–221, *Chaetocnema westwoodi* Baly, Det. Yongying Ruan, 2016; 2 (BMNH), Nilgiri Hills, **India**, H. L. Andrewes, Andrewes, Bequest, B. M. 1922–221, *Chaetocnema westwoodi* Baly, Det. Yongying Ruan, 2016; 1 (BMNH), Nilgiri Hills, **India**, A. K. Weld Downing, H. E. Andrewes Coll., B. M. 1945–97, *Chaetocnema westwoodi* Baly, Det. Yongying Ruan, 2016.

Remarks: *C. westwoodi* resembles *C. midimpunctata* **sp. nov.** in having a longitudinal impunctate area on pronotum. However, it differs by the longer antennae and much larger body size.

85. *Chaetocnema (Udorpes) zangana* Chen & Wang, 1981

(Fig. 114)

Chaetocnema zangana Chen & Wang, 1981: 493. TL: China, Tibet. TD: IZCAS.

Distribution: China (Tibet).

Host plants: Unknown.

Description: Body length 1.95–2.10 mm, body width 1.06–1.09 mm. Ratio of elytron length (along suture) to width (maximum): 2.40–2.50. Ratio of pronotum width (at base) to length: 1.50–1.65. Ratio of length of elytron to length of pronotum (along middle): 2.50–2.60. Ratio of width of elytra at base to width of pronotum at base (in middle of humeral calli): 1.15–1.20. Ratio of maximum width of elytra to maximum width of pronotum: 1.40–1.45.

Dorsum dark bronzy. Antennae short and robust. Antennomeres 1–6 completely yellow brown, 7–11 brown. Tibiae and tarsi yellow brown. Pro- and mesofemora red brown. Metafemora dark brown.

Head hypognathous. Frontal ridge wide, flat, covered with large punctures. Ratio of width of frontal ridge to width of antennal socket: 2.25–2.50. Frontolateral sulcus absent. Suprafrontal sulcus moderately developed, with an obscure pit in middle. Orbital sulcus poorly developed, shallower than supraantennal sulcus. Punctures on vertex moderately close, with size smaller than those on frons. Frons with middle area flat and glabrous, lateral sides covered with large punctures, distinctly larger than those on vertex. Number of setae on clypeus: approximately 20. Number of setae on labrum: 6. Anterior margin of labrum straight.

Pronotum without longitudinal impressions near basal margin. Deep row of large punctures at base of pronotum

absent. Pronotal base evenly convex. Lateral margins of pronotum almost straight, converging forward. Anterolateral prothoracic callosity rather thick, truncate, facing anterolaterally. Posterolateral prothoracic callosity poorly developed. Diameter of pronotal punctures 2 to 4 times smaller than distance between them.

FIGURE 114. *Chaetocnema zangana*. A Holotype (female), habitus. **B** Pronotum and peri-scutellar area of Holotype. **C** Head of Holotype, frontal view. **D** Vaginal palpi of Holotype. **E** Spermatheca Holotype. **F** Tignum of Holotype. **G** Pygidium (tergite 7) of Holotype.

Elytra with convex lateral sides. Scutellar row of punctures geminate, confused. Remaining rows of elytral punctures regular and single. Interspaces between striae of punctures smooth and glabrous. Humeral callus well developed.

Excavation on metatibia shallow. Large lateral denticle on metatibia obtuse. Metatibial serration proximal to large lateral denticle absent.

Spermatheca with receptacle sinuated. Spermathecal duct straight basally, distal part distorted. Spermathecal pump much shorter than receptacle, with flat apex. Receptacle basally as wide as apically. Apex of vaginal palpus narrowly rounded. Anterior end of anterior sclerotization angled. Posterior sclerotization longer than wide. Width of posterior sclerotization subequal to that of anterior. Tignum anteriorly curved, a little wider than medially; posterior sclerotization spoon shaped, wider than anterior part.

Type: 1♀ (Holotype), 1) China: Xizang (Tibet), Jilong, alt. 2800m. 2) 23.VII.1975, leg. Xuezhong Zhang; 3) Holotype; 4) Holotype, *Chaetocnema zangana*, Det. S. H. Chen.

Remarks: This species resembles *C. kumaonensis*. However, in *C. kumaonensis*, with lateral margins of pronotum are more convex, and the anterolateral calli of pronotum are much more weakly developed; while in *C. zangana*, lateral margins of pronotum are nearly straight, and the anterolateral calli of pronotum are truncate and strongly developed. Moreover, in *C. zangana*, surface of head and pronotum are finely granulate, while in *C. kumaonensis* head and pronotum are smooth and shiny, not granulate.

Further taxonomical notes

Several species names are not included in this paper as their availability is dubious. For example, *Chaetocnema minuscula* Chen, 1936 and *Chaetocnema sororcula* Chen, 1936 are unpublished manuscript names. Similarly, *Chaetocnema armipes* Boheman is also not included here, as we could not find the name in any publication, including the world catalogue (Heikertinger & Ciski, 1940).

Two species are excluded from China and Oriental Region (*C. heptapotamica* and *C. concinna*). *C. concinna* (Marsham, 1802) (see Fig. 115) has long been considered as occurring in both North and South China. However, many records of the species are erroneous. All the specimens (there is a large number of specimens with various distributional data) previously labeled as *C. concinna* from China are in fact either *C. picipes* or *C. fortcostata*, both of which are almost identical to *C. concinna* by external characters. *Chaetocnema heptapotamica* Lubischev, 1963 has been recorded from Yunnan, China by Döberl (2011). However, we consider it as an erroneous identification of *C. cheni* which is very close to *C. heptapotamica* based on aedeagus and several external characters. Moreover, we did not encounter any specimen of *C. heptapotamica* from Oriental Region.

Based on the original description (Shukla, 1960), *C. rahlensis* is strongly close to *C. denticulata* (i.e., toothed flea beetle; it was classified in *C. cribrifrons* species group comprising the following species: *C. denticulata*, *C. aequabilis*, *C. acuminata*, *C. coacta*, *C. cribrifrons*, *C. floridana*, *C. fuscata*, *C. ordinata*, *C. pinguis*, *C. prolata*) from Nearctic Region. However, as the type of *C. rahlensis* is lost, it is hard to comment on it. On the other hand, we have examined a single specimen from the Oriental Region (see Fig. 116; specimens information: 1♀, in USNM: India, Madhya Prad., Jabalpur, 20–21.9.1968, K. E. Gibson, Loan from USNMNH 2065634) that appears to be *C. denticulata*. It is possible that *C. denticulata* could be the second species (the first is *C. confinis*) that was introduced from Nearctic Region to Oriental Region. However, we have not included *C. denticulata* in this work, as the information on the labels of the specimen could be erroneous.

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FIGURE 115. *Chaetocnema concinna* (This species has been excluded from China here). **A** Female habitus. **B** Pronotum and peri-scutellar area of Holotype. **C** Aedeagus, ventral and lateral views. **D** Aedeagus, dorsal view of the distal part. **E** Vaginal palpi. **F** Spermatheca. **G** Tignum.

FIGURE 116. Unknown species close to *Chaetocnema denticulata*. **A** Habitus. **B** Pronotum. **C** Head, frontal view.

References

- Agassiz, L. (1846) Nomina systematica generum coleopterorum, tam viventium quam fossilium, secundum ordinem alphabeti- cum disposita, adjectis auctoribus, libris in quibus reperiuntur, anno editionis, etymologia et familiis ad quas pertinent. *In*: Agassiz, L. (Ed.), *Nomenclator Zoologicus. Fasciculus XI. Coleoptera*. Jent et Gassmann, Solodurum [Solothurn], pp. i–xi + 1–170. [1842–1846]
- Ahuja, D.B. & Bakhetia, D.R.C. (1995) Bioecology and management of insect pests of sesame—a review. *Journal of Insect Science*, 8 (1), 1–19.
- Allard, E. (1859) Diagnoses que suivent de quelques Haltises de France. *Bulletin de la Société Entomologique de France*, 1859, cv–cvi.
- Allard, E. (1860) Essai monographique sur les Galerucites Anisopodes (Latr.) ou description des Altises d'Europe et des bords de la mer Méditerranée. *Annales de la Société Entomologique de France*, 8, 539–578.
- Allard, E. (1864) Description de deux nouvelles especes d'Altises. *Annales de la Societe Entomologique de France*, Series 4, 3, 659–660.
- Allard, E. (1866) Monographie des Alticides tribu de la famille des Phytophages. *L'Abeille*, 3, 169–508.
- Allard, E. (1889) Contributions a la faune Indo-Chinoise. 5e Memoire. Galerucides et Alticides. *Annales de la Societe Entomologique de France*, 6, 303–312.
- Anonymous (1954) *Memoirs of the Department of Agriculture*. Government Press, Madras. 1614 pp.
- Antonov, P.V. & Kaplin, V.G. (2006) The biology, ecology and harmfulness of the flea-beetle *Chaetocnema aridula* Gill (Coleoptera, Chrysomelidae) in the forest-steppe of the middle Volga Area. *Entomological Review*, 86 (2), 176–187. <https://doi.org/10.1134/S0013873806020060>

- Askeveld, I.S. & LeSage, L. (1990). A taxonomic revision of the genus *Jansonius* Baly 1878: taxonomic confusion and tribal reclassification (Coleoptera: Chrysomelidae: Eumolpinae). *Revista Chilena Entomologia*, 18, 29–37.
- Aslan, I., Ozbek, H. & Konstaninov, A. (2003) Flea beetles (Coleoptera: Chrysomelidae) occurring on *Amaranthus retroflexus* L. in Erzurum Province, Turkey, and their potential as biological control agents. *Proceedings of the Entomological Society of Washington*, 105, 441–446.
- Ayyar, T.V.R. (1963) Hand book of economic entomology for south India. Government Press, Madras, 516 pp.
- Balazuc, J. (1988) Laboulbeniales (Ascomycetes) parasitic on Chrysomelidae. In: *Biology of Chrysomelidae*. Springer, Dordrecht, pp. 389–398.
https://doi.org/10.1007/978-94-009-3105-3_22
- Baly, J.S. (1874) Catalogue of the phytophagous Coleoptera of Japan, with descriptions of the species new to science. *Transactions of the Entomological Society of London*, 1874, 162–217.
<https://doi.org/10.1111/j.1365-2311.1874.tb00164.x>
- Baly, J.S. (1876) Descriptions of a new genus and of new species of Halticinae. *Transactions of the Entomological Society of London*, 1876, 581–602.
<https://doi.org/10.1111/j.1365-2311.1876.tb01931.x>
- Baly, J.S. (1877) Descriptions of new genera and of uncharacterized species of Halticinae. *Transactions of the Entomological Society of London*, 1877, 157–184 + 283–323.
<https://doi.org/10.1111/j.1365-2311.1877.tb02918.x>
- Barrion, A.T. & Litsinger, J.A. (1986) Flea beetle *Chaetocnema basalis* (Baly) (Coleoptera: Chrysomelidae), a pest of slash-and-burn upland rice in the Philippines. *International Rice Research Newsletter*, 11 (4), 31–33.
- Batra, H.N. (1969) Food plants, bionomics and control of flea beetles. *Indian Farming*, 19 (3), 38–40.
- Bechyné, J. (1959) Coleoptera Chrysomelidae II. In: *South African Animal Life. Results of the Lund University Expedition in 1950–1951. Vol. 6*. Almqvist & Wiksell, Uppsala, pp. 227–238.
- Beenen, R. (2005) Translocation in leaf beetles (Coleoptera: Chrysomelidae). *Bonner zoologische Beiträge*, 54 (4), 179–199.
- Biondi, M. & D'Alessandro, P. (2006) Biogeographical analysis of the flea beetle genus *Chaetocnema* in the Afrotropical Region: distribution patterns and areas of endemism. *Journal of Biogeography*, 33, 720–730.
<https://doi.org/10.1111/j.1365-2699.2006.01446.x>
- Biondi, M. & D'Alessandro, P. (2012) Afrotropical flea beetle genera: a key to their identification, updated catalogue and biogeographical analysis (Coleoptera, Chrysomelidae, Galerucinae, Alticini). *Zookeys*, 253, 1–158.
<https://doi.org/10.3897/zookeys.253.3414>
- Biondi, M. (2001) Revision of the species of *Chaetocnema* from Madagascar (Coleoptera: Chrysomelidae: Alticinae). *European Journal of Entomology*, 98, 233–248.
<https://doi.org/10.14411/eje.2001.040>
- Biondi, M. (2002) Checklist of Afrotropical species of the genus *Chaetocnema* Stephens (Coleoptera: Chrysomelidae: Alticinae): synonymies and geographical distribution. *African Entomology*, 10, 265–284.
- Blatchley, W. S. (1924) The Chrysomelidae of Florida. *Florida Entomologist*, 8, 39–46.
<https://doi.org/10.2307/3492113>
- Booth, R.J. & Owen, J.A. (1997) *Chaetocnema picipes* Stephens (Chrysomelidae: Alticinae) in Britain. *Coleopterist*, 6, 85–89.
- Brethes, J. (1929) Contribution pour la connaissance des chrysomelides du Chili. *Revista Chilena de Historia Natural*, 32, 204–220.
- Bryant, G.E. (1939) Entomological results from the Swedish expedition 1934 to Burma and British India. Coleoptera: Chrysomelidae collected by Rene Malaise. *Arkiv for Zoologi Stockholm*, 31A, 1–20.
- Bryant, G.E. (1941) New species of Indian Chrysomelidae (Coleopt.). *Annals & Magazine of Natural History Series*, 11 (8), 403–414.
<https://doi.org/10.1080/03745481.1941.9727979>
- Chen, S. & Wang, S. (1980) New genera and species of Chinese Alticinae. *Entomotaxonomia*, 2, 1–24.
- Chen, S. & Wang, S. (1981) Coleoptera: Chrysomelidae—Alticinae. In: Chen, S. (Ed.), *Insects of Xizang. Vol. 1*. Science Press, Beijing, pp. 491–508.
- Chen, S. (1933) Study of Chinese Halticinae beetles with descriptions of some exotic new species. *Sinensia Nanking*, 8, 211–254.
- Chen, S. (1934) Revision of the Halticinae (Col. Chrysomelidae) of Yunnan and Tonkin. *Sinensia Nanking*, 5, 225–416.
- Chen, S. (1939) Flea beetles collected at Kwangsi. *Sinensia Nanking*, 10, 20–55.
- Chevrolat, L. (1845) In: d'Orbigny, C.D. (Ed.), *Dictionnaire universel d'histoire naturelle. Vol. 6 (1)*. A. Pilon et cie, Paris, pp. 1–376.
- Chûjô, M. & Kimoto, S. (1961) Systematic catalog of Japanese Chrysomelidae (Coleoptera). *Pacific Insects*, 3, 117–202.
- Chûjô, M. (1935) Studies on the Chrysomelidae in the Japanese Empire (VIII). Subfamily Halticinae (I), (II), (III). *Transactions of the Natural History Society of Formosa*, 25, 354–369 + 302–400 + 459–476.
- Chûjô, M. (1942) First supplement to the fauna of Korean chrysomelid-beetles (II.). *Transactions of the Natural History Society of Formosa*, 32, 31–43.
- Chûjô, M. (1954) Chrysomelid-beetles from Shikoku, Japan. *Transactions of the Shikoku Entomological Society*, 4 (4), 51–62.
- Chûjô, M. (1958) Chrysomelid-beetles of Loo-Choo Archipelago (V). *Memoirs of the Faculty of Liberal Arts & Education*, 2

(64), 1–19.

- Chûjô, M. (1961) 24 Chrysomelidae. Coleoptera from Southeast Asia. *Nature & Life SE Asia Kyoto*, 1, 347–357.
- Chûjô, M. (1965) Chrysomelid–beetles of Formosa (I). *Special Bulletin of Lepidopterological Society of Japan*, 88–104.
- Cotes, E.C. (1891) A conspectus of the insects which affect crops in India. *Indian Museum Notes*, 2(6), 145–173.
- Crotch, G.R. (1873) Materials for the study of the Phytophaga of the United States. *Proceedings of the Academy Philadelphia*, 1873, 19–83.
- Dejean, P.F.M.A. (1836) Livraison 5. In: Dejean, P.F.M.A comte (Ed.), (1833–1836) *Catalogue des Coléoptères de la collection de M. le Comte Dejean. 2nd Edition*. Méquignon-Marvis Pere et fils, Paris, pp. 361–443.
<https://doi.org/10.5962/bhl.title.8771>
- Döberl, M. (2009) Nomenclatorial notes on Palearctic Coleoptera (Curculionidae, Cerambycidae, Chrysomelidae). *Entomologische Blätter fuer Biologie und Systematik der Käfer*, 105, 19–23.
- Döberl, M. (2010) Alticinae. In: Löbl, I. & Smetana, A. (Eds.), *Catalogue of Palearctic Coleoptera. Vol. 6*. Apollo Books, Stenstrup, pp. 491–563.
- Duftschmid, C. (1825) *Fauna Austriae. Oder Beschreibung der österreichischen Insecten, für angehende Freunde der Entomologie. Dritter Theil*. Im Verlag der K. K. Priv. Akademischen Kunst-, Musik-, und Buchhandlung, Linz, 288 pp.
- Duvivier, A. (1892) Les Phytophages du Chota-Nagpore. *Annales de la Société Entomologique de Belgique*, 36, 396–449.
- Edwards, C.A. & Oswald, J. (1981) Control of soil-inhabiting arthropods with Neoplectana carpocapsae. In: *1981 British Crop Protection Conference: pests and diseases (11th British Insecticide and Fungicide Conference): proceedings, Brighton, England, 16–19 November, 1981*. BCPC Publications, Croydon, pp. 467–473.
- Elsey, K.D. (1977) Parasitism of some economically important species of Chrysomelidae by nematodes of the genus *Howardula*. *Journal of Invertebrate Pathology*, 29 (3), 384–385.
[https://doi.org/10.1016/S0022-2011\(77\)80048-7](https://doi.org/10.1016/S0022-2011(77)80048-7)
- Fletcher, T. B. (1917) *Proceedings of the second Entomological meeting, Pusa, 5–12 February 1917*. Superintendent Government Printing, Calcutta, 340 pp.
- Fletcher, T.B. (1921) Annotated list of Indian crop pests. *Pusa Agricultural Research Institute Bulletin*, No. 100, 1–246.
- Foudras, C. (1860) Alticides. In: Mulsant, E. (Ed.), *Histoire Naturelle des Coléoptères de France. Annales de la Société Linéenne de Lyon, New Series*, 6, pp. 137–384. [1859]
<https://doi.org/10.5962/bhl.title.51573>
- Furth, D.G. (1994) A new case of parthenogenesis in beetles: *Longitarsus melanurus* (Melsheimer) (Coleoptera: Chrysomelidae). *Journal of the New York Entomological Society*, 102 (3), 310–317.
- Geoffroy, E.L. (1785) In: Fourcroy, A.F.C. de. (Ed.), *Entomologia parisiensis; sive Catalogus Insectorum quae in Agro Parisiensi reperiuntur; Secundum methodum Geoffroeanam in sectiones, genera & species distributus: Cui addita sunt nomina trivialia & fere trecentae novae Species. Vol. I. Aedibus Serpentineis, Parisiis*, 231 pp.
- Govindan, R., Narayanaswamy, T.K., Naik, L.K. & Reddy, D.N.R. (1986) Infestation of tassar food plant *Lagerstroemia indica* L. by *Chaetocnema* spp. (Coleoptera: Chrysomelidae). *Indian Journal of Sericulture*, 25 (2), 90.
- Gressitt, J.L. & Kimoto, S. (1963) The Chrysomelidae (Coleopt.) of China and Korea. *Pacific Insects Monograph*, 1B, 301–1026.
- Gruev, B. (1980) A contribution to the knowledge of the Chrysomelidae of Korea, 3. (Coleoptera). *Entomological Review of Japan*, 34, 29–38.
- Gruev, B. (1988) Check-liste der Arten von Eumolpinae, Chrysomelinae, Alticinae, Hispinae und Cassidinae in Afghanistan. (Coleoptera, Chrysomelidae). *Entomological Review of Japan*, 43, 145–170.
- Gruev, B. (1995) Check-list of Eumolpinae, Chrysomelinae, Alticinae, Hispinae and Cassidinae in Cyprus (Coleoptera, Chrysomelidae). *Deutsche Entomologische Zeitschrift, Neue Folge*, 42 (2), 329–342.
<https://doi.org/10.1002/mmnd.4810420204>
- Hallock, H.C. (1939) Notes on Pennsylvania flea beetles in tobacco fields (Coleoptera: Chrysomelidae). *Entomological News*, 50, 121–124.
- Hatch, M. H. (1971) *The Beetles of the Pacific Northwest. Part V*. University of Washington Press, Seattle, 621 pp.
- Heikertinger, F. & Csiki, E. (1940) Chysomelidae: Halticinae I. In: *Coleopterorum Catalogus. Pars 166*. W. Junk, Gravenhage, 336 pp.
- Heikertinger, F. (1909) Beschreibungen eines neuen Subgenus und einer neuen Alticinenspezies der palaarktischen Fauna. *Verhandlungen der kaiserlich-koiglichen zoologisch-botanischen Gesellschaft in Wien*, 59, 369–374.
- Heikertinger, F. (1925) Resultate fünfzehnjähriger Untersuchungen über die Nahrungspflanzen einheimischer Halticinen. *Entomologische Blätter*, 10, 10–19 + 81–92, 119–131 + 155–163 + 257–266.
- Heikertinger, F. (1951) Bestimmungstabelle der paläarktischen Arten der Gattungen *Podagrica* Foudr., *Mantura* Steph. und *Chaetocnema*. *Koleopterologische Rundschau*, 32, 133–216.
- Horn, G. H. (1889) A synopsis of the Halticini of Boreal America. *Transactions of the American Entomological Society*, xvi, 163–320.
<https://doi.org/10.2307/25076525>
- Jaboby, M. (1892) Description of the new genera and species of phytophagous Coleoptera obtained by Sign. L. Fea in Burma. *Annali del Museo Civico di Storia Naturale di Genova*, 32, 869–999.
- Jacobson, G. (1902) Leaf beetles of Western Siberia collected by A. G. Jacobson during 1897–1898. *Trudy Russkago Entomo-*

logicheskago Obshchestva, 35, 91.

- Jacoby, M. (1885) Descriptions of the Phytophagous Coleoptera of Japan obtained by Mr. George Lewis during his Second Journey, from February 1880 to September 1881.—Part II. Halticinae and Galerucinae. *Proceedings of the Zoological Society of London*, 1885, 717–755.
<https://doi.org/10.1111/j.1096-3642.1885.tb02894.x>
- Jacoby, M. (1889) Descriptions of some new species of Phytophagous Coleoptera. *Entomologist's Monthly Magazine*, 25, 203–206.
- Jacoby, M. (1896) Description of the new genera and species of phytophagous Coleoptera obtained by Dr. Modigliani in Sumatra. *Annali del Museo Civico di Storia Naturale di Genova*, 36, 377–501.
<https://doi.org/10.5962/bhl.part.25039>
- Jacoby, M. (1896) Descriptions of the new genera and species of phytophagous Coleoptera obtained by Mr. Andrewes in India. *Annales de la Societe Entomologique de Belgique*, xl, 250–304.
<https://doi.org/10.5962/bhl.part.2024>
- Jacoby, M. (1900) On new Genera and Species of Phytophagous Coleoptera from South and Central Africa. *Proceedings of the Zoological Society of London*, 1900, 203–266, 1 pl.
- Jacoby, M. (1904) Another contribution to the knowledge of Indian phytophagous Coleoptera. *Annales de la Societe Entomologique de Belgique*, xlviii, 380–406.
- Jacoby, M. (1905) Diagnoses of Phytophagous Coleoptera. *Fasciculi Malayenses*, Zoology, Appendix, II, 1–7.
- Jagadish, P.S. & Ali, T.M.M. (1986) Insect pests of Millets. In: *Souvenir, International Workshop on Small Millets, Bangalore*, 29 September–3 October, 1986, pp. 46–50.
- Jolivet, P. (1979) Reflexions sur l'ecologie, l'origine et la distribution des chrysomelides (Col.) des iles Mascareignes, Ocean Indien, avec la description de deux especes nouvelles. (Suite). *Bulletin Mensuel de la Societe Linneenne de Lyon*, 48 (10), 606–608 + 641–649.
<https://doi.org/10.3406/linly.1979.10398>
- Jolivet, P. (1998) Les nouveaux envahisseurs ou les Chrysomelides voyageurs (Col.). *L'Entomologiste*, 54 (1), 33–44.
- Joshi, H.C., Doval, S.L. & Mathur, B.P. (1967) New record of *Chaetocnema basalis* Baly (Chrysomelidae : Coleoptera) as a serious pest of wheat in Rajasthan. *Indian Journal of Entomology*, 29 (3), 305.
- Kalaichelvan, T. & Verma, K.K. (2005) Checklist of leaf beetles (Coleoptera: Chrysomelidae) of Bhilai-Durg. *Zoo's Print Journal*, 20, 1838–1842.
<https://doi.org/10.11609/JoTT.ZPJ.1114.1838-42>
- Kalaichelvan, T., Jolivet, P., Verma, K.K. & Douget, S. (2001) *Chaetocnema confinis* Crotch in India (Coleoptera, Chrysomelidae, Alticinae). *Nouvelle Revue d'Entomologie*, New Series, 18, 241–243.
- Khaire, V.A. & Lawande, K.E. (1976) Occurrence of insect pests on Chinese cabbage. *Current Research Reporter*, 2 (1), 116–117.
- Khaire, V.A., Lawande, K.E., Ajri, D.S. & Kale, P.N. (1986) Occurrence of insect pests on different cauliflower cultivars. *Current Research Reporter*, 2 (2), 205–208.
- Kimoto, S. & Gressitt, J.L. (1966) The Chrysomelidae of the Ryukyu Archipelago. *Pacific Insects*, 8, 467–577.
- Kimoto, S. & Hiura, I. (1971) A list of the chrysomelid specimens preserved in the Osaka Museum of Natural History. 3. (Insecta: Coleoptera). *Bulletin of the Osaka Museum of Natural History*, 25, 1–26.
<https://doi.org/10.5962/bhl.part.19678>
- Kimoto, S. & Takizawa, H. (1994) *Leaf Beetles (Chrysomelidae) of Japan*. Tokai University Press, Tokyo, 539 pp.
- Kimoto, S. (1970) Notes on the Chrysomelidae from Taiwan 4. *Kontyu*, 38, 205–221.
- Kimoto, S. (1972) A list of the chrysomelid-beetles collected by Prof. K. Yasumatsu in India and Pakistan in 1963 (Col. Chrysomelidae). *Entomological Revue of Japan*, 24 (1/2), 43–48.
- Kimoto, S. (1991) Descriptions of a new genus and six new species of Chrysomelidae (Coleoptera) collected by Dr. Kintaro Baba in Taiwan, China. *Entomological Review of Japan*, 46 (1), 13–20.
- Kimoto, S. (2000) Chrysomelidae (Coleoptera) of Thailand, Cambodia, Laos and Vietnam. VII. Alticinae. *Bulletin of the Institute of Comparative Studies of International Cultures and Societies*, 26, 103–299.
- Kishore, P. (1996) Evolving management strategies for pests of millets in India. *Journal of Entomological Research*, 20 (4), 287–297.
- Koch, J.D.W. (1803) I. Monographie der von den Verfassern in dem Departemente vom Donnersberge, und den angrenzenden Gegenden der Departemente von der Saar, und von Rhein und Mosel einheimisch beobachteten Flohkäfer (*Haltica*). In: Hoffmann, J.J., Koch, J.D.W., Müller, P.W.J. & Linz, J.M. (Eds.), *Entomologische Hefte enthaltend Beiträge zur weitem Kenntniss und Aufklärung der Insektengeschichte. Eine Vorarbeit zu einer künftigen Fauna des Departements vom Donnersberge. Zweites Heft*. Im Verlage bei Friedrich Eßlinger, Frankfurt am Main, pp. 1–130.
- Konstantinov, A.S., Baselga, A., Grebennikov, V.V., Prena, J. & Lingelfelter, S.W. (2011) *Revision of the Palearctic Chaetocnema species. (Coleoptera: Chrysomelidae: Galerucinae: Alticini)*. Pensoft, Sofia, 363 pp.
- Krishnaswamy, N., Chauhan, D.P. & Das, R.K. (1982) The flea beetle as a rice pest in Assam, India. *International Rice Research Newsletter*, 7 (6), 16.
- Kulshreshtha, J.P. & Mishra, B.C. (1970) Occurrence of *Chaetocnema concinnipennis* Baly (Chrysomelidae: Coleoptera) on rice in the Indian Union. *Indian Journal of Entomology*, 32 (2), 166–167.

- Kutschera, F. (1864) Beiträge zur Kenntniss der europäischen Halticinen. *Wiener Entomologische Monatschrift*, Band viii, 33–52 + 141–164 + 269–288 + 303–321 + 337–353 + 373–472.
- LeConte, J. L. (1878) Additional descriptions of new species. *Proceedings of American Philosophy Society*, 17, 373–434.
- Leng, C.W., Wickham, H.F. & Mutchler, A.J. (1920) Catalogue of the Coleoptera of America, north of Mexico. J.D. Sherman, Jr., Mount Vernon, New York, 470 pp.
<https://doi.org/10.5962/bhl.title.8777>
- Lopatin, I.K. (1977) *Leaf-beetles (Chrysomelidae) of Middle Asia and Kazakhstan*. Nauka Leningradskoe otделение, Leningrad, 268 pp. [in Russian]
- Lopatin, I.K. (1984) *Leaf-beetles (Chrysomelidae) of Central Asia and Kazakhstan. (English translation of Lopatin, 1977)*. Amerind Publishing Co. Pvt. Ltd., New Delhi, 416 pp.
- Lubischev, A.A. (1963) Two new palearctic species of the genus *Chaetocnema* of the group *Ch. concinna* Marsh. (Coleoptera, Chrysomelidae, Halticinae). *Entomologicheskoe Obozrenie*, 42, 858–863. [in Russian, in English: *Entomological Review*, 42 (4), 464–467]
- Madar, J. (1960) Zur Frage der zoogeographischen Verbreitung der *Chaetocnema concinnicollis* Baly mit Beschreibung zweier neuer Halticinen-Formen. *Mushi, Japan*, 33 (7), 47–49.
- Marsham, T. (1802) *Entomologia Britannica, sistens Insecta Britanniae indigena, secundum methodum Linnaeanam disposita. Tomus I. Coleoptera*. Wilks et Taylor, London, xxxi + 547 pp.
<https://doi.org/10.5962/bhl.title.65388>
- Maulik, S. (1926) Coleoptera. Chrysomelidae (Chrysomelinae and Halticinae). In: Shipley, A.E. (Ed.), *The Fauna of British India including Ceylon and Burma*. Taylor and Francis, London, xiv + 442 pp.
- Medvedev, L.N. (1993) New species of Chrysomelidae from South Asia from the Natural History Museum in Basel. *Entomologica Basiliensia*, 16, 359–376.
- Medvedev, L.N. (1996) New data on Alticinae (Coleoptera, Chrysomelidae) from the Philippines. *Russian Entomological Journal*, 5, 65–83.
- Medvedev, L. N. (1997) New species of the Alticinae (Coleoptera, Chrysomelidae) from Nepal and adjacent regions. *Elytra*, 25 (1), 13–22.
- Medvedev, L.N. (2001) Jacoby's types of Chrysomelidae (Coleoptera) from Burma in the Museo Civico di Storia Naturale "Giacomo Doria", Genoa. Part 2. *Annali del Museo Civico di Storia Naturale "Giacomo Doria"*, 93, 607–616.
- Medvedev, L.N. (2009) *Alticinae of Indochina*. KMK Scientific Press Ltd., Moscow, 223 pp.
- Mohamedsaid, M.S. (2004) *Catalogue of the Malaysian Chrysomelidae (Insecta: Coleoptera)*. Pensoft Publishers, Sofia, 239 pp.
- Mote, U.N. & Ghule, B.D. (1989a) Chemical control of flea beetles infesting rabi sorghum. *Journal of Maharashtra Agricultural University*, 14 (2), 161–163.
- Mote, U.N. & Ghule, B.D. (1989b) Effects of density of flea beetle on sorghum seedlings. *Journal of Maharashtra Agricultural University*, 14 (3), 375–376.
- Motschulsky, V. (1845) Remarques sur la collection du Coléoptères Russes. *Bulletin de la Société Impériale des Naturalistes de Moscou*, 18 (1), 1–127.
- Motschulsky, V. (1858) Insectes des Indes orientales. *Etudes Entomologiques*, 7, 20–122.
- Motschulsky, V. (1860) Dr. L. v. Schrenk's Reisen und Forschungen im Amur-Lande, II, 2, Coleopteren. *Coléoptères de la Sibirie orientale et en particulier des River de l'Amur*. St. Petersburg, Riga, Leipzig, 1860, 174–240.
- Mulsant, E. & Rey, C. (1874) Supplément aux Altisides de feu M. Foudras. *Annales de la Société Linnéenne de Lyon*, 20, 215–258. [1873]
<https://doi.org/10.3406/linly.1874.1829>
- Nadein, K. & Lee, C. (2012) New data about some Alticini from Taiwan with descriptions of two new species (Coleoptera: Chrysomelidae). *Bonn Zoological Bulletin*, 61, 41–48.
- Nair, M.R.G.K. (1986) Insects and mites of crops in India. Indian Council of Agricultural Research, New Delhi, 408 pp.
- Narayanawamy, T.K., Govindan, R., Reddy, D.N.R. & Naik, K.L. (1985) Occurrence of flea beetles *Chaetocnema spp* (Coleoptera: Chrysomelidae) on *Firmiana colorata*. *Journal of Bombay Natural History Society*, 82 (2), 431.
- Nayar, K.K., Ananthakrishnan, T.N. & David, B.V. (1976) General and Applied Entomology. Tata Mc Graw-Hill, New Delhi, 589 pp.
- Ohno, M. & Hirano, Y. (1970) The chrysomelid-beetles from the Island Yakushima, Japan (Coleoptera). *Mushi*, 44 (5), 31–42.
- Ohno, M. (1960) On the species of the genus *Altica* occurring in Japan. Studies on the flea-beetles of Japan (I) (Coleoptera, Chrysomelidae). *Bulletin of the Department of Liberal Arts of Toyo University*, 1960, 77–95.
- Olivier, A.G. (1808) *Entomologie, ou Histoire Naturelle des Insectes, avec leurs Caractères Génériques et Spécifiques, leur Description, leur Synonymie, et leur Figure Enluminée. Coléoptères. Vol. 6*. Desray, Paris, 492 pp. [pp. 613–1104]
- Palij, V.F. (1961) *Pest flea beetles of the USSR fauna*. Akademiya Nauk Kirgizskoj SSR, Frunze, 101 pp. [in Russian]
- Palij, V.F. (1968) New species of Halticinae (Coleoptera, Chrysomelidae) from the Central Asia. Communication 1. *Vestnik Zoologii*, 1968, 15–21.
- Palij, V.F. (1970) A new species of flea-beetles from east Siberia. *Entomologicheskoe Obozrenie*, 49 (1), 197–198. [in Russian]
- Paykull, G. (1799) *Fauna Svecica. Insecta. Vol. 2*. Edman, Upsaliae, 234 pp.

- Pic, M. (1909) Descriptions ou diagnoses et notes diverses. *L'Echange*, 25, 137–139, 145–186.
- Prathapan, K.D. & Balan, A.P. (2010) Report of the Occurrence of the Sweet potato flea beetle *Chaetocnema confinis* Crotch (Coleoptera: Chrysomelidae) in Southern India. *Journal of Root Crops*, 36 (2), 272–273.
- Reddy, D.N.R., Puttaswamy & Nalawadi, U.G. (1980) Record of pests infesting *Alternanthera* spp. an ornamental hedge plant. *The Lal-Baugh*, 25 (4), 26–29.
- Redtenbacher, L. (1849) *Fauna Austriaca. Die Käfer, nach der analytischen Methode bearbeitet*. C. Gerold's Sohn, Wien, 883 pp.
<https://doi.org/10.5962/bhl.title.37851>
- Redtenbacher, L. (1858) *Fauna Austriaca. Die Käfer. Nach der analytischen Methode bearbeitet. 2nd Edition*. C. Gerold's Sohn, Wien, 1017 pp.
<https://doi.org/10.5962/bhl.title.9570>
- Redtenbacher, L. (1874) *Fauna Austriaca. Die Käfer. Nach der analytischen Methode bearbeitet. 3rd Edition*. C. Gerold's Sohn, Wien, 571 pp.
- Ruan, Y. & Yang, X. (2015) Subfamily Alticinae Chûjô, 1953. In: Yang, X., Ge, S., Nie, R., Ruan, Y. & Li, W. (Eds.), *Chinese leaf beetles*. Science press, Beijing, pp. 307–464.
- Ruan, Y., Konstantinov, A.S., Ge, S. & Yang, X. (2014) Revision of the *Chaetocnema picipes* species-group (Coleoptera, Chrysomelidae, Galerucinae, Alticini) in China, with descriptions of three new species. *Zookeys*, 387, 11–32.
<https://doi.org/10.3897/zookeys.387.6672>
- Ruan, Y., Konstantinov, A.S., Ge, S. & Yang, X. (2014) Revision of *Chaetocnema semicoerulea* species-group (Coleoptera, Chrysomelidae, Galerucinae, Alticini) in China, with descriptions of three new species. *Zookeys*, 463, 57–74.
<https://doi.org/10.3897/zookeys.463.8147>
- Scherer, G. (1961) Bestimmungsschlüssel der Alticinen-Genera Afrikas (Col. Phytoph.). *Entomologische Arbeiten Munich*, 12, 251–288.
- Scherer, G. (1962) Bestimmungsschlüssel der neotropischen Alticinen-Genera (Coleoptera: Chrysomelidae: Alticinae). *Entomologische Arbeiten aus dem Museum Georg Frey*, 13, 497–607.
- Scherer, G. (1969) Die Alticinae des indischen Subkontinentes (Coleoptera-Chrysomelidae). *Pacific Insects Monograph*, 22, 1–251.
- Shiple, A.E. (1889) On *Lethrus cephalores*, *Rhynchites betuleti* and *Chaetocnema basalis*, three species of destructive beetles. *Proceedings of the Cambridge Philosophical Society*, 6, 335–340.
- Shukla, S.P. (1960) Entomological survey of Himalaya. Part XXX—On some Chrysomelidae (Coleoptera) from the North-West (Punjab) Himalaya. *Agra University Journal of Research (Science)*, 9, 65–88.
- Smith, S.G. (1971) Parthenogenesis and polyploidy in beetles. *American Zoologist*, 11, 341–349.
<https://doi.org/10.1093/icb/11.2.341>
- Stephens, J. (1831) *Illustrations of British Entomology; or, a Synopsis of Indigenous Insects: containing their generic and specific Distinctions; with an account of their Metamorphoses, times of Appearance, Localities, Food, and Economy, as far as practicable. Mandibulata. 4 & 5*. Baldwin & Cradock, London, 414 pp., pls. 20–23.
- Takizawa, H. (1980) Notes on Korean Chrysomelidae. *Nature and Life*, 10, 1–13.
- Thakur, N.S.A., Pathak, K.A., Singh, Y.P. & Shylesha, A.N. (1995) *Major insect pests of crops in North Eastern Hill Region and their management. Technical Bulletin, ICAR Research Complex for NEH Region*. Umiam, Meghalaya, 23 pp.
- Thakur, S.S. & Kashyap, N.P. (1994) New record of *Chaetocnema basalis* Baly (Chrysomelidae : Coleoptera) as a pest of seed potato in Salooni. *Himachal Journal of Agricultural Research*, 20 (1 & 2), 97.
- Virkki, N., Figueroa, W. & Sepulveda, J.M. (1989) *Howardula* sp., a nematode new for Puerto Rico, parasitizing a parthenogenetic sweet potato-associated flea beetle, *Chaetocnema perplexa* Blake. *Journal of agriculture of the university of puerto rico*, 73 (2), 171–174.
- Wang, S. (1992) Coleoptera: Chrysomelidae: Alticinae. In: Chen, S.H. (Ed.), *Insects of the Hengduan Mountains Region. Vol. 1*. Science Press, Beijing, pp. 675–753.
- Warchalowski, A. (1973) Zur Kenntnis der orientalischen Arten aus der Verwandtschaft von *Chaetocnema (Tlanoma) basalis* (Baly) (Coleoptera; Chrysomelidae). *Polskie Pismo Entomologiczne*, 43, 41–53.
- Weise, J. (1882–1893) *Naturgeschichte der Insecten Deutschlands. Erste Abteilung. Coleoptera. Sechster Band. Erste Lieferung, Zweite Lieferung, Dritte Lieferung, Vierte Lieferung, Fünfte Lieferung, Sechste Lieferung*, Nicolaische Verlags-Buchhandlung, Berlin, xiv + 1161 pp. [pp. 1–192 (1882), pp. 193–368 (1882), pp. 369–568, table 1 (1884), pp. 569–768 (1886), pp. 769–960 (1888), pp. i–xiv + 961–1161 (1893)]
- Weise, J. (1889) Insecta a Cl. G. N. Potanin in China et in Mongolia novissime lecta. xx. Chrysomelidae et Coccinellidae. *Horae Entomologicae Rossicae*, 23, 560–653.
- Weise, J. (1922) Chrysomeliden der Indo-Malayischen Region. *Tijdschrift voor Entomologie*, 65, 39–130.
- Westwood, J.O. (1838) Synopsis of the genera of British insects. *An introduction to the modern classification of insects. Vol. 2*. Longman, Orme, Brown, Green, and Longmans, London, 158 pp.
- White, R.E. (1983) A field guide to the beetles of north America. Houghton Mifflin Company, Boston, 368 pp.
- White, R.E. (1996) A revision of the genus *Chaetocnema* of America north of Mexico (Coleoptera: Chrysomelidae). *Contributions of the American Entomological Institute*, 29, 1–158.
- Widodo, H., Wjonarko, A., Witjaksono, W. & Suputa, S. (2017) Confirmation on Status of *Chaetocnema basalis* (Coleoptera:

Chrysomellidae) as A Vector of Stewart Wilt Disease. *Jurnal Perlindungan Tanaman Indonesia*, 21 (2), 114–119.
<https://doi.org/10.22146/jpti.23002>

- Wilcox, J.A. (1975) Leaf Beetles. Checklist of the beetles of Canada, United States, Mexico, Central America and the West Indies. *Red Version, North American Beetle Fauna Project, Latham, New York*, 1 (7), 1–166.
- Yaman, M. & Radek, R. (2003) *Nosema chaetocnema* sp. n. (Microspora: Nosematidae), a microsporidian parasite of *Chaetocnema tibialis* (Coleoptera: Chrysomelidae). *Acta protozoologica*, 42 (3), 231–238.
- Yaman, M., Radek, R. & Toguebeye, B. (2008) A new microsporidian of the genus *Nosema*, parasite of *Chaetocnema tibialis* (Coleoptera: Chrysomelidae) from Turkey. *Acta Protozoologica*, 47 (3), 279–285.
- Yu, P., Wang, S. & Yang, X. (1996) Coleoptera: Chrysomeloidea (II), In: *Economic Insect Fauna of China. Vol. 54*. Science Press, Beijing, pp. 1–324. [in Chinese]
- Zaka-ur-Rab, M. (1991) Leaf mining Coleoptera of the Indian subcontinent. *Journal of Entomological Research*, 15, 20–30.
- Zhao, Q. (1990) *Chaetocnema ingenua* Baly. In: *Chinese Agriculture Encyclopedia. Vol. Insects*. China Agriculture Press, Beijing, pp. 375–376. [in Chinese]
- Zhang, Y. (2006) *Study on the Systematics of Alticinae (the genera with the anterior coxal cavity closed) (Coleoptera: Chrysomelidae)*. PhD dissertation, Institute of Zoology, The Chinese Academy of Sciences, Beijing, 263 pp. [in Chinese]