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## Revision of Hawaiian, Australasian, Oriental, and Japanese Parandrinae (Coleoptera, Cerambycidae)

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# INSECTA MUNDI

A Journal of World Insect Systematics

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0130

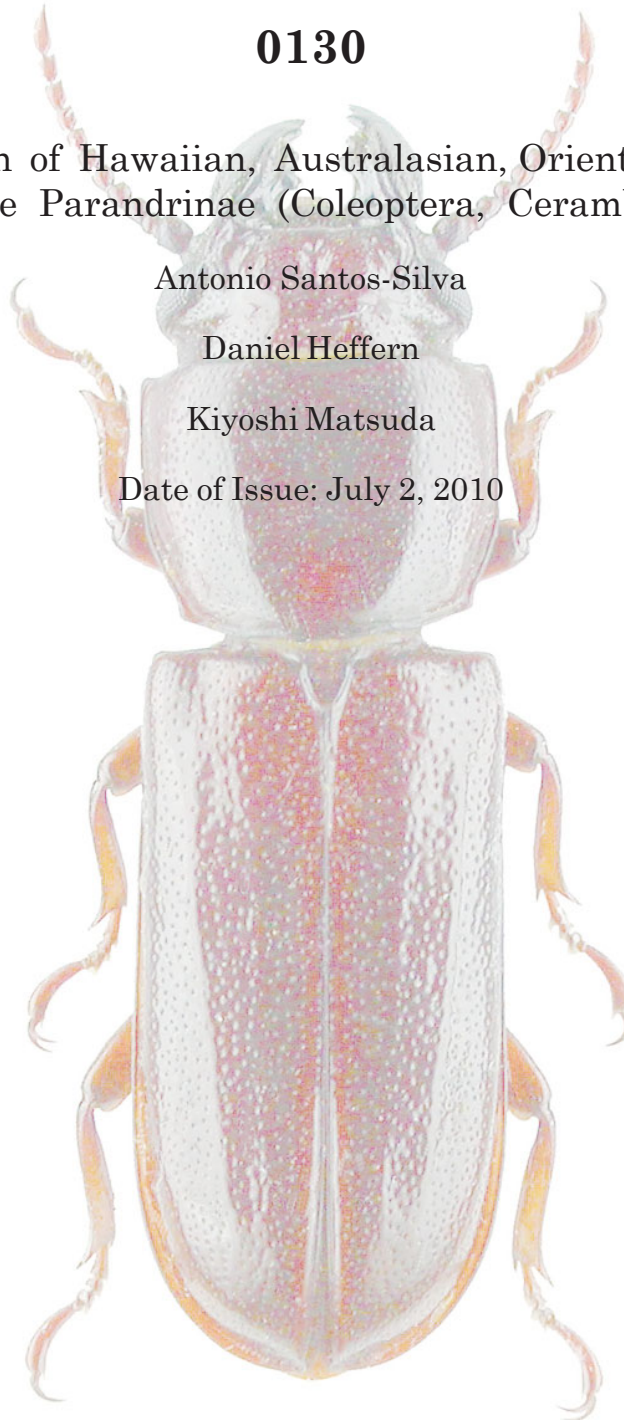
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Kiyoshi Matsuda

Date of Issue: July 2, 2010



*Komiyandra mindanao* Santos-Silva, Heffern, and Matsuda

CENTER FOR SYSTEMATIC ENTOMOLOGY, INC., Gainesville, FL

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**Abstract.** A comprehensive revision of the Subfamily Parandrinae (Coleoptera, Cerambycidae) from the Hawaiian, Australasian, Oriental, and Japanese regions is presented. Seven (7) **new genera** are described: *Komiyandra*, *Melanesiandra*, *Papuandra*, *Storeyandra*, *Hawaiiandra*, *Caledonandra*, and *Malukandra*. All known, indigenous species from these regions are assigned to new genera resulting in the following new combinations: *Komiyandra janus* (Bates, 1875), *K. shibatai* (Hayashi, 1963), *K. formosana* (Miwa and Mitono, 1939), *K. lanyuana* (Hayashi, 1981), *Melanesiandra striatifrons* (Fairmaire, 1879), *M. solomonensis* (Arigony, 1983), *Caledonandra austrocaledonica* (Montrouzier, 1861), *C. passandroides* (Thomson, 1867), *Hawaiiandra puncticeps* (Sharp, 1878), *Malukandra heterostyla* (Lameere, 1902), *Storeyandra frenchi* (Blackburn, 1895), and *Papuandra araucariae* (Gressitt, 1959). Thirty-one (31) **new species** are described: *Komiyandra javana*, *K. nayani*, *K. ohbayashii*, *K. luzonica*, *K. philippinensis*, *K. mindanao*, *K. mehli*, *K. vivesi*, *K. lombokia*, *K. sulawesiana*, *K. irianjayana*, *K. menieri*, *K. sangihe*, *K. mindoro*, *K. niisatoi*, *K. drumonti*, *K. cabigasi*, *K. koni*, *K. johkii*, *K. poggi*, *K. uenoi*, *Melanesiandra bougainvillensis*, *M. birai*, *Papuandra gressitti*, *P. weigeli*, *P. queenslandensis*, *P. norfolkensis*, *P. rothschildi*, *P. oberthueri*, *Malukandra jayawijayana* and *M. hornabrooki*. A lectotype is designated for *Parandra janus* Bates, 1875. *Komiyandra janus* (Bates, 1875) is excluded from nearly all previously reported locations, even one location given in the original description, and is now only known from Sulawesi. A paralectotype of *Parandra janus* Bates, 1875, is designated as a paratype for *Komiyandra menieri*, new species. *Komiyandra formosana* is excluded from the Japanese (Ryukyu Is.) fauna. *Parandra vitiensis* Nonfried, 1894, is again placed in synonymy with *P. striatifrons* Fairmaire (now *Melanesiandra striatifrons*). A **neotype** is designated for *Parandra austrocaledonica* Montrouzier, 1861. A **lectotype** is designated for *Parandra janus* Bates, 1875. The lectotype of *Parandra gabonica* Thomson, 1858, designated by Quentin and Villiers (1975) is considered invalid. *Papuandra araucariae* (Gressitt, 1959) is excluded from the fauna of Norfolk Island. The African species *Stenandra kolbei* (Lameere, 1903) is reported for the first time from Asia (N. Vietnam). Keys are presented to separate worldwide genera of Parandrini and all species within the study regions. Illustrations are provided for all species including many special characters to differentiate genera and species.

**Keywords.** *Caledonandra*; *Hawaiiandra*; *Komiyandra*; Lectotype; *Malukandra*; *Melanesiandra*; neotype; new genera; new species; *Papuandra*; *Parandra*; Parandrini; *Storeyandra*.

### Introduction

Lameere (1902) revised the Parandrinae of the world, considered them as one genus, but divided them into “Branches”, “Rameaus”, “Groupes”, “Sous-groupes”, “Couples” and “Catégories”. The species of the Oriental and Australian zoogeographic provinces were placed into the “Seconde Branche”, characterized by procoxal cavities open behind and paronychium always well visible and with a single seta. That branch also included species from the Ethiopian and Neotropical zoogeographic provinces.

Inside the “Seconde Branche”, the species of the Oriental and Australian provinces were grouped into two “Rameaus”. The first one, characterized, among other features, by the prosternal process broadly dilated, and by the mandibles of the males falciform and dilated at inner base, included a single species of the “Groupe hawaïen”: *Parandra puncticeps* Sharp, 1878. The second one, characterized by the prosternal process barely dilated, and by the mandibles of the males not dilated at inner base, included five groups, of which four, involved the species of the Oriental and Australian provinces.

The “Groupe fidjien”, characterized by the eyes anteriorly feebly beveled, large, posterior edge of eyes protruding from adjacent surfaces (mainly in males), by the antennae with carina rather elevated in antennomeres III-XI, and by the dorsal sensorial area of antennomere XI well delimited and clearly visible, contained a single species: *Parandra striatifrons* Fairmaire, 1879 [*P. vitiensis* Nonfried, 1894, was put under synonymy of that species by Lameere (1902)].

The “Groupe australien” was defined, among other characters, by the antennae pilose, by antennomeres III-XI divided by carina very elevated and easily visible laterally, by the narrow and beveled eyes, and by the lateral angles of the pronotum well marked. That group was divided into two subgroups, of which the first group was characterized by a triangular depression between the eyes, in the dorsal surface of the head, and by the apex of labrum triangular in females and wide and concave in males. That first group included two species: *Parandra passandroides* Thomson, 1867, and *P. austrocaledonica* Montrouzier, 1861. The second group was characterized by the absence of a triangular depression between the eyes, on the dorsal surface of the head, and included only *P. frenchi* Blackburn, 1895, of which Lameere (1902) only knew the female.

The “Groupe paléotropical” was defined by the ventral sensorial area of antennomeres III-XI without carina, by the dorsal sensorial area of antennomere XI small and well delimited, by the mandibles of the males short and robust, by the eyes short and strongly beveled anteriorly, by the ocular carina clearly elevated, by the presence of two strong gibbosities between the eyes, on the dorsal face of the head, and by the apex of labrum of the males wide and trapezoid. Two species were allocated in this group: *Parandra janus* Bates, 1875 (Oriental) and *P. gabonica* Thomson, 1858 (Ethiopian).

Finally, the “Groupe lémurien” was characterized by the small eyes, barely beveled anteriorly, by the triangular apex of labrum of the males, by the ocular carina barely pronounced, and by the dorsal gibbosities of the dorsal face of the head barely indicated. As in the previous group, two species from different zoogeographic provinces were allocated: *Parandra thumbergi* Thomson, 1867 (= *P. capicola* Thomson, 1860) (Ethiopian) and *P. heterostyla* Lameere, 1902 (Oriental).

Those divisions of Lameere (1902) correspond, in our opinion, to distinct genera of Parandrinae, that with some modifications, additions and corrections, will be described in this paper. “Groupe hawaïen” = *Hawaiiandra* **gen. nov.**; “Groupe fidjien” = *Melanesiandra* **gen. nov.**; “Premier sous-groupe” of the “Groupe australien” = *Caledonandra* **gen. nov.**; “Second sous-groupe” of the “Groupe australien” = *Storeyandra* **gen. nov.**; “Groupe lémurien” = *Malukandra* **gen. nov.** (without *P. capicola*).

The “Groupe paléotropical” is artificial and involves more than one genus. That problem apparently results from *P. janus sensu* Lameere (1902) not corresponding to the species of Bates (1875), and of the existence of unknown species at that time.

Lameere (1912) divided *Parandra* into four subgenera: *Parandra s. str.* (cosmopolitan), type species *P. (P.) laevis* Latreille, 1804 [= *P. (P.) glabra* (DeGeer, 1774)]; *Parandra (Neandra)* that included only *P. (Neandra) brunnea* (Fabricius, 1798) (Nearctic); *Parandra (Archandra)* (Palaeartic and Neotropical), type species *P. (A.) caspia* Ménétriés, 1832; and *Parandra (Stenandra)* with a single species: *P. (S.) kolbei* Lameere, 1903 (Ethiopian).

Although Villiers (1966) cited *Stenandra kolbei*, and not *Parandra (Stenandra) kolbei*, it was later that Quentin and Villiers (1972) formally considered *Stenandra* as a distinct genus, arguing: “Dans sa diagnose Lameere insistait sur les caractéristiques très particulières de ce sous-genre et, de fait, nous pensons qu’elles justifient amplement de l’élever au rang de genre”.

Arigony (1977) dismembered *Parandra (Archandra)* into two subgenera: *Parandra (Archandra)*, exclusively Palaeartic, with *P. (A.) caspia*; and *Parandra (Hesperandra)*, limited to the Americas that included the remaining species allocated in *P. (Archandra)* by Lameere (1912, 1913, 1919). *Hesperandra* was considered a distinct genus by Villiers (1980), when he studied the Cerambycidae from French Antilles.

Arigony (1984) studied the species characterized by mandibles not falciform, with apical tooth at ventral face (except *Parandra frenchi*), ocular carina distinct, and always with carina at anterior and

posterior face of the tibiae. That study resulted in three groups of species from the Australian and Oriental provinces. It is worth emphasizing that *Parandra lata* Bates, 1884, included in the group by Arigony (1984), does not belong to that group, because the males (unknown to her) have the mandibles clearly falciform. The basal character used by her was the form of the dorsal face of the tibiae: rounded, flat or furrowed.

The first group ("Grupo A") was characterized, mainly, by the presence of gibbosities at front and absence of central depression in "V", by "clypeus-labrum" without tubercles and with the central region of anterior edge (apex) in rounded projection, and by the tibiae with dorsal face furrowed. In that group were allocated: *P. gabonica*, *P. araucariae* Gressitt, 1959 and *P. frenchi*. Arigony (1984) commented that the two last species constituted a branch defined by the sensorial area of the antenna divided and visible from the side.

The second group ("Grupo B") was defined, among other characters, by the flat front, without depression in "V", by the "clypeus-labrum" without tubercles and with the central region of anterior edge (apex) with rounded projection, and by the tibiae with dorsal face flat. The included species were: *P. araucana* Bosq, 1951, *P. lata*, *P. capicola* and *P. murrayi* Lameere, 1912.

In the last group ("Grupo C") were allocated species characterized by the prothorax flat close to the posterior edge, broad, and by the outer face of the tibiae rounded: *P. passandroides*, *P. austrocaledonica*, *P. heterostyla*, *P. solomonensis* Arigony, 1983 and *P. janus*. Arigony (1984), in her cladistic study, considered *P. janus* the ancestral species, and provided evidence for the formation of two subgroups. The first subgroup included *P. heterostyla* and *P. solomonensis* that share the same pattern of the maxillary palp segments lengths, and the same kind of sensorial area on the antennae. In the second subgroup appeared *P. austrocaledonica* and *P. passandroides* which possess the front laterally elevated, not gibbous, with depression in "V" (vertex returned back), and "clypeus-labrum" with the central region of anterior edge (apex) in truncated projection.

Unlike what was defended by Arigony (1984), the species demonstrate a notable likeness related to the geographical distribution.

From the groups established by Arigony (1984), just the subgroup of the "Group C" formed by *P. austrocaledonica* and *P. passandroides*, really constitutes a monophyletic grouping. The importance that was attributed to the form of the dorsal face of the tibiae is inconsistent. As in Lameere (1902), maintaining *P. janus sensu* Arigony (1984) is a mistake that does not correspond to the true *P. janus*, however, this error did not modify the final analysis of the position of the species in Arigony (1984).

Arigony (1984) stated that she was not formalizing the separation into taxa because she had not studied the other species of the group, but she did not clarify whether she was referring to all species of *Parandra* (*Parandra*), or just the species mentioned by her that have non-falciform mandibles [*P. (P.) shibatai* Hayashi, 1963, *P. (P.) formosana* Miwa and Mitono, 1939 and *P. (P.) lanyuana* Hayashi, 1981 were unknown to her].

Santos-Silva (2002) elevated *Neandra* and *Archandra* to generic status and divided *Parandra* into two genera: *Parandra* and *Acutandra*. *Parandra* was principally characterized by anterior procoxal cavities open behind, by mandibles of the males clearly falciform, and by apex of male labrum broadly truncated. That genus was divided into two subgenera: *P. (Parandra)*, in which was maintained the species with the ventral sensorial area of the antenno-mere XI divided by carina (complete or not) and, provisionally, all species not American; and *P. (Birandra)*, exclusively American, characterized, principally, by the ventral sensorial area of antenno-mere XI not divided by carina. *Acutandra* was characterized by anterior procoxal cavities open, by male mandibles not falciform, by apex of labrum narrow and not truncate in both sexes, and frequently by anterior margin of prothorax strongly sinuous. In this last genus were allocated two of the species that Arigony (1984) included in her "Grupo B": *A. murrayi* and *A. araucana*. Probably, the African species (part or all) are closely related to *Acutandra* from South America. Pending a study to determine their correct generic placement, three species from the Ethiopian fauna remain allocated to *Birandra* (*Birandra*): 1) *B. (B.) gabonica* (Thomson, 1858); 2) *B. (B.) capicola* (Thomson, 1860); and 3) *B. (B.) morettoii* (Adlbauer, 2004).

Resolution of important nomenclatural issues in Parandrinae were recently proposed by Santos-Silva and Shute (2009), and are hereby repeated for convenience:



*Attelabus glaber* (DeGeer, 1774) is the type species of *Parandra* Latreille, 1802.

*Hesperandra* Arigony, 1977, *Hesperandra* (*Zikandra* Santos-Silva, 2003), and *Gnathophorus* Kirby, 1837 are junior synonyms of *Parandra* Latreille, 1802.

*Birandra* Santos-Silva, 2002 was used to replace *Parandra sensu lato*.

*Parandra laevis* Latreille, 1804 was placed as a synonym of *Attelabus glaber* DeGeer, 1774.

*Parandra* (*Yvesandra*) *latreillei* was selected as a replacement name for *Parandra laevis* Schönherr, 1817.

*Protospondylis* Linsley, 1942, recently synonymized under *Parandra* by Vitali (2006), was revalidated and put in *incertae sedis* of the Cerambycidae.

In this work, we studied the species from the Palaearctic (Ryukyu Islands), Oriental and Australian provinces [Indo-Malay, Australasia and Oceania according to Olson et al. (2001)], excluded them from *Birandra* and allocated them into new genera.

The evolution of the genera of Parandrinae and their zoogeographic distribution is complex, particularly in the regions studied in this work (Oriental and Australian). Apparently, Wallace's Line does not delimit the distribution of the genera of those regions. For example, species that occur in Borneo and Java (west of Wallace's Line) have congeners that occur in Sulawesi and the Moluccas (east of Wallace's Line). But Weber's Line appears to be a good limit among the genera studied in our work, because only *Komiyandra* **gen. nov.** occurs on both sides of that line, and the other genera occur only to the east.

Lameere (1902) stated that *Parandra janus* [actually *Komiyandra javana* **sp. nov.**] is closely related to *Parandra gabonica*. That possibility is confirmed by Turner et al. (2001): "India separated from Gondwanaland c. 195 Ma [*sic*], and finally collided with Asia in the Late Eocene. India could have acted as a raft, carrying taxa from Africa to Asia, which could spread over Southeast Asia and West Malesia after collision". For the time being, there are not any species of Parandrinae to clearly demonstrate this hypothesis.

The dispersion of the species among the islands, might have happened through floating logs [as suggested by Gressitt (1978: 140) for the species from Hawaii], or as reported by Turner et al. (2001): "The West Malay.. and most of Southeast Asia consists mainly of fragments which broke off from Australia and which drifted northwards and collided with the Eurasian Plate... This means that most of Southeast Asia, although of Australian origin, was already in place before many recent plant and animal taxa evolved ... Thus the plants and animals present in West Malesia will be mainly of Southeast Asian origin.". It is very probable that both processes have happened, that would justify, for example, the origin of the Hawaiian species. Gressitt (1978: 137) suggested an explanation for the colonization of the Hawaiian Islands: "With an age of perhaps 25,000,000 years, and with roughly 300 each of successful introductions of fauna and flowering plants, it can be estimated that 1 animal and 1 higher plant colonized the chain every 80,000 years or so on the average. Most of these immigrants probably arrived by air currents of frontal movements from the southwest, carrying the animals or propagules partly from stepping-stone islands in the mid-Pacific. Some of these islands have since eroded away and sunk beneath the sea, suggesting that more colonizations occurred per unit during the Miocene and early Pliocene than during the Pliocene and Pleistocene".

According to Zimmerman (1942: 283): "Though the evidence for former extensive land masses in the Pacific basin is lacking, it is probable that high islands other than those represented on maps existed in past ages. There are numbers of volcanic cones below sea level, some of which come close to the surface. There might well have been some high islands between Hawaii and the south and western Pacific. Such islands, when above water, may have been used by plants and animals as stepping stones. There have been shifts of sea level of at least 1,000 feet in Hawaii; such shifts in the south Pacific would change the appearance of the map... At least for eastern Oceania the distribution of insects could have been accomplished with little change in the present proportions of land and sea". For Zimmerman (1942: 284) "The three principal means of transport (of insects among the islands) generally advanced are: marine drift, wind and aid from other organisms".

The species from the Australasian and Oceanic regions seem to be intimately related to *Parandra* [= *Hesperandra* Arigony; not *Parandra sensu* Santos-Silva, 2002] and *Archandra*. The females of some species from those regions show some characters only found in those genera. Bosq (1951), when describing *Parandra araucana* (now *Acutandra araucana*) commented: "Esta pequeña especie ocupa un lugar muy

independiente y no parece tener mayormente relación con ninguno de sus congéneres del continente; quizás se acerque más al grupo australiano”. That could indicate that there was dispersion starting from America or, to the opposite, starting from the Australasian and Oceanic regions towards America.

The generic concept of Lameere (all revision works) was very ample. When Lameere (1912) created his subgenera for *Parandra*, two of them included species whose single characteristic of similarity was the form of procoxal cavities: *Parandra* (open behind) and *Archandra* (close behind). However, although that character is very useful to separate the two groups of species, by itself, it does not characterize the subgenera (or genera). Moreover, in some species there occurs considerable variation in the form of the procoxal cavities, which can be clearly open or sub-closed, for example, in *Acutandra murrayi* (Lameere, 1912).

Unfortunately, some authors, mainly those who do not work with taxonomy or systematics, do not employ the latest taxonomic changes, keeping the generic allocation *sensu* Lameere (notably in catalogues). As those citations are never accompanied by justifications, they only contribute to the extremely chaotic misunderstanding of the species and genera. Even species that were re-allocated to other genera more than thirty years ago are frequently cited in the original genera or in those established by Lameere. *Parandra* is particularly affected by unjustified “nomenclatural acts”. For example, *Hesperandra glabra* (De Geer, 1774) was mentioned as *Parandra glabra* (e.g. Jenis 2001; Nielsen et. al. 2004; Di Iorio 2004) (*Parandra glabra* was formally transferred to *Parandra* in Santos-Silva and Shute 2009); and *Hesperandra polita* (Say, 1835), was also mentioned as *Parandra polita* (e.g. Yanega 1996; Jenis 2001) (same case for *Parandra glabra*) or, still more unwarranted, as *Parandra* (*Archandra*) *polita* (e.g. Térron 1997).

Obviously, generic placement can be accepted or rejected, but in all cases a nomenclatural act should be justified. As there is no rule in the ICZN (1999) specifying that a nomenclatural act must be clearly justified, those “archaic” citations require discernment by those who work with the groups involved, disregarding such “nomenclatural acts” that have no basis in the ICZN (1999). Invariably, this will happen with the species that were excluded from *Parandra* Santos-Silva and Shute (2009) and *Birandra* in the present work.

The nomenclature used for the wing venation follows Kukalová-Peck and Lawrence (1993).

The collection acronyms used in the text are as follows:

<b>ANIC</b>	— Australian National Insect Collection
<b>AUMU</b>	— Australian Museum, Sydney, Australia
<b>AWCO</b>	— Andreas Weigel Collection, Wernburg, Germany
<b>BMNH</b>	— The Natural History Museum, London, United Kingdom
<b>BPBM</b>	— The Bernice P. Bishop Museum, Hawaii, USA
<b>CASC</b>	— California Academy of Sciences, San Francisco, USA
<b>CCCO</b>	— Chen Changging Collection, China
<b>CHCO</b>	— Carolus Holzschuh Collection, Spitzneckweg, Austria
<b>CHKC</b>	— Charles Hornabrook Collection, Wellington, New Zealand
<b>CNHM</b>	— Chicago Natural History Museum, Chicago, IL, USA
<b>CSIR</b>	— Commonwealth Scientific and Industrial Research Organization, Canberra, Australia
<b>DASF</b>	— Department of Agriculture, Stock and Fisheries, Papua New Guinea
<b>DHCO</b>	— Daniel Heffern Collection, Houston, TX, USA
<b>DHIC</b>	— Don Hildebrant Collection, Shorewood, IL, USA
<b>ECCO</b>	— Estan Cabigas Collection, Davao City, Philippines
<b>EELE</b>	— Entomological of Environmental Laboratory, Ehime University, Japan
<b>EJCO</b>	— Eric Jiroux Collection, Andrésey, France
<b>EVCO</b>	— Eduard Vives Collection, Terrassa, Spain
<b>GDCO</b>	— Gontran Drouin Collection, Ste-Henedine, Quebec, Canada
<b>HNCO</b>	— Hajime Nara Collection, Arida-gun, Japan
<b>IRSN</b>	— Institute Royal des Sciences Naturelles de Belgique, Bruxelles, Belgium
<b>JCCO</b>	— James Cope Collection, Sacramento, CA, USA
<b>KCMI</b>	— Kashihara City Museum of Insects, Nara Prefecture, Japan
<b>KMCT</b>	— Kiyoshi Matsuda Collection, Takarazuka City, Japan
<b>LGBC</b>	— Larry Bezark Collection, Sacramento, CA, USA
<b>MCGD</b>	— Museo Cívico di Storia Naturale “Giacomo Doria”, Genoa, Italy

<b>MCNZ</b>	—	Museu de Ciências Naturais, Fundação Zoobotânica do Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, Brazil
<b>MEMU</b>	—	Mississippi Entomological Museum, Mississippi State, MS, USA
<b>MMPC</b>	—	Masafumi Matsumura Collection, Japan
<b>MNHN</b>	—	Muséum National d'Histoire Naturelle, Paris, France
<b>MTCO</b>	—	Masatoshi Takakuwa Collection, Yokohama-City, Japan
<b>MVMA</b>	—	Museum Victoria, Melbourne, Victoria, Australia
<b>MZBI</b>	—	Museum Zoologicum Bogoriensis, Bogor, Indonesia
<b>MZSP</b>	—	Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil
<b>NMNS</b>	—	National Museum of Natural Science, Taichung, Taiwan
<b>NOCO</b>	—	Nobuo Ohbayashi Collection, Miura-City, Japan
<b>OMCO</b>	—	Ole Mehl Collection, Birkildvej, Denmark
<b>OMNH</b>	—	The Osaka Museum of Natural History, Osaka, Japan
<b>QMCO</b>	—	Queensland Museum, South Brisbane, QLD, Australia
<b>QPIM</b>	—	Queensland Department of Primary Industries and Fisheries, Mareeba, QLD, Australia
<b>RMNH</b>	—	Rijksmuseum van Natuurlijke Histoire, Leiden, Netherlands
<b>RVCO</b>	—	Robert Vigneault Collection, Oka, Quebec, Canada
<b>SMTD</b>	—	Staaliches Museum für Tierkunde, Dresden, Germany
<b>TARI</b>	—	Taiwan Agriculture Research Institute, Taichung, Taiwan
<b>TNCO</b>	—	Tatsuya Niisato Collection, Tokyo, Japan
<b>UMSM</b>	—	Universiti Malaysia, Kota Kinabalu, Sabah, Malaysia
<b>UNCO</b>	—	Ulf Nylander Collection, Valbo, Sweden
<b>USNM</b>	—	National Museum of Natural History, Washington, DC, USA
<b>ZKCO</b>	—	Ziro Komiya Collection, Tokyo, Japan
<b>ZSMC</b>	—	Zoologische Staatssammlung des Bayerischen Staates, München, Germany

### Key to worldwide *Parandrina* genera

(excluding African *Birandra gabonica* (Thomson, 1858), *B. capicola* (Thomson, 1860), and *B. morettoii* (Adlbauer, 2004)).

1.	Procoxal cavities closed behind .....	2
—	Procoxal cavities opened behind .....	5
2(1).	Paronychium absent .....	3
—	Paronychium present .....	4
3(2).	Elytra with short and distinct hair. Africa intertropical, Madagascar and Vietnam (introduced) .....	<b><i>Stenandra</i> Lameere, 1912</b>
—	Elytra glabrous. Canada, United States, England (introduced), Germany (introduced) .....	<b><i>Neandra</i> Lameere, 1912</b>
4(2).	Galea short, reaching only apex of first segment of maxillary palp; dorsal sensorial area of antennomere XI present and divided by carina. Asia (Iran, Turkmenistan, Azerbaijan) .....	<b><i>Archandra</i> Lameere, 1912</b>
—	Galea long, reaching or surpassing middle of second segment of maxillary palp; dorsal sensorial area of antennomere XI absent, carina lacking. America (between latitude 42°N and 40°S, including West Indies), England (introduced) .....	<b><i>Parandra</i> Latreille, 1802</b>
5(1).	Mandible without small tooth at apex of latero-outer face or vaguely indicated (Fig. 75, 76) ....	6
—	Mandible with distinct small tooth at apex of latero-outer face (Fig. 77-117) .....	7
6(5).	Galea (Fig. 199) short; apex of prosternal process enlarged; procoxal cavities slightly opened behind. Hawaiian Islands .....	<b><i>Hawaiiandra</i> Santos-Silva, Heffern and Matsuda, gen. nov.</b>

- Galea (Fig. 202) long; apex of prosternal process narrow; procoxal cavities clearly opened behind. Australia ..... ***Storeyandra* Santos-Silva, Heffern and Matsuda, gen. nov.**
- 7(5). Latero-outer face of mandibles with tooth near middle (Fig. 77-79); inner face with strong and successive transverse keels (Fig. 361). Indonesia (Sulawesi ?, Halmahera and Irian Jaya), Papua New Guinea ..... ***Malukandra* Santos-Silva, Heffern and Matsuda, gen. nov.**
- Latero-outer face of mandibles without tooth near middle (Fig. 75, 76, 80-117); inner face smooth ..... 8
- 8(7). Presence of deep depression in “V” on dorsal face of head (Fig. 370, 372, 373, 375); dorsal carina of mandibles (mainly in males), short, strongly oblique in relation to the longitudinal axis, and fused at apex to the more basal tooth of the inner margin (Fig. 130, 132). New Caledonia ..... ***Caledonandra* Santos-Silva, Heffern and Matsuda, gen. nov.**
- Depression in “V” on dorsal face of head absent (Fig. 410, 412); dorsal carina of mandibles not strongly oblique in relation to the longitudinal axis, and not reaching the inner margin (Fig. 144, 156) ..... 9
- 9(8). Mandibles (Fig. 120) tumid at latero-outer face. South America (Argentina, Brazil, Chile, Colombia, French Guiana) ..... ***Acutandra* Santos-Silva, 2002**
- Mandibles (Fig. 134, 141) not tumid at latero-outer face ..... 10
- 10(9). Mandibles of male (Fig. 136, 118) with largest width of latero-outer face equal to, at most, 1/3 of length; in female equal to, at most, half the length ..... 11
- Mandibles of male (Fig. 148, 158) with largest width of latero-outer face clearly larger than 1/3 of length; in female larger than the half the length ..... 12
- 11(10). Dorsal surface of head with gibbosities between eyes; mandibles of male (Fig. 134, 136) relatively narrow at base in dorsal view (width from less than half the length to slightly larger than half), except in *M. bougainvillensis* (Fig. 138). Fiji Is. (Viti Levu; Vanau Levu, Ovalau), Solomon Is. (Santa Ana and Santa Isabel Islands), Papua New Guinea (Bougainville Island) ..... ***Melanesiandra* Santos-Silva, Heffern and Matsuda, gen. nov.**
- Dorsal surface of head without gibbosities between eyes (sometimes, indicated in female); mandibles of male (Fig. 118) distinctly wide at base in dorsal view (width distinctly greater than half of length). Mexico and West Indies to 20°S latitude ..... ***Birandra* Santos-Silva, 2002**
- 12(10). Margins of latero-basal third of prothorax slightly convergent; veins  $MP_3$  and  $MP_4$  (Fig. 210) not fused at apices. Indonesia (Irian Jaya), Papua New Guinea (New Guinea Island and Normamby Island), Australia (Norfolk Island) ..... ***Papuandra* Santos-Silva, Heffern and Matsuda, gen. nov.**
- Margins of latero-basal third of prothorax clearly convergent; veins  $MP_3$  and  $MP_4$  (Fig. 211) fused at apices. Japan (Ryukyu Islands), Taiwan, Philippines, Malaysia (Borneo), Indonesia (Borneo, Sulawesi, Java, Moluccas, Irian Jaya, Sumatra, Lombok, Ambon), Papua New Guinea ..... ***Komiyandra* Santos-Silva, Heffern and Matsuda, gen. nov.**

### ***Komiyandra*, new genus**

**Etymology.** Dedicated to our colleague, Mr. Ziro Komiya (Komiya + *Parandra*), of Japan, who has published numerous papers on Oriental Prioninae and provided many of the important specimens for this study. Feminine gender.

**Type species.** *Parandra janus* Bates, 1875.



**Description.** Dorsal area of head, between eyes, with gibbosities well marked, separated by furrow deep or barely deep, without central depression in “V”. Ocular carina elevated and distinct from middle to clypeus. Eyes (Fig. 94) narrow (maximum width equal to 0.4 times the total length); posterior ocular edge (Fig. 452) prominent or very prominent; anterior ocular edge with concavity well marked. Frontoclypeal suture just visible laterally (sometimes absent). Central region of clypeus vertical, oblique or strongly oblique. Clypeolabral suture visible in full extension or only laterally. Central projection of male labrum varying from wide and truncate at apex to narrow and sharpened apically; central projection of female usually as in male, but when truncate, always narrower. Mandibles of *major* males (Fig. 177, 184) sub-falciform (almost identical to female in *minor* males), shorter than head or slightly shorter, wide at base of latero-outer face (Fig. 114); dorsal carina elevated, well marked from base to apical third; inner margin with two teeth, together protracted, located in middle or after middle; apex with two large teeth, visible dorsally, and a third, small, not visible dorsally; outer face without large tooth around middle (Fig. 107). Mandibles of females (Fig. 169, 185) *Birandra*-like, wide at base of latero-outer face; dorsal carina elevated only at basal third, ending approximately in middle; inner margin with two teeth together protracted, located in middle; apex and outer face as in males. Mentum with hair long and sparse. Galea (Fig. 196, 200) long (surpassing the apex of second segment of maxillary palp). Ventral sensorial area of antennae (Fig. 235, 245) not visible from side, divided (Fig. 312, 313) or not by low carina, not visible from side (sometimes visible from the side on antennomere XI or X-XI); ventral sensorial area of antennomere XI not extending into dorsal area; dorsal sensorial area of antennomere XI small, well delimited, not divided by carina.

Pronotum strongly convex in apical half (close to head); anterior edge barely sinuous (mainly in males) to sinuous (mainly in females); anterior angles projected to front (usually more distinct in females); lateral angle very distinct and obtuse, or slightly distinct and obtuse (sometimes variable intra-specific); posterior angles distinct and obtuse (sometimes almost in right angle). Elytra punctate, usually distinctly and abundantly. Veins  $MP_3$  and  $MP_4$  fused at their apex (Fig. 211). Apex of prosternal process barely enlarged. Femora glabrous or sub-glabrous. Dorsal face of tibiae rounded, or flat or shallowly furrowed. Procoxal cavities clearly open behind. Paronychium with one seta (two setae in *K. ohbayashii* **sp. nov.**).

**Included species.** *Komiyandra janus* (Bates, 1875), **comb. nov.**; *K. shibatai* (Hayashi, 1963), **comb. nov.**; *K. formosana* (Miwa and Mitono, 1939), **comb. nov.**; *K. lanyuana* (Hayashi, 1981), **comb. nov.**; *K. javana* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. nayani* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. ohbayashii* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. luzonica* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. philippinensis* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. mindanao* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. mehli* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. vivesi* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. lombokia* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. sulawesiana* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. irianjayana* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. menieri* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. sangihe* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. mindoro* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. niisatoi* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. drumonti* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. cabigasi* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. koni* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. johkii* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *K. poggii* Santos-Silva, Heffern and Matsuda, **sp. nov.**; and *K. uenoi* Santos-Silva, Heffern and Matsuda, **sp. nov.**

**Geographical distribution** (Fig. 316). Japan (Ryukyu Islands), Taiwan, Philippines, Malaysia (Borneo: Sabah), Indonesia (Borneo, Sulawesi, Ternate, Java, Lombok, Sumbawa, Moluccas, Irian Jaya, Sumatra, Sangihe, Seram).

**Comments.** *Komiyandra* differs from *Birandra* Santos-Silva, 2002, and *Acutandra* Santos-Silva, 2002, by mandibles of *major* males being sub-falciform (Fig. 162), and by veins  $MP_3$  and  $MP_4$  (Fig. 211) fused together at apices. In *Birandra*, mandibles of *major* males (Fig. 118) are clearly falciform and veins  $MP_3$  and  $MP_4$  (Fig. 112) are separate at apices. In *Acutandra*, mandibles of *major* males (Fig. 120) are very similar to that of females (not falciform or sub-falciform), and veins  $MP_3$  and  $MP_4$  (Fig. 205) are as in *Birandra*. Different from *Archandra* Lameere, 1912, and *Parandra* Latreille, 1802, because these genera

have distinctly falciform mandibles in *major* males and veins  $MP_3$  and  $MP_4$  (Fig. 207, 208) not fused together at apices, and by procoxal cavities closed behind. From *Neandra* Lameere, 1912, different by procoxal cavities open behind, and presence of paronychium clearly exposed. In *Neandra*, procoxal cavities are closed behind, and paronychium not exposed. Different from *Stenandra* Lameere, 1912, by procoxal cavities open behind, and by the paronychium clearly exposed (closed and not exposed in *Stenandra*). See comments on *Melanesiandra*, *Hawaiiandra*, *Caledonandra*, *Malukandra*, *Papuandra*, and *Storeyandra*.

### Key to the species of *Komiyandra*

1.      Sensorial area of antennomeres III-XI divided by carina, or with carina in some of those antennomeres ..... **2**
- Sensorial area of antennomeres III-XI not divided by carina ..... **9**
  
- 2(1).   Elytral punctation fine or moderately fine (Fig. 428, 430, 445, 447) ..... **3**
- Elytral punctation coarse (Fig. 405, 409, 410, 412) ..... **4**
  
- 3(2).   Posterior angles of pronotum rounded (Fig. 445, 447) in both sexes. Indonesia [Sulawesi, Java (?)] ..... ***K. sulawesiana*, sp. nov.**
- Posterior angles of pronotum distinct and obtuse in both sexes (Fig. 428, 430). Philippines (Luzon, Mindoro, Mindanao) ..... ***K. luzonica*, sp. nov.**
  
- 4(2).   Metatarsomere V shorter than half the length of metatibiae. Japan (Ryukyu Islands: Amami-Ōshima and Okinawa Is.) ..... ***K. shibatai* (Hayashi)**
- Metatarsomere V longer than half the length of metatibiae ..... **5**
  
- 5(4).   Lateral margins of pronotum (Fig. 441, 466, 468) distinctly expanded ..... **6**
- Lateral margins of pronotum (Fig. 422, 424) not distinctly expanded ..... **7**
  
- 6(5).   Dorsal face of metatibiae narrowed at apical half; metatarsomere V (without claws) as long as I-III together. Philippines (Mindanao) ..... ***K. vivesi*, sp. nov.**
- Dorsal face of metatibiae wide at apical half; metatarsomere V (without claws) longer than I-III together. Philippines (Mindanao) ..... ***K. cabigasi*, sp. nov.**
  
- 7(5).   Elytral punctation notably abundant and close (Fig. 422, 424), the general appearance of elytral surface somewhat rugose; pronotal punctation in female distinctly abundant laterally, close to anterior angles. Malaysia (Sabah) ..... ***K. nayani*, sp. nov.**
- Elytral punctation abundant but not notably close (Fig. 425, 427); the general appearance of elytral surface not rugose; pronotal punctation in female sparse or moderately sparse laterally, close to anterior angles ..... **8**
  
- 8(7).   Ocular carina in male not bifurcated in “Y” near posterior edge of eyes; lateral margins of anterior two-thirds of pronotum in female (Fig. 427) convergent towards head. Philippines (Mindanao) ..... ***K. ohbayashii*, sp. nov.**
- Ocular carina in male bifurcated in “Y” near posterior edge of eyes; lateral margins of anterior two-thirds of pronotum in female (Fig. 409) parallel. Indonesia (Sulawesi) . ***K. janus* (Bates)**
  
- 9(1).   Metatarsomere I notably tumid, wide in lateral view (Fig. 290). Indonesia (Irian Jaya) ..... ***K. irianjayana*, sp. nov.**
- Metatarsomere I not tumid and narrow in lateral view (Fig. 288) ..... **10**
  
- 10(9).   Elytral punctation fine. Indonesia (Lombok, Sumbawa Island) ..... ***K. lombokia*, sp. nov.**
- Elytral punctation coarse ..... **11**

- 11(10). Central projection of labrum (Fig. 40, 41) narrow, acute or sub-acute at apex in both sexes. Malaysia (Sabah) ..... ***K. nayani*, sp. nov.**  
 — Central projection of labrum of male (Fig. 34, 61) wide, truncate or slightly rounded; in female, narrow, truncate (Fig. 73) or acute (Fig. 33) (in this last case, species not present in Borneo) ..... **12**
- 12(11). Elytra distinctly flat. Body clearly compressed dorsoventrally (Fig. 465). Papua New Guinea .... ***K. drumonti*, sp. nov.**  
 — Elytra convex. Body not compressed dorsoventrally (Fig. 433) ..... **13**
- 13(12). Metatarsomere V not notably narrow at basal half (Fig. 301). Taiwan (excluding Lanyu Island) ..... ***K. formosana* (Miwa and Mitono)**  
 — Metatarsomere V notably narrow at basal half (Fig. 300) ..... **14**
- 14(13). Mandibles subtriangular (Fig. 155, 193); length, at most, one-third longer than the greater width. Female ..... **28**  
 — Mandibles sub-falciform (Fig. 154, 184); length, at least, equal to 1.5 times the greater width. Male ..... **15**
- 15(14). Teeth of inner margin of mandible in male (Fig. 183) placed after middle (occupying only apical third of inner margin) Female unknown. Philippines (Mindoro) ..... ***K. mindoro*, sp. nov.**  
 — Teeth of inner margin of mandible in male (Fig. 189) placed in middle (occupying great part of inner margin) ..... **16**
- 16(15). Head narrower than pronotum, elongate behind eyes (Fig. 438) ..... **17**  
 — Head as wide as pronotum, not elongate behind eyes (Fig. 431) ..... **21**
- 17(16). Metepisternae and urosternites coarsely and abundantly punctate ..... **18**  
 — Metepisternae and urosternites finely and somewhat sparsely punctate ..... **20**
- 18(17). Central area of labrum distinctly tumid and with tuberculiform process frontally; central projection of labrum not notably projected at apex, and strongly lowered. Indonesia (Sumatra) ..... ***K. poggi*, sp. nov.**  
 — Central area of labrum not tumid and without tuberculiform process ..... **19**
- 19(18). Dorsal face of metatibiae flat; latero-outer face of metatibiae longitudinally sulcate. Borneo (Malaysia and Indonesia) ..... ***K. koni*, sp. nov.**  
 — Dorsal face of tibiae rounded; latero-outer face of metatibiae not sulcate. Borneo (Malaysia) ..... ***K. johkii*, sp. nov.**
- 20(17). Integument very dark brown (blackish). Female unknown. Indonesia (Sulawesi) ..... ***K. niisatoi*, sp. nov.**  
 — Integument dark-brown (not blackish). Indonesia (Seram) ..... ***K. mehli*, sp. nov.**
- 21(16). Ocular carina not bifurcated in “Y” near posterior edge of eyes, or with bifurcation vaguely indicated ..... **22**  
 — Ocular carina distinctly bifurcated in “Y” near posterior edge of eyes ..... **24**
- 22(21). Anterior edge of pronotum (Fig. 419) sinuous (emargination very distinct at middle). Indonesia (Java) ..... ***K. javana*, sp. nov.**  
 — Anterior edge of pronotum (Fig. 456) not sinuous (wide and slightly sinuous at middle) ..... **23**
- 23(22). Greatest width of metafemur less than three times the length. Male. Indonesia (Sulawesi) ..... ***K. sangihe*, sp. nov.**

- Greatest width of metafemur slightly more than three times the length. Philippines (Mindanao) ..... ***K. mindanao*, sp. nov.**
- 24(21). Lateral margins of anterior third of pronotum divergent towards head. Japan (Ryukyu Islands: Amami-Ōshima Islands and Okinawa Islands) ..... ***K. shibatai* (Hayashi)**
- Lateral margins of anterior third of pronotum parallel or subparallel ..... **25**
- 25(24). Metatibiae narrow in dorsal view (lateral not notably visible at medial region). Japan (Ryukyu Islands: Ishigaki-jima Island, Iriomote-jima Island) ..... ***K. uenoi*, sp. nov.**
- Metatibiae moderately wide in dorsal view (lateral notably visible at medial region) ..... **25**
- 26(25). Area behind bifurcation of ocular carina with punctures abundant and at least partially anastomosed, or networked. Indonesia (Irian Jaya, Ternate Island)] ..... ***K. menieri*, sp. nov.**
- Area behind bifurcation of ocular carina with punctures sparse ..... **27**
- 27(26). Metatarsomere V approximately as long as half the length of metatibia. Philippines (Negros Island, Leyte Island, Sibuyan Island, Luzon Island, Mindoro Island) ..... ***K. philippinensis*, sp. nov.**
- Metatarsomere V distinctly shorter than half the length of metatibia. Taiwan (Lanyu Island) .. ***K. lanyuana* (Hayashi)**
- 28(14). Central projection of labrum with apex narrow and acute (triangular) (Fig. 33, 48) ..... **29**
- Central projection of labrum truncate or distinctly rounded (Fig. 39, 68) ..... **30**
- 29(28). Head (Fig. 412) distinctly narrower than pronotum. Japan (Ryukyu Islands: Amami-Ōshima Islands and Okinawa Islands) ..... ***K. shibatai* (Hayashi)**
- Head (Fig. 434) wide, extending nearly to lateral edge of pronotum. Philippines (Negros Island, Leyte Island, Sibuyan Island, Luzon Island, Mindoro Island) .... ***K. philippinensis*, sp. nov.**
- 30(28). Metatarsomere V longer than I-III together ..... **31**
- Metatarsomere V shorter or as long as I-III together ..... **34**
- 31(30). Head (Fig. 421) wide (lateral distance between apices of eyes, greater than 2.5 times the length of mandible in dorsal view) Indonesia (Java) ..... ***K. javana*, sp. nov.**
- Head (Fig. 472) narrow (lateral distance between apices of eyes, at most, 2.5 times the length of mandible in dorsal view) ..... **32**
- 32(31). Circum-scutellar punctation not different of that placed laterally on basal third of elytra. Borneo (Malaysia and Indonesia) ..... ***K. koni*, sp. nov.**
- Circum-scutellar punctation distinctly different of that placed laterally on basal third of elytra ..... **33**
- 33(32). Metepisterna with punctures coarse and shallow. Indonesia (Irian Jaya, Ternate Island), Papua New Guinea ..... ***K. menieri*, sp. nov.**
- Metepisterna with punctures slightly coarse and well defined. Indonesia (Seram) ..... ***K. mehli*, sp. nov.**
- 34(30). Head elongate behind eyes (Fig. 437) ..... **35**
- Head not elongate behind eyes (Fig. 480) ..... **36**
- 35(34). Metepisternae abundantly punctate throughout, but the punctures are closer at basal third. Indonesia (Sumatra) ..... ***K. poggii*, sp. nov.**
- Metepisterna not abundantly punctate. Philippines (Mindanao) ..... ***K. mindanao*, sp. nov.**

- 36(34). Metatibiae, in dorsal view, notably narrow at apical half. Japan (Ryukyu Islands: Ishigaki-jima Island, Iriomote-jima Island) ..... *K. uenoi*, **sp. nov.**  
 — Metatibiae, in dorsal view, not notably narrow at apical half. Taiwan (Lanyu Island) .....  
 ..... *K. lanyuana* (Hayashi)

***Komiyandra sulawesiana* sp. nov.**

(Fig. 55, 56, 106, 177, 178, 246, 289, 336, 445-447)

**Etymology.** The name refers to the island of Sulawesi in Indonesia.

**Type material.** Holotype M, INDONESIA, Sulawesi, *South Sulawesi*: Pulu-Pulu, III.1999, (MZSP – donated by Ziro Komiya). Paratypes (1 M, 1 F), as follows: INDONESIA, Sulawesi, *West Sulawesi*: Tabone (1 km Mamasa), M, I.2004, (ZKCO). Java, *West Java*: Puncak, F, VII.26.2002, H. Chen coll. (ZKCO).

**Description.** Integument brown very dark dorsally, dark brown ventrally (lighter on metasternum, urosternites and legs).

Male (Fig. 445). Head wide; dorsal surface, on gibbosities, finely, sparsely punctate; central area between gibbosities and occiput almost impunctate; gibbosities strongly distinct, separated by deep and wide furrow; area between gibbosities and ocular carina with distinct depression, smooth; ocular carina elevated, wide, bifurcated in “Y” (Fig. 445) near posterior edge of eyes (bifurcation not strongly evident); area behind eyes coarsely, abundantly, in part confluent punctate (clearly finer and sparser close to eyes). Eyes (Fig. 106) narrow and elongated; posterior ocular edge (Fig. 445) clearly distinct. Central area of clypeus vertical close to front. Central projection of labrum (Fig. 55) narrow and subacute at apex. Submentum depressed, vermiculate, coarsely, sparsely punctate towards gula, and finer and more abundant close to anterior edge; pilosity short and sparse; anterior margin elevated throughout, wide. Teeth of inner margin of mandibles (Fig. 177) placed after middle, together protracted, and separated just at apex. Ventral sensorial area of antennomeres III-XI not visible from side (Fig. 246), and divided by carina.

Pronotum finely, sparsely punctate at central region; laterally microsculptured and granulated (granules larger and more abundant at anterior half); anterior edge (Fig. 445) sinuous; anterior angles distinct, not projected forward; lateral angles distinct, widely rounded; posterior angles rounded; area close to posterior angles convex. Anterior two-thirds of elytra with fine and sparse punctation towards suture, coarser laterally; apical third finely punctate throughout; each elytron with two carinae. Metasternum with moderately fine and sparse punctation laterally. Metafemur (Fig. 446) elongated. Dorsal face of metatibiae rounded. Metatarsomere V (Fig. 289) longer than I-III together.

Female (Fig. 447). Labrum (Fig. 56) as in male. Mandibles (Fig. 178). Pronotum without granules laterally.

**Variability.** Males: punctation of submentum, close to anterior edge, abundant but not finer; Metasternum with punctures moderately coarse and abundant laterally.

**Dimensions in mm (M / F).** Total length (including mandibles), 24.5-25.6/26.0; prothorax: length, 5.4-5.5/5.0; anterior width, 7.0-7.4/5.7; posterior width, 5.6-5.7/5.5; humeral width, 6.9-7.4/7.4; elytral length, 14.0-14.5/16.7.

**Comments.** *Komiyandra sulawesiana* is very similar to *K. janus*, but differs by the: punctation of the head, of the pronotum, and mainly of the elytra (Fig. 445), clearly finer; labrum longer, clearly projected laterally (Fig. 55, 56); posterior angles of the pronotum rounded. In *K. janus*, the punctation of the head, of the pronotum, and of the elytra is coarser (Fig. 405), the labrum is shorter, and is slightly projected laterally (Fig. 31, 407), and the posterior angles of the pronotum are very distinct and in almost a right angle.

According to the label on the female paratype, the specimen was collected in Java (Puncak). It is possible that the specimen had been labeled incorrectly, mainly because there is also a locality in Sulawesi named Puncak.



***Komiyandra luzonica* sp. nov.**

(Fig. 45, 46, 100, 166, 167, 240, 283, 333, 428-430)

**Etymology.** The name refers to the island of Luzon in the Philippines.

**Type material.** Holotype M, Philippines, Cordillera Administrative Region, Luzon, *Benguet*: Baguio, [no date indicated], G. G. Haslam col. (USNM). Paratypes (22 M, 17 F), as follows: PHILIPPINES, Cordillera Administrative Region, Luzon, *Mountain Province*: Mount Pugu (1800 – 1900 m), 2 M, VII.17.1985, M. Sakai coll. (EELF); Mount Polis, F, V.2006, D. Mohagan coll. (KMCT). *Ifugao*: Banaue, F, VI.1987, [no collector indicated] (HNCO). *Benguet*: M, [no date indicated], Sanio Tomas coll. (USNM); Baguio, 2 M, F, [no date indicated], G. G. Haslam coll. (USNM); M, [no date indicated], G. G. Haslam col. (MZSP). Cagayan Valley Region, *Nueva Viscaya*: 2 F, VI.2004, local coll. (EVCO); M, [no date indicated], I. Luwawig coll. (EVCO); Santa Fe, 10 M, 10 F, VI.2006, local coll. (DHCO); M, F, VI.2006, local coll. (MSZP). Mimaropa Region, Mindoro, *Oriental Mindoro*: Mount Halcon, M, VI.2007, [no collector indicated] (MZSP); M, V.2001, [no collector indicated] (ZKCO); M, VI.2007, [no collector indicated] (ZKCO). Northern Mindanao Region, Mindanao, *Bukidnon*: Mount Kalatungan, M, F, IX.2007, (ZKCO).

**Description.** Integument shining, dark-brown; ventral surface and tarsus chestnut.

Male (Fig. 428). Head wide; dorsal surface, on gibbosities, with barely fine punctures, moderately abundant, not confluent; area between gibbosities and occiput with same kind of punctures, but sparser; area close to eyes with barely large punctures, confluent; frontal gibbosities well marked, separated by deep and wide furrow; area between gibbosities and ocular carina depressed, and with some punctures; ocular carina elevated, not bifurcated in “Y” near posterior edge of eyes (Fig. 428); area behind eyes with punctures slightly coarse, sparse. Eyes narrow (Fig. 100); posterior ocular edge (Fig. 428) distinct. Central area of clypeus vertical close to front. Central projection of labrum (Fig. 45) narrow and subacute at apex. Submentum barely depressed, with large and abundant punctures; margin close to mentum wide and barely elevated at middle (more elevated at sides); pilosity very sparse, present throughout. Teeth of inner margin of mandibles (Fig. 166) placed after middle. Ventral sensorial area of antennomeres III-XI divided by carina, visible from side (Fig. 240).

Pronotum coarsely, abundantly punctate at latero-basal half; latero-apical half with tiny, abundant callosities; center of disc finely, sparsely punctate; anterior edge (Fig. 428) clearly sinuous; anterior angles not projected forward; lateral angles barely marked; posterior angles marked, obtuse and barely distinct. Elytra somewhat finely, moderately, sparsely punctate, mainly towards suture; each elytron with two carinae barely visible. Metasternum with some moderately coarse, shallow punctures at sides. Metafemur (Fig. 429) elongated. Dorsal face of tibiae rounded; in dorsal view distinctly wide. Metatarsus (without claws) approximately as long as metatibia; metatarsomere V barely longer than I-III together.

Female (Fig. 430). Latero-apical half of pronotum with abundant punctures, and moderately rugose. Labrum (Fig. 46). Mandible (Fig. 167).

**Variability.** Males: area between gibbosities and ocular carina with fine, sparse punctures; area close to eyes with punctures partially confluent; area between gibbosities and ocular carina smooth; ocular carina bifurcated in “Y” near posterior edge of eyes; central projection of labrum narrow and rounded at apex; punctures of submentum moderately abundant; margin of submentum, close to mentum, wide and elevated throughout; pilosity sparse; submentum depressed at sides; anterior margin of pronotum barely sinuous; anterior angles of pronotum barely projected forward; elytral punctures fine and sparse, mainly towards suture; each elytron with a single carina barely visible. Female: Latero-apical half of pronotum finely, sparsely punctate, and not rugose.

**Dimensions in mm (M / F).** Total length (including mandibles), 16.0-23.1/17.2-18.0; prothorax: length, 3.3-4.8/3.5-3.7; anterior width, 3.9-6.5/4.2-4.3; posterior width, 3.3-5.1/3.9-4.0; humeral width, 4.3-6.4/5.0-5.1; elytral length, 9.5-12.7/11.0-11.6.

**Comments.** Differs from males of *K. shibatai* (Hayashi, 1963), *K. lanyuana* (Hayashi, 1981), *K. formosana* (Miwa and Mitono, 1939), *K. philippinensis* and *K. mehli*, mainly, by the central projection of labrum

narrow and rounded or subacute at apex, and by the elytral punctures fine or nearly fine, distinctly sparse. In males of the species mentioned above, the apex of the central projection of labrum is wide and truncate, and the elytral punctures are distinctly coarser and close in both sexes.

Differs from *K. nayani*, *K. ohbayashii* and *K. janus*, by the presence of tiny callosities at latero-apical half of the pronotum, and by the elytral punctures clearly finer. In the three species, the pronotum is only punctate at latero-apical half, and their elytral punctures are clearly coarser and more abundant than elytral punctures of *K. luzonica*.

***Komiyandra shibatai* (Hayashi, 1963)**

(Fig. 32, 33, 94, 154, 155, 234, 277, 300, 304, 305, 326, 410-412)

*Parandra janus*; Hayashi 1961a: 36, pl. 9, fig. 1.

*Parandra shibatai* Hayashi, 1963: 50; Samuelson and Gressitt 1965: 51; Kojima and Hayashi 1969: 2, pl. 1, fig. 1; Nakamura et al. 1976: 228 (larva); Arigony 1984: 89; Hayashi et al. 1988: 166; Mizuno and Shiyake 2004: 4 (types).

*Birandra* (*Birandra*) *shibatai*; Santos-Silva and Shute 2009: 32.

**Description.** Integument shining, dark-brown; parts of head, mandibles, basal antennomeres, margins of pronotum, epipleura and elytral suture, and parts of the legs blackish.

Male (Fig. 410). Dorsal face of head, on the gibbosities, coarsely and abundantly punctate; longitudinal depression between gibbosities smooth; area behind gibbosities with transverse region smooth, interrupted in the middle by punctures slightly coarse, and with coarse punctures, moderately sparse, between that region and the occiput; area between the gibbosities and ocular carina clearly depressed and smooth; area behind the eyes coarsely, sparsely punctate; ocular carina elevated, clearly bifurcated in “Y” near posterior edge of eyes (Fig. 410). Eyes narrow (Fig. 94); posterior ocular edge (Fig. 410) very distinct. Central area of clypeus vertical. Central projection of labrum (Fig. 32) wide, slightly rounded at apex. Submentum depressed from middle to anterior edge; punctation coarse, moderately sparse; pilosity moderately long, sparse; anterior edge elevated and punctate throughout, mainly laterally. Mandibles approximately as long as head; teeth of inner margin (Fig. 154) placed around the middle. Antennae reaching basal fifth of prothorax; ventral sensorial area of antennomeres III-X not visible from side (Fig. 234), and not divided by carina; ventral sensorial area of antennomere XI divided by carina very low; dorsal sensorial area of antennomere XI moderately large, narrow and elliptical.

Lateral margins of prothorax divergent at anterior two-thirds towards anterior angles. Pronotum finely, sparsely punctate at central region, just coarser close to anterior edge, and clearly coarser and more abundant laterally, mainly at anterior half; lateral area microsculptured; anterior edge sinuous; anterior angles slightly projected forward; lateral angles not marked; posterior angles well marked. Basal two-thirds of elytra coarsely, abundantly punctate, mainly laterally on basal third and across medial third; punctation of apical third somewhat finer and more concentrated and abundant; each elytron with one carina well marked, and other indicated. Metasternum with punctures moderately coarse and sparse laterally, gradually finer towards metasternal suture. Metafemur (Fig. 411) short and moderately wide. Dorsal face of metatibia rounded, mainly on basal two-thirds; in dorsal view evidently enlarged. Metatarsomere V (without claws) approximately as long as I-III together (Fig. 277); in dorsal view (Fig. 300) not enlarged at basal half.

Male genitalia: median lobe short, forming a flattened tube, with two elongate struts at base, apex widely rounded and feebly incised at middle (Fig. 305); parameres short, forming a ring, with a pair of pointed processes, separate near their base in dorsal view, apical lobes short and wide, stout relatively narrow (Fig. 304).

Female (Fig. 412). Head moderately narrow; dorsal face coarsely and abundantly punctate throughout. Central projection of labrum (Fig. 33) narrow and acute at apex. Mandible (Fig. 155). Pronotum with punctation as in male, but the microsculptured lateral area is evident only at basal half; anterior angles more distinctly projected forward; anterior edge as in male, and with the same kind of variation. Antennae reaching the basal fifth of prothorax.

**Variability.** Male: central area of clypeus oblique close to front; central projection of labrum somewhat projected at center of apex; ventral sensorial area of antennomere XI incompletely divided by carina very low or not divided (mainly in *minor* males); antennae reaching base of elytra; anterior edge of pronotum slightly sinuous; each elytron with one or two carinae indicated. Female: punctation of dorsal face of head just sparser behind the gibbosities.

**Dimensions in mm (M / F).** Total length (including mandibles), 14.1-18.5/13.8-18.5; prothorax: length, 4.0-4.1/3.4-3.6; anterior width, 5.0-5.2/3.7-4.1; posterior width, 4.1-4.2/3.4-3.9; humeral width, 4.9-5.0/4.2-4.7; elytral length, 9.8-10.2/9.6-10.4.

**Larva.** Nakamura et al. (1976) published the description of the larva of *Parandra shibatai*. As this work was published in Japanese, we are adding the full description translated into English.

“Head roundly trapezoidal, with both lateral margins roundish, widest at posterior 3/4, and then arcuated inward; posterior margin almost straight, deeply emarginated at middle.

Anterior portion of occipital foramen oval. Posterior portion roundly triangular; posterior margin deeply emarginated inward. Anterior margin of frons slightly emarginated posteriad, not serrate without epistomal process. Postcondylar carina absent. Frons blackish brown only in part of anterior margin, most milky white, smooth, bearing a transverse series of several short hairs; lateral portion sparsely clothed with long hairs; frontal suture and median line indistinct.

Hypostomal sclerite smooth. Anterior margin of hypostoma deeply arcuated posteriad.

Gula distinct, slightly elevated and attached to the marginal rim of the anterior portion of occipital foramen.

Ocellae absent. Antennae 3-segmented; antennomere 2 long, about two times as long as antennomere 1; antennomere 3 minute, cylindrical; antennomeres 2 and 3 each bearing a short hair at apex; antennomeres 1 and 2 in part wide and large, covered with basal membranes.

Frontal lobes trapezoidal, large and smooth. Labrum almost triangular, longer than wide, sparsely clothed with short setae on apical 1/3 and bearing a transverse series of four long setae in the middle.

Gnathal segments transversely rectangular, rounded on both sides and sparsely clothed with short hairs in the middle. Ligula about as high as labial palpomeres 2 and densely clothed with short setae at apex. Lacinia thumb-like shaped, rounded at apex and shorter than maxillary palp.

Anterior 1/2 of pronotum smooth, bearing few short hairs, milky white and devoid of yellowish brown sclerotized macula; posterior 1/2 covered with reddish brown microgranulated spinules which become smaller and denser posteriad.

Prothoracic pleura distinct; antero-lateral portions sparsely clothed with slightly longer hairs and devoid of sclerotized macula. Prosternum divided into basisternum and sternellum; sternellum roundly triangular, scattered with reddish brown microgranulated spinules in posterior 1/2.

Three pairs of legs large, each consists of three segments; segments 1 and 2 cylindrical; segment 3 elongate, conical and scaled near apex.

Abdomen 9-segmented dorsally, almost cylindrical; each segment almost in the same width; segment 1 to 7 with an ambulatory ampulla on dorsal and ventral sides; ventral ampulla of segment 7 somewhat indistinct. Ambulatory ampullae subelliptically convex, with a pair of latero-longitudinal grooves and a medio-transverse groove in anterior 1/3, and also having V-shaped oblique grooves in central portion, devoid of microgranulated spinules. Ventral ambulatory ampullae similar to dorsal ones, but V-shaped oblique grooves shallow and inconspicuous. Pleural disc absent. Abdominal segment 10 small, roundly prominent from the distal portion of segment 9. Anal plate triforous.

Head width: 4 mm; head length: 3.8 mm.

Body length: 32 mm”.

**Geographical distribution** (Fig. 326). Japan (Ryukyu Islands: Amami-Ōshima Islands and Okinawa Islands).

**Material examined.** JAPAN, Ryukyu Islands, *Kagoshima Prefecture*: Amami-Ōshima Island (Chuo-rindo), 1 M, 1 F, VII.10.2008, H. Kitamura coll. (MMPC); (Mount Akatsuchi-yama), M, VII.03.1979, T. Mizunuma coll. (KMCT); F, VII.14.1979, N. Yamamoto coll. (OMNH); F, VII.5-VIII.2.1980, N. Yamamoto



coll. (MZSP); M, (ex-Collection Hajime Yokoyama), VII.5.1980, H. Yokoyama coll. (OMNH); [Amami-Chuo (Central)-rindo], M, (ex-Collection Hajime Yokoyama), VII.9.1979, T. Mizunuma coll. (OMNH); (Hatsuno), holotype M, VII.7.1961, T. Shibata coll. (KCMJ); F, (ex-Collection Hajime Yokoyama), VII.6.1970, H. Yokoyama coll. (OMNH); 2 M, VII.3.1972, I. Matoba coll. (HNCO); 2 F, VI.26.1972, T. Ochi coll. (KMCT); 2 M, VIII.20.1973, I. Matoba coll. (HNCO); M, F, VII.20.1974, I. Matoba coll. (HNCO); F, VII.20.1975, I. Matoba coll. (HNCO); M, F, V.3.1976, I. Matoba coll. (HNCO); (Kawauchi), M, VI.26.1987, K. Mori coll. (NOCO); (Mount Yuwan-dake), 2 F, VII.10-11.1978, N. Yamamoto coll. (HNCO); M, VII.19.1979, [no collector indicated] (UNCO); M, VII.12.1979, N. Yamamoto coll. (OMNH); 4 M, 6 F, VII.15.1980, N. Yamamoto coll. (HNCO). *Okinawa Prefecture*: Okinawa Island (Mount Terukubi-yama, Kunigami-son), 1 M, 1 F, VII.20.1998, K. Horiuchi coll. (NOCO); M, VII.21.2007, T. Mori coll. (KMCT); F, VII.21.2007, T. Mori coll. (MMPC); 2 M, 1 F, VII.23.2008, T. Mori coll. (KMCT).

**Types, type locality.** Holotype male, from Japan (Hatsuno, Amami-Ōshima Islands), originally from the T. Shibata Collection, currently deposited at KCMJ. Paratype female, from Taiwan (Botel Tobago = Lanyu Island), deposited at National Museum of Nature and Science (Tokyo, Japan).

Hayashi (1981), in the description of *Parandra lanyuana*, recorded: "The type designation of the paratype of *P. shibatai* Hayashi (1 [female symbol], Botel Tobago, off SE Formosa, April 1936, T. Kano leg., in Nat. Sci. Mus., designated by Hayashi, 1963) has to be cancelled for *shibatai*". That nomenclatural act has no base in the ICZN (1999), and also in the ICZN (1964), that was the version in force in the time in which Hayashi (1981) described *P. lanyuana*, in other words, the paratype female of *P. shibatai* remains as paratype of that species, even being of the species *P. lanyuana*. It is important to observe that Hayashi (1981) did not designate this paratype female of *P. shibatai* as paratype of *P. lanyuana*.

**Comments.** Hayashi (1961a) was the first to record the occurrence of Parandrinae in Japan, to refer to the specimen that would be the holotype of *Komiyandra shibatai*, as *Parandra janus*. However, already on that occasion, he reported differences between those species: "The specimen seems to be somewhat different from the original species by the shape of prothorax and prosternal process, but similar to the [female symbol] reported from Botel Tobago, off SE Formosa by Kano (1939) where was the previously known northern limit of this species". Undoubtedly, the species with which Hayashi (1961a) compared *K. shibatai*, is not the true *Parandra janus*, that is notably different, but one of the new species described in this work.

Hayashi (1963) recorded as one of the differential characteristics between *K. shibatai* and *K. janus*, the form of the posterior angle of the prothorax that, according to the author, would be obtuse in the first one and rectangular in the second one. That character, besides being more or less variable, does not separate *K. shibatai* from the true *K. janus* (Fig. 405), whose lectotype shows the posterior angles of the prothorax identical to that of the holotype of the first one. That demonstrates that, like the authors who preceded him, Hayashi (1961a, 1963) did not know the true *K. janus* (= *P. janus*). However, Hayashi (1961a, 1962) was correct while affirming that *K. shibatai* is very similar to *K. formosana* and *K. lanyuana*.

*Komiyandra shibatai* differs from *K. formosana* by the: ventral sensorial area of antennomere XI divided by carina, complete or partial (large specimens); metatibiae enlarged, rounded in most of dorsal face; metatarsomere V (Fig. 300) not notably enlarged at basal half. In *K. formosana*, the sensorial area of antennomere XI never is divided by carina, the metatibiae is not notably enlarged and they are flat or sulcate on dorsal face, and metatarsomere V (Fig. 301) is distinctly enlarged at basal half. Differs from *K. lanyuana* by the presence of carina in ventral sensorial area of antennomere XI (large specimens), by form of metatibiae, and by form of central projection of labrum in females, that is narrow and distinctly acute at apex. In *K. lanyuana*, the ventral sensorial area of antennomere XI is never divided by carina, metatibiae are not notably enlarged, and central projection of labrum in females is moderately wide and slightly emarginated or truncate at apex. Finally, differs from *K. uenoi* by form of ventral sensorial area of antennomere XI, by form of metatibiae, and by form of central projection of labrum. In *K. uenoi*, ventral sensorial area of antennomere XI is similar to *K. formosana* and *K. lanyuana*, central projection of labrum is similar to *K. formosana*, and metatibiae are notably narrow in dorsal view.

***Komiyandra vivesi* sp. nov.**

(Fig. 44, 104, 174, 244, 287, 337, 441)

**Etymology.** Dedicated to our colleague, Dr. Eduard Vives, of Spain, who has extensively published on Cerambycidae, and provided important specimens for this study.

**Type material.** Holotype M, PHILIPPINES, Mindanao, Northern Mindanao Region, *Bukidnon*, IV.29.2002, S. Cabigas coll. (EVCO).

**Description.** Integument shining, dark-brown; parts of head and of mandibles blackish; pedicel, antennomeres III-XI and legs brown.

Male (Fig. 441). Dorsal surface of head, on gibbosities, barely coarsely, not abundantly punctate; central area, between gibbosities and occiput, smooth; lateral areas, between gibbosities and occiput, coarsely punctate (punctures, in part, confluent); area between gibbosities and ocular carina, depressed and with some fine punctures; area close to posterior ocular edge coarsely punctate; area behind eyes coarsely, moderately abundantly punctate (punctures not confluent); ocular carina elevated, not bifurcated in “Y” near posterior edge of eyes (Fig. 441). Eyes (Fig. 104) narrow and long; posterior ocular edge (Fig. 441) very distinct. Central area of clypeus oblique close to front. Central projection of labrum (Fig. 44) narrow and rounded at apex. Submentum depressed (mainly at central region); punctures coarse, well marked, abundant and in part confluent (mainly close to anterior margin); pilosity somewhat long, very sparse; anterior margin wide and elevated. Mandibles shorter than head; teeth of inner margin (Fig. 174) placed a little after middle. Ventral sensorial area of antennomeres III-XI divided by carina (Fig. 244), well marked, slightly visible from side at apical antennomeres.

Pronotum finely, very sparsely punctate at disc, slightly coarser and more abundant laterally and at posterior angles, and clearly coarser towards anterior angles; anterior angles very slightly projected forward, but well marked and in an almost straight angle; lateral angles absent; posterior angles obtuse and well marked; anterior edge (Fig. 441) sinuous. Basal two-thirds of elytra moderately finely and sparsely punctate close to suture, clearly coarser and more abundant laterally, becoming finer near epipleura; punctuation of apical third with same pattern of distribution as the basal two-thirds, but more abundant near the suture, and with lateral punctures finer. Metasternum with punctures somewhat coarse and sparse laterally. Metafemur just short. Dorsal face of metatibia slightly rounded at basal half, and flat at apical half; in dorsal view narrow, mainly at apical half. Metatarsomere V (without claws) with the same length of I-III together (Fig. 287).

**Dimensions in mm (M).** Total length (including mandibles), 18.8; prothorax: length, 4.2; anterior width, 5.4; posterior width, 4.3; humeral width, 5.1; elytral length, 10.6.

**Comments.** *Komiyandra vivesi* is similar to *K. ohbayashii*, but differs by the: anterior edge of labrum rounded (Fig. 44) at sides of the central projection; punctuation of the head, of the pronotum, and of the elytra finer and sparser; eyes (Fig. 104) larger; metatarsomere I (Fig. 287) longer. In *K. ohbayashii*, the anterior edge of labrum (Fig. 42) is almost straight at sides of central projection, the punctuation of the head, of the pronotum, and of the elytra is coarser and more abundant, and the eyes (Fig. 99) are shorter. Differs from *K. nayani* by the eyes longer, by the metatarsomere V (Fig. 287) shorter, and by the generally sparser punctuation. In *K. nayani*, the eyes (Fig. 98) are shorter, the metatarsomere V (Fig. 281) is longer, and the general punctuation is more abundant. Differs from *K. luzonica* by the lateral area of the pronotum near the anterior angles without small callosities, and by the elytral punctuation coarser. In *K. luzonica*, the pronotal area near the anterior angles has many small callosities, and the elytral punctuation is finer.

***Komiyandra cabigasi* sp. nov.**

(Fig. 65, 66, 113, 187, 188, 253, 296, 343, 466-468)

**Etymology.** Dedicated to our colleague, Estan (Stanley) Cabigas, who collected the type series, and provided other important specimens for this study.

**Type material.** Holotype M, PHILIPPINES, Mindanao, Northern Mindanao Region, *Misamis Oriental*: Gingoog City, VI.16.2001, S. Cabigas coll. (MZSP). Paratypes (8 M, 9 F), as follows: PHILIPPINES, Northern Mindanao Region, Mindanao, *Bukidnon*: Impasug-ong, F, X.27.2002, S. Cabigas coll. (ECCO); M, X.27.2002, S. Cabigas coll. (ECCO); Mount Kitanglad, 3 M, V.25-VI.8.1990, D. Mohagan coll. (KMCT); F, VI.1-10.1990, D. Mohagan coll. (KMCT); F, IV.29.1991, D. Mohagan coll. (KMCT). Northern Mindanao Region, *Misamis Oriental*: Gingoog City, F, XII.16.2001, S. Cabigas coll. (DHCO); F, VI.16.2001, S. Cabigas coll. (SSCO). Caraga Region, *Agusan del Norte*: Agusan del Norte, 3 M, 2 F, VI.8.1977, R. Lumawig coll. (KMCT); F, VI.8.1977, R. Lumawig coll. (MZSP); M, VI.8.1977, R. Lumawig coll. (DHCO). Davao Region, *Davao del Sur*: Mount Apo, F, VI.24.1976, R. Lumawig coll. (KMCT);

**Description.** Integument shining, dark-brown; parts of head and mandibles, scape, edges of the pronotum, elytral suture, and part of the legs blackish.

Male (Fig. 466). Dorsal surface of head, on gibbosities, somewhat finely and abundantly punctate; central area, between gibbosities and occiput, smooth; lateral areas, between gibbosities and occiput, coarsely punctate (punctures, in part, confluent); area between gibbosities and ocular carina, barely depressed and with some fine punctures; area close to posterior ocular edge coarsely punctate; area behind eyes coarsely, moderately abundantly punctate (punctures not confluent); ocular carina elevated, not bifurcated in “Y” near the posterior edge of eyes (Fig. 466). Eyes (Fig. 113) narrow and long; posterior ocular edge (Fig. 466) very distinct. Central area of clypeus almost vertical close to front. Central projection of labrum (Fig. 65) narrow and rounded at apex. Submentum depressed; punctures coarse, well marked, abundant and in part confluent (mainly close to the anterior margin); pilosity short, very sparse; anterior margin wide and elevated. Mandibles as long as head; teeth of inner margin (Fig. 187) placed a little after middle. Ventral sensorial area of antennomeres III-XI divided by carina (Fig. 253), well marked, slightly visible from side at apical antennomeres.

Pronotum finely punctate on disc, slightly coarser and more abundant laterally and at posterior angles, and clearly coarser towards anterior angles; anterior angles projected forward; lateral angles absent; posterior angles obtuse and well marked; anterior edge (Fig. 466) sinuous. Basal two-thirds of elytra moderately finely and sparsely punctate close to suture, clearly coarser and more abundant laterally; punctuation of apical third with the same pattern of distribution as basal two-thirds, but more abundant near suture. Metasternum finely and sparsely punctate laterally. Metafemur (Fig. 467) just short. Dorsal surface of tibiae distinctly wide and rounded. Metatarsomere V (without claws) distinctly longer than I-III together (Fig. 296).

Female (Fig. 468). Dorsal face of head, on gibbosities, finely and abundantly punctate, somewhat coarse between gibbosities and occiput, and distinctly coarser laterally, mainly behind eyes. Central projection of labrum (Fig. 66) narrow and acute at apex. Mandible (Fig. 188). Pronotum with punctuation as in male, but punctuation close to anterior angles distinctly finer and sparser; anterior angles projected forward; anterior edge as in male. Antennae reaching basal fourth of prothorax.

**Variability.** Male: area behind eyes abundantly punctate (punctures, in part, confluent); central projection of labrum narrow and somewhat acute at apex; submentum slightly depressed; anterior angles slightly projected forward; metasternum with punctures somewhat coarse laterally. Female: central projection of labrum narrow and rounded at apex; anterior angles of pronotum slightly projected forward.

**Dimensions in mm (M / F).** Total length (including mandibles), 20.5-25.3/20.5-22.0; prothorax: length, 4.8-5.8/4.5-4.8; anterior width, 5.8-7.0/5.0-5.4; posterior width, 4.6-5.8/4.6-5.0; humeral width, 5.6-7.1/5.7-6.3; elytral length, 12.3-14.3/12.9-13.6.

**Comments.** *Komiyandra cabigasi* is similar to *K. vivesi*, but differs: dorsal face of tibiae distinctly wider (mainly at apical half); tarsomeres V (Fig. 296) longer. In *K. vivesi*, the dorsal face of tibiae is narrowed (mainly at apical half) and tarsomeres V (Fig. 287) are shorter.

***Komiyandra nayani* sp. nov.**

(Fig. 40, 41, 98, 162, 163, 200, 211, 238, 281, 312, 324, 422-424)

*Parandra janus*; Fisher 1935: 581; Jenis 2001: fig. 40./4.

**Etymology.** Dedicated to Mr. Laurentius Nayan Ambu, Deputy Director of Wildlife, Sabah, Malaysia, for supporting habitat preservation and entomological fieldwork.

**Type material.** Holotype M, Malaysia, *Sabah*: Mt. Trus-Madi, III.12.2004, Johan coll. (USNM). Paratypes (64 M, 44 F), as follows: MALAYSIA, *Sabah*: Crocker Range, M, II.12.2004, Julius coll. (LGBC); F, IV.12.2004, (JCCO); M, VI.20.2004, local coll. (EVCO); M, X.2004, local coll. (EJCO); F, IV.27.2005, (JCCO); M, V.6.2006, local coll. (AWCO); M, VII.20.2006, local coll. (DHCO); M, V.26.2007, local coll. (BMNH); M, V.26.2007, local coll. (BPBM); M, VIII.2007, S. Chew coll. (EJCO); M, F, II.2.2008, local coll. (DHCO); M, III.22.2008, local coll. (DHCO); M, III.26.2008, local coll. (DHCO); (Gunung Emas; 1600 m), 1 M, 1 F, IX.14.1997, M. Kon coll. (KMCT); 16 miles NW Keningau, 1400m, F, II.2.1982, S. Nagai coll. (NOCO); vicinity of Mt. Trus-Madi, F, III.20.2000, local coll. (DHCO); Kimanis Road (near Keningau), F, V.25.1994, (ZKCO); Mt. Trus-Madi, M, V.25.1994, Chew coll. (KMCT); F, VII.19.2002, E. Vives coll. (EVCO); 2 M, III.2003, local coll. (OMCO); M, 2004, Chew coll. (UNCO); M, III.2004, local coll. (OMCO); 2 F, III.2004, local coll. (EJCO); M, V.11.2004, Chew coll. (UNCO); F, IV.2004, (ZKCO); M, V.10.2004, Johan coll. (LGBC); 2 M, X.2004, local coll. (EJCO); F, III.3.2005, local coll. (MZSP); M, IV.2.2006, local coll. (MZSP); M, IV.20.2006, local coll. (CHKC); M, F, IV.24.2006, local coll. (CHCO); F, IV.24.2006, local coll. (DHCO); 2 M, VI.25-VII.28.2006, local coll. (LGBC); 2 M, F, VI.25-VII.28.2006, local coll. (RVCO); 3 M, F, VI.25-VII.28.2006, local coll. (GDCO); 2 M, 2 F, VI.25-VII.28.2006, local coll. (DHIC); 2 M, IV.6.2007, local coll. (DHCO); M, IV.12.2007, local coll. (DHCO); F, V.4.2007, local coll. (LGBC); 4 M, III.28.2008, local coll. (DHCO); 4 F, IV.1.2008, local coll. (DHCO); (1400 m), 1 M, 1 F, IX.17.1997, K. Maekawa coll. (KMCT); (1500 – 2000 m), M, III-V.1998, local coll. (DHCO); F, VI.25-VII.28.2006, local coll. (DHCO); Ranau, M, II.12.2004, local coll. (LGBC); M, IV.4.2006, local coll. (DHIC); 2 F, IV.10.2006, local coll. (DHCO); 2 M, IV.11.2006, local coll. (HNCO); 2 F, IV.16.2006, local coll. (DHCO); F, IV.22.2006, local coll. (GDCO); F, VI.2006, local coll. (EJCO); Tenom, 3 M, 2 F, III.16.2006, local coll. (DHCO); 2 M, F, III.16.2006, local coll. (MZSP); 2 M, III.2.2008, local coll. (DHCO); F, III.6.2008, local coll. (DHCO); 2 M, F, III.16.2006, local coll. (IRSN); M, F, III.16.2006, local coll. (TNCO); Lumu Lumu (Mount Kinabalu), F, 15.IV.1929, H. M. Pendlebury coll. (USNM); M, VIII.7.1973, M. Hihara coll. (KMCT); 3 M, Sipitang, III.8.2009, local coll. (DHCO); M, Sipitang, III.21.2009, local coll. (DHCO); M, Sipitang, III.22.2009, local coll. (DHCO); M, F, Ranau, 1200m, V.8.2009, local coll. (DHCO); M, Mt. Trus-Madi, III.14.2009, local coll. (DHCO); F, Crocker Range, 700m., IV.1.2009, local coll. (DHCO); 2 F, Crocker Range, 1000m. IV.18.2009. local coll. (DHCO); 2 F, Crocker Range, IV.2009 (EJCO).

**Description.** Integument shining, dark-brown; mandibles, parts of head, basal antennomeres, parts of legs, and edge of pro- and mesocoxal cavities darker.

Male (Fig. 422). Dorsal surface of head with moderately coarse and abundant punctures, not confluent; frontal gibbosities clear, separated by a deep and wide furrow; area between gibbosities and ocular carina smooth and not depressed; ocular carina elevated, not bifurcated in “Y” near posterior edge of eyes (Fig. 422); area behind eyes smooth. Eyes narrow (Fig. 98); posterior ocular edge (Fig. 422) very distinct. Central area of clypeus vertical close to front. Central projection of labrum (Fig. 40) narrow and subacute at apex. Submentum barely depressed, with moderately large, sparse punctures; margin close to mentum moderately wide and elevated; pilosity very sparse, restricted to areas close to genae. Teeth on inner margin of mandibles (Fig. 162) placed after middle. Galea (Fig. 200) surpassing apex of second segment of maxillary palp. Ventral sensorial area of antennomeres III-XI (Fig. 312) divided by low carina and not visible from side (Fig. 238).

Pronotum microsculptured, feebly rough at latero-anterior region; center of disc finely, sparsely punctate (punctures moderately larger towards laterally); anterior edge barely sinuous; anterior angles feebly projected; lateral angles well-marked. Elytra coarsely, abundantly punctate (finer, more sparse in circumscutellar area); each elytron with two low, clearly marked carinae. Metasternum coarsely, sparsely punctate close to metepisterna. Metafemur (Fig. 423) elongated. Dorsal face of tibiae rounded. Metatarsus (Fig. 281).

Female (Fig. 424). Dorsal furrow of head, between gibbosities, ends approximately at level of posterior edge of eyes; latero-anterior area of pronotum not microsculptured, not rough, with punctures larger than



other areas. Clypeus, labrum (Fig. 41), punctures of head, of pronotum and elytra, sensorial area of antennae, submentum, elytral carinae, metafemur and dorsal face of tibiae similar to males and with same variations. Mandibles (Fig. 163) with punctures and pilosity sparser than males.

**Variability.** Integument from dark-brown to brown (rarely pale-brown). Males: dorsal surface of head moderately finely punctate on gibbosities, coarser towards occiput; punctures of dorsal face of head, in part confluent; smooth area between gibbosities and ocular carinae depressed close to edge of clypeus, with or without punctures on that region; central area of clypeus oblique close to front; area behind eyes sparsely punctate; margin of submentum close to mentum not or feebly elevated at central region; submentum with sparse hair in full extension; teeth of inner margin of mandibles placed at middle; ventral sensorial area of antennae divided or not by carina on all antennomeres or only in part of them; carina of ventral sensorial area visible from sides on apical antennomeres; anterior angles of pronotum projected; lateral angles of pronotum almost obsolete; elytral carinae barely indicated. Females: dorsal furrow of head, between gibbosities, clearly surpassing posterior edge of eyes; punctures at base of outer face of mandibles coarse and confluent.

**Dimensions in mm (M / F).** Total length (including mandibles), 14.1-23.5/16.9-24.7; prothorax: length, 2.9-4.9/3.3-5.0; anterior width, 3.7-6.3/3.9-5.5; posterior width, 3.1-5.3/3.5-5.4; humeral width, 3.9-6.3/4.5-6.9; elytral length, 8.6-13.7/10.6-15.8.

**Comments.** *Komiyandra nayani* has been confused with *K. janus* by Fisher (1935), which is not surprising considering that nearly all species from the Philippines to New Guinea are, or were, confused with that species. See comments on *K. janus*.

***Komiyandra ohbayashii* sp. nov.**

(Fig. 42, 43, 99, 164, 165, 239, 282, 332, 425-427)

**Etymology.** Dedicated to our colleague, Dr. Nobuo Ohbayashi, of Japan, who has extensively published on Cerambycidae, and provided important specimens for this study.

**Type material.** Holotype M, PHILIPPINES, Davao Region, Mindanao, *Davao del Sur*: Mount Apo, X.04.1976, T. Endo coll. (EELÉ). Paratypes (2 M, 1 F), as follows: PHILIPPINES, Davao Region, Mindanao, *Bukidnon*: Impasug-ong, M, X.19.2002 (ECCO); Lantapan, F, XII.17.2001 (ECCO); *Davao del Sur*: Mount Apo, M, IX.4.1976, T. Endo coll. (KMCT).

**Description.** Integument shining, dark-brown; parts of head and of mandibles, pronotal margins, epipleura and elytral suture blackish.

Male (Fig. 425). Dorsal surface of head, on gibbosities, moderately coarsely and abundantly punctate; area between gibbosities and occiput coarsely, sparsely punctate; area between gibbosities and ocular carina barely depressed and finely, very sparsely punctate; area close to posterior ocular edge coarsely, abundantly punctate (punctures not confluent); area behind eyes coarsely, abundantly punctate (in part confluent); ocular carina elevated, not bifurcated in "Y" near posterior edge of eyes (Fig. 425). Eyes narrow (Fig. 99); posterior ocular edge (Fig. 425) very distinct. Central area of clypeus vertical close to front. Central projection of labrum (Fig. 42) narrow and rounded at apex. Submentum barely depressed; punctation coarse, well marked, abundant and in part confluent (mainly close to anterior margin); pilosity moderately long, sparse (longer and more concentrated at central area close to anterior margin); anterior margin wide and just elevated only at lateral. Mandibles just shorter than head; teeth of inner margin (Fig. 164) placed a little after middle. Ventral sensorial area of antennomeres III-XI divided by carina, well marked, not visible from side (Fig. 239).

Pronotum finely, sparsely punctate at disc; area close to anterior angles with punctures coarse and abundant, gradually more oblong and with edge toward outer side of pronotum elevated (these punctures not reaching margin and anterior angles); punctation of middle and posterior lateral area coarse and sparse; anterior angles not projected forward, but well marked and in an almost straight angle; lateral angles just indicated; posterior angles well marked; anterior edge (Fig. 425) barely sinuous. Elytra coarsely,

abundantly punctate (punctures finer at apical third); each elytron with a single carina barely marked. Metasternum with punctures slightly coarse, sparse (finer and sparser towards metasternal suture). Metafemur (Fig. 426) moderately elongated. Dorsal surface of the tibiae flat at apical half; in dorsal view distinctly wide. Metatarsomere V (without claws) longer than I-III together (Fig. 282). Paronychium with two setae.

Female (Fig. 427). Head narrow; dorsal face coarsely and abundantly punctate throughout, except on gibbosities where punctures are finer. Central projection of labrum (Fig. 43) narrow and acute at apex. Mandibles (Fig. 165). Distribution of punctures of pronotum as in male, but somewhat finer close to anterior angles; anterior angles distinctly projected forward; anterior edge sinuous. Antennae reaching basal fourth of prothorax.

**Variability.** Integument brown to dark-brown. Male: mandibles as long as head; anterior angles slightly projected forward; each elytron with two visible carinae; dorsal face of tibiae rounded at apical half; paronychium with one seta in some tarsi.

**Dimensions in mm (M / F).** Total length (including mandibles), 18.3-21.3/20.1; prothorax: length, 3.9-4.7/4.0; anterior width, 4.9-5.8/4.8; posterior width, 3.9-4.7/4.6; humeral width, 4.8-5.6/5.7; elytral length, 10.5-12.4/12.6.

**Comments.** *Komiyandra ohbayashii* is similar to *K. nayani*, but differs by the: anterior edge of labrum of male almost straight (Fig. 42) at sides of the central projection; elytral punctures coarser and sparser; sensorial ventral area of antennomeres III-XI with coarser and more distinct carina. In *K. nayani*, the anterior edge of labrum of male (Fig. 40) is rounded at sides of the central projection, the elytral punctation is finer and more abundant, and the carina of the sensorial ventral area of the antennomeres III-XI, when present, is finer and less distinct, mainly at basal antennomeres. Differs from *K. luzonica* by the elytral punctation coarser and more abundant, and by the lateral area of the pronotum, close to the anterior angles, without abundant callosities. In *K. luzonica*, the elytral punctation is clearly finer and sparser, and the lateral area of the pronotum, close to the anterior angles, has distinct callosities.

***Komiyandra janus* (Bates, 1875)**

(Fig. 31, 153, 233, 276, 338, 405-409)

*Parandra janus* Bates, 1875: 47.

*Birandra* (*Birandra*) *janus*; Santos-Silva and Shute 2009: 32.

**Description.** Integument dark-brown; parts of head and of mandibles blackish; legs pale-brown with apex of femurs dark-brown.

Male (Fig. 405). Dorsal face of head, on gibbosities, coarsely and abundantly punctate; area between gibbosities and occiput less coarsely and abundantly punctate; gibbosities well marked, separated by wide furrow moderately deep; area between gibbosities and ocular carina depressed, almost fully smooth; ocular carina elevated, slightly bifurcated in "Y" near posterior edge of eyes (Fig. 407); area behind eyes just coarsely, not confluent punctate, except region close to eyes that is smooth. Eyes moderately wide; posterior ocular edge prominent (Fig. 407), without abrupt declivity. Central area of clypeus strongly oblique close to front. Labrum narrow, not projected laterally; central projection of labrum (Fig. 407) narrow, subacute at apex. Submentum depressed, punctation coarse and sparse, more abundant close to clypeus; pilosity very short and very sparse; anterior edge elevated just at lateral. Teeth of inner margin of mandibles (Fig. 407) placed at apical half. Ventral sensorial area of antennomeres III-XI not visible from side, divided by low carina, slightly visible from side in antennomeres X-XI.

Pronotum finely punctate at central region, gradually coarser and more abundant towards anterior and lateral margins, mainly near anterior angles; anterior edge (Fig. 407) slightly sinuous; anterior angles rounded, not projected forward; lateral angles absent; posterior angles distinct, obtuse. Elytra coarsely and abundantly punctate, gradually finer and more abundant at apical third. Metasternum with coarse and sparse punctation, finer and sparser towards metasternal suture. Metafemur (Fig. 406) short and enlarged. omeres III-XI not visible from the side, divided by low carina, slightly visible from the si

Female (Fig. 409). Dorsal face of head, on gibbosities, sparsely punctate; gibbosities separated by wide, shallow furrow, with punctiform depression approximately at middle. Central projection of labrum (Fig. 31) as in male. Mandible (Fig. 153). Antenna (Fig. 233). Pronotum finer and sparser than in male. Dorsal face of metatibia rounded. Metatarsomere V (without claws) longer than I-III together (Fig. 276).

**Dimensions in mm (F).** Total length (including mandibles), 17.0/18.8; prothorax: length, 3.5/3.5; anterior width, 4.5/4.0; posterior width, 3.5/4.0; humeral width, 4.4/4.9; elytral length, 10.3/11.3.

**Dimensions in lines (syntypes M / F)** according to Bates (1875): 11 (approximately 23.3 mm).

**Geographical distribution** (Fig. 338). Indonesia (Sulawesi). *Komiyandra janus* has been recorded from Japan, Taiwan, Indonesia (Java, Sulawesi, Moluccas, Ternate, New Guinea - Irian Jaya), and Philippines (Luzon, Mindanao). However, we believe that this species only occurs in Sulawesi. Thus, all previous distributional records for *K. janus* should be disregarded, except Sulawesi.

**Material examined.** INDONESIA, Sulawesi, *North Sulawesi*, Utara, Gunung Mooat (1050m; station 062), F, J. Van Stalle coll. (IRSN); Lake Mooat (1100 m; 20 km E Kotamobagu, 124,5°E, 1°N, east of Dumoga Bone National Park), M, IX.12.1998, K. Maekawa coll. (KMTC).

**Types, type localities.** Bates (1875) described *Parandra janus* based on two syntypes: “One example ([male symbol]) from Dr. Meyer’s collection, Menado [*sic*], Celebes; one [female symbol], Andai, New Guinea (Signor D’Albertis)”. Apparently, Bates retained the male syntype for his collection and that specimen is in MNHN. According to Cambefort (2007), Oberthür succeeded in acquiring most of the Bates Collection after his death except Endomychidae, Elateridae and perhaps those from *Biologia Centrali-Americana*. There is no doubt that the male specimen deposited in MNHN is the true syntype. The calligraphy of one of the handwritten labels, fixed on the specimen, agrees perfectly with that of Bates, figured in Horn and Kahle (1935: XI, 11). According to Gérard L. Tavakilian (pers. comm.) the female syntype was not found in the Collection of MNHN, and according to Horn and Kahle (1935), the D’Albertis Collection is deposited at MCGD. Despite the statement of Lameere (1902), the syntype female never was in Oberthür’s Collection, and actually belongs to MCGD.

As alluded to in the “Geographical distribution”, we believe that the female syntype is not the same species as the male syntype. In order to guarantee the stability and identification of the species, we here designate as **LECTOTYPE** the male syntype, deposited at MNHN that has the following labels (Fig. 408):

1. White: *Parandra janus* Bates (handwritten); (handwritten male symbol); Det. K. Matsuda, 1996 (printed, except “96”);
2. Red: Holotype (printed);
3. Gray: Type (printed);
4. White: Museum Paris Coll. H. W. Bates 1952 (printed);
5. White: *Janus* Bates (handwritten);
6. White: Menado Celebes (handwritten);
7. White: Ex-Musaeo H. W. Bates 1892 (printed);
8. Red: Lectotype (printed) – at present added by us.

The Paralectotype female, deposited at MCGD, has the following labels:

1. White: Andai / Ag. 1872 (handwritten); D’Albertis (printed);
2. Salmon: SYNTYPUS (printed); *Parandra janus* / [female symbol] / Bates, 1875 (handwritten);
3. White: *Parandra janus* Bates / teste Lameere 1902 (printed);
4. White: Museo Civico di Genova (printed);
5. Red: Paralectotype (printed) (added by us);
6. Red: Paratype (printed) (added by us);
7. White: *Komiyandra menieri* (added by us).

**Comments.** All bibliographic citations for *Parandra janus* after Bates (1875) refer to different species that, at most, mentioned the localities recorded in the original description. So, it becomes unviable to

mention them in the bibliographical list.

For this study, we received many specimens incorrectly identified as *Parandra janus*, and unfortunately, among all these specimens only a couple related below correspond to the true *K. janus*. The examination of specimens identified by authors like Lameere (1902), Arigony (1984), and Hüdelpohl (1990), shows that these authors confused the species and identified more than one species under the epithet “*janus*”, like Bates (1875). See comments on *K. javana* and *K. sulawesiana*.

It is impossible to know which species Gressitt (1951, 1959) confused with *K. janus*. His descriptions in the keys in both works do not lead to the correct identification. However, the locality recorded by Gressitt (1951) for *P. janus* [“Botel-Tobago I.<sup>5</sup> (Kotosho), near Formosa”], based in Kano (1938), corresponds to that of *K. lanyuana*.

In general appearance, *K. janus* is similar to *K. nayani*, from which it differs by the sparser elytral punctuation, and by the form of the area behind the eyes, that is very similar to that of *Papuandra araucariae*, this is, the smooth part close to the posterior ocular edge being large and not abruptly sloping. In *K. nayani*, the elytral punctuation is very abundant, and the smooth area behind the eyes is smaller and abruptly sloping. Besides, the ventral sensorial area of antennomeres I-III is divided by distinct carina in *K. janus*. In *K. nayani*, the ventral sensorial area of the antennomeres is not divided by carina, or the carina is vaguely evident.

***Komiyandra irianjayana* sp. nov.**

(Fig. 57, 107, 179, 247, 290, 330, 448, 449, 454)

**Etymology.** The name refers to the Indonesian province of Irian Jaya, on the island of New Guinea.

**Type material.** Holotype M, from INDONESIA, New Guinea Island, Irian Jaya, *West Papua*: Fak-Fak, XII.2002, [no collector indicated] (MZSP – donated by Ziro Komiya).

**Description.** Integument brown; parts of head and of mandibles, margins of pronotum and of scutellum, elytral suture and extreme apex of the femurs blackish.

Male (Fig. 448). Dorsal surface of head, on gibbosities and between that and occiput, coarsely and abundantly punctate; area between gibbosities and ocular carina strongly depressed, smooth (Fig. 454); area behind eyes with punctures similar to those of dorsal surface of head, sparser close to eyes; ocular carina elevated, clearly bifurcated in “Y” near posterior edge of eyes (Fig. 454); area between bifurcation of ocular carina and eyes coarsely and abundantly punctate (Fig. 454). Eyes narrow; posterior ocular edge (Fig. 107) very distinct. Central area of clypeus almost vertical close to front. Central projection of labrum (Fig. 57) wide and truncate at apex. Submentum slightly depressed; punctuation coarse and sparse, more abundant close to anterior edge; pilosity short, sparse; anterior edge wide, elevated throughout. Mandibles approximately as long as head; teeth of inner margin (Fig. 179) placed at middle. Ventral sensorial area of antennomeres III-XI not visible from side (Fig. 247), and not divided by carina.

Pronotum finely, sparsely punctate at central region, and gradually coarser and more abundantly punctate laterally, mainly close to anterior angles (Fig. 454); anterior edge concave at central region; anterior angles slightly projected forward; lateral angles well marked, rounded; posterior angles distinct, obtuse. Elytra coarsely, abundantly punctate, mainly laterally of anterior two-thirds; each elytron with two clearly marked carinae. Metafemur (Fig. 449) moderately narrow and elongated. Dorsal face of metatibia rounded at basal half, and flat at apical half; in dorsal view, notably narrow. Metatarsomere I notably tumid, wide in lateral view (Fig. 290); metatarsomere V (without claws) longer than I-III together (Fig. 290).

**Dimensions in mm (M).** Total length (including mandibles), 20.4; prothorax: length, 4.4; anterior width, 5.5; posterior width, 4.4; humeral width, 5.3; elytral length, 11.0.

**Comments.** *Komiyandra irianjayana* is similar to *K. menieri* and *K. philippinensis*. It differs from the first, mainly, by the longer metafemur (Fig. 449), by the metatibia clearly narrow in dorsal view, and by the metatarsomere I notably tumid, wide in lateral view (Fig. 290). In *K. menieri*, the metafemur is shorter (Fig. 451), the metatibia is not clearly narrow in dorsal view, and the metatarsomere I is not



tumid, and is narrow in lateral view (Fig. 291). From *K. philippinensis*, differs by the punctation coarse and abundant in the area close to the bifurcation of the ocular carina (Fig. 454), by the outer face of the ocular carina, close to the anterior ocular edge, with punctures moderately coarse and abundant, and by the punctation coarser and more abundant at pronotal lateral. In *K. philippinensis*, the punctation of the area close to the bifurcation of the ocular carina (Fig. 453), of the outer face of the ocular carina, and of the pronotal lateral is finer and sparser.

***Komiyandra lombokia* sp. nov.**

(Fig. 53, 54, 105, 175, 176, 245, 288, 340, 442-444)

**Etymology.** The name refers to the island of Lombok, Indonesia.

**Type material.** Holotype M, from INDONESIA, *East Nusa Tenggara*: Lombok (Mount Rinjani), X-XI.1995, native coll. (MZSP – donated by Ziro Komiya). Paratypes (12 M, 8 F), as follows: INDONESIA, *East Nusa Tenggara*: Lombok (Mount Rinjani), M, X.1995, native coll. (ZKCO); F, X.1995, native coll. (MZSP); 3 M, F, X-XI.1995, native coll. (ZKCO); M, X-XI.1995, native coll. (DHCO); M, X-XI.1995, native coll. (MZSP); M, X-XI.1995, native coll. (KMCT); 1 M, 2 F, I.1996, [no collector indicated] (KMCT); Sumbawa Island, 4 M, 3 F, X.1995, (ZKCO); Sumbawa Island, F, X.1995, (DHCO).

**Description.** Integument dark-brown; parts of head and of mandibles, scape, and apical extreme of the femurs blackish.

Male (Fig. 442). Head wide; dorsal surface, on gibbosities, finely and moderately abundantly punctate; area between gibbosities and occiput finely, sparsely punctate; gibbosities well marked, separated by a deep and wide furrow; area between gibbosities and ocular carina with depression well marked, smooth; ocular carina strongly bifurcated in “Y” near posterior edge of eyes (Fig. 442); area behind eyes sparsely punctate, with short and sparse hair. Eyes narrow (Fig. 105); posterior ocular edge (Fig. 442) very distinct. Central area of clypeus vertical close to front. Central projection of labrum (Fig. 53) wide and truncate at apex. Submentum depressed, slightly vermiculate, and oblong, shallow, coarsely punctate; pilosity short, sparse; anterior margin wide, elevated throughout, with hair just long and moderately abundant. Inner margin of mandibles (Fig. 175) with two large teeth, together protracted, placed approximately in middle. Ventral sensorial area of antennomeres III-XI not visible from side, and not divided by carina (Fig. 245).

Pronotum finely punctate at central region, clearly coarser laterally, mainly close to anterior angles; anterior edge (Fig. 442) slightly sinuous; anterior angles rounded and just projected forward; lateral angles marked, rounded; posterior angles distinct, obtuse. Anterior two-thirds of elytra finely, sparsely punctate near suture, and more abundant laterally; apical third finely and abundantly punctate; each elytron with two carinae. Metasternum with punctures just coarse and abundant close to metepisternum and metacoxae, gradually finer towards metasternal suture. Metafemur (Fig. 443) short, enlarged. Dorsal face of tibiae rounded at basal two-thirds, flat at apical third. Metatarsus (without claws) shorter than metatibiae; metatarsomere V (Fig. 288) longer than I-III together.

Female (Fig. 444). Central projection of labrum (Fig. 54) moderately narrow, rounded. Ocular carina not bifurcated. Inner margin of mandibles (Fig. 176) with two large teeth together protracted, but less distinct than in males.

**Variability.** Integument varies from brown to dark-brown. Male: area between gibbosities of head and occiput with punctures slightly coarser than in gibbosities, moderately abundant or not; gibbosities of dorsal face of head separated by narrow furrow; depression between gibbosities and ocular carina finely, sparsely punctate, mainly at anterior area; area behind eyes glabrous; central area of clypeus oblique close to front; anterior edge of pronotum straight or barely convex at central region; anterior angles of pronotum not projected forwards.

**Dimensions in mm (M / F).** Total length (including mandibles), 20.0-26.0/19.5-24.7; prothorax: length, 4.5-5.6/4.0-5.3; anterior width, 5.5-7.3/5.1-6.2; posterior width, 4.7-6.0/5.0-6.0; humeral width, 5.8-7.3/5.8-7.4; elytral length, 11.6-14.5/12.5-15.6.

**Comments.** *Komiyandra lombokia* is similar to *K. javana*, but differs, mainly, by the clearly finer elytral punctation.

***Komiyandra drumonti* sp. nov.**

(Fig. 64, 112, 186, 252, 295, 318, 463-465)

**Etymology.** Dedicated to our colleague, Mr. Alain Drumont, of Belgium, who has extensively published on Cerambycidae, and provided important specimens for this study.

**Type material.** Holotype M, PAPUA NEW GUINEA, *East Sepik*: Maprik, 5.XI.1995, [no collector indicated] (MZSP – donated by Ziro Komiya).

**Description.** Integument dark-brown; elytra slightly lighter; parts of head and of mandibles, and margins of pronotum blackish; margins of scutellum and elytral suture very dark-brown.

Male (Fig. 463). Dorsal face of head coarsely, abundantly punctate, mainly on gibbosities; area between gibbosities and ocular carina clearly depressed, punctate at anterior and posterior third; ocular carina elevated, clearly bifurcated in “Y” near posterior edge of eyes (Fig. 463); area behind eyes with coarse and somewhat sparse punctation. Eyes (Fig. 112) moderately narrow; posterior ocular edge (Fig. 463) distinct. Central area of clypeus almost vertical. Central projection of labrum (Fig. 64) wide (probably truncate at apex). Submentum depressed, transversally vermiculate; coarsely and moderately abundantly punctate; pilosity short and sparse; anterior edge elevated throughout. Mandibles approximately as long as head; teeth of inner margin (Fig. 186) placed approximately at middle. Ventral sensorial area of antennomeres III-XI not visible from side, and not divided by carina (Fig. 252).

Pronotum punctation fine and sparse in middle region, gradually coarser and more abundant laterally, mainly near anterior angles; anterior angles slightly projected forward; lateral angles barely marked; posterior angles obtuse. Elytra coarsely and abundantly punctate, coarser and more abundant laterally of anterior two-thirds, and more abundant at apical third; each elytron with two carinae barely marked. Metasternum coarsely and abundantly punctate laterally and area close to metacoxae, gradually finer and sparser towards the metasternal suture. Metafemur (Fig. 464) short and enlarged. Dorsal face of metatibia flat. Metatarsomere V (without claws) longer than I-III together (Fig. 295).

**Dimensions in mm (M).** Total length (including mandibles), 22.5; prothorax: length, 4.8; anterior width, 5.9; posterior width, 4.9; humeral width, 5.9; elytral length, 12.4.

**Comments.** *Komiyandra drumonti* is similar, in general aspect, to *K. philippinensis* (Fig. 431), *K. javana* (Fig. 419), *K. niisatoi* (Fig. 460), *K. mindoro* and *K. menieri* (Fig. 450). It differs from all them, principally, by the more flattened elytra, and by the body clearly compressed dorsoventrally (Fig. 465). In *K. philippinensis*, for example, the elytra are more convex, and the body is not compressed dorsoventrally (Fig. 433).

The teeth of the inner margin on both mandibles, and the apex of the central projection of labrum are broken in the holotype.

***Komiyandra formosana* (Miwa and Mitono, 1939)**

(Fig. 34, 35, 95, 156, 157, 235, 278, 301, 306, 307, 320, 413-415)

*Parandra janus*; Matsushita 1933: 161.

*Parandra formosana* Miwa and Mitono, 1939: 92; Arigony 1984: 89; Hayashi et al. 1988: 166; Yu et al. 2002: 74, pl. 1, fig. 6a-6b.

*Birandra* (*Birandra*) *formosana*; Santos-Silva and Shute 2009: 32.

**Description.** Integument shining, dark-brown; parts of the head, mandibles, scape, margins of the pronotum, epipleura and elytral suture, and parts of the legs blackish.

Male (Fig. 413). Dorsal face of head, on the gibbosities, coarsely and moderately abundantly punctate; longitudinal depression between gibbosities smooth; area behind gibbosities with transverse region al-

most smooth, interrupted in middle by punctures as coarse as on the gibbosities, and with the same kind of punctures, somewhat sparse, between that region and the occiput; area between gibbosities and ocular carina distinctly depressed, and with some punctures at anterior part of that depression; area behind the area depressed, coarsely punctate (punctures partially confluent); area behind the eyes coarsely and sparsely punctate; ocular carina elevated, distinctly bifurcated in "Y" near the posterior edge of the eyes (Fig. 413); punctation behind bifurcation of ocular carina coarse and anastomosed. Eyes (Fig. 95) moderately narrow; posterior ocular edge (Fig. 413) distinct. Central area of clypeus almost vertical close to the front. Central projection of labrum (Fig. 34) wide, truncate at apex, and with a small triangular projection in its middle. Submentum depressed from middle to anterior edge; punctation moderately coarse and sparse; pilosity short and sparse (longer and more abundant towards anterior edge); anterior edge elevated throughout, more distinctly laterally. Mandibles approximately as long as head; teeth of inner margin (Fig. 156) placed around middle. Antennae reaching posterior angles of prothorax; ventral sensorial area of antennomeres III-XI not visible from side (Fig. 235), and not divided by carina; dorsal sensorial area of antennomere XI moderately small, narrow and elliptical.

Lateral margins of prothorax subparallel at anterior two-thirds towards anterior angles. Pronotum moderately finely and abundantly punctate at central region, gradually coarser laterally, mainly close to anterior angles; lateral area microsculptured, more distinctly close to anterior angles; anterior edge sinuous; anterior angles slightly projected forward; lateral angles not marked; posterior angles well marked. Basal two-thirds of elytra coarsely, abundantly punctate, mainly laterally on basal third and across medial third; punctation of apical third just finer, more abundant and concentrated; each elytron with two carinae well marked. Metasternum with punctures just coarse, moderately abundant laterally, gradually finer and sparser towards the metasternal suture. Metafemur moderately short. Dorsal face of metatibia slightly rounded at basal half, and slightly sulcate at apical half; in dorsal view moderately wide. Metatarsomere V (without claws) slightly longer than I-III together (Fig. 278); in dorsal view (Fig. 301) distinctly enlarged at basal half.

Male genitalia: median lobe long, forming a flattened tube, with two elongate struts at base, apex widely rounded and distinctly incised at middle (Fig. 307); parameres long, forming a ring, with a pair of pointed processes, separate near their base in dorsal view, apical lobes short and wide, stout relatively wide (Fig. 306).

Female (Fig. 415). Head moderately narrow; dorsal face coarsely and abundantly punctate throughout. Central projection of labrum (Fig. 35) narrow and rounded at apex. Mandible (Fig. 157). Pronotum with punctation as in male, but microsculptured lateral area not evident; anterior angles more projected than in male; anterior edge sinuous. Antennae almost reaching posterior angles of prothorax. Metafemur (Fig. 414) moderately short.

**Variability.** Male and female: elytral carinae visible.

**Dimensions in mm (M / F).** Total length (including mandibles), 15.9-22.2/21.7; prothorax: length, 3.9-4.6/4.4; anterior width, 4.6-5.8/5.6; posterior width, 3.8-4.5/4.7; humeral width, 4.6-6.0/6.3; elytral length, 10.4-12.6/13.5.

**Geographical distribution.** Taiwan.

**Material examined.** TAIWAN, *Kaohsiung*: Liukuei, M, IX.27.1984, W. L. Chen coll. (HNCO); Mount Chuyunshan, M, VI.5.1999, Chen Changging coll. (CCCO); M, V.2000, WenShing Lim coll. (NOCO); Shanping, M, X.15.1988, C. L. Cen coll. (HNCO); Taiyuan-shan, M, VIII.10.1987, W. C. Raw coll. (HNCO). *Nantou*: Puli, M, (ex-Collection Hajime Yokoyama), V.1.1973 (OMNH). Specimen examined through photographs taken by Dr. Mei-Ling Chan (NMNS): TAIWAN, *Kaohsiung*: Shanping, F, 6-VII-1997, Z. A. Liao coll. (NMNS).

**Types, type-localities.** Two female syntypes from Taiwan (Bandaisya near Musya). Gressitt (1951) stated that Mitono's Collection is deposited at TARI. However, Dr. Chi-Feng Lee (personal comm.) stated that he has not found the types of this species at TARI.

**Comments.** Miwa and Mitono (1939) recorded: “It may be regarded that this species agrees with the one reported from Formosa as *P. janus*, by A. Lameere”. However, Lameere (1902), when redescribing the species that he incorrectly believed to be *P. janus*, did not record it from Taiwan: “...provenant de la Nouvelle-Guinée occidentale (Hatam et Andai) et de Ternate, et ceux de Java...Bates la cite encore de Célèbes et van Lansberge de Céram”. It was only in Lameere (1912) that that author recorded Taiwan as a distribution area for *P. janus*: “M. Boppe m’en a communiqué un exemplaire de Formose”. Besides, *Parandra janus sensu* Lameere (1902) is not the species described by Bates, but instead, *K. javana*. Therefore, the redescription presented by that author does not correspond to *K. janus* or *K. formosana*. We believe that it is incorrect to affirm that *K. formosana* agrees with the species redescribed by Lameere (1902, 1912), although, probably, the species from Taiwan examined by Lameere corresponded to *K. formosana*.

Hayashi (1963) was the first to record *Parandra formosana* from the Ryukyu Islands based on a male from Omotodake (Ishigaki Island, Yayeyama Islands). We believe that *K. formosana* does not occur in the Ryukyu Islands, and that Hayashi was actually examining *K. uenoi*. Thus, *K. formosana* should be excluded from the Japanese fauna. Apparently, the misidentification of the male from the Ryukyu Islands is based on the elytral carinae that are well marked in both *K. formosana* and *K. uenoi*. The authors believe the distribution of *K. formosana* is restricted to Taiwan.

Samuelson and Gressitt (1965) followed the opinion of Hayashi (1963), and recorded *K. formosana* from “Ryukyus (Ishigaki)”. The key presented by those authors, to separate the species known from the Ryukyu Islands, correctly separates *K. shibatai* from *K. uenoi* (incorrectly pointed out as *K. formosana*).

*Komiyandra formosana* differs from *K. uenoi*, mainly by the: head of female proportionally larger (Fig. 415); central projection of labrum of female narrow and rounded at apex (Fig. 35); metatibiae distinctly wider in dorsal view; metatarsomere V distinctly enlarged at basal half (Fig. 301). In *K. uenoi*, the head of female is proportionally smaller (Fig. 480), central projection of labrum of female is truncate at apex (Fig. 73), metatibiae are narrow in dorsal view, and metatarsomere V is not enlarged at basal half (Fig. 303).

See comments on *K. shibatai* and *K. lanyuana*.

***Komiyandra mindoro* sp. nov.**

(Fig. 61, 110, 183, 250, 293, 346, 458, 459)

**Etymology.** The name refers to the island of Mindoro in the Philippines (noun in apposition).

**Type material.** Holotype M, PHILIPPINES, Mimaropa Region, Mindoro, *Oriental Mindoro*: Mount Halcon, VI.2007, [no collector indicated] (MZSP – donated by Ziro Komiya). Paratype (1 M), same data as holotype (ZKCO).

**Description.** Integument very dark-brown; head and mandibles black.

Male (Fig. 458). Dorsal face of head, on gibbosities and between that and occiput, moderately, coarsely and abundantly punctate; area between gibbosities and ocular carina clearly depressed, with punctures somewhat coarse and sparse near clypeus; ocular carina elevated, clearly bifurcated in “Y” near posterior edge of eyes (Fig. 458). Eyes (Fig. 110) moderately narrow; posterior ocular edge (Fig. 458) very distinct. Central area of clypeus vertical, with strong depressions laterally. Central projection of labrum (Fig. 61) wide and slightly rounded at apex. Submentum depressed; coarse and only sparse punctation; pilosity moderately long and sparse; anterior edge elevated throughout. Mandibles approximately as long as head; teeth of inner margin (Fig. 183) placed at apical half. Ventral sensorial area of antennomeres III–XI not visible from side, and not divided by carina (Fig. 250).

Pronotum convex, including basal third, with punctures just fine and moderately abundant at central region, coarser and more abundant laterally, mainly near anterior angles; anterior edge sinuous; anterior angles slightly projected forward; lateral angles rounded, barely marked; posterior angles distinct, almost in right angle. Elytra coarsely and abundantly punctate at basal two-thirds, finer and more abundant at apical third; each elytron with two carinae. Metasternum coarsely, moderately punctate laterally, and finer, sparser towards metasternal suture. Metafemur (Fig. 459) slightly enlarged. Dorsal face of metatibia flat. Metatarsomere V (without claws) longer than I–III together (Fig. 293).



**Variability.** Central projection of labrum wide and truncate at apex.

**Dimensions in mm (M).** Total length (including mandibles), 19.1-20.4; prothorax: length, 4.2-4.4; anterior width, 5.1-5.2; posterior width, 4.3-4.7; humeral width, 5.1-5.7; elytral length, 10.7-11.9.

**Comments.** *Komiyandra mindoro* is similar to *K. philippinensis* (Fig. 431), from which it differs by the integument almost blackish, and by the presence of depressions laterally to the vertical area of the clypeus. In *K. philippinensis*, the integument is lighter brown, and there are not depressions laterally to the vertical area of the clypeus.

***Komiyandra poggii* sp. nov.**

(Fig. 70, 71, 116, 192, 193, 255, 298, 323, 475-477)

**Etymology.** Dedicated to Dr. Roberto Poggi (MCGD), for his assistance and the loan of material for this study, especially the syntype female of *Parandra janus*.

**Type material.** Holotype M from INDONESIA, Sumatra (Province of *North Sumatra*): Sikulikap Waterfall, III.25.1997, Y. Johki and K. Araya coll.. (MZBI). Paratype F, same data as holotype (KMCT).

**Description.** Integument shining, dark-brown; mandibles, parts of head, parts of legs and pronotal edges blackish.

Male (Fig. 475). Head wide; dorsal surface, on gibbosities, moderately coarsely punctate; area between gibbosities and occiput with fine and somewhat sparse punctures, and a large and smooth area below each gibbosity; frontal gibbosities well marked, separated by deep and wide furrow; area between gibbosities and ocular carina smooth and depressed, but with some punctures near clypeus; ocular carina elevated, distinctly bifurcated in "Y" near posterior edge of eyes (Fig. 475); area behind bifurcation of ocular carina with punctures coarse, abundant and anastomosed; area behind eyes smooth close to ocular edge and sparsely and coarsely punctate towards occiput. Eyes (Fig. 116) narrow; posterior ocular edge (Fig. 475) distinct. Central area of clypeus oblique close to front. Central area of labrum distinctly tumid and with tuberculiform process frontally; central projection of labrum (Fig. 70) wide, truncate and not notably projected at apex, that is strongly lowered, or situated at a lower elevation than the rest of the labrum. Submentum barely depressed, with moderately large, abundant punctures; margin close to mentum moderately wide and elevated; pilosity sparse. Teeth of inner margin of mandibles (Fig. 192) placed at middle, together projected; area latero-dorsal between middle of dorsal carina and apex almost flat. Ventral sensorial area of antennomeres III-XI not divided by carina and not visible from the side (Fig. 255).

Pronotum coarsely and somewhat abundantly punctate at sides (mainly at anterior half); center of disc finely, sparsely punctate; anterior edge (Fig. 475) not sinuous; anterior angles feebly projected forward; lateral angles barely marked; posterior angles marked. Elytra coarsely and abundantly punctate, more sparsely around scutellum; each elytron with two carinae not well marked. Metasternum coarsely punctate laterally. Metafemur (Fig. 476) elongate. Dorsal face of metatibiae rounded at base and gradually leveled towards apex. Metatarsomere V (Fig. 298) as long as I-III together.

Female (Fig. 477). Central projection of labrum (Fig. 71) narrow and truncate. Ocular carina not bifurcated. Ventral sensorial area of antennomeres III-XI and submentum as in male. Mandibles (Fig. 193) with dorsal carina distinct only at basal third.

**Dimensions in mm (M).** Total length (including mandibles), 19.1; prothorax: length, 3.9; anterior width, 5.0; posterior width, 4.1; humeral width, 5.2; elytral length, 11.1. The paratype female was not measured because it is severely damaged and deformed.

**Comments.** Male of *K. poggii* differs from male *K. javana* (Fig. 419) by the: central area of labrum distinctly tumid and with tuberculiform process frontally; central projection of labrum not notably projected at apex, and strongly lowered (Fig. 70). In male of *K. javana*, the central area of labrum is not tumid and without tuberculiform process, and the central projection of labrum (Fig. 38) is distinctly projected at apex, and is not lowered.

The form of the labrum differentiates *K. poggii* from all other species of the genus.

***Komiyandra koni* sp. nov.**

(Fig. 67, 68, 114, 189, 190, 256, 297, 323, 469-472)

**Etymology.** Dedicated to Dr. Masahiro Kon of the University of Shiga Prefecture, Japan, for collecting and providing specimens used in this work.

**Type material.** Holotype M (ex-Collection R. Oberthür), INDONESIA, *West Kalimantan*: Pontianak, 1901, (no collector indicated) (MNHN). Paratypes (3 M, 2 F), as follows: Malaysia, *Sabah*: Crocker Range (1100 m), M, V.4.1994, Chew leg. (MZSP); (near Keningau), F, VI.1999, local collector (KMCT); (1000-1400 m; near Keningau), F, VI.26.1988, [no collector indicated] (DHCO); Mount Trus Madi, M, VI.18.1994, Chew coll. (KMCT); Kimanis Road (near Keningau), M, V.25.1994, [no collector indicated] (ZKCO).

**Description.** Integument shining, dark-brown; parts of head, mandibles, margins of pronotum, epipleura, elytral suture, and parts of legs blackish.

Male (Fig. 469). Dorsal surface of head, on gibbosities, coarsely and abundantly punctate; area between gibbosities and occiput coarsely and somewhat sparser than on gibbosities; area between gibbosities and ocular carina strongly depressed, coarsely punctate (mainly towards the clypeus); area behind eyes coarsely and moderately sparsely punctate; ocular carina elevated, bifurcated in “Y” near posterior edge of eyes (Fig. 469). Eyes narrow (Fig. 114); posterior ocular edge (Fig. 469) very distinct. Central area of clypeus oblique close to front. Central projection of labrum (Fig. 67) wide and truncate at apex. Submentum moderately depressed; punctation coarse, well defined and more abundant toward mentum; pilosity moderately long, sparse; anterior margin wide and elevated throughout (somewhat depressed at middle). Mandibles shorter than head; teeth of inner margin (Fig. 189) placed around middle. Ventral sensorial area of antennomeres III-XI not visible from side, and not divided by carina (Fig. 256).

Pronotum finely, sparsely punctate on disc, and distinctly coarser laterally; anterior angles not projected forward, rounded; lateral angles just indicated; posterior angles well marked; anterior edge (Fig. 469) barely sinuous. Elytra coarsely and abundantly punctate (punctures finer at apical third and at anterior two-thirds near suture); each elytron with two vague carinae. Metasternum with punctures coarse and moderately abundant laterally, finer and sparser toward metasternal suture. Metafemur (Fig. 470) moderately elongated. Dorsal surface of metatibiae flat. Metatarsomere V (without claws) as long as I-III together (Fig. 297).

Female (Fig. 472). Central projection of labrum (Fig. 68) somewhat wide and subtruncate at apex. Mandibles (Fig. 68).

**Variability.** Integument from pale-brown to dark-brown; punctation on the gibbosities of dorsal face of head moderately sparse; area between the gibbosities of dorsal face of head and ocular carina almost impunctate; bifurcation of ocular carina slightly indicated; elytra coarsely and abundantly punctate in basal two-thirds including area near suture.

**Dimensions in mm (M / F).** Total length (including mandibles), 15.1-21.9/19.0-20.3; prothorax: length, 3.2-4.5/3.7-4.1; anterior width, 3.9-5.4/4.4-4.7; posterior width, 3.3-4.2/4.0-4.3; humeral width, 3.8-5.9/5.0-5.6; elytral length, 9.1-11.9/11.7-12.7.

**Comments.** *Komiyandra koni* is similar to *K. philippinensis* (Fig. 431), but differs by the: head somewhat elongated behind eyes (Fig. 469); pronotum and elytra slightly flatter (Fig. 471); urosternites more distinctly punctate (Fig. 479). In *K. philippinensis*, head is not elongated behind eyes (Fig. 453), pronotum and elytra are more convex (Fig. 433), and urosternites are less distinctly punctate (Fig. 432). It differs from *K. javana* (Fig. 419), *K. mehli* (Fig. 438), and *K. sangihe* (Fig. 456), among others differences, by urosternites more distinctly punctate. From *K. drumonti* (Fig. 465), it differs by the body less depressed (Fig. 471), and by the bifurcation of ocular carina less marked. From *K. mindoro* (Fig. 458), it differs by the body more depressed, by the integument less dark, and by bifurcation of ocular carina less marked. Differs from *K. niisatoi* (Fig. 460) by body somewhat more depressed and by antennomeres larger. Differs

from *K. lombokia* (Fig. 442) by elytra distinctly more strongly punctate. From *K. irianjayana* (Fig. 290), it differs by metatarsomere I not enlarged (Fig. 297), by the pronotum less strongly punctate close to anterior angles, and by body slightly more depressed. Differs from *K. mindanao* (Fig. 435) by body more depressed, and by metafemur slender and longer. From *K. menieri* (Fig. 450) differs by body more depressed, by antennomeres larger, and by pronotum less punctate laterally. From *K. formosana* (Fig. 413) it differs by metatarsomere V narrowed at basal half (dorsal view). From *K. shibatai* (Fig. 410) it differs by two-thirds of the lateral margins of the pronotum parallel. Differs from *K. lanyuana* (Fig. 416) by tibia more distinctly sulcate laterally, and by body more depressed. Finally, it differs from *K. uenoi* (Fig. 478) by body more depressed, and by metatibiae more distinctly sulcated laterally.

***Komiyandra johkii* sp. nov.**

(Fig. 69, 115, 191, 254, 323, 473, 474)

**Etymology.** Dedicated to Mr. Yutaka Johki, Showa Women's University, Setagaya, Tokyo, Japan for his assistance in providing specimens used in our work.

**Type material.** Holotype M, Malaysia, *Sabah*: Mamut (1300 m), VIII.13.1987, M. Kon coll. (UMSM).

**Description.** Integument shining, dark-brown; parts of head, mandibles, margins of pronotum, epipleura, elytral suture, and parts of legs blackish.

Male (Fig. 473). Dorsal surface of head, on gibbosities, somewhat coarsely and abundantly punctate; area between gibbosities and occiput with the same kind of punctures as those on the gibbosities, but sparser; area between gibbosities and ocular carina slightly depressed, somewhat finely punctate near clypeus; area behind eyes coarsely and moderately sparsely punctate; ocular carina elevated, not bifurcated in "Y" near posterior edge of eyes (Fig. 473), but with confluent punctures in the area where usually there is the bifurcation. Eyes narrow (Fig. 115); posterior ocular edge (Fig. 473) very distinct. Central area of clypeus oblique close to front. Labrum somewhat convex centrally; central projection (Fig. 69) wide and rounded at apex. Submentum moderately depressed; punctation moderately coarse, well defined and more abundant near mentum; pilosity moderately long, sparse; anterior margin wide and elevated throughout. Mandibles shorter than head; teeth of inner margin (Fig. 191) placed around middle. Ventral sensorial area of antennomeres III-XI not visible from side, and not divided by carina (Fig. 254).

Pronotum moderately finely, sparsely punctate on disc, and distinctly coarser laterally, where the surface is distinctly microsculptured and granulated; anterior angles slightly projected forward, rounded; lateral angles just indicated; posterior angles well marked; anterior edge (Fig. 473) barely sinuous. Elytra coarsely and abundantly punctate (punctures finer at apical third and at anterior two-thirds near suture); each elytron with two vague carinae. Metasternum with punctures coarse and moderately abundant laterally, finer and sparser toward metasternal suture. Metafemur (Fig. 474) moderately elongated. Urosternites abundantly punctate. Dorsal surface of metatibiae rounded; laterally not longitudinally sulcated.

**Dimensions in mm (M).** Total length (including mandibles), 16.3; prothorax: length, 3.4; anterior width, 4.2; posterior width, 3.4; humeral width, 4.3; elytral length, 10.0.

**Comments.** *Komiyandra johkii* differs from *K. koni* male (Fig. 469) by the: pronotum distinctly granulated laterally (mainly close to the anterior angles); ocular carina not bifurcated in "Y" near posterior edge of eyes; labrum somewhat convex centrally and with central projection rounded at apex (Fig. 69); tibiae rounded dorsally and not sulcated laterally. In male of *K. koni*, the pronotum is not granulated laterally or the granules are just indicated, the ocular carina is distinctly bifurcated in "Y" near posterior edge of eyes or, at least, the bifurcation is indicated, the labrum is flat centrally and the central projection is truncated (Fig. 67), and the tibiae is flat dorsally and distinctly sulcated laterally.

The holotype is damaged: lacking antennomere XI of right antenna; lacking antennomeres VIII-XI of left antenna; lacking tarsus of right front leg; lacking tarsomere V of left front leg; right middle leg without 2/3 of tibia and without tarsus; left tibia without metatarsomere V; right hind leg without tibia and tarsus; left hind leg without 2/3 of tibia and without tarsus.

***Komiyandra niisatoi* sp. nov.**

(Fig. 62, 63, 111, 184, 185, 251, 294, 338, 460-462)

**Etymology.** Dedicated to our colleague, Dr. Tatsuya Niisato, of Japan, who has extensively published on Cerambycidae, and provided important specimens for this study.

**Type material.** Holotype M, INDONESIA, Sulawesi, *West Sulawesi*: between Tabone and Mamasa, II.2001, (MZSP – donated by Ziro Komiya). Paratype (2 M, 2 F), as follows: INDONESIA, Sulawesi, *North Sulawesi*: Tondano, M, III.1985, (no collector indicated) (ZKCO); 1 M, 1 F, III.1985, (no collector indicated) (KMCT); Utara, Dumoga-Bone National Park (Sub-camp Edwards; 1140m), F, X.1985, J. Van Stalle coll. (IRSN).

**Description.** Integument very dark-brown; head and mandibles almost fully black.

Male (Fig. 460). Dorsal face of head, on gibbosities, moderately, coarsely and abundantly punctate; area between gibbosities and occiput with punctures similar to that on gibbosities, but with an impunctate area at each side of central region; area between gibbosities and ocular carina clearly depressed, almost fully smooth; ocular carina elevated, clearly bifurcated in “Y” near posterior edge of eyes (Fig. 460). Eyes (Fig. 111) moderately narrow; posterior ocular edge (Fig. 460) very distinct. Central area of clypeus almost vertical, with lateral depressions. Central projection of labrum (Fig. 62) wide and truncate at apex. Submentum depressed; somewhat coarsely, sparsely punctate; pilosity short and very sparse; anterior edge elevated throughout. Mandibles approximately as long as head; teeth of inner margin (Fig. 184) placed approximately at middle. Ventral sensorial area of antennomeres III-XI not visible from side (Fig. 251), and not divided by carina.

Pronotum finely, sparsely punctate at central region, clearly coarser and more abundant laterally, mainly near anterior angles; anterior edge slightly sinuous; anterior angles not projected forward; lateral angles marked and widely obtuse; posterior angles obtuse. Basal two-thirds of elytra with punctures barely coarse near suture, and coarser and more abundant laterally; apical third with punctures just barely coarse and abundant; each elytron with two carinae. Metasternum punctation coarse and moderately sparse laterally, finer and sparser towards the metasternal suture. Metafemur (Fig. 461) moderately narrow and elongated. Dorsal face of metatibia flat. Metatarsomere V (without claws) longer than I-III together (Fig. 294).

Female (Fig. 462). Central region of the clypeus, close to front, strongly oblique, without depressions at sides. Central area of head, between the gibbosities and occiput fully punctate. Central projection of labrum as in Fig. 63. Mandibles as in Fig. 185.

**Variability.** Male: central projection of labrum wide and truncate at apex. Female: head and mandibles dark-brown with blackish areas.

**Dimensions in mm (M / F).** Total length (including mandibles), 22.5/21.0; prothorax: length, 4.6/4.1; anterior width, 5.7/4.8; posterior width, 4.4/4.6; humeral width, 5.7/5.9; elytral length, 12.5/13.0.

**Comments.** *Komiyandra niisatoi* is similar to *K. javana* (Fig. 419, 421). It differs by the: integument darker; ocular carina clearly bifurcated near the posterior edge of the eyes; central area of the clypeus of the male, close to the front, with depressions at the sides; central area of the clypeus of females strongly oblique. In *K. javana*, the integument is lighter brown, the ocular carina is not bifurcated or the bifurcation is barely indicated, the clypeus of males, close to the front, has no depressions to the sides, and in females, the central area of the clypeus is less oblique. It differs from *K. philippinensis*, mainly, by the darker integument and slimmer body.

***Komiyandra mehli* sp. nov.**

(Fig. 51, 52, 103, 172, 173, 243, 286, 335, 438-440)

*Parandra janus* (part); Lansberge 1884: 135.



**Etymology.** Dedicated to our colleague, Mr. Ole Mehl, of Denmark, who collected the type series and provided important specimens for our work.

**Type material.** Holotype M, from INDONESIA, *Maluku Province*: Seram (Maluku; Elamata, 500 m, Manusela National Park), X.23.1998, Ole Mehl coll. (OMCO). Paratypes (3 M, 3 F), as follows: 1 M, 2 F, same data of holotype (OMCO); M, same data as holotype (MZSP); F, same data as holotype (DHCO); Lumute, M, XI.21-30.1989, K. Fujita coll. (KMCT).

**Description.** Integument shining, dark-brown; mandibles, parts of head, parts of legs, and edge of the pro- and mesocoxal cavities darker.

Male (Fig. 438). Head moderately wide; dorsal surface, on gibbosities, with fine and moderately abundant punctures, not confluent; area between gibbosities and occiput with coarse punctures; area close to eyes with large confluent punctures; frontal gibbosities well marked, separated by a deep and wide furrow; area between gibbosities and ocular carina smooth and depressed; ocular carina elevated, bifurcated in “Y” near posterior edge of eyes (Fig. 438); area behind eyes smooth. Eyes narrow (Fig. 103); posterior ocular edge (Fig. 438) distinct. Central area of clypeus almost vertical close to front. Central projection of labrum (Fig. 51) wide and truncate at apex. Submentum barely depressed, with large, shallow and moderately abundant punctures; margin close to mentum moderately wide and elevated; pilosity sparse, present throughout. Teeth of inner margin of mandibles (Fig. 172) placed at middle. Ventral sensorial area of antennomeres III-XI not divided by carina (Fig. 243) and not visible from side.

Pronotum coarsely and abundantly punctate at sides (mainly in anterior half); center of disc finely, sparsely punctate; anterior edge (Fig. 438) clearly sinuous; anterior angles projected forward; lateral angles barely marked; posterior angles marked, obtuse and distinct. Elytra somewhat coarsely, abundantly punctate (finer, sparser in circum-scutellar area); elytral carinae barely marked. Metasternum moderately, coarsely punctate laterally. Metafemur (Fig. 439) elongated. Dorsal face of tibiae flat at basal half, barely furrowed at apical half. Metatarsus (without claws) approximately as long as metatibia; metatarsomere V longer than I-III together.

Female (Fig. 440). Smooth area of head, between gibbosities and ocular carina, barely depressed; punctures on gibbosities coarser than in males; punctures between the gibbosities and occiput more abundant than in male. Central area of clypeus almost vertical close to front. Central projection of labrum (Fig. 52) narrow and rounded. Ocular carina not bifurcated. Ventral sensorial area of antennomeres III-XI and submentum as in male. Mandibles (Fig. 173) with punctures and pilosity more sparse than in male. Pronotal punctures as in male; anterior angles clearly projected forward. Elytral punctures, elytral carinae, and dorsal face of tibiae as in male, and with the same variations.

**Variability.** Integument from dark-brown to brown. Males: dorsal surface of head, between gibbosities and occiput, with punctures barely coarse; dorsal face of head close to eyes with coarse punctures, not confluent; bifurcation in “Y” of ocular carina barely marked; area behind eyes with coarse and sparse punctures; central area of clypeus vertical close to front; anterior margin of pronotum barely sinuous; anterior angles of pronotum barely projected forward; elytral carinae well marked; dorsal surface of tibiae rounded throughout. Female: punctures of dorsal surface of head, between gibbosities and occiput, as in males; central area of clypeus almost vertical close to front; apex of labrum moderately wide and truncate; punctures of sides of pronotum slightly more sparse than in males.

**Dimensions in mm (M / F).** Total length (including mandibles), 17.5-19.7/16.9-20.8; prothorax: length, 3.8-4.4/3.5-4.3; anterior width, 4.5-5.4/4.2-5.1; posterior width, 3.7-4.6/3.6-4.6; humeral width, 4.5-5.4/4.6-5.5; elytral length, 9.5-11.2/10.2-12.1.

**Comments.** *Komiyandra mehli* differs from *K. shibatai*, *K. lanyuana*, and *K. formosana*, by the head (Fig. 438, 440), in general, longer behind the eyes, and by the antennae, in both sexes, proportionally shorter (length equals to 1.1 times the pronotal length in the central region). In *K. shibatai*, *K. lanyuana* and *K. formosana*, the head (Fig. 410, 412, 413, 415, 416, 418) is shorter after the eyes, and the antennae are proportionally longer (length, at least, 1.2 times the pronotal length in the central region).

Differs from *K. philippinensis* by the punctures of the dorsal surface of head, coarse and in general confluent at the area near the eyes (area of the bifurcation), and by the meso- and metatarsomeres (Fig. 286) shorter. In *K. philippinensis*, the punctation of the dorsal surface of the head is finer and sparser, and the meso- and metatarsomeres (Fig. 284) are longer.

From *K. nayani* and *K. ohbayashii*, differs mainly by the apex of labrum of the males wide and truncate (narrow and subacute in *K. nayani*, and narrow and rounded or subtruncate in *K. ohbayashii*).

Differs from *K. luzonica* and *K. janus* by the apex of labrum of the males (Fig. 51) wide and truncate, and by the sensorial area of antennae not carinate. In *K. luzonica* and *K. janus*, the apex of labrum of the male (Fig. 407) is narrow and subacute, and the sensorial area of antennae is clearly carinate.

See comments on *K. javana*.

***Komiyandra javana* sp. nov.**

(Fig. 38, 39, 97, 160, 161, 196, 237, 280, 313, 328, 419-420)

*Parandra janus* (part); Lansberge 1884: 135; Lameere 1902: 97; Arigony 1984: 109.

**Etymology.** The name refers to the island of Java in Indonesia.

**Type material.** Holotype M, from INDONESIA, *Java* (Province of East Java): Malang, 1905, ex “de Moffarts” Collection (IRSN). Paratypes (11 M, 7 F), as follows: INDONESIA, *Java*: (locality unreadable), F (ex. Collection J. Waterstradt; ex. Collection Oberthür), 1904, [no collector indicated] (MNHN); M, 28.XII.1934, ex. Tippmann Collection (MZSP); M, [date not indicated], ex Donckier Collection (IRSN); M, [date not indicated], ex “de Moffarts” Collection (MZSP); 2 M, [date not indicated], ex Nonfried Collection (IRSN); F, ex “de Moffarts” Collection (IRSN); 1 M, 2 F, [date not indicated], V. M. Duchon coll. (IRSN); M, [date not indicated] (IRSN); Nongkedjadjar – Tengger (probably a place between Nongkedjadjar, East Java, and Tengger, West Java), M, 3.II.1934, ex Tippmann Collection (USNM); M, 14.X.1934, ex Tippmann Collection (USNM); F, 17.X.1934, ex Tippmann Collection (USNM). *East Java*: Mount Kawi, 2 M, 2 F (ex. Collection Oberthür), 1898, J. B. Ledru coll. (MNHN).

**Description.** Integument shining, dark-brown; mandibles, parts of head, basal antennomeres, parts of legs, and edge of pro- and mesocoxal cavities darker.

Male (Fig. 419). Head wide; dorsal surface, on gibbosities, with coarse punctures, not abundant or confluent; area close to eyes with large punctures, anastomosed; area between gibbosities and occiput with fine and sparse punctures; frontal gibbosities well marked, separated by a deep and wide furrow; area between gibbosities and ocular carina smooth and depressed; ocular carina elevated, not bifurcated in “Y” near posterior edge of eyes (Fig. 419); area behind eyes smooth. Eyes narrow (Fig. 97); posterior ocular edge (Fig. 419) distinct. Central area of clypeus almost vertical close to front. Central projection of labrum (Fig. 38) wide and truncate at apex. Submentum barely depressed, with moderately large, abundant punctures; margin close to mentum moderately wide and elevated; pilosity sparse, present throughout. Maxillary palp (Fig. 196). Teeth of inner margin of mandibles (Fig. 160) placed at middle. Ventral sensorial area of antennomeres III-XI not divided by carina (Fig. 313) and not visible from the side (Fig. 237).

Pronotum coarsely and abundantly punctate at sides (mainly at anterior half); center of disc finely, sparsely punctate; anterior edge (Fig. 419) clearly sinuous; anterior angles feebly projected; lateral angles barely marked; posterior angles marked, subrounded (not distinct). Elytra somewhat coarsely, abundantly punctate (finer, sparser in the circum-scutellar area); each elytron with two low, clearly marked carinae. Metasternum moderately, coarsely punctate laterally. Metafemur (Fig. 420) elongate. Dorsal face of tibiae flat at base, barely furrowed at apical half. Metatarsus (without claws) approximately as long as metatibia; metatarsomere V clearly longer than I-III together.

Female (Fig. 421). Smooth area of head, between gibbosities and ocular carina, not depressed; punctures of dorsal surface as in male. Central area of clypeus almost oblique close to front. Central projection of labrum (Fig. 39) narrow and truncate. Ocular carina not bifurcated. Ventral sensorial area of antennomeres III-XI and submentum as in male. Mandibles (Fig. 161) with punctures and pilosity sparser

than male. Pronotal punctures finer laterally than male; anterior angles clearly projected. Elytral punctures, elytral carinae, and dorsal face of the tibiae as in male, and with the same variations.

**Variability.** Integument from dark-brown to brown. Males: dorsal surface of head, on gibbosities, finely punctate with or without coarse punctures intermixed; dorsal face of head close to eyes with coarse punctures, not confluent; bifurcation in “Y” of ocular carina barely marked; area behind eyes with coarse and sparse punctures; central area of clypeus oblique close to front; submentum depressed; submentum not or barely elevated throughout close to mentum; center of disc of pronotum finely and abundantly punctate; anterior angles of pronotum projected forward; one or two elytral carina barely marked; basal third of tibiae rounded. Female: central area of clypeus clearly oblique close to front.

**Dimensions in mm (M / F).** Total length (including mandibles), 17.6-21.6/19.3-20.0; prothorax: length, 3.6-4.8/3.9-4.1; anterior width, 4.6-6.2/4.6-4.9; posterior width, 3.7-4.7/4.4; humeral width, 4.8-6.0/5.6-5.7; elytral length, 10.5-12.6/12.2-12.4.

**Comments.** Males of *K. javana* differ from males *K. philippinensis* by the bifurcation of ocular carina barely marked or absent, by the dorsal face of the head close to the eyes (area of the bifurcation) coarsely punctate, usually confluent, by the posterior angles of the pronotum sub-rounded (not projected), and by antennomere III longer (1.1 times longer than the greatest width). In males of *K. philippinensis*, the ocular carina is clearly bifurcated, the punctures of the dorsal face of head close to eyes are fine and sparse, the posterior angles of pronotum are obtuse and projected, and antennomere III is shorter (length equal to the greatest width). Females of these species distinguished by antennomere III similar to males, and by the pattern of labrum: narrow and truncate in *K. javana*; narrow and rounded in *K. philippinensis*.

*Komiyandra javana* differs from *K. shibatai* by the same differences of the males of *K. philippinensis*, by metatarsomere V clearly longer (Fig. 280), and by the anterior half of the prothorax (Fig. 419) with parallel sides. In *K. shibatai*, metatarsomere V (Fig. 277) is shorter and the anterior half of prothorax (Fig. 410) has divergent sides.

Differs from *K. formosana* by the central projection of labrum in female truncated at apex, and by metatarsomere V not enlarged at basal half. In *K. formosana*, the central projection of labrum in female is rounded at apex, and metatarsomere V is enlarged at basal half.

Differs from *K. nayani* and *K. ohbayashii*, mainly, by the apex of labrum of males wide and truncate. In *K. nayani*, the apex of labrum is narrow and subacute, and in *K. ohbayashii* it is narrow and rounded. From *K. mehli*, differs by metatarsomere V clearly longer, by the ocular carina of the male slightly or not bifurcated, by the head proportionally wider, by the antennae proportionally longer and antennomeres wider, and by the posterior angles of the pronotum sub-rounded. In *K. mehli*, metatarsomere V (Fig. 291) is shorter, the antennae are proportionally shorter and the antennomeres narrower, and the posterior angles of the pronotum are obtuse and projected.

Finally, differs from *K. luzonica* and *K. janus* by the apex of labrum of the males wide and truncate (Fig. 38), and by the sensorial area of the antennae not carinate. In *K. luzonica* and *K. janus*, the apex of labrum of the males (Fig. 45, 407) is narrow and subacute, and the sensorial area of the antennae is clearly carinate.

Lansberge (1884) wrote on *Parandra janus*: “C’est dans ma collection que se trouvent les exemplaires de Java. Ils ont été pris, le mâle sur le Mt. Gedeh, la femelle sur le Mt. Addjoeno, et ne diffèrent des individus des Molucques [Seram] et de Celebes que par la ponctuation des élytres un peu plus forte. Je ne puis donc les considérer que comme des exemplaires d’une variété locale”. Lameere (1902) agreed with Lansberge (1884): “Il m’a été impossible, comme à van Lansberge, de trouver des différences spécifiques entre les exemplaires des Moluques, de la Nouvelle-Guinée et de Java”. Following those authors, *Parandra janus*, has been recorded from Java (besides many other islands) by later authors. There is no doubt that the species mentioned by Lansberge (1884) and Lameere (1902) for Java, corresponds to *K. javana* (see differences between this species and *K. janus*), and the species from Seram, cited by Lansberge (1884) corresponds to *K. mehli*.

Arigony (1984) examined two females from Java that also correspond to *K. javana*, although she figured a male that is very similar to the true *Parandra janus*. The description of *Parandra janus* made

by Arigony (1984) corresponds, probably, to more than one species, and none of which is *K. janus* (= *P. janus*).

***Komiyandra sangihe* sp. nov.**

(Fig. 60, 109, 182, 249, 292, 339, 456, 457)

**Etymology.** The name refers to the island of Sangihe in Indonesia (noun in apposition).

**Type material.** Holotype M, INDONESIA, Sangihe Island, Tahuna, II.26.1987, Maeda coll. (MZSP – donated by Ziro Komiya). Paratype M, same data as holotype (ZKCO).

**Description.** Integument dark-brown; parts of head and of mandibles, margins of pronotum, and elytral suture blackish.

Male (Fig. 456). Head moderately wide; dorsal surface, on gibbosities, coarsely and abundantly punctate; central area, between gibbosities and occiput, with punctures just coarser than on gibbosities; area behind eyes coarsely and moderately sparsely punctate; area between gibbosities and ocular carina depressed, smooth; ocular carina elevated, bifurcated in “Y” near posterior edge of eyes (Fig. 456), but bifurcation is not strongly marked. Eyes narrow (Fig. 109), posterior ocular edge (Fig. 456) distinct. Central area of clypeus vertical close to front. Central projection of labrum (Fig. 60) wide and rounded at apex. Submentum slightly depressed; punctuation coarse and moderately sparse; pilosity sparse, moderately short; anterior edge wide and elevated throughout. Teeth of inner margin of mandibles (Fig. 182) placed approximately at middle. Ventral sensorial area of antennomeres III–XI not visible from side (Fig. 249), and not divided by carina.

Pronotum finely, sparsely punctate at central region, gradually coarser and more abundant laterally, mainly at anterior half that is microsculptured; anterior edge slightly sinuous; anterior angles slightly projected forward; lateral angles distinct, rounded; posterior angles distinct, obtuse. Prosternal process abruptly elevated at base (clearly more elevated than surface of prosternum in that area). Basal two-thirds of elytra coarsely and abundantly punctate close to suture, and coarser and more abundantly punctate laterally; apical third coarsely and abundantly punctate; each elytron with two clearly marked carinae. Metasternum coarsely punctate, moderately sparse laterally. Metafemur (Fig. 457) moderately elongated. Dorsal face of metatibia flat, rounded at base. Metatarsomere V (without claws) as long as I–III together (Fig. 292).

**Variability.** Area behind eyes abundantly punctate; central projection of labrum wide and truncate at apex; anterior margin of pronotum nearly straight; anterior angles not projected forward.

**Dimensions in mm (M).** Total length (including mandibles), 15.2–15.3 prothorax: length, 3.4–3.5; anterior width, 4.0; posterior width, 3.5–3.6; humeral width, 4.2; elytral length, 9.1–9.5.

**Comments.** *Komiyandra sangihe* is similar to *K. mindanao*. It differs, mainly, by the metafemora (Fig. 457) shorter and wider. It is also similar to *K. philippinensis* but differs by the bifurcation of the ocular carina slightly marked, and by the body more elongated (clear and more robust in *K. philippinensis*).

***Komiyandra mindanao* sp. nov.**

(Fig. 49, 50, 102, 170, 171, 242, 285, 337, 435–437)

**Etymology.** The name refers to the island of Mindanao in the Philippines (noun in apposition).

**Type material.** Holotype M, from PHILIPPINES, Mindanao, Northern Mindanao Region, *Misamis Oriental*: Mount Balatukan (15 km SW of Gingoog; 1000–2000m), V.1–5.1960, H. Torrevillas coll. (BPBM). Paratypes (1 M, 3 F), as follows: PHILIPPINES, Mindanao, Davao Region, *Davao del Sur*: Baracatan (1500m), F, VI.27–29.1977, M. Sato coll. (EELE). Mindanao, Soccsksargen Region, *South Cotabato*: Lake Sebu (124°42'E, 6°13'N; 700m), F, IX.1993, Pascal Lays coll. (IRSN). Autonomous Region in Muslim



Mindanao, *Basilan*: Basilan Island, M, VI-VII.1990, [no collector indicated] (KMCT); F, VI-VII.1990, [no collector indicated] (MZSP).

**Description.** Integument shining, dark-brown; parts of head and of mandibles, margins of pronotum, elytral suture, extreme apex of femora, and extreme base of tibiae blackish.

Male (Fig. 435). Head moderately wide; dorsal surface, on gibbosities, with punctures coarse and moderately abundant, not confluent; area near posterior ocular carina with same kind of punctures as on gibbosities, in part confluent; area between gibbosities and occiput coarse and not confluent punctate; area between gibbosities and ocular carina depressed, smooth in the most part; area behind eyes coarsely, sparsely punctate; ocular carina elevated, with bifurcation in “Y”, near posterior edge of eyes (Fig. 435) slightly visible. Eyes narrow (Fig. 102); posterior ocular edge (Fig. 435) distinct. Central area of clypeus almost vertical close to front. Central projection of labrum (Fig. 49) wide and truncate at apex. Submentum very slightly depressed; punctation coarse and sparse; pilosity short and sparse (slightly longer at central region); anterior margin wide and elevated throughout. Teeth of inner margin of mandibles (Fig. 170) placed approximately in middle. Ventral sensorial area of antennomeres III-XI not visible from side (Fig. 242), and not divided by carina.

Pronotum finely, sparsely punctate on disc, gradually coarser and more abundantly punctate laterally (deeper towards the anterior angles); anterior edge barely convex at middle; anterior angles slightly projected forward; lateral angles slightly indicated; posterior angles barely distinct, in a straight angle. Elytra coarsely and abundantly punctate: anterior two-thirds, near suture, with punctures finer and sparser than area around elytral curvature (between disc and epipleura), and sparser than at area between curvature and epipleura; apical third with punctures finer than in area near suture at basal two-thirds, and clearly more abundant. Metasternum with punctures coarser laterally, gradually finer and sparser toward metasternal suture. Metafemur (Fig. 436) elongated. Dorsal surface of tibiae flat. Metatarsus (without claws) shorter than metatibiae (Fig. 285); metatarsomere V barely longer than I-III together.

Female (Fig. 437). Head proportionally narrower; punctures at dorsal surface of head more abundant than in male; central projection of labrum (Fig. 50) narrow and truncate at apex. Mandible (Fig. 171).

**Dimensions in mm (M / F).** Total length (including mandibles), 15.8/18.0-19.5; prothorax: length, 3.3/3.7-4.0; anterior width, 4.3/4.1-4.5; posterior width, 3.4/3.8-4.2; humeral width, 4.0/4.7-5.4; elytral length, 9.2/10.8-12.4.

**Comments.** The holotype male of *K. mindanao* is similar to males of *K. javana*, of which it differs by closer elytral punctation, by the anterior edge of the pronotum (Fig. 435) not sinuous (wide and slightly sinuous at middle area), and by the metafemora (Fig. 436) more elongate. In males of *K. javana*, the elytral punctation is sparser, the anterior edge of the pronotum (Fig. 419) is sinuous (with emargination very distinct at middle area), and the metafemora (Fig. 420) are shorter and wider. The paratype female of *K. mindanao* differs from the paratypes females of *K. javana* and *K. philippinensis* (Fig. 433), mainly, by the head narrower. The holotype male differs from the males of *K. philippinensis*, mainly, by the absence of the bifurcation in “Y” of the ocular carina (present in *K. philippinensis*).

***Komiyandra uenoi* sp. nov.**

(Fig. 72, 73, 117, 194, 195, 257, 299, 303, 310, 311, 342, 478-480)

*Parandra formosana*; Hayashi 1963: 51, fig. 1; Samuelson and Gressitt 1965: 51 (part); Kojima and Hayashi 1969: 2, pl. 1, fig. 2.

**Etymology.** Dedicated to Dr. Shun-Ichi Ueno, Department of Zoology, National Museum of Nature and Science, Tokyo, Japan, for his assistance on this project and for contributions to the knowledge of Coleoptera.

**Type material.** Holotype M, from JAPAN, *Okinawa Prefecture*: Ryukyu Islands (Iriomote-jima Island, Shirahama, X.3.1963, S. Ueno coll. (OMNH). Paratypes (9 M, 7 F), as follows: JAPAN, *Okinawa Prefec-*



ture: Ryukyu Islands (Ishigaki-jima Island), M, VIII.8.1991, R. Fukaishi coll. (UNCO); (Ishigaki-jima Island, Mount Yarabu-dake), 1 M, 1 F (V.1997, host collected; VI.1999, emerged out; host: *Machilus japonica*), T. Niisato and H. Fujita coll. (NOCO); M, same data as previous (MZSP); F, VI.29.2007, Y. Hida coll. (KMCT); M, VII.2.2007, Y. Hida coll. (MZSP); (Ishigaki-jima Island, Mount Nosoko-dake), 1 M, 1 F, VI.20.2004, Y. Hida coll. (KMCT); M, VII.22.2006, Y. Hida coll. (KMCT); (Iriomote-jima Island), F, VII.12.1991, [no collector indicated] (ZKCO); (Iriomote-jima Island, Shirahama), M, X.3.1963, S. Ueno coll. (OMNH); (Ishigaki-jima Island, Mount Omoto-dake), F, V.26.2000 (DHCO); 2 M, 2 F, VI.25.1991, T. Hanatani coll. (KMCT).

**Description.** Integument shining, dark-brown; parts of head, mandibles, scape, margins of the pronotum, epipleura and elytral suture, and parts of legs blackish.

Male (Fig. 478). Dorsal face of head, on gibbosities, coarsely and moderately abundantly punctate; longitudinal depression between gibbosities smooth; area behind gibbosities with transverse region smooth, interrupted in the middle by punctures as coarse as on gibbosities, and with similar punctures, moderately sparse, between that region and occiput; area behind depression, between gibbosities and ocular carina, coarsely and partially confluent punctate; area between gibbosities and ocular carina distinctly depressed, moderately, coarsely punctate at anterior and posterior edges; area behind eyes coarsely and moderately sparsely punctate; punctation behind bifurcation of ocular carina just coarse and sparse; ocular carina elevated, distinctly bifurcated in “Y” near the posterior edge of eyes (Fig. 478). Eyes moderately narrow (Fig. 117); posterior ocular edge (Fig. 478) distinct. Central area of clypeus oblique close to front. Central projection of labrum (Fig. 72) wide, slightly rounded at apex, and with a feeble projection in middle. Submentum depressed, more distinctly from middle to anterior edge; punctation moderately coarse and sparse; pilosity moderately long and sparse; anterior edge elevated throughout. Mandibles approximately as long as head; teeth of inner margin (Fig. 194) placed around middle. Antennae reaching posterior angles of prothorax; ventral sensorial area of antennomere III-XI not visible from side (Fig. 257), and not divided by carina; dorsal sensorial area of antennomere XI moderately small, narrow and elliptical.

Lateral margins of prothorax subparallel at anterior two-thirds towards anterior angles. Pronotum finely, moderately abundantly punctate at central region, gradually coarser laterally, mainly close to anterior angles; lateral area microsculptured, more distinctly close to anterior angles; anterior edge not sinuous at central region; anterior angles slightly projected forward; lateral angles not distinct; posterior angles well marked. Basal two-thirds of elytra coarsely, abundantly punctate, mainly laterally on basal third and across medial third; punctation of apical third finer, more abundant and concentrated; each elytron with two distinct carinae. Metasternum with punctures coarse, moderately abundant laterally, gradually finer and sparser towards metasternal suture. Metafemur (Fig. 479) moderately short. Dorsal face of the metatibia slightly rounded at basal half, and flat at apical half; in dorsal view narrow, mainly at apical half. Metatarsomere V (without claws) just shorter than I-III together (Fig. 299); in dorsal view (Fig. 303) not enlarged at basal half.

Male genitalia: median lobe short, forming a flattened tube, with two elongate struts at base, apex narrowly rounded and distinctly incised at middle (Fig. 311); parameres short, forming a ring, with a pair of pointed processes, separate near their base in dorsal view, apical lobes short and wide, stout relatively narrow (Fig. 310).

Female (Fig. 480). Head moderately wide; dorsal face coarsely and abundantly punctate throughout, mainly behind gibbosities. Central projection of labrum (Fig. 73) moderately wide, slightly rounded at apex. Mandible as in Fig. 195. Pronotum with punctation as in male, but microsculptured lateral area less distinct; anterior angles distinctly projected forward; anterior edge as in male. Antennae almost reaching the basal fourth of the pronotum.

**Variability.** Integument from brown to dark-brown. Male: longitudinal depression between gibbosities of dorsal face of head, with some punctures; smooth area behind gibbosities of dorsal face of head, not interrupted at middle by punctures; punctation of area near occiput distinctly coarser than on gibbosities; depression of dorsal face of head with punctures in the middle; bifurcation in “Y” of ocular carina not well defined; central area of clypeus almost vertical close to front; central projection of the labrum truncate and without central projection; antennae reaching basal margin of pronotum; anterior angles of the

pronotum distinctly projected forward; each elytron with one carina well marked, and another barely marked; dorsal face of metatibiae slightly sulcate at apical half. Female: antennae almost reaching base of pronotum.

**Dimensions in mm (M / F).** Total length (including mandibles), 13.4-18.1/16.0-18.1; prothorax: length, 3.0-4.1/3.6-3.9; anterior width, 3.5-5.2/4.0-4.9; posterior width, 2.8-4.0/3.6-3.8; humeral width, 3.6-5.0/4.5-5.0; elytral length, 7.7-10.3/9.7-11.1.

**Comments.** *Komiyandra uenoi* and *K. shibatai* each have male genitalia with a short median lobe and short parameres. *Komiyandra formosana* and *K. lanyuana* each have a longer median lobe and longer parameres than those of *K. uenoi* and *K. shibatai*. These four species can be readily distinguished from each other based on the different form of the apex of median lobe and parameres of the male genitalia (Fig. 304-311).

See comments on *K. shibatai*, *K. lanyuana*, and *K. formosana*.

***Komiyandra menieri* sp. nov.**

(Fig. 58, 59, 108, 180, 181, 248, 291, 318, 338, 450-452, 455)

*Parandra janus* Bates, 1875: 47; Lameere 1902: 97 (Part).

**Etymology.** Dedicated to Dr. J. Menier (MNHN) for the loan of many specimens used in our study.

**Type material.** Holotype M, INDONESIA, New Guinea, Irian Jaya, West *Papua*: Hatam, D'Albertis coll. (MCGD). Paratypes (8 M, 7 F), as follows: INDONESIA, New Guinea, Irian Jaya, *Papua*: Biological Station of Pusppenssat (50 km S Nabire), M, I.13.1997, A. Weigel coll. (AWCO); Andai, F (paralectotype of *Parandra janus*), VIII.1872, D'Albertis coll. (MCGD); M, (ex. Collection Argod), VIII.1872, L. M. D'Albertis coll. (MNHN); F, (ex. Collection Bates), VIII.1872, L. M. D'Albertis coll. (MNHN); Hatam, F, IX.1872, L. M. D'Albertis coll. (MZSP); M, VI.1875, Beccari coll. (MCGD). *West Papua*: Testega (1000-1300m), M, III.29-IV.2.1990, A. Riedel coll. (MZSP). Maluku Islands, *North Maluku*: Ternate Island, Bruijn, F (ex-Collection R. Oberthür), [no date of collection], Bruijn coll. (MNHN); ("Acqui Conora"), 1 M, 1 F, 1874, Beccari coll. (MCGD); 1 M, 1 F, XI.1874, Beccari coll. (MCGD); 1 M, 1 F, (ex-Collection A. Argod), XI.1874, Beccari coll. (MNHN). PAPUA NEW GUINEA, *Morobe*: Sattelberg, M (ex. Collection Fairmaire), [no date and collector indicated] (MNHN).

**Description.** Integument dark-brown; parts of head, of mandibles, margins of pronotum, elytral suture, and apical extreme of femora blackish.

Male (Fig. 450). Dorsal surface of head, on gibbosities and between that and occiput, coarsely and abundantly punctate; area between gibbosities and ocular carina strongly depressed, smooth; area behind eyes coarsely punctate, with punctures sparser close to eyes; ocular carina elevated, clearly bifurcated in "Y" near posterior edge of eyes (Fig. 452); area between bifurcation of ocular carina and eyes coarsely and abundantly punctate (Fig. 452). Eyes narrow (Fig. 108); posterior ocular edge (Fig. 450) very distinct. Central area of clypeus almost vertical close to front. Central projection of labrum (Fig. 58) wide and truncate at apex. Submentum depressed; punctation coarse and abundant; pilosity slightly long and sparse; anterior edge wide, elevated throughout. Mandibles approximately as long as head; teeth of inner margin (Fig. 180) placed at middle. Ventral sensorial area of antennomeres III-XI not visible from side (Fig. 248), and not divided by carina.

Pronotum finely punctate at central region, and gradually coarser and more abundant towards laterally, mainly close to anterior angles (Fig. 453); anterior edge concave centrally; anterior angles slightly projected forward; lateral angles distinct, rounded; posterior angles distinct, obtuse. Elytra coarsely, abundantly punctate, mainly laterally on anterior two-thirds; each elytron with two barely visible carinae. Metasternum coarsely punctate laterally, with punctures more concentrated close to metepisterna. Metafemur (Fig. 451) moderately short and enlarged. Dorsal face of metatibia flat throughout, except at base; in dorsal view moderately enlarged. Metatarsomere I not tumid, narrow in lateral view (Fig. 291).

Female (Fig. 455). Apex of central projection of labrum (Fig. 59) truncate. Mandible as in Fig. 181.

**Variability.** Dorsal face of head, on gibbosities, with punctures slightly fine and moderately sparse; punctuation of dorsal face of head, between gibbosities and occiput, coarser and more abundant than on gibbosities; bifurcation of ocular carina slightly marked; pronotum finely punctate at central area; anterior angles of pronotum not projected forward. In specimens from Ternate Island, anterior angles of the pronotum, in both sexes, are more acute, and the lateral punctuation of the pronotum, also in both sexes, is slightly sparser.

**Dimensions in mm (M / F).** Total length (including mandibles), 15.3-22.7/18.3-22.1; prothorax: length, 3.2-4.6/3.8-4.5; anterior width, 3.9-6.2/4.4-4.8; posterior width, 3.2-5.1/3.9-4.5; humeral width, 4.2-6.3/4.9-6.0; elytral length, 9.4-13.1/11.1-13.8.

**Comments.** Differs from *K. philippinensis* by the punctuation of the head, close to the bifurcation of the ocular carina coarse and abundant, by the coarser lateral punctuation of the pronotum, and by the punctuation of the outer face of the ocular carina, close to the anterior ocular edge, with punctures moderately coarse and abundant. In *K. philippinensis*, the punctuation of the area close to the bifurcation of the ocular carina, of the outer face of the ocular carina, and of the lateral of the pronotum is finer and sparser. See comments on *K. irianjayana*.

***Komiyandra philippinensis* sp. nov.**

(Fig. 47, 48, 101, 168, 169, 241, 284, 334, 431-434, 453)

**Etymology.** Named for the Philippine Islands.

**Type material.** Holotype M, PHILIPPINES, Central Visayas Region, Negros Island, *Negros Oriental*: Mount Canlaon (1600 m), V.1988, (DHCO). Paratypes (13 M, 14 F), as follows: PHILIPPINES, Central Visayas Region, Negros Island, *Negros Oriental*: Mount Canlaon, 4 M, V.12.1988, Danny Mohagan coll. (KMCT); F, VIII.8.1988, Danny Mohagan coll. (KMCT); F, V.5-10.1990, Danny Mohagan coll. (KMCT); 2 F, XII.24.1998, Danny Mohagan coll. (KMCT); M, VI.2006, [no collector indicated] (TNCO); 2 F, VI.2005, [no collector indicated] (ZKCO); F, VI.2006, [no collector indicated] (MZSP). Eastern Visayas Region, Leyte Island, *Leyte*: Mount Balocawe, M, V.2007, [no collector indicated] (ZKCO). Mimaropa Region, *Romblon*: Sibuyan Island, M, III-IV.1982, P. Riano coll. (MZSP); M, III-IV.1982, P. Riano coll. (HNCO). Luzon Island, Cagayan Region, *Nueva Vizcaya*: Santa Fe, M, 3 F, VI.2006, local. coll. (DHCO). Cordillera Administrative Region, *Benguet*: Mancayan, 1 M, 1 F (ex. Collection Bates), [no date and collector indicated] (MNHN). Mindoro Island: 3 M, 2 F, V.20-30.1989, D. Mohagan coll. (KMCT); F, V.20-30.1989, D. Mohagan coll. (MZSP).

**Description.** Integument shining, dark-brown; parts of head and of mandibles, margins of pronotum, epipleura and elytral suture blackish.

Male (Fig. 431). Dorsal surface of head, on gibbosities, somewhat fine and abundantly punctate; area between gibbosities and occiput somewhat coarser and sparser than on gibbosities; area between gibbosities and ocular carina strongly depressed, with some fine punctures; area behind eyes barely coarse and sparse; ocular carina elevated, clearly bifurcated in "Y" near posterior edge of eyes (Fig. 453). Eyes narrow (Fig. 101); posterior ocular edge (Fig. 431) very distinct. Central area of clypeus almost vertical close to front. Central projection of labrum (Fig. 47) wide and truncate at apex. Submentum slightly depressed; punctuation moderately coarse, well defined and sparse; pilosity moderately long, sparse; anterior margin wide and elevated throughout. Mandibles approximately as long as head; teeth of inner margin (Fig. 168) placed around middle. Ventral sensorial area of antennomeres III-XI (Fig. 241) not visible from side, and not divided by carina.

Pronotum finely, sparsely punctate on disc; area close to anterior angles microsculptured (Fig. 453), with punctures coarse and abundant, in part oblong and with edge toward outer side of pronotum elevated; median and posterior areas with punctures coarse and sparse; anterior angles not projected forward, but distinct; lateral angles barely indicated; posterior angles distinct; anterior edge (Fig. 431) barely sinuous. Elytra coarsely and abundantly punctate (punctures finer at apical third, and at anterior two-thirds near suture); each elytron with two vague carinae. Metasternum with punctures coarse and

moderately abundant laterally, finer and sparser toward metasternal suture. Metafemur (Fig. 432) moderately elongated. Dorsal surface of tibiae flat. Metatarsomere V (without claws) longer than I-III together (Fig. 284).

Female (Fig. 434). Punctuation of dorsal surface of head somewhat coarse and sparse throughout. Central projection of labrum (Fig. 48) narrow and rounded at apex. Mandible as in Fig. 169. Pronotum with same kind and distribution of punctures, but without microsculptured area near anterior angles, and without punctures with edge elevated; anterior angles clearly projected forward; anterior edge clearly sinuous.

**Variability.** Mandibles fully blackish.

**Dimensions in mm (M / F).** Total length (including mandibles), 20.0-20.2/17.5-20.4; prothorax: length, 4.4-4.5/3.7-4.3; anterior width, 5.6-5.8/4.3-4.8; posterior width, 4.5-5.0/4.0-4.5; humeral width, 5.4-5.9/4.9-6.1; elytral length, 11.7-11.9/10.7-13.3.

**Comments.** *Komiyandra philippinensis* is similar to *K. shibatai* and *K. lanyuana*, but differs, mainly, by the body (Fig. 431) more robust. In *K. shibatai* (Fig. 410) and *K. lanyuana* (Fig. 416), the body is slimmer. Differs from *K. javana* by the ocular carina clearly bifurcated in “Y” near the posterior ocular edge (Fig. 453). In *K. javana*, the ocular carina is not bifurcated in “Y” (Fig. 419), or the bifurcation is slightly indicated. See comments on *K. irianjayana*.

***Komiyandra lanyuana* (Hayashi, 1981)**

(Fig. 36, 37, 96, 158, 159, 236, 279, 302, 308, 309, 320, 416-418)

*Parandra janus*; Kano 1938: 115, fig. 1.

*Parandra lanyuana* Hayashi, 1981: 27; Yu et al. 2002: 74, pl. 1, Fig. 7a-7b; Mizuno and Shiyake 2004: 5, pl. 1, fig. 15 (types).

*Birandra* (*Birandra*) *lanyuana*; Santos-Silva and Shute 2009: 32.

**Description.** Integument shining, dark-brown; parts of head, mandibles, scape, margins of pronotum, epipleura and elytral suture, and parts of legs blackish.

Male (Fig. 416). Dorsal face of head, on gibbosities, coarsely and moderately abundantly punctate; longitudinal depression between gibbosities smooth; area behind gibbosities with transverse region smooth, interrupted in middle by punctures as coarse as on gibbosities, and with same kind of punctures between that region and occiput, but moderately sparse; area between gibbosities and ocular carina strongly depressed, coarsely punctate anteriorly and posteriorly; area behind eyes coarsely and sparsely punctate; ocular carina elevated, distinctly bifurcated in “Y” near posterior edge of eyes (Fig. 416). Eyes narrow (Fig. 96); posterior ocular edge (Fig. 416) distinct. Central area of clypeus oblique close to front. Central projection of labrum (Fig. 36) wide and slightly emarginate at apex. Submentum depressed from middle to anterior edge; punctuation coarse, moderately sparse; pilosity moderately long, sparse; anterior edge elevated throughout. Mandibles approximately as long as head; teeth of inner margin (Fig. 158) placed around middle. Antennae reaching basal fifth of the prothorax; ventral sensorial area of antennomeres III-XI not visible from side (Fig. 236), and not divided by carina; dorsal sensorial area of antennomere XI moderately large, narrow and elliptical.

Lateral margins of prothorax subparallel at anterior two-thirds towards anterior angles. Pronotum finely, moderately abundantly punctate centrally, gradually coarser laterally, mainly close to anterior angles; lateral area microsculptured, more distinctly close to anterior angles; anterior edge slightly sinuous; anterior angles slightly projected forward; lateral angles not distinct; posterior angles distinct. Basal two-thirds of elytra coarsely, abundantly punctate, mainly laterally on basal third and across medial third; punctuation of apical third finer, more abundant and concentrated; each elytron with two distinct carinae. Metasternum with punctures coarse and sparse laterally, gradually finer towards metasternal suture. Metafemur (Fig. 417) moderately elongated. Dorsal face of metatibia slightly rounded at basal half, apical half flat; in dorsal view moderately wide. Metatarsomere V (without claws) slightly longer than I-III together (Fig. 279); in dorsal view (Fig. 302) not enlarged at basal half.



Male genitalia: median lobe long, forming a flattened tube, with two elongate struts at base, apex widely rounded and feebly incised at middle (Fig. 309); parameres of median length, forming a ring, with a pair of pointed processes, separate near base in dorsal view, apical lobes long and wide, stout relatively narrow (Fig. 308).

Female (Fig. 418). Head moderately wide; dorsal face coarsely and abundantly punctate throughout. Central projection of labrum (Fig. 37) narrow and slightly emarginate at apex. Mandible as in Fig. 159. Pronotum with punctation as in male, but without distinct microsculptured lateral area; anterior angles more projected than in male; anterior edge sinuous. Antennae reaching basal fourth of prothorax. Metatibiae slightly sulcate on dorsal face of basal two-thirds.

**Variability.** Integument from brown to dark-brown. Male: central projection of labrum truncate at apex; submentum depressed throughout. Female: central projection of labrum truncate at apex.

**Dimensions in mm (M / F).** Total length (including mandibles), 16.9-20.5/15.1-19.5; prothorax: length, 4.0/3.5; anterior width, 4.8/4.2; posterior width, 3.9/3.9; humeral width, 4.8/4.6; elytral length, 9.7/9.8.

**Geographical distribution.** Taiwan (Lanyu Island).

**Material examined.** TAIWAN, *Taitung*: Lanyu Island, holotype M, VII.20.1976, H. Nara coll. (OMNH); paratype F, same data of holotype (HNCO); 2 M, 6 F, same data of holotype (HNCO); M, F, VII.18.2001, W. L. Chen coll. (HNCO); 1 M, 1 F, V.2002, [no collector indicated] (NOCO). Specimen examined through photographs taken by Dr. Mei-Ling Chan (NMNS): TAIWAN, *Taitung*: Lanyu Island (eclosed from pupa), M, V.1.2000, H. Y. Chu coll. (NMNS); F, V.5.2000, H. Y. Chu coll. (NMNS).

**Types, type locality.** Holotype M, preserved in the OMNH (ex-Collection Masao Hayashi), and paratype F, preserved in HNCO. Originally, both specimens belonged to HNCO. Mr. Hajime Nara (pers. comm.) stated that Dr. Hayashi retained the holotype in his personal collection.

**Comments.** *Komiyandra lanyuana* differs from *K. formosana* by the: head in female larger (Fig. 417); apex of central projection of labrum of female truncate (Fig. 37); metatarsomere V not enlarged on basal half (Fig. 302) in both sexes. In *K. formosana*, head of female is proportionally smaller (Fig. 415), apex of labrum is rounded (Fig. 35), and metatarsomere V is distinctly enlarged on basal half (Fig. 301) in both sexes. Differs from *K. uenoi*, mainly by metatibiae wider in dorsal view (distinctly narrower in *K. uenoi*). See comments on *K. shibatai*.

### ***Melanesiandra*, new genus**

**Etymology.** Melanesia + *Parandra*, in reference to the subregion of Oceania, in the extreme western part of the Pacific Ocean, northeast of Australia. Feminine gender.

**Type species.** *Parandra striatifrons* Fairmaire, 1879.

**Description.** Dorsal area of head between eyes, with two distinct gibbosities in males, separated by deep furrow, without central depression in “V”; in females with gibbosities and furrow barely marked. Ocular carina wide, moderately elevated, and evident from middle of eye to clypeus; not bifurcated in “Y” near posterior edge of eyes (Fig. 379, 382). Eyes wide, mainly in females; posterior ocular edge (Fig. 385) distinct in males, and barely distinct in females (Fig. 381); anterior ocular edge emarginated or slightly emarginated. Frontoclypeal suture visible just laterally. Central region of clypeus strongly oblique or clearly concave. Clypeolabral suture visible throughout, barely visible, or absent. Central projection of labrum of male wide, truncate at apex or narrow and truncate; narrow, truncate, or rounded, subacute in females. Mandibles of *major* males (Fig. 134, 136) falciform; sub-falciform in *minor* males, from shorter to longer than head, narrow at base of latero-outer face (Fig. 82, 83); dorsal carina elevated, well defined from base to apical third; inner margin in *major* males with two teeth, together protracted or not, located near middle (in *minor* males always together protracted); apex with two large teeth, visible dorsally, and



a third, small, not visible dorsally; outer face (Fig. 83, 84, 85) without large tooth around middle. Mandibles of females (Fig. 135, 137) *Parandra*-like, moderately narrow at base of latero-outer face; dorsal carina barely elevated, ending approximately in middle; inner margin with two teeth together protracted, located in the middle; apex and outer face as in males. Mentum with hair barely long and sparse. Galea (Fig. 203) long (reaching or almost reaching apex of second segment of maxillary palp). Ventral sensorial area of antennomeres III-XI (Fig. 222, 223) visible from the side or not, divided by carina in all or some antennomeres; ventral sensorial area of antennomere XI does not attain dorsal area; dorsal sensorial area of antennomere XI from small to large, well delimited, not divided by carina.

Anterior margin of pronotum sinuous or concave in males, barely sinuous or barely concave in females; anterior angles projected forward or not; lateral angle absent or distinct; posterior angles well defined or barely marked. Elytra abundantly punctate. Veins  $MP_3$  and  $MP_4$  not fused at apex (Fig. 214). Apex of prosternal process barely enlarged. Femora glabrous. Dorsal face of tibiae rounded or flat. Procoxal cavities clearly open behind. Paronychium with one seta.

**Included species.** *Melanesiandra striatifrons* (Fairmaire, 1879), **comb. nov.**; *M. solomonensis* (Arigony, 1983), **comb. nov.**, *M. bougainvillensis* Santos-Silva, Heffern and Matsuda, **sp. nov.**; and *M. birai* Santos-Silva, Heffern and Matsuda, **sp. nov.**

**Geographical distribution** (Fig. 315). Fiji (Viti Levu; Vanau Levu, Ovalau), Solomon Islands (Santa Ana and Santa Isabel Islands), and Papua New Guinea (including Bougainville Island).

**Comments.** Characterized, mainly, by the eyes clearly narrower and more distinct in males than in females, and by the mandibles of the males falciform or nearly so, with the latero-outer face narrow.

*Melanesiandra* differs from *Birandra* by the: dorsal face of the head with distinct gibbosities in males; dorsal face of the head, between the gibbosities and the ocular carina, depressed; mandibles of the *major* males less falciform, in dorsal view, narrower at base. In *Birandra*: head without gibbosities or, at most, barely distinct gibbosities; dorsal face of head, close to ocular carina, without depressed area; male mandibles more falciform, in dorsal view, clearly wider at base.

Differs from *Acutandra*, mainly by the mandibles clearly different between the sexes (sub-equal in *Acutandra*). Differs from *Parandra*, *Archandra* and *Stenandra*, by the procoxal cavities clearly open (closed in the other three genera). From *Neandra*, differs by the procoxal cavities open behind, wing venation (Fig. 214) (see Fig. 206 for *Neandra*) and presence of paronychium. In *Neandra*, the procoxal cavities are closed behind and the paronychium is absent. From *Komiyandra*, differs by the mandibles of the *major* males falciform (Fig. 134), narrow at base of the latero-outer face (Fig. 82), by the eyes wider (Fig. 82), and by the large dorsal sensorial area of antennomere XI. In *Komiyandra*, the mandibles of *major* males are sub-falciform (Fig. 156), wide at base of the latero-outer face (Fig. 94), the eyes are narrower (Fig. 98), and the dorsal sensorial area of antennomere XI is small. See comments on *Caledonandra*, *Papuandra*, and *Hawaiiandra*.

### Key to the species of *Melanesiandra*

1. Antennomeres III-XI divided by carina, elevated and clearly visible from sides. Fiji (Viti Levu; Vanau Levu, Ovalau)..... ***M. striatifrons* (Fairmaire)**
- At least, antennomere III not divided by carina ..... **2**
- 2(1). Male labrum strongly convex. Solomon Islands (Santa Ana and Santa Isabel Islands) ..... ***M. solomonensis* (Arigony)**
- Male labrum not convex ..... **3**
- 3(2). Central projection of labrum of male somewhat rounded at apex. Papua New Guinea (Bougainville Island), Solomon Islands (San Cristobal Island, Santa Isabel Island) ..... ***M. bougainvillensis*, sp. nov.**
- Central projection of labrum of male distinctly narrowed apically. Papua New Guinea ..... ***M. birai*, sp. nov.**

***Melanesiandra striatifrons* (Fairmaire, 1879)**

(Fig. 22, 23, 82, 134, 135, 203, 214, 222, 265, 314, 344, 376-378)

*Parandra striatifrons* Fairmaire, 1879: 289; 1881: 468; Schmeltz 1881: 10; Lameere 1902: 84; Dillon and Dillon 1952: 3; Webb 1994: 327 (note); Evenhuis and Ramsdale 2006: 11 (checklist).

*Parandra (Parandra) striatifrons*; Lameere 1913: 6 (cat.); 1919: 17; Santos-Silva 2002: 32 (note).

*Parandra vitiensis* Nonfried, 1894: 46; Lameere 1902: 84 (*syn.*); Dillon and Dillon 1952: 3 (revalidation); Evenhuis and Ramsdale 2006: 11 (checklist).

*Birandra (Birandra) striatifrons*; Santos-Silva and Shute 2009: 32.

**Description.** Integument shining, chestnut; parts of head, of mandibles, margins of pronotum, anterior margin of submentum, and margins of coxal cavities blackish; legs pale-brown.

Male (Fig. 376). Head wide, proportionally very large in relation to body size; dorsal surface of gibbosities, with fine punctures, moderately abundant, not confluent; area between gibbosities and occiput with similar punctures, but sparser; area close to eyes (near apex of ocular carina) and area behind eyes with large distinct punctures, abundant, in part confluent; area between gibbosities and ocular carina smooth and depressed. Central region of clypeus strongly oblique. Central projection of labrum (Fig. 22), wide, truncate and with concavity at apex. Eyes (Fig. 82) barely emarginated. Mandibles of *major* males (Fig. 134) falciform, and sub-falciform in *minor* males, longer than head; inner margin in *major* males with two teeth, not together protracted, located before and after middle, apical tooth larger (in *minor* males, located approximately at middle of mandibles, and together protracted). Submentum depressed at area close to mentum, with large, deep, and moderately abundant punctures, in part confluent; margin close to mentum moderately elevated; pilosity sparse, restricted to sides. Antennae notably short (not reaching pronotal base); ventral sensorial area of antennae visible from side (Fig. 222), divided by carina (Fig. 314), elevated, visible from side; dorsal sensorial area of antennomere XI large. Maxillary palp as in Fig. 203.

Pronotal disc strongly flat, curved laterally; anterior margin sinuous; anterior angles projected forward; lateral angle absent (sometimes indicated); posterior angle distinct; abundantly, coarsely punctate on latero-apical half; latero-basal half with fine punctures, abundant; center of disc very finely, sparsely punctate. Elytra finely, moderately abundantly punctate, sparser in circum-scutellar area; each elytron with two carinae barely marked. Metasternum with some coarse, shallow punctures at sides. Metafemur (Fig. 377) elongated. Metatarsus (without claws) (Fig. 265) shorter than metatibia (length equal to 0.85 times); metatarsomere V longer than I-III together.

Female (Fig. 378). Central area of dorsal face of head with very fine, sparse punctation; area close to ocular carina and area behind eyes finely, moderately abundantly punctate. Central projection of labrum (Fig. 23) narrow, truncate or rounded. Mandibles as in Fig. 135. Lateral sides of pronotum finely and abundantly punctate.

**Variability.** Integument dark-brown; submentum completely blackish; legs brown. Males: head not notably large in relation to body (*minor* males); dorsal face of head, on gibbosities, with punctures somewhat coarse, similar to those at the area behind eyes (mainly laterally); area behind eyes with punctures large and sparse; apex of labrum, frequently, strongly concave frontally, apex of labrum on plane significantly lower than the rest of the labrum, labrum convex near the central projection enhancing the appearance of the latter causing it to be more prominent; pilosity of submentum present throughout or completely absent; center of pronotal disc smooth; anterior margin of submentum, close to mentum, elevated only at sides; elytral punctures uniform. Metatarsus (without claws) approximately as long as metatibiae. Female: apex of labrum narrow and rounded; dorsal sensorial area of antennomere XI fused with ventral sensorial area.

**Dimensions in mm (M / F).** Total length (including mandibles), 15.8-21.7/17.2-21.2; prothorax: length, 3.1-4.5/3.6-4.2; anterior width, 4.1-5.8/4.4-5.4; posterior width, 3.3-4.3/4.1-4.9; humeral width, 4.0-5.6/4.9-6.0; elytral length, 8.8-12.1/10.3-13.3.

**Geographical distribution** (Fig. 344). Fiji (Viti Levu; Vanau Levu, Ovalau).

**Material examined.** (7 M, 11 F), as follows: FIJI. Ex Nonfried Collection, 2 F, [no date indicated] (IRSN); *Viti Levu*: M, F, [no date indicated] (AUMU); F, [no date indicated] (IRSN); F, ex. Nonfried Collection (type of *Parandra vitiensis*) [no date indicated] (IRSN); Nandarivatu Forest, M, X.17.1985, G. F. Bornemissza coll. (DHCO); M, F, X.17.1985, Bornemissza coll. (ZSMC); 2 F, 17.X.1985, [name of collector illegible] (ZKCO); M [identified by Dillon and Dillon (1952) as *P. vitiensis*], IX.9.1938, Y. Kondo coll. (BPBM); Naraiyawa (178°5'E, 17°56'S), 2 M, F, XI.20-23.1986, R. L. Brown coll. (MEMU; 1 M MZSP); Nausori (Colo-i-Suva Forestry Station; 200 m), M, I.28.1994, K. Ito coll. (KMCT); Belt Road (45 miles W Suva), F [identified by Dillon and Dillon (1952) as *P. striatifrons*], 25.VII.1938, E. C. Zimmerman coll. (BPBM). *Vanau Levu*: Kilaka (Bua; FJ-58D; 178°59'017"E, 16°48'412"S; 154m; Malaise), F, 28.VI.02.VII.2004, M. E. Irwin, E. Schlinger, M. Tokota coll. (USNM); M, [no date indicated] (USNM).

**Types, type localities.** *Parandra striatifrons*: holotype M, from Fiji (Viti Levu), deposited at MNHN. *Parandra vitiensis*: holotype F, from Fiji, deposited at IRSN.

**Comments.** The description and redescription of *Parandra striatifrons*, by Fairmaire (1879, 1881), indicates that he only knew the male of this species: “mandibulis validis, capite haud brevioribus, intus obtuse, apice sat acute bidentatis, capite prothorace haud angustiore...epistomate inter mandibulas vix producto, late sinuato, utrinque angulato” [English translation: mandibles robust, longer than head, interiorly obtuse, apex distinctly bidentate, head as long as prothorax...epistoma just projected between mandibles, widely sinuous, in both sides angulated]. That hypothesis is corroborated by the comparison made by Fairmaire (1881), between *P. austrocaledonica* and *P. striatifrons*: “les mandibules (*P. austrocaledonica*) sont bien plus larges” [English translation: the mandibles (*P. austrocaledonica*) are much broader]. It is very probable that Fairmaire (1879) possessed only one male when he described the species. In Fairmaire (1879, 1881) only a single measurement was supplied: “Long.: 20 millim.” and “Long. 20 mill. (mandib. Incl.)”. But Fairmaire (1881), when writing on other species for which he had more than one specimen, indicated the variation in some measurements, for example, in the redescription of *Opheltes cariosicollis* Fairmaire, 1877: “Long 26 à 40 mill”. There is no indication of the number of specimens that Fairmaire (1879) used to describe this species.

Nonfried (1894) described *Parandra vitiensis*, apparently, based on a single specimen (“Long. 18 mm”). It is possible to infer that, because in the same work, in the description of *Nemophas eupholoides*, he supplied the measurements of at least two specimens (“Long. 22-24 mm”). It could be possible that Nonfried (1894) had more than one specimen with the same dimensions, however, we received all specimens of Parandrinae from the Oriental province, deposited at IRSN, among which, specimens from the Nonfried Collection and, again, among which, one specimen of *P. vitiensis* labeled as “Type”. It is very improbable that there are types in other collections. The calligraphy in the label of the specimen of *P. vitiensis* that has the “Type” label, belongs to IRSN, agrees very well with that illustrated by Horn and Kahle (1937: plate XXXIV, fig. 25) of a label handwritten by Nonfried. Damoiseau and Cools (1987) did not register any type for *Parandra vitiensis* in the Collection of IRSN, but as mentioned above, we believe that the specimen sent for study, is the holotype of that species.

The description by Nonfried (1894) seems to adapt perfectly to a female (same sex of the specimen from IRSN labeled as “Type”), mainly by the form of the head (“Kopf schmal, vorne doppelt geschweift”). Although the description of the mandible (“Mandibeln lang”) can suggest that the specimen is a male, the mandible in that species is particularly longer than in the female, we believe that the term used by Nonfried (1894) is relative. Moreover, Nonfried (1894) stated that for the mandibles, the inner margin was toothed. This description agrees better with a female than to a male. It is possible that Nonfried (1894) described the position of teeth, if the specimen was a male.

Lameere (1902) synonymized *P. vitiensis* under *P. striatifrons* and wrote that he had studied the Fairmaire “types” and Nonfried “types” from the Museum of Hamburg and found no difference between the two. Despite Lameere (1902) stating that he studied the “types” of *P. vitiensis*, that species, as discussed before, was probably described from a single female (holotype).

As for *P. striatifrons*, Weidner (1976) did not register any “type” of that species in the Collection of Zoologisches Institut und Zoologisches Museum der Universität Hamburg. One of the authors (K. Matsuda) photographed one specimen in the MNHN that has a label of “Type”. That specimen is a male that agrees

very well with the description and redescription of Fairmaire (1879, 1881). Cambefort (2006) also concluded that the types of Fairmaire were in the MNHN.

Fairmaire (1881) and Lameere (1902) recorded the work in which was published the description of *Parandra striatifrons*, respectively: “Naturaliste, 1879, 289” and “Naturaliste, 1879, p. 289”. Dillon and Dillon (1952) recorded another work: “Soc. ent. France, Ann. VI, 1: 486, 1881”. In fact, *P. striatifrons* was described in the “Petites Nouvelles Entomologiques, n° 211, 1879”, that was superseded by “Le Naturaliste – Journal des échanges et des nouvelles”, whose first number was published on IV.01.1879. Fairmaire (1881) published the redescription of that species.

Dillon and Dillon (1952) revalidated *P. vitiensis*, and argued: “This species is easily distinguished from *P. striatifrons* in that it has the labrum dentate at each side angle of its anterior margin, not medially”. They also presented a key to separate the two species:

“Epistoma unidentate; head across eyes not as wide as pronotum.....*P. striatifrons*  
Epistoma bidentate; head across eyes as wide as pronotum.....*P. vitiensis*”

Curiously, Dillon and Dillon (1952) redescribed just the female of *P. striatifrons*, and in the list of material examined of that species, appear three females and not any males. Both the key presented by the authors and the redescription, and differences mentioned, serve only to separate males from females of *P. striatifrons*, and does not separate *P. striatifrons* from *P. vitiensis*.

The redescription by Fairmaire (1881) contradicts the key above: “epistomate inter mandibula vix producto, late sinuato, utrinque angulato.” Apparently, Dillon and Dillon (1952) interpreted that the apex of labrum of *P. striatifrons* is unidentate, as opposed to *P. vitiensis* that would have the apex of labrum bidentate. This assumption is not confirmed by examination of the photograph of the holotype and, moreover, Dillon and Dillon (1952) had not taken into consideration the work of Fairmaire (1881) regarding the form of the head (“capite prothorace haud angustiore”), when they affirmed that the “head across eyes not as wide as pronotum.” The differences in the mandibles of the females of the “two species”, pointed out by those authors, are just intraspecific variations.

When dealing with *P. vitiensis*, Dillon and Dillon (1952), probably, interpreted the work by Nonfried (1894), “vorne doppelt geschwift”, as if the apex of the labrum was bidentate. In fact, the work by Nonfried (1894) indicates that this author was speaking of the notches to the side of the apex of labrum (typical and more evident in females). Again, Dillon and Dillon (1952) failed to take into consideration the work by Nonfried (1894) regarding the form of the head (“Kopf schmal”), because they affirmed, as seen above in the key, that the head in this species is as wide as the pronotum.

Moreover, the examination of the probable holotype female of *P. vitiensis*, the photograph of the probable holotype male of *P. striatifrons*, and the material examined [that includes the material used by Dillon and Dillon (1952)], shows that there are not any differences between these two species. In other words, the synonymy proposed by Lameere (1902) is correct: *P. vitiensis* = *P. striatifrons*.

### ***Melanesiandra solomonensis* (Arigony, 1983)**

(Fig. 24, 25, 83, 136, 137, 223, 266, 327, 379-381)

*Parandra solomonensis* Arigony, 1983: 40, fig. 1-18; 1984: 89, 94, 95, 96, 97, 111, 115, fig. 51, 63-66; Santos-Silva 2002: 32 (note).

*Birandra* (*Birandra*) *solomonensis*; Santos-Silva and Shute 2009: 32.

**Description.** Integument shining, dark-brown; anterior edge of head, parts of mandibles, lateral edges of pronotum and of scutellum, and elytral suture blackish or very dark-brown.

Male (Fig. 379). Head wide, proportionally very large in relation to body size; gibbosities of dorsal surface with punctures coarse, abundant and not confluent; area between gibbosities and ocular carina smooth; area near ocular posterior edge and of occiput with coarse punctation; area behind eyes with punctures very coarse, abundant, in part confluent. Central region of clypeus strongly convex together with labrum. Central projection of labrum (Fig. 24), very distinct, wide, and with one small projection on each side. Eyes (Fig. 83) emarginate. Mandibles (Fig. 136) falciform, as long as or just shorter than head; inner margin with two large teeth together protracted. Submentum clearly delimited by fine suture;



surface coarsely and abundantly punctate; margin close to mentum wide and barely elevated; pilosity moderately short and very sparse. Antennae not notably short (reaching basal fourth of pronotum); ventral sensorial area of antennae (Fig. 223) visible from side only in apical antennomeres; ventral sensorial area of antennomeres III-V not divided by carina; remaining antennomeres divided by carina gradually more elevated towards antennomere XI; dorsal sensorial area of antennomere XI large.

Pronotum convex; disc punctation fine and sparse, gradually coarser laterally (mainly towards anterior angles); anterior margin concave; anterior angles not projected forward; lateral angles well marked, rounded or obtuse; posterior angle well marked. Elytra finely and abundantly punctate (punctures just coarser laterally); elytral carinae absent. Metasternum with some coarse punctures. Metafemur (Fig. 380) moderately short. Metatarsus (without claws) (Fig. 266) longer than metatibia; metatarsomere V longer than I-III together.

Female (Fig. 381). Dorsal surface of head and area behind eyes with same kind of punctuation as in males, except sparser. Central projection of labrum (Fig. 25) narrow and rounded or subacute, without lateral projections. Mandibles as in Fig. 137.

**Variability.** Integument brown to dark-brown. Males: dorsal surface of head, between gibbositities and ocular carina, with some fine punctures; submentum clearly delimited by fine suture just laterally; antennae notably short (reaching the basal third of pronotum); antennomeres III-VI or III-VII not divided by carina; elytral punctures fine; elytral carinae barely visible.

**Dimensions in mm (M / F).** Total length (including mandibles), 16.8-20.5/17.7-20.0; prothorax: length, 3.4-4.3/3.5-4.2; anterior width, 4.5-5.5/4.4-4.8; posterior width, 3.6-4.3/4.1-4.6; humeral width, 4.4-5.4/5.0-5.7; elytral length, 9.4-11.3/10.3-11.9.

**Geographical distribution** (Fig. 327). Solomon Islands (Santa Ana Island, Santa Isabel Island).

**Material examined.** (6 M, 4 F), as follows: SOLOMON ISLANDS. *Isabel*: Santa Isabel Island (Molao), paratype F, VI.29.1960, C. W. O'Brien coll. (MCNZ). *Makira-Ulawa*: Santa Ana Island, 2 paratypes M, 1 paratype F, [no date indicated] (MCNZ); 3 M, 2 F [no date indicated] (USNM); M, [no date indicated] (MZSP); paratype F, [no date indicated] (MZSP).

**Types, type locality.** Holotype M, from Solomon Islands, Santa Ana Island, deposited at SMTD. Arigony (1983) stated that the material examined from the Solomon Islands included two pairs (deposited at the Museu de Ciências Naturais da Fundação Zoobotânica [MCN], Porto Alegre), the holotype and some paratypes (from Staatliches Museum für Tierkunde [SMTD] Dresden), and the other paratypes at Bernice P. Bishop Museum (BPBM), Honolulu and Smithsonian Institution – United States National Museum (USNM), Washington. However, in the list of type material she listed: holotype at SMTD; 3 M and 2 F at MCN (paratypes), therefore, 5 paratypes and not two pairs; 3 M and 4 F at SMTD (paratypes); 1 F at BPBM. Therefore, there are not any types deposited at USNM, and there are five paratypes deposited at MCNZ (= MCN). Besides, one of the paratypes (female) deposited at MCNZ is not from Santa Ana Island, but from Santa Isabel Island, and the paratypes are 2 M and 3 F, not 3 M and 2 F. The number of males and females deposited at MCNZ was clearly an error, because Arigony (*op.cit.*) wrote in the list of type material: “3 [male symbol] MCN 56502, 56503, 2 [female symbol] MCN 56501, 56504, 61212”. We received all specimens of Parandrinae from the Oriental province deposited at USNM, among which, there are specimens of *M. solomonensis*, but none of them have a type label. Additionally, even if one of those specimens had a type label, it would not be a type, because it was not recorded in the list of type material. One paratype female originally deposited at MCNZ is currently deposited at MZSP (donation of Dr. Maria Helena Galileo). We concluded that the paratype female from Santa Isabel Island belongs to BPBM, and was forgotten in MCNZ by Tania Arigony. Dr. Maria Helena Galileo (MCNZ) authorized us to return the paratype to BPBM. This paratype from Santa Isabel Island was collected on VI.29.1960, and not VI.24.1960, as written by Arigony (1983). Additionally, this paratype has the number 61212, the same number listed by Arigony (1983) as a female from Santa Ana Island, deposited at MCNZ.

The most important problem, related to the “paratype” from Santa Isabel Island, is that the specimen is not a female of *M. solomonensis*, but a female of *M. bougainvillensis*.



**Comments.** Although the general appearance of the males of *M. solomonensis* (Fig. 379) is very different from that of *M. striatifrons* (Fig. 376), the females of both species are very similar, mainly in head shape.

***Melanesiandra bougainvillensis* sp. nov.**

(Fig. 26, 27, 84, 138, 139, 224, 267, 329, 382-384)

**Etymology.** The name refers to the island of Bougainville in the Solomon Islands.

**Type material.** Holotype M, from Papua new guinea, *Autonomous Region of Bougainville*: Bougainville Island (Kukugai Village; 150 m), X.1960, W. W. Brandt coll. (BPBM). Paratypes (4 F), as follows: Papua new guinea, *Autonomous Region of Bougainville*: Bougainville Island (Kukugai Village; 150 m), F, X.1960, W. W. Brandt coll. (MZSP); F, XII.1960, W. W. Brandt coll. (BPBM). SOLOMON ISLANDS, *Makira-Ulawa Province*: San Cristobal Island (Wugiroga), F, 8.VIII.1960, C. W. O'Brien coll. (BPBM). *Isabel Province*: Santa Isabel Island (Molao), F (paratype of *Parandra solomonensis* Arigony), VI.29.1960, C. W. O'Brien coll. (BPBM).

**Description.** Integument shining, brown; anterior edge of head, parts of mandibles, lateral edges of pronotum and of scutellum, and elytral suture blackish or dark-brown.

Male (Fig. 382). Head wide, proportionally very large in relation to body size; gibbosities of dorsal surface with punctures coarse, abundant and not confluent; area between gibbosities and ocular carina with depression well defined, and with punctures coarse and very sparse; area behind eyes with punctures very coarse, abundant, in part confluent. Central region of clypeus strongly oblique. Central projection of labrum (Fig. 26) distinct, moderately narrow and barely rounded at apex. Eyes (Fig. 84) emarginate. Mandibles of males (Fig. 138) sub-falciform, shorter than head; inner margin with two teeth together protracted. Submentum glabrous, not clearly delimited by fine suture; surface with coarse punctation, very sparse in central region, in part confluent laterally; margin close to mentum wide and slightly elevated. Antennae not notably short (reaching the pronotal base); ventral sensorial area of antennae not visible from side (Fig. 224), except on apical half of antennomere XI; antennomeres III-X not divided by carina; apical half of antennomere XI divide by carina; dorsal sensorial area of antennomere XI small.

Pronotum convex; punctation fine and sparse on disc, gradually coarser laterally (mainly towards anterior angles); anterior margin almost in a straight line; anterior angles projecting forward; lateral angles absent; posterior angles sub-rounded. Elytra with punctures barely coarse and abundant, finer and more abundant on apical third; elytral carinae absent. Metasternum with some punctures, coarse, laterally. Metafemur (Fig. 383) moderately short. Metatarsus (without claws) (Fig. 267) approximately as long as metatibia (without apical spines); metatarsomere V longer than I-III together.

Female (Fig. 384). Eyes large. Apex of central projection of labrum (Fig. 27) narrow, acute or sub-acute. Ventral sensorial area of apical antennomeres variable, but not distinctly divided by carina at basal third or forth of the segments: divided from antennomere VII; or divided only at antennomere XI. Mandibles as in Fig. 139.

**Dimensions in mm (M / F).** Total length (including mandibles), 13.9/16.0-17.6; prothorax: length, 3.0/3.3-3.7; anterior width, 3.7/3.9-4.3; posterior width, 3.1/3.3-4.0; humeral width, 3.7/4.3-5.0; elytral length, 8.0/9.9-10.8.

**Comments.** *Melanesiandra bougainvillensis* (Fig. 382, 384) is similar to *M. solomonensis* (Fig. 379, 381), but differs, principally, by the clypeus-labrum not strongly convex at middle and absence of a small projection on each side of the central projection of labrum.

***Melanesiandra birai* sp. nov.**

(Fig. 28, 85, 140, 225, 268, 385, 386)

**Etymology.** Dedicated to our colleague Dr. Ubirajara (Bira) R. Martins de Souza, (MZSP) Brazil, for his extensive contributions to the knowledge of Cerambycidae.

**Type material.** Holotype M (ex. Collection Sicard), from Papua new guinea, [no date or collector's name indicated] (MNHN).

**Description.** Integument shining, brown; parts of head and of mandibles, margins of pronotum, and elytral suture blackish.

Male (Fig. 385). Head wide, proportionally very large in relation to body size; gibbosities of dorsal surface very distinct, mainly frontally, with punctures fine and moderately abundant (finer towards clypeus); area between gibbosities and ocular carina with depression well defined, smooth; basal area of ocular carina and close to upper ocular lobe coarsely punctate; area behind coarsely punctate. Central region of clypeus strongly oblique. Central projection of labrum (Fig. 28) very prominent, wide and distinctly narrowed to apex. Eyes (Fig. 85) emarginate. Mandibles (Fig. 140) sub-falciform, as long as head; inner margin with two large teeth together protracted around middle, and a large basal tooth; dorsal carina elevated with a large tooth at apex. Submentum slightly depressed, but with well defined transverse furrow close to anterior edge; anterior edge wide, not notably elevated; punctuation coarse, sparse towards gula and confluent towards mentum; almost glabrous, except for two long hairs close to the antero-central area. Antennae notably short (not reaching the pronotal base); ventral sensorial area of antennae visible from side (Fig. 225), except in antennomere III; antennomeres IV-XI divided by carina; dorsal sensorial area of antennomere XI somewhat small, elongated.

Pronotum convex; punctuation fine and sparse on disc, gradually coarser laterally (mainly towards anterior angles); anterior margin almost sinuous; anterior angles projecting forward; lateral angles distinct; posterior angles sub-rounded; anterior half vertical laterally, except close to anterior angles. Elytra with punctures barely coarse and moderately abundant near suture and distinctly coarser laterally, mainly on basal two thirds; elytral carinae barely defined. Metasternum finely and sparsely punctate, coarser laterally. Metafemur (Fig. 386) short and wide. Dorsal surface of metatibiae flat at apical half. Metatarsomere V (Fig. 268) just longer than I-III together.

**Dimensions in mm (M).** Total length (including mandibles), 18.7; prothorax: length, 4.4; anterior width, 5.1; posterior width, 4.0; humeral width, 5.2; elytral length, 10.5.

**Comments.** *Melanesiandra birai* differs from all other species of the genera by the form of central projection of the labrum (Fig. 28). For the form of the central projection of labrum in males of the other species, see figures 22, 24 and 26. *Melanesiandra birai* was not plotted on a map because there is no precise locality.

### ***Caledonandra*, new genus**

**Etymology.** Caledonia + *Parandra*, in reference to the islands of New Caledonia located in the southwestern Pacific Ocean. Feminine gender.

**Type species.** *Parandra austrocaledonica* Montrouzier, 1861.

**Description.** Dorsal area of head, between eyes, without gibbosities or with vague gibbosities, with central depression in "V". Ocular carina narrow; elevated and distinct from middle of eye to clypeus or slightly elevated and distinct from posterior edge of eye to clypeus. Eyes of male narrow (Fig. 81) (larger width equal to 0.4 times the total length), or moderately wide (Fig. 80) (larger width equal to 0.5 times the total length); wide in female (larger width equal to 0.6 times the total length), or moderately wide (larger width equal to 0.5 times the total length); posterior ocular edge distinct (Fig. 370) or not (Fig. 373); anterior ocular edge with concavity well defined (Fig. 81). Frontoclypeal suture visible only laterally (sometimes absent). Central region of clypeus vertical or barely oblique. Clypeolabral suture visible only laterally (sometimes barely defined throughout). Labrum sub-horizontal or clearly oblique; apex of central projection of male, wide, truncate or rounded; narrow, truncate, rounded or subacute in female. Mandibles of male (Fig. 130, 132) not falciform, at most, as long as head, wide at base of latero-outer face (Fig. 80, 81); dorsal carina elevated, strongly oblique in relation to longitudinal axis, well marked from base to, at most, middle of mandible, fused at apex to more basal tooth of inner margin; inner margin with two

teeth; apex with two large teeth, visible on dorsal side, and a third, small tooth, not visible from dorsal side. Mandibles of female (Fig. 131, 133) *Birandra*-like, only wide at base of latero-outer face; dorsal carina low, restricted to basal third; inner margin with two teeth together protracted, located in middle; apex as in males. Mentum of male with long hair, abundant or very abundant; in female, shorter and sparser. Galea (Fig. 197, 198) long (reaching or surpassing apex of second segment of maxillary palp). Ventral sensorial area of antennae (Fig. 220, 221) visible from side, divided by carina, elevated, visible from side; ventral sensorial area of antennomere XI invading dorsal area (sometimes separated by a very fine band); dorsal sensorial area of antennomere XI large, not divided by carina; apex of antennomere XI rounded or barely narrow.

Anterior margin of pronotum concave or sinuous; anterior angles of males projected forward or not; in females projected forward; lateral angle strongly marked; posterior angles very distinct. Elytra with punctures barely coarse and well defined, or very fine. Veins  $MP_3$  and  $MP_4$  not fused at their apex (Fig. 213). Femora glabrous. Dorsal face of tibiae rounded. Anterior coxal cavities clearly open. Paronychium with one seta.

**Included species.** *Caledonandra austrocaledonica* (Montrouzier, 1861), **comb. nov.**; *C. passandroides* (Thomson, 1867), **comb. nov.**

**Geographical distribution** (Fig. 315). New Caledonia.

**Comments.** *Caledonandra* differs from all other genera of Parandrini by the: presence of deep depression in “V” at dorsal face of the head; dorsal carina of the mandibles (mainly in males), short, strongly oblique in relation to the longitudinal axis, and fused at apex to the more basal tooth of the inner margin. That last character also occurs in *Storeyandra* (notably in males), but in that genus there is not the depression in “V” at dorsal face of the head, the apex of labrum of the males is rounded, the mandibles, in both sexes do not have a small tooth near apex at lower surface, and the mandible of the female is somewhat *Parandra*-like. See comments on *Papuandra*.

#### Key to the species of *Caledonandra*

1. Labrum of male with tubercles; elytral punctures very fine and barely visible in both sexes ..... *C. passandroides* (Thomson)
- Labrum of male without tubercles; elytral punctures slightly coarse and visible in both sexes ..  
..... *C. austrocaledonica* (Montrouzier)

#### *Caledonandra passandroides* (Thomson, 1867)

(Fig. 14, 15, 81, 132, 133, 198, 213, 221, 264, 325, 373-375)

*Parandra passandroides* Thomson, 1867: 107, 116; Lameere 1902: 94, 104; Fauvel 1906: 40; Hayashi 1961b: 10; Webb 1994: 327 (note); Jenis 2008: 117.

*Parandra Passandroides*; Thomson 1878: 4 (type).

*Parandra (Parandra) passandroides*; Lameere 1913: 6 (cat.); 1919: 18; Arigony 1984: 114; Santos-Silva 2002: 32 (note).

*Birandra (Birandra) passandroides*; Santos-Silva and Shute 2009: 32.

**Description.** Integument shining, dark-brown; dorsal and lateral contour of mandibles, and elytral suture blackish.

Male (Fig. 373). Head wide, proportionally very large in relation to body size; dorsal surface nearly planar to sides of depression in “V”, without gibbosities or with gibbosities barely defined; punctation fine near clypeus, gradually coarser towards the occiput and areas near ocular carina, not confluent; area behind eyes with coarse punctures, deep, in part confluent; area between the depression in “V” and ocular carina, near clypeus, with circular depression, deep; ocular carina low, not bifurcated in “Y” near the posterior edge of the eyes (Fig. 373). Eyes (Fig. 81) moderately narrow. Labrum clearly oblique; central

projection (Fig. 14) strongly sculptured: two strong tubercles, projected forward; semi-circular projection, elevated, distinctly more prominent in relation to areas to sides and center (each tip of arc starts at the base of the tubercles, see again, Fig 14). Maxillary palp as in Fig. 198. Submentum slightly elevated in central area, clearly separated from gula and part of gena, by semi-circular furrow, large moderately deep; punctation fine and sparse; edge close to mentum moderately narrow and elevated, preceded by large depression, deep throughout; pilosity very short and sparse. Mandibles as in Fig. 132. Antennae (Fig. 221) reaching or almost reaching basal fifth of prothorax.

Pronotum finely punctate laterally; center of disc with punctation very fine and sparse; anterior angles not projected forward; anterior margin concave. Elytra very finely punctate, mainly towards the suture; elytral carinae absent. Wings as in Fig. 213. Metasternum with coarse, shallow punctures at sides. Metafemora as in Fig. 374. Metatarsus (without claws) approximately as long as metatibia (including apical spines); metatarsomere V (Fig. 264) as long as I-III together.

Female (Fig. 375). Punctation of head like in males. Depression in “V” of the dorsal face of head shallower than in males. Labrum without tubercles and without semi-circular projection; apex (Fig. 15) narrow and rounded. Submentum without transverse depression close to anterior edge. Mandibles as in Fig. 133. Anterior angles of prothorax projected forward; anterior margin slightly sinuous (central area clearly concave).

**Variability.** Integument pale-brown to dark-brown; submentum completely blackish; legs brown. Males: depression semi-circular on dorsal face of head moderately shallow and barely defined; area behind eyes with punctures shallow; surface of submentum strongly furrowed transversely; area close to anterior margin of submentum with furrow narrow and very deep; submentum glabrous; center of pronotal disc smooth; metatarsus (without claws) longer than metatibia (length equals to 0.9 times). Female: depression in “V” of dorsal face of head like in males; submentum with transverse depression, shallow, close to anterior edge.

**Dimensions in mm (M / F).** Total length (including mandibles), 12.3-21.0/13.9-18.9; prothorax: length, 2.3-3.7/2.7-3.7; anterior width, 3.2-5.6/3.6-4.5; posterior width, 2.7-4.4/3.2-4.4; humeral width, 3.2-5.5/3.7-5.4; elytral length, 6.7-10.6/8.3-10.7.

**Geographical distribution** (Fig. 325). New Caledonia (Grande Terre, Ouvéa, Lifou).

**Material examined.** (14 M, 10 F), as follows: new caledonia. F, [date not indicated], Deyr. coll. (MCGD); F, [date not indicated] (MCGD); 3 M, 4 F, [date not indicated] (IRSN); 2 M, 1878, Deyr. coll. (MCGD); M, F, XII.1-7.2006, Ivo Jenis coll. (ZKCO). *Grande Terre*: Me Jejehari (750 m; 165°36'30"E, 21°28'45"S), M, XI.5.1986, Brown coll. (MEMU); Mount Panié (250 m), M, F, X.30.1986, Brown coll. (MEMU); Ouril (60 miles of Nouméa), M, ex. Fauvel Collection, [date not indicated] (MZSP); Sarraméa, M, F, XII.27.2006-I.10.2007, Ivo Jenis coll. (ZKCO); Tonghoué, M, F, [date not indicated] (IRSN); Table Unio Road (21°34'S, 165°46'E; 600 m), 2 M, 14.XI.2000, Bouchard, Burwell, Monteith coll. (QMCO). *Lifou*: M, [no date indicated] (IRSN).

**Type, type locality.** Holotype M, from New Caledonia, deposited at MNHN.

**Comments.** One of the authors (K. Matsuda) photographed three “types” in the collection of the MNHN: 1 lectotype male; 1 paralectotype male; and 1 paralectotype female. The designations of lectotype and paralectotype were never published. Therefore, the labels fixed on each of the specimens have no value. Besides, Thomson (1867) wrote: “Long 17 mill.; lat. 5 mill.” That indicates that Thomson (1867) had just one specimen, because when he had more than one, he indicated the measurements, for example, in *Parandra sayi* described in the same work: “Long. 11-17 mill.; lat. 3 1/2-5 1/2 mill.”. Thomson (1867) also did not know the female of *P. passandroides*, which, by itself, immediately excludes the “paralectotype” female. Thomson (1867) also stated at the end of his description that he had one specimen given to him by Fauvel. Besides, Thomson (1867) wrote: “prothorax sublaevis, antice quase rectus” [English translation: “prothorax almost smooth, anteriorly almost straight”]. That description of the anterior margin of the prothorax fits better to the male that has the label of “Lectotype” than the other. We believe that the



holotype is the specimen that has the label of "Type" (characteristic of the types of the J. Thomson Collection) and "Lectotype". The other two specimens that have labels of "paralectotype" should not be considered as types.

***Caledonandra austrocaledonica* (Montrouzier, 1861)**

(Fig. 12, 13, 80, 130, 131, 197, 220, 263, 319, 369-372)

*Parandra austrocaledonica* Montrouzier, 1861: 278; Lameere 1902: 94, 104; Fauvel 1906: 40; Hayashi 1961b: 10.

*Parandra (Parandra) austrocaledonica*; Lameere 1913: 6 (cat.); 1919: 17; Arigony 1984: 113; Webb 1994: 327 (note); Santos-Silva 2002: 32 (note).

*Parandra austro-caledonica*; Thomson 1867: 107, 113.

*Parandra neocaledonica*; Borre 1881: 138 (error).

*Birandra (Birandra) austrocaledonica*; Santos-Silva and Shute 2009: 32.

**Description.** Integument shining, dark-brown; parts of head, mandibles and legs, margins of pronotum and elytral suture, blackish.

Male (Fig. 370). Head wide, proportionally large in relation to body size; dorsal surface convex to sides of depression in "V", without gibbositities; punctation fine, sparse, close to clypeus, gradually coarser towards occiput, not confluent; area behind eyes with coarse punctures, deep, in part confluent; area between depression in "V" and ocular carina, near clypeus, without circular depression; ocular carina elevated, not bifurcated in "Y" near posterior edge of eyes (Fig. 370). Eyes (Fig. 80) moderately wide. Labrum clearly sub-oblique; central projection (Fig. 12) with anterior margin clearly emarginate, with surface strongly concave (the whole with bifid aspect). Mandibles as in Fig. 130. Submentum flat in central area, separated from gula and part of gena, by semi-circular furrow, narrow and not deep; punctation fine and sparse; edge close to mentum moderately large and elevated laterally, absent at central area; area close to anterior margin with large depression at sides; pilosity very short and sparse. Antennae (Fig. 220) reaching base of prothorax.

Pronotum punctation coarse, shallow, confluent laterally (mainly close to anterior angles); sides microsculptured; center of disc with punctation very fine and sparse; anterior angles subacute, projected forward; anterior margin sinuous. Elytra moderately coarsely, abundantly punctate, except at apical fifth, where punctures are finer; each elytron with two carinae barely visible. Metasternum with coarse punctures at sides. Femora (Fig. 263) short, moderately enlarged at middle. Metatarsus (without claws) barely shorter than metatibia (excluding the apical spines); metatarsomere V as long as I-III together.

Female (Fig. 372). Punctuation of dorsal face of head, of submentum, of pronotum, and of elytra as in males. Depression in "V" of dorsal face of head shallower than in males. Labrum without tubercles and without semi-circular projection; apex (Fig. 13) narrow and rounded or sub-rounded. Submentum without transversal depression close to anterior edge. Mandibles (Fig. 131). Anterior angles of prothorax projected forward; anterior margin sinuous.

**Variability.** Integument pale-brown to dark-brown. Males: dorsal surface of head, close to clypeus, with fine punctures; punctures close to occiput, in part confluent; area behind eyes with punctures slightly coarse, shallow and sparse; submentum slightly elevated at central area; furrow that separates submentum from gula barely defined at central region; fine punctures of submentum mixed with coarse, shallow punctures; anterior edge of submentum narrow and elevated throughout; area close to anterior edge of submentum with wide furrow throughout; submentum glabrous or almost glabrous; lateral sides of pronotum, close to anterior angles, with small tubercles; center of pronotal disc with fine, sparse punctures; anterior angles of prothorax rounded and slightly projected forward; elytral carinae absent; metatarsus (without claws) just as long as metatibia. Female: submentum with transverse depression, shallow, close to anterior edge; punctation of submentum barely coarse and abundant.

**Dimensions in mm (M / F).** Total length (including mandibles), 15.5-22.4/16.1-21.8; prothorax: length, 3.3-4.8/3.3-4.5; anterior width, 4.1-6.4/3.9-5.4; posterior width, 3.5-5.0/3.8-5.1; humeral width, 4.2-6.5/4.4-6.4; elytral length, 9.1-13.6/10.3-13.2.

**Geographical distribution** (Fig. 319). New Caledonia (Grande Terre).

**Material examined.** (12 M, 7 F), as follows: new caledonia. 3 M, 3 F, [date not indicated] (IRSN). *Grande Terre*: Forêt Thy Reserve (150 m), F, 21.V.1984, G. Monteith and D. Cook coll. (QMCO); Kanala, M, [date not indicated] (IRSN); La Foa, M, XII.2000, S. Bily coll. (OMCO); Moindou – Prony, M, [date not indicated] (IRSN); Mount Koghi, M, F, I.27.1963, C. M. Yoshimoto coll. (BPBM); M, F, III.22-25-1999, S. Bily coll. (OMCO); M, III.22-25-1999, S. Bily coll. (DHCO); Nouméa, F, [no date indicated] (IRSN); Pic du Grand Kaori (22°17'D, 166°54'E; 250 m;), M, 21.XI.2001-29.I.2002, G. Monteith coll. (QMCO); Reviere Bleue, 1 M, 1 F, XII.30.1997, Y. Johki coll. (KMCT); Yahoué, M, [date not indicated] (IRSN); M, [date not indicated] (MZSP).

**Type, type locality.** Holotype M, from New Caledonia, Balade (north-east coast of Grande Terre). According to Damoiseau (1966) the holotype is lost: “De Nouvelle-Calédonie, les premiers envois de Montrouzier furent adressés au collectionneur amateur Doué. Une partie des envois ultérieurs fut perdue au cours de leur expédition vers l’Europe; l’auteur n’en publia pas moins la description des espèces nouvelles que contenaient ces envois” [English translation: “From New Caledonia, the first parcels of Montrouzier were sent to the amateur collector Doué. A part of the following parcels to Europe was lost during their travel to Europe; nevertheless the author published the description of the new species that were contained inside these parcels”]. We verified in many museums where the types of Montrouzier are, or could be deposited, with help from Gérard Tavakilian (MNHN) and Alain Drumont (IRSN), without success. Arigony (1984) stated that according to Horne and Kahle (1935:37), the type was deposited in MNHN, however Horn and Kahle (1935) did not make that statement. We thus concur with Damoiseau (1966) that the holotype is lost.

**Designation of neotype.** As there are two very similar species in New Caledonia, it is important to designate a neotype for *Parandra austrocaledonica*. We chose a specimen from the collection of IRSN, because there are a great number of types of Montrouzier deposited in that Museum (Damoiseau 1966). The neotype male (Fig. 370) has the following labels:

1. Pink [printed]: Coll. I. R. Sc. N. B.
2. White (glued on the pink label) [printed]: Nlle Calédonie; Coll. Schramm; Achat Le Moul
3. White: *Parandra austrocaledonica*; T. Arigony det. 1972 (*austrocaledonica* and 72 handwritten)

**Comments.** Although Lameere (1913, 1919) had mentioned “*neocaledonica* Borre” and Arigony (1984) had written “*Parandra neocaledonica* Borre, 1881”, the epithet “*neocaledonica*” was just a spelling error. Borre (1881) was not describing any species or giving name to a monstrosity. This is very clear in the text: “M. de Borre communique des corrections... Il met enfin sous les yeux de ses collègues un coléoptère anormal, à propos duquel il lit la note suivante: Dans un envoi d’insectes de la Nouvelle-Calédonie que le Musée a reçu il y quelques jours de M. Hanckar, se trouve un exemplaire du *Parandra neocaledonica* Montrouzier, présentant un cas de monstruosité par excès assez développé” [English translation: “M. De Borre communicates of corrections... He finally places under the eyes of his colleagues an abnormal beetle, regarding which he reads the following note: In a dispatch of insects from New Caledonia that the Museum has received a few days ago from Mr. Hanckar, was found a specimen of *Parandra neocaledonica* Montrouzier, presenting a case of monstrosity by excess development”]. Besides, as it is actually understood, the published text was not written by Borre, but by the secretary of the Société Entomologique de Belgique, who inserted the text read by Borre, from the minutes of the meeting.

The galea described and figured by Arigony (1984: fig. 36) is extremely short, reaching the base of the second segment of the maxillary palp, identical to that of *Hawaiiandra puncticeps*. In all specimens examined by us (Fig. 197), the galea is clearly longer, reaching the apex of the second segment of the maxillary palp.

**On the lectotype of *Parandra gabonica* Thomson, 1858.** Quentin and Villiers (1975) designated two lectotypes for *Parandra gabonica* Thomson and thus by the ICZN Code in force at that time and currently, both of those designations are invalid. Quentin and Villiers (1975) designated a lectotype for *Parandra gabonica*: “*P. gabonica* Thomson est représenté dans la collection de cet auteur par trois

exemplaires du Gabon et quelques exemplaires de Côte d'Ivoire (Bassam); dans sa description il cite également des exemplaires de Benguella (coll. Mniszech). Nous désignons comme **lectotype** [male symbol] un exemplaire de 17 mm de longueur et comme **lectotype** [female symbol] un exemplaire de 20 mm de longueur". The designation actually has two problems. The first one is that Quentin and Villiers (1975) designated two lectotypes. In 1975, the Code in force (ICZN 1964) did not permit designation of two specimens for lectotype. As in ICZN (1999), only one specimen can be designated as lectotype, and the remaining become paralectotypes. That problem, by itself, makes the designations invalid, but there is another problem that permits the inclusion of that discussion here. The "lectotype" male of *Parandra gabonica* (Fig. 369) is a specimen of *C. austrocaledonica* (Montrouzier, 1861). We believe that the mistake was not made by Thomson (1858) because he wrote "Prothorax dépassant fortement la tête à sa naissance, arrondi sur les bords latéraux postérieurs", a description that does not agree with *C. austrocaledonica*. It is possible to see that the label put on that specimen of *C. austrocaledonica*, designated as lectotype of *Parandra gabonica*, is identical to that put on the female designated as lectotype of the same species. Therefore, there is no doubt that both labels are by Quentin and Villiers. Article 74.2 of the ICZN (1999) establishes: "If it is demonstrated that a specimen designated as a lectotype was not a syntype, it loses its status of lectotype". For these two problems exposed, the designation of lectotype for *Parandra gabonica* is obviously canceled.

### *Hawaiiandra*, new genus

**Etymology.** Hawaii + *Parandra*, in reference to Hawaiian Islands, an archipelago in the central Pacific Ocean. Feminine gender.

**Type species.** *Parandra puncticeps* Sharp, 1878.

**Description.** Dorsal area of head, between the eyes, without gibbosities and longitudinal furrow or central depression in "V", slightly depressed at central region close to clypeus (sometimes, with depression in "V" well marked in females). Ocular carina wide, very low from posterior edge of eyes to clypeus. Eyes (Fig. 75) wide (larger width equal to 0.5 times total length); anterior ocular edge (Fig. 75) clearly emarginated; posterior ocular edge (Fig. 347, 350) barely distinct. Frontoclypeal suture visible only laterally (sometimes suture complete). Central region of clypeus strongly oblique in females (sometimes, not strongly oblique), and oblique in males. Clypeolabral suture distinct throughout. Labrum barely oblique in male and oblique in female; central projection of male, wide or narrow, but always sub-triangular; in female, narrow and slightly rounded at apex. Mandibles of *major* male (Fig. 347, 348) falciform, sub-falciform in *minor* male (Fig. 352), longer than head, narrow at base of latero-outer face (Fig. 75); dorsal carina elevated, well marked from base to middle; inner margin with two teeth together protracted, placed before middle of mandible; apical teeth fused or sub-fused in *major* male and separated in *minor* male; apex of latero-outer face without small tooth. Mandibles of female (Fig. 74) *Parandra*-like, moderately wide at base of latero-outer face; dorsal carina elevated from base to middle of mandible; inner margin with two teeth together protracted, placed before middle; apex with two teeth large and distinct; apex of latero-outer face with a very small tooth, sometimes nearly absent. Mentum with long hair, somewhat abundant. Galea (Fig. 199) short (not reaching apex of second segment of maxillary palp). Ventral sensorial area of antennae (Fig. 216) visible from side, divided by carina, very elevated, visible from side; ventral sensorial area of antennomere XI invading dorsal area; dorsal sensorial area of antennomere XI large, not divided by carina.

Pronotum convex; anterior margin concave; anterior angles projected forward (in general, more visible in females); lateral angle well defined or not; posterior angles defined and distinct. Elytra finely punctate. Veins  $MP_3$  and  $MP_4$  fused at their apex (Fig. 209). Apex of prosternal process broadened. Femora pilose (mainly in the ventral face). Dorsal face of tibiae rounded at basal half, and flat on apical half. Anterior coxal cavities open. Paronychium with two setae.

**Included species.** *Hawaiiandra puncticeps* (Sharp, 1878), **comb. nov.**

**Geographical distribution** (Fig. 315). Hawaiian Islands.

**Comments.** *Hawaiiandra* differs from *Birandra*, mainly, by the absence of the small tooth at the apex of the latero-outer face of the mandible of the male (Fig. 75), by the mandible of the female (Fig. 74) similar to those of *Parandra* and *Archandra*, by the short galea (Fig. 199), and by the procoxal cavities slightly open behind. In *Birandra*, the mandibles in both sexes have a small tooth at the apex of the latero-outer face, the mandibles of the female (Fig. 119) are different from that of *Parandra* (Fig. 121) and *Archandra*, the galea is long (reaching or surpassing the apex of the second segment of maxillary palp), and the procoxal cavities are clearly open behind.

*Hawaiiandra* differs from *Acutandra*, mainly, by the mandibles strongly differentiated between the sexes (sub-equal in *Acutandra*). Differs from *Parandra*, *Archandra*, *Neandra* and *Stenandra*, by the procoxal cavities open behind (closed in the four genera). From *Neandra*, differs also by the presence of paronychium (absent in *Neandra*). From *Komiyandra*, differs by the mandibles of the *major* male clearly falciform (Fig. 123), and by the veins  $MP_3$  and  $MP_4$  fused at their apex (Fig. 209). In *Komiyandra*, the mandibles of the *major* male are sub-falciform (Fig. 154), and the veins  $MP_3$  and  $MP_4$  are not fused at their apex (Fig. 211). Differs from *Melanesiandra* by the absence of the teeth at the apex of the latero-outer face of the mandibles of the *major* male, by the procoxal cavities slightly open behind, and by the paronychium with two setae. In *Melanesiandra*, the apex of the latero-outer face of the mandibles in both sexes have small teeth, the procoxal cavities are clearly open behind, and the paronychium has a single seta.

Curiously, *Archandra caspia* (Ménétriés, 1832) from Asia, and many species of *Parandra* from America, have a similar general appearance to *Hawaiiandra* and that species, in turn, has a similar appearance to some species from the Oriental Province, mainly *Melanesiandra striatifrons*. That seems to contradict the theory of Lameere (1902) that *Archandra* (which included the species presently placed in *Parandra*) is the most primitive group, primarily because the species of Parandrinae are obviously Gondwanan and the Hawaiian Islands are geologically new, besides the isolation of *Archandra* in relation to *Parandra*.

### ***Hawaiiandra puncticeps* (Sharp, 1878)**

(Fig. 30, 74, 75, 123, 199, 209, 216, 259, 345, 347-353)

*Parandra puncticeps* Sharp, 1878: 202; Blackburn and Sharp 1885: 260; Sharp 1900: 95; Koebele 1901: 61; Lameere 1902: 82; Terry 1905: 73; Perkins 1907a: 96; 1912: 257; Lameere 1913: 5 (cat.); Giffard 1914: 14; Lameere 1919: 17; Swezey 1921: 170; Giffard 1922a: 28; 1922b: 118; Swezey 1922: 29; 1925: 198; 1931: 496, 498; 1935: 92; Ford 1952: 358; Duffy 1953: 141; Swezey 1954: 11, 60, 161, 217; Gressitt and Davis 1970: 388; Ibara 1972: 156; Gressitt and Davis 1972: 4; 1973: 214; Davis 1973: 157; Simon et al. 1984: 12; Suehiro 1986: 51; Stone and Pratt 1994: 281; Santos-Silva 2002: 32.

*Birandra* (*Birandra*) *puncticeps*; Santos-Silva and Shute 2009: 32.

**Description.** Integument shining, dark-brown; parts of head, mandibles, pronotal margins, elytral suture, apex and lower edge of femora and of tibiae blackish.

Male (Fig. 347, 348). Head proportionally large (Fig. 348) or very large (Fig. 347), almost as wide as apex of pronotum. Center of dorsal surface of head punctate: with punctures coarse and sparse, between clypeus and posterior edge of eyes; coarsely punctate, in part confluent, laterally, close to eyes; in central area, between posterior edge of eyes and occiput, with punctures barely coarse and more abundant than in area between the eyes. Dorsal face of head, close to basal edge of clypeus, with smooth transverse strip that expands triangularly at central area. Area behind eyes coarsely, abundantly punctate (punctures finer than in dorsal area close to eyes), in part confluent. Clypeus and labrum with long, moderately abundant hairs. Submentum depressed, coarsely and moderately sparse; anterior edge distinctly elevated; pilosity moderately long and abundant. Mandibles as long as head (Fig. 123). Eyes as in Fig. 75. Central projection of labrum (Fig. 30).

Pronotum 1.5 times wider than long; lateral margins sub-parallel at anterior two-thirds; central area of disc finely and sparsely punctate; lateral with punctures barely coarser and moderately abundant, mainly near posterior and anterior angles; anterior margin slightly concave at central region. Elytral punctation sparse. Metasternum with punctures slightly coarse, barely abundant close to metepisterna, finer and sparser towards the metasternal suture. Metepisterna coarsely, abundantly punctate at basal fourth, gradually finer and sparser towards apex. Metafemur (Fig. 349) short and enlarged; lower edge of



femurs with moderately long, abundant hairs, mainly in metafemora. Tibiae clearly enlarged at apex. Metatarsus (without claws) longer than metatibiae; metatarsomere V (Fig. 259) longer than I-III together.

Female (Fig. 350). Dorsal surface of head, pronotum, and elytra with same sculpture as male, and with same variations. Submentum depressed, coarsely punctate, abundant and confluent close to anterior edge, and more scattered towards gula; pilosity long and moderately abundant; anterior edge gradually elevated. Lateral margins of pronotum slightly rounded and convergent between lateral and anterior angles.

**Variability.** Male: center of dorsal surface of head, between clypeus and posterior edge of eyes, coarsely punctate, slightly sparser than in area behind eyes; clypeus with sparse hairs; mandibles from as long as head to longer than head; submentum not depressed and without elevation at anterior margin; punctures of submentum moderately abundant, in part confluent; pronotum from 1.4 to 1.6 times wider than long; lateral margins of anterior two-thirds of pronotum from convergent to divergent; punctures of central area of pronotum fine or very fine, sparse or abundant; pronotum laterally with moderately fine and sparse punctures, and barely coarse close to posterior and/or anterior angles; anterior margin of pronotum from slightly concave at central area to distinctly concave throughout; elytral punctation barely fine and, frequently, moderately abundant; metasternum finely and sparsely punctate throughout, including, close to metepisterna; tibiae not strongly enlarged at apex. Female: submentum with hairs moderately sparse.

**Dimensions in mm (M / F).** Total length (including mandibles), 22.0-26.5/26.0-30.3; prothorax: length, 4.4-5.0/5.3-5.8; anterior width, 5.5-7.2/6.2-7.7; posterior width, 5.1-6.3/6.9-7.9; humeral width, 5.9-7.5/8.0-9.3; elytral length, 13.1-14.4/16.3-18.5.

**Geographical distribution.** Hawaiian Islands (Hawaii, Kauai, Maui, Molokai, Oahu).

**Material examined.** (4 M, 4 F), as follows: USA, Hawaii: M, I.14.1929, (MZSP); M, F (syntypes), [no date or name of collector] (IRSN); *Oahu Island*: Mount Kaala, M, VII.5.1957 (BPBM); Judd Trail, F, VIII.14.1919, O. H. Swezey coll. (BPBM); Tantalus, F, IV.23.1905, W. M. Giffard coll. (BPBM); 1 M, 1 F, V.14.1978, [no collector indicated] (MTCO). *Big Island*: 29 miles Olaa; 3800 ft; collected as pupa - reared until adult eclosion in VIII.1921 – specimen commented by Giffard 1922b), M, VII.1921, W. M. Giffard coll. (BPBM); 29 miles Kilanea, F, II.10.1912, W. M. Giffard coll. (BPBM).

**Types, type locality.** We have no conclusive proof of where any of the specimens used in the original description are located. Evidence points to the specimens being in the BMNH, however it is possible that some may be in the IRSN or the MNHN. Sharp (1878) described *Parandra puncticeps* based on two males and, probably, a single female: “In the female the length of this segment [apical ventral segment] is considerably greater, and its hind margin is obscurely truncate in the middle; the punctures are less obsolete, and the abundant ciliae of the hind margin are twice as long as in the male. Of this latter sex I have two individuals before me, one small the other large”. All specimens are from Hawaii, Oahu Island.

We received a couple of “syntypes” from IRSN, from Hawaii (without precise locality), and one of the authors (Matsuda) has examined a “syntype” female in MNHN, from Oahu Island. However, we suspect that the true syntypes of *P. puncticeps* are deposited at BMNH (Fig. 351-353). Sharon Shute (BMNH, pers. comm.) wrote: “I have found three specimens of *puncticeps* Sharp that are definitely syntypes. There is one male double mounted on the original card, and on the card is written “male a. Ins Oahu Blackburn 1877, Type D.S.”; there is an additional BM printed label “Hawaiian Islands, Blackburn”, and a BM registration number “Sharp 1905-313”. There is a female with the same data plus a small male where the card has been cut and put below the specimen; on the card it states “male b. same data”.

It is important to point out that the calligraphy on labels of the specimens mentioned by Sharon Shute, agrees very well to that figured by Horn and Kahle (1936) of a label by David Sharp.

Horn and Kahle (1936) wrote on Sharp’s collection: “Sharp, David (1840 – 1922), Lamellicorn. der I. Sammlg. an R. Oberthür (Rennes). – Cerambycid. ex parte via E. Le Moult, via P. Boppe zurück an E. Le Moult (Paris); ex parte via Janson & Sons, via J. Archad, via P. Boppe an E. Le Moult (Paris). – Spezial-Sammlg. brit. Coleopt. via Tochter an Brit. Mus. N. H., London. – Rest 1907 an Brit. Mus. N. H.,

London. – Hinterlassene Privat-Sammlg. Curculionid. der Welt ex parte an Brit. Mus. N. H., London; ex parte 1927/28 an Exper. Station. Hawaiian Sugar Planters Assoc., Honolulu”.

In spite of the statements above, Cambefort (2007) has not recorded the Boppe Collection or the Le Moulton Collection in MNHN. However, there are some specimens from the Le Moulton Collection deposited at MNHN, but usually in an indirect manner explained by Cambefort (2007).

On the Sharp Collection, Cambefort (2007) wrote: “As collection de coléoptères, très riche en exemplaires des colonies anglaises, fut dispersée. Son ami Oberthür put acquérir le “premier choix” des scarabéides, avec les nombreux types qu’ils refermaient”. That information agrees with that by Horn and Kahle (1936) about the lamellicorns of Sharp’s Collection.

Based on the personal communication of Sharon Shute and pictures of the specimens deposited at BMNH, we can only presume that the “syntypes”, deposited at IRSN, are not true types. Unfortunately, we can only suppose that the female “syntypes” deposited at IRSN and MNHN are not true types. It is important to mention that the calligraphy on the labels of the specimens deposited at IRSN does not agree with that on a Sharp’s label figured on Horn and Kahle (1936: plate XXIV, fig. 36).

The “syntype” female deposited at MNHN, although being a female of *P. puncticeps*, was glued. It is evident there is glue joining the prothorax with the remaining body. Besides, the head is not of *P. puncticeps*, and not of a female: it is a head of a male of *Komiyandra*, probably *K. javana*.

From above, we believe that the true syntypes of *Parandra puncticeps* are deposited at BMNH, but we are not designating a lectotype at this time because we are unable to absolutely prove that the specimens are really the syntypes (one or all).

**Comments.** Sharp (1900), was the first to write on the extreme variation: “This species exhibits a great deal of variation in the form and proportions of the prothorax, epistome, mandibles, etc. and there may possibly be more than one form in the islands. The material before me is not sufficient to decide as to this, owing to the development of the individual being subject to much variation; but the varieties appear to be to some extent located in different islands”.

Later, Giffard (1922b) who collected and reared some specimens at Oahu, wrote: “Although the mandibles and the lateral margins of the thorax are extremely variable in male examples from each island, there are intermediate forms which connect these extremes. This is quite noticeable both as to structure and sculpture in the eighteen reared specimens from Hawaii previously referred to. The smaller series taken “in situ” on Oahu and Kauai present the same tendencies. The representative collections of this Cerambycid have heretofore been very sparse in individual specimens, and in consequence many of the variations noticed from time to time have led some to suspect the possibility of more than the one species described. Examination and study of a series like the present one, however, tends to lessen any such suspicion unless some other important but constant character than is yet known can be found by further study of larger series from all the islands in the archipelago”.

Contrarily, Gressitt (1978) recorded: “There are 2 other lines of endemic Hawaiian Cerambycidae, but these each represent a single species (each in a different subfamily: Parandrinae and Prioninae) which have not proliferated at all. Both of these, *Parandra puncticeps* Sharp and *Megopis reflexa* (Karsch), are found on all the major islands of the chain, and individuals from the different islands do not seem to have developed any local population characteristics”.

As in some species of *Parandra*, the form of the head and of the prothorax suffers from great variation in *H. puncticeps*, as pointed out by Sharp (1900). Those variations are not related with the geographical distribution, and so, they are only specific variation, that can be confirmed through the intermediate forms between the extremes. Although this shows that Sharp (1900) was wrong on the possible existence of different forms among the Hawaiian Islands, it also shows that Gressitt (1978) omitted that possibility or, at least, did not comment on the great specific variation in the species.

Also, without commenting on anything about the shape variation, Zimmerman (1942) wrote on *Parandra puncticeps*: “On the other hand, there are genera which have not developed species complexes in the islands. *Parandra*, for example, is considered one of the most primitive genera of the Cerambycidae (longhorn beetles [*sic*]) and is world wide in distribution. It has only one endemic species in Hawaii and only one in Fiji. I see no reason for considering that the ancestors of the Hawaiian *Parandra* arrived in Hawaii at any later date than did the ancestors of the *Plagithmysus* group; yet the *Plagithmysus* group has split up into six groups called genera and no less than 95 species. I do not know why *Parandra* should

not have followed the course of *Plagithmysus* - but there is probably a good reason, hidden at the moment, which some geneticist might interpret in the future". This comment was followed by Gressitt (1971): "The 122 or more endemic cerambycids of Hawaii have evolved from only three original ancestral lines. Two of these, representing the Parandrinae and Prioninae, have only one species each, whereas the third, in the Cerambycinae, has evolved extensively, adaptively radiating so that the species were assigned to eight genera".

Curiously, nobody commented on the similar appearance of *H. puncticeps*, *Archandra caspia* and the species of *Parandra*, that share many characters that do not occur in the other genera of Parandrinae, like the paronychium with more than one setae, shape of the mandible in females, and procoxal cavities almost closed (closed in *Archandra* and *Parandra*).

Blackburn and Sharp (1885) commented on the possibility of *H. puncticeps* occurring outside of the Hawaiian Islands: "This species or a closely allied one occurs in the Philippines islands". Although we do not know any species similar to *H. puncticeps* from the Philippines, there are two possibilities to explain the specimen(s) studied by Blackburn and Sharp (1885): specimen(s) wrongly labeled; or an evident error of identification. We do not know any work in which the Philippines has been formally included as an area of occurrence of *H. puncticeps*.

### ***Malukandra*, new genus**

**Etymology.** Maluku+ *Parandra*, in reference to the Maluku Islands (also known as Moluccas or Molucca Islands), an archipelago in Indonesia, located east of Sulawesi (Celebes), west of New Guinea, and north of Timor. Feminine gender.

**Type species.** *Parandra heterostyla* Lameere, 1902.

**Description.** Dorsal area of head, between eyes, with gibbosities barely marked, separated by shallow furrow, without central depression in "V". Ocular carina elevated or barely elevated, wide or moderately wide from middle to clypeus (in females, from beginning of ocular carina). Eyes (Fig. 77) moderately wide; posterior ocular edge (Fig. 360) distinct; anterior ocular edge without concavity (limits between upper and lower lobes not marked) or with small concavity. Frontoclypeal suture visible only laterally. Central region of clypeus oblique. Clypeolabral suture visible in full extension or nearly so. Central projection of labrum of male narrow and rounded (Fig. 19) or subacute (Fig. 18); central projection in female subacute (Fig. 21). Mandibles of male sub-falciform and barely longer than head (Fig. 364) or not falciform and shorter than head (Fig. 360); dorsal carina absent or nearly so; inner margin dentate; outer face wide at base and abruptly narrowed around middle, forming a tooth (Fig. 77-79); apex with two large teeth, visible dorsally, and a third, small tooth, not visible dorsally; inner face with strong and successive transverse keels (Fig. 361). Mandibles of female (Fig. 129), dorsally, *Birandra*-like; outer face and dorsal carina as in male; inner margin dentate; dorsal face with transverse depression at base; inner face without transverse keels. Mentum with long, sparse hair, or glabrous, or nearly glabrous. Galea long (reaching or almost reaching base of fourth segment of maxillary palp). Ventral sensorial area of antennae (Fig. 218) not visible from side, and not divided by carina; ventral sensorial area of antennomere XI invading dorsal area; dorsal sensorial area of antennomere XI large, divided, or not, by carina.

Pronotum convex; anterior edge of male barely concave at central region, and in female, concave; anterior angles of male barely projected forward or not projected, and in female, clearly projected forward; lateral angle distinct, or barely distinct or absent; posterior angles well defined, obtuse or in right angle. Elytra with coarse, deep punctures or somewhat coarse and not notably deep. Veins  $MP_3$  and  $MP_4$  not fused at their apex. Apex of prosternal process barely enlarged. Femora glabrous. Dorsal face of tibiae rounded. Procoxal cavities clearly open behind. Metatarsomere III clearly bilobed. Paronychium with one seta.

**Included species.** *Malukandra heterostyla* (Lameere, 1902), **comb. nov.**; *M. jayawijayana* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *M. hornabrooki* Santos-Silva, Heffern and Matsuda, **sp. nov.**

**Geographical distribution** (Fig. 315). Indonesia (Sulawesi (?), Halmahera and Irian Jaya) and Papua New Guinea.

**Comments.** *Malukandra* differs from other genera of Parandrinae by the presence of a tooth on the outer face of mandibles in both sexes, and by the presence of transverse keels on inner face of the mandible of males.

#### Key to the males of *Malukandra*

1. Dorsal surface of head finely punctate between eyes; anterior angles of pronotum clearly projected forward. Papua New Guinea ..... ***M. hornabrooki*, sp. nov.**
- Dorsal surface of head coarsely punctate between eyes; anterior angles of pronotum slightly or not projected forward ..... **2**
- 2(1). Mandible not falciform, without distinct concavity at inner margin (Fig. 126). Indonesia (Sulawesi?, Halmahera) ..... ***M. heterostyla* (Lameere)**
- Mandible sub-falciform, with distinct concavity at inner margin (Fig. 127). Indonesia (Irian Jaya), Papua New Guinea ..... ***M. jayawijayana*, sp. nov.**

#### ***Malukandra hornabrooki* sp. nov.**

(Fig. 20, 21, 79, 128, 129, 219, 262, 317, 366-368)

*Parandra janus*; Hüdepohl 1990: 50, fig. 2.

**Etymology.** Dedicated to Dr. Richard W. Hornabrook for his contributions in medicine and entomology, and for collecting part of the type series.

**Type-material.** Holotype M (ex Hüdepohl Collection), PAPUA NEW GUINEA, *Eastern Highlands*: Kainantu District, Onerunka, X.20.1979, (ZSMC). Paratypes (5 M, 5 F), as follows: PAPUA NEW GUINEA, *Eastern Highlands*: Kainantu District, Onerunka, M, XII.24.1979, (MZSP); M, F, II.09.1980, (ZSMC); M, X.20.1979, (ZSMC); F, II.2.1980, (ZSMC); F, III.1980, (ZSMC); Okapa District, Okapa: M, VII.10.1964, R. Hornabrook coll. (CHKC); F, I.1968, R. Hornabrook coll. (MZSP); M, IX.1971, R. Hornabrook coll. (CHKC). *Morobe*: Aseki - Hokanaiwa (1600-1900m), F, II.14.1998, A. Riedel coll. (AWCO).

**Description.** Integument dark-brown; parts of head and mandibles, margins of pronotum, elytral suture and margins, and extreme apices of femora blackish.

Male (Fig. 366). Head wide; dorsal surface finely, very sparsely punctate between eyes, gradually more abundant towards occiput, and coarser towards area behind eyes; area behind eyes coarsely, abundantly punctate; area between gibbosities and ocular carina without depression; ocular carina wide and clearly elevated, not bifurcated in "Y". Eyes coarsely faceted; anterior ocular edge (Fig. 79) not emarginate. Central projection of labrum (Fig. 20) narrow and sub-acute. Submentum glabrous, depressed, coarse and sparsely punctate; margin close to mentum wide, elevated throughout extension. Mentum coarsely, abundantly punctate, with hair barely long and sparse. Mandibles (Fig. 128) sub-falciform, as long as head; inner margin with concavity at middle and one large tooth at apical third; punctures coarse and abundant; dorsal surface with transverse depression at base. Antennomere XI slightly acute at apex; dorsal sensorial area not divided by carina.

Prothorax transverse, distinctly narrower at base than apex. Pronotum very finely, sparsely punctate at central area, gradually coarser and more abundant laterally; anterior edge sub-straight; anterior angles clearly projected forward; lateral angles rounded; posterior angles distinct, in right angle. Elytra finely, abundantly punctate towards suture, and coarser laterally; elytral carina absent. Metasternum finely, sparsely punctate, and coarser and more abundantly punctate close to metepisterna. Metepisterna coarsely, abundantly punctate. Metafemur (Fig. 367) short and elongated. Metatarsus (without claws) shorter than metatibia; metatarsomere V (Fig. 262) as long as I-III together.



Female (Fig. 368). Central projection of labrum (Fig. 21) narrow and acute. Mandibles (Fig. 129) clearly shorter than head. Anterior margin of pronotum with central concavity clear. Antennae as in Fig. 219.

**Variability.** Integument brown. Males: apex of central projection of labrum rounded; mentum glabrous; mandibles not falciform; less concavity on inner margin of mandibles; antennomere XI clearly rounded at apex; anterior margin of pronotum convex; punctures of lateral of metasternum coarse or somewhat coarse, but not fine.

**Dimensions in mm (M / F).** Total length (including mandibles), 14.4-21.3/18.3-20.4; prothorax: length, 2.8-4.4/3.7-4.0; anterior width, 4.0-6.0/4.4-4.7; posterior width, 3.0-4.7/4.1-4.7; humeral width, 3.8-5.8/5.0-5.7; elytral length, 8.3-12.0/11.6-12.5.

**Comments.** The male of *Malukandra hornabrooki* differs from *M. heterostyla* by the distinct concavity of the mandibles, and by the punctures of the dorsal surface of the head and of the pronotum clearly finer. In *M. heterostyla*, the inner margin of the mandibles of the male are not concave, and the punctures of the head and pronotum are clearly coarser. Differs from *M. jayawijayana* by the punctures on the dorsal surface of the head, between the eyes, and of the elytra coarser, and by the ocular carina clearly elevated. In *M. jayawijayana*, the punctures on the dorsal surface of the head, between the eyes, are clearly coarser and the ocular carina is slightly elevated.

Hüdepohl (1990) in his study of the Cerambycidae from Philippines listed *Parandra janus* Bates, 1875 (= *Komiyandra janus*), as occurring in that country. Besides that species not occurring in the Philippines, Hüdepohl (1990) figured *M. hornabrooki* from Papua New Guinea as Bates' species. Obviously Hüdepohl (1990) believed that he possessed and figured Bates' species because the syntype female of *Parandra janus* was described from Papua New Guinea (see comments on *K. janus*). We examined the specimens from the collection of Hüdepohl.

### ***Malukandra heterostyla* (Lameere, 1902)**

(Fig. 18, 77, 126, 360-363)

*Parandra heterostyla* Lameere, 1902: 100; 1912: 116; Webb 1994: 327 (note).

*Parandra (Parandra) heterostyla*; Lameere 1913: 7 (cat.); 1919: 18; Arigony 1984: 89, 90, 95, 96, 97, 109, 111, 125, fig. 16, 60, 64, 65; Santos-Silva 2002: 32 (note).

*Birandra (Birandra) heterostyla*; Santos-Silva and Shute 2009: 32.

**Description.** Integument shining, reddish-brown; parts of dorsal surface of head and of mandibles, anterior margin of pronotum, border of scutellum, and sutural region of elytra blackish; legs brown-yellowish.

Male (Fig. 360). Head wide; dorsal surface coarsely, deeply, abundantly, but not confluent punctate; area between gibbosities and ocular carina without depression; ocular carina wide and elevated, not bifurcated in "Y" (Fig. 360); area behind eyes punctate as on dorsal surface of head. Eyes (Fig. 77) coarsely faceted; anterior ocular edge with small concavity. Central projection of labrum (Fig. 18) rounded. Submentum with some long and sparse hair close to anterior margin, coarsely, abundantly punctate; margin close to mentum narrow, elevated throughout extension. Mentum with long and sparse hair. Mandibles (Fig. 126) not falciform, barely shorter than head; inner margin with two small teeth at base (basal tooth slightly indicated), other small tooth around middle, and another moderately large close to apex; punctures coarse and abundant; dorsal surface with transverse depression at base. Antennomere XI (Fig. 363) not acute at apex, clearly rounded; dorsal sensorial area of antennomere XI divided by carina; pilosity of antennomeres long.

Prothorax transverse, clearly narrowed at basal third. Pronotum (Fig. 360) coarsely, abundantly punctate (punctures somewhat smaller towards anterior and posterior edge); anterior edge barely concave at central region; anterior angles not projected forward; lateral angles just indicated; posterior angles well marked; latero-apical two-thirds slightly rounded. Elytra coarsely, abundantly punctate (punctures finer at apical third); elytral carina indicated. Metasternum coarsely, moderately sparsely punctate close to

metepisterna, finer and sparser towards metasternal suture. Metafemur elongate. Metatarsus (without claws) shorter than metatibia.

**Variability.** Punctures of dorsal surface of head in part confluent; area behind eyes with punctures smaller and sparser than on dorsal surface of head; lateral angles of pronotum well defined; latero-apical two-thirds of pronotum sinuous.

**Dimensions in mm (M).** Total length, 15.0 mm (according to Lameere 1902). Specimen from MHHN: length, 17.3 mm; width, 4.8 mm.

**Geographical distribution.** Sulawesi (?), Moluccas Islands (Halmahera).

**Material examined.** INDONESIA. *Sulawesi* (?) (= Celebes), holotype M, [no date of collection and collector's name indicated] (SMTD). *Moluccas Islands*: Halmahera, M, 1903, J. Waterstradt coll. (MNHN).

**Type, type locality.** Holotype M, from INDONESIA [Sulawesi ?], deposited at SMTD. Lameere (1902) wrote: "Une seul exemplaire provenant de Célèbes". Subsequently, Lameere (1912) remarked about the type locality: "**Parandra heterostyla** Lameere. – M. Heller m'a fait observer que l'unique exemplaire connu de cette espèce n'a pas été trouvé à Célèbes, mais qu'il a été extrait d'un morceau de gomme copal expédié de cette île, et que par conséquent son habitat véritable est encore douteux" [English translation: M. Heller pointed out to me that the only known specimen of this species has not been found in Celebes, but it was extracted from a piece of gum copal sent from this island, and therefore its true habitat is still doubtful]. That information agrees, in part, with the information written on one of the labels of the holotype (Fig. 362): "Aus Celèbes-Copal". But there are some problems. The term copal applies to a large group of vegetal resins, and that resin was exported from several areas in Indonesia (including Sulawesi and Moluccas Islands). As seen above, according to Lameere (1912), mentioning Heller, the insect was extracted from a piece of gum copal, and not from a trunk of the tree from which the resin is extracted. However, if the insect was arrested in copal resin, it would be damaged when it was extracted from the resin, but the specimen has nearly all small parts well preserved (including hair, palp, antennae, *etc.*). Although copal resin is soluble in alcohol, it is very probable that there was damage to the specimen when the resin was removed. For the time being, it is impossible be sure if the species occurs in Sulawesi, and therefore, the type locality stays doubtful.

**Comments.** Lameere (1902) wrote on the antennae: "La careen des antennes est absente, de sorte que les 3<sup>e</sup> à 11<sup>e</sup> articles n'offrent qu'une fossette porifère, et le 11<sup>e</sup> montre à son extrémité extérieurement un espace porifère caréné ; ce 11<sup>e</sup> article est aussi large et obtus, mais ce n'est peut-être là qu'une différence individuelle" [English translation: The antennal carina is absent, so the third to eleventh articles have a single poriferous cavity, and the eleventh shows exteriorly at the extremity a poriferous space carinated; this eleventh article is broad and obtuse, but perhaps this is an individual difference]. The form of antennomere XI is not an aberration as suggested by Lameere (1902). That antennomere in the male specimen from Halmahera is identical to that of the holotype, and the male of the other species of the genus from Irian Jaya, shows that that is a generic character. The antennae of the holotype (Fig. 363) is separated from the body, and glued on a card. However, the two antennae are not of the holotype. The smaller is the true antenna of *Parandra heterostyla*, because it agrees very well with Lameere's description. Although the larger does not have antennomere XI, it is clearly from another species: the hair is shorter than Lameere (1902) recorded; and it has the pedicel, and it is possible to see that the holotype has the pedicel in both sides of the head (Fig. 360) and the larger antenna has the pedicel too.

***Malukandra jayawijayana* sp. nov.**

(Fig. 19, 78, 127, 218, 261, 330, 364-365)

**Etymology.** The name refers to the Jayawijaya region where the only known specimen has been collected.

**Type-material.** Holotype M, from INDONESIA, New Guinea Island, Irian Jaya, *Papua*: Bime (Jayawijaya Region; 1600-1900 m), IX.22.1993, A. Riedel coll. (AWCO).

**Description.** Integument shining, reddish-brown; parts of dorsal surface of head, mandibles, borders of pronotum and scutellum, and sutural region of elytra dark-brown to black.

Male (Fig. 364). Head wide; dorsal surface coarse, not confluent abundantly punctate (punctures coarser close to the eyes); area between gibbosities and ocular carina without depression; ocular carina wide and elevated, not bifurcated in “Y” (Fig. 364); area behind eyes with coarse, abundant and well punctures. Eyes coarsely faceted; anterior ocular edge without concavity (Fig. 78). Central projection of labrum (Fig. 19) rounded. Submentum glabrous, coarsely, abundantly punctate; margin close to mentum wide, elevated throughout extension. Mentum glabrous. Mandibles (Fig. 127) sub-falciform, barely longer than head; inner margin with two teeth together protracted, located at base, and another large tooth close to apex; punctures coarsely, moderately sparse. Antennomere XI not acute at apex; dorsal sensorial area of antennomere XI not divided by carina.

Prothorax transverse, clearly narrower at base than apex. Pronotum finely, moderately abundantly punctate (punctures coarser towards posterior angles); anterior edge barely concave at central region; anterior angles feebly projected forward; lateral angles slightly indicated; posterior angles well defined. Elytra coarsely, abundantly punctate (punctures just finer close to suture); elytral carina barely indicated. Metasternum coarsely, moderately sparsely punctate close to metepisterna, fine and sparse towards metasternal suture. Metafemur (Fig. 365) clearly elongated. Metatarsus (without claws) shorter than metatibia; metatarsomere V barely longer than I-III together.

**Dimensions in mm (M).** Total length (including mandibles), 13.3; prothorax: length, 2.5; anterior width, 3.2; posterior width, 2.7; humeral width, 3.2; elytral length, 7.7.

**Comments.** Male of *Malukandra jayawijayana* differs from *M. heterostyla* by the mandibles sub-falciform and longer than head. In *M. heterostyla* the mandibles are not falciform and are shorter than head.

### *Storeyandra*, new genus

**Etymology.** Dedicated to the late Dr. Ross Storey, Australian entomologist, who provided specimens for this project prior to his death. Feminine gender.

**Type-species.** *Parandra frenchi* Blackburn, 1895.

**Description.** Dorsal face of head, between eyes, with distinct gibbosities, separated by furrow deep or moderately deep, without central depression in “V”. Ocular carina not wide (mainly in females), elevated, clearly from posterior edge of eyes to clypeus. Eyes of male (Fig. 76) small and narrow (larger width equals to 0.4 or 0.5 times total length); posterior ocular edge (Fig. 355) strongly distinct; anterior ocular edge clearly emarginate. Eyes of female (Fig. 357) large and wide (larger width larger than 0.5 times total length). Frontoclypeal suture visible throughout, except at central area, where it is slightly indicated. Central region of clypeus of male vertical or strongly oblique; in female, barely oblique. Clypeolabral suture visible throughout. Central projection of labrum of male (Fig. 16) projected and truncate or rounded at apex; rounded in female (Fig. 17). Mandibles of male (Fig. 124) not falciform, at most, as long as head, wide at nearly all extension of latero-outer face (Fig. 124); dorsal carina strongly elevated, strongly oblique in relation to longitudinal axis, fused at apex just before middle to basal tooth of inner margin; inner margin with two teeth; apex with two large teeth visible dorsally; latero-outer apex without small tooth. Mandibles of female (Fig. 125) *Birandra*-like, but with apex more similar to species of *Parandra*; latero-outer face wide at base, gradually narrowed to apex; dorsal carina slightly elevated, wide, oblique and not reaching middle of mandible and inner margin; inner margin with two teeth together protracted. Mentum with long, sparse hair. Galea long; in male, reaching or almost reaching apex of second segment of maxillary palp; in female, (Fig. 202) surpassing apex of second segment of maxillary palp. Ventral sensorial area of antennae (Fig. 217) visible from side, divided by carina elevated and visible from the side;

ventral sensorial area of antennomere XI invading dorsal area; dorsal sensorial area of antennomere XI wide; apex of antennomere XI clearly narrowed.

Anterior edge of pronotum sinuous (concave at central area); anterior angles of male not projected forward, and clearly projected in female; lateral angles absent or barely indicated; posterior angles distinct. Elytral punctation fine or slightly coarse, usually, more abundant in female. Veins  $MP_3$  and  $MP_4$  of female fused at their apex. Males brachypterous (wing venation badly-formed). Metathorax strongly reduced in male (Fig. 356) and normal in female. Apex of prosternal process slightly enlarged. Femora with short hair. Dorsal face of tibiae sulcate. Procoxal cavities clearly open behind. Paronychium with one seta.

**Included species.** *Storeyandra frenchi* (Blackburn, 1895), **comb. nov.**

**Geographical distribution** (Fig. 315). Australia (Queensland, New South Wales).

**Comments.** *Storeyandra* differs from all other genera of Parandrinae, by the strong sexual dimorphism, and by the notable reduction of the metathorax of the male.

***Storeyandra frenchi* (Blackburn, 1895)**

(Fig. 16, 17, 76, 124, 125, 202, 217, 260, 321, 355-359)

*Parandra Frenchi* Blackburn, 1895: 57; Lameere 1902: 95.

*Parandra frenchi*; Lea 1919: 260 (plate XXVII, fig. 91, 92); Illidge 1924: 78; Duffy 1963: 31; Hawkeswood 1992: 208 (host); Webb 1994: 325-327 (distribution, host).

*Parandra (Parandra) Frenchi*; Lameere 1913: 6 (cat.); 1919: 17.

*Parandra (Parandra) frenchi*; Arigony 1984: 89, 90, 94, 95, 97, 98 (fig. 54, 63, 64, 65, 66); Santos-Silva 2002: 32 (note).

*Birandra (Birandra) frenchi*; Santos-Silva and Shute 2009: 32.

**Description.** Integument dark-brown; parts of head and mandibles blackish.

Male (Fig. 355). Head and prothorax together longer than elytral length. Head proportionally very wide in relation to body length; dorsal surface slightly convex; punctures on gibbosities fine and abundant, clearly coarser and confluent towards eyes and occiput; area behind eyes coarsely and confluent punctate, except on protuberances where eyes are inserted, that are finer and sparsely punctate; area between gibbosities and ocular carina barely depressed; ocular carina (Fig. 355) not bifurcated in "Y"; pilosity microscopic and sparse between eyes, very short and sparse on protuberances where eyes are inserted. Eyes as in Fig. 76. Clypeus coarsely and confluent punctate; pilosity short, moderately sparse. Central projection of labrum (Fig. 16) with short, moderately abundant hair. Submentum with transverse and wide carinae; punctures coarse, oblong, deep and confluent in central region, and clearly finer towards mentum; pilosity moderately long and sparse; margin close to mentum just elevated. Antennae (Fig. 217) reaching apical fourth of pronotum; dorsal sensorial area of antennomere XI divided by carina at its apical third. Maxillary palp as in Fig. 202.

Pronotum finely, abundantly punctate in central area, with punctures somewhat coarser and sparser laterally. Elytra with punctures sparse and barely fine on anterior two-thirds, and fine on apical third; each elytron with shallow depression, longitudinal, that begins at basal fourth and finishes just after middle of elytron. Femora (Fig. 356) short and wide. Metatarsus (without claws) (Fig. 260) shorter than metatibia; metatarsomere V shorter than I-III together.

Female (Fig. 357). Punctures and pilosity on dorsal surface of head and of clypeus as in male. Punctures of pronotum as in male. Elytral punctures fine and abundant towards the suture, and coarser laterally. Submentum coarsely and abundantly punctate; anterior margin as in males.

**Variability.** Integument brown to dark-brown; margins of pronotum blackish. Male: punctures on gibbosities of dorsal face of head rather fine and not notably abundant; labrum with short hair, moderately punctate throughout extension; submentum with transverse carinae only laterally; antennae reaching



only to middle of pronotum; sensorial dorsal area of antennomere XI not divided by carina; elytra with fine punctures throughout length, but more abundant on apical third.

**Dimensions in mm (M / F).** Total length (including mandibles), 15.0-25.3/13.5-22.4; prothorax: length, 3.7-6.2/2.8-4.7; anterior width, 4.8-8.4/3.0-4.9; posterior width, 3.6-6.0/3.0-4.8; humeral width, 4.1-6.8/3.8-6.0; elytral length, 7.2-11.7/8.5-13.8.

**Geographical distribution** (Fig. 321). Australia (Queensland, New South Wales).

**Material examined.** (11 M, 21 F), as follows: AUSTRALIA. F, 1878, Deyrolle coll. (MCGD); 2 F, [date not indicated] (IRSN). *New South Wales*: F, XII.10.1923, W. W. Froggatt coll. (AUMU); Cascade, F, [date not indicated] (AUMU); M, F, I.1934, F. E. Wilson coll. (MZSP); F, I.1934, F. E. Wilson coll. (AUMU); 4 F, I.1934, F. E. Wilson coll. (MVMA); Condong (Tweed River), M, [date not indicated], Brown coll. (MVMA); Dorrigo, M (ex. Tippmann Collection), [date not indicated] (USNM); M, [date not indicated] (AUMU); 2 M, [date not indicated], W. Heron coll. (AUMU); M, F, [date not indicated] (MVMA); M, F, [date not indicated], W. Heron coll. (MVMA); M, F, I.1931, C. Oke coll. (MVMA); Sydney, F, XI.03.1923, W. W. Froggatt coll. (AUMU); Ulong, M, [date not indicated], W. Heron coll. (MVMA). *Queensland*: Mount Bithongabel, F, XII.1963, F. T. Fricke coll. (AUMU); Mountains Bunya, F, XII.14.1937, N. Geary coll. (AUMU); F, XII.15.1937, N. Geary coll. (AUMU); 2 F, XII.21.1937, N. Geary coll. (AUMU); F, II.07.1961, D. K. McAlpine coll. (AUMU); N. Queensland, M, III.02.1905, (MVMA).

**Type, type locality.** Holotype F, from Australia, Queensland. Dr. Peter Lillywhite (Senior Collection Manager, Entomology / Arachnology Sciences Department) sent us photographs of a female (Fig. 358) identified as the holotype of *Parandra frenchi* Blackburn, 1895, deposited at MVMA. Among those photographs is one with the labels (Fig. 359). One of those labels, not handwritten, refers to locality of collection: "Endeavour River". That river is in Queensland and not in New South Wales. Blackburn (1895) wrote: "N.S. Wales; in the collection of Mr. French". Lillywhite (pers. comm.) explained: "Charles French (Sr) is quote as saying to Musgrave that he "did not take up the insects again until about 1860, when my friend, Tom Gulliver, late of Townsville, gave me a start." I may be drawing a long bow but Queensland was a part of NSW up until 1859. As Townsville is also in what is now North Queensland it is possible that French was collecting there around the time that Statehood was conferred. He would have labeled his material in his collection at the time as NSW. We received this collection in 1908, after the date of Blackburn's publishing of the species. The Queensland on the photograph may have been a later addition. Please also note that this is the only *P. frenchi* we have from the collection of C. French".

**Host plant.** According to Webb (1994): *Araucaria cunninghamii* (Araucariaceae).

**Comments.** Blackburn (1895) and Lameere (1902) never examined a male of this species. Lea (1919) was the first to describe the male and the first to figure both sexes. Arigony (1984) redescribed the species, observed the notable reduction of the metathorax, but did not comment about the fact that males are brachypterous. Arigony (1984) allocated *Storeyandra frenchi* to her "Grupo A" that also included *Parandra gabonica* and *Parandra araucariae*. That "Grupo A" included species with very different characters (two of ones transferred from other genera in this work), that shared, mainly, the dorsal face of the tibiae sulcate.

Webb (1987) and Hawkeswood (1992) recorded this species from Norfolk Island. Webb (1994) did not formally exclude *Storeyandra frenchi* from Norfolk Island (see comments on *Papuandra norfolkensis*).

### ***Papuandra*, new genus**

**Etymology.** Papua + *Parandra*, in reference to Papua New Guinea, a country occupying the eastern half of the island of New Guinea. Feminine gender.

**Type species.** *Parandra araucariae* Gressitt, 1959.

**Description.** Dorsal area of head, between eyes, in both sexes, with gibbositities well defined, separated by furrow deep or moderately shallow (sometimes variable intraspecifically), without central depression in “V”. Ocular carina elevated, narrow or wide, evident from middle to clypeus; in male, slightly bifurcated in “Y” near posterior edge of eyes or not bifurcated, and not bifurcated in female. Eyes narrow (Fig. 87) or moderately narrow (Fig. 86) in male, and somewhat or slightly wider in female; posterior ocular edge of male distinct (Fig. 390) or barely so (Fig. 387), and barely distinct in female; anterior ocular edge emarginate. Frontoclypeal suture not distinct or visible only laterally. Central region of clypeus oblique, strongly oblique, or vertical. Clypeolabral suture visible laterally or indicated by darkening of integument in area of suture. Central projection of male labrum wide or narrow, rounded or subtruncate at apex; in female narrow and rounded at apex. Mandibles of male sub-falciform (Fig. 143, 392) or distinctly not falciform (Fig. 141), approximately same length as head, wide at base of outer margin; dorsal carina wide and not notably elevated, or narrow and clearly elevated; inner margin with two teeth together protracted (completely fused or sub-fused at apex), placed at apical third, or two teeth together protracted and clearly separated at apex, placed near middle; apex with two large teeth, visible dorsally, and a third, small tooth, not visible dorsally; outer margin (Fig. 86) without tooth around middle. Mandibles of female (Fig. 142) *Birandra*-like, wide at base of outer margin; dorsal carina wide and elevated only at basal third; inner margin with two teeth together protracted, placed at middle; apex and outer margin as in male. Mentum with hair moderately long, sparse or very sparse. Galea long (Fig. 201) (surpassing the apex of second segment of maxillary palp). Ventral sensorial area of antennae (Fig. 226) visible or not from side, divided or not by carina; ventral sensorial area of antennomere XI not extending to dorsal area; dorsal sensorial area of antennomere XI small or moderately large, well defined, not divided by carina, or absent.

Pronotum clearly convex, mainly on anterior half; anterior edge of male slightly concave or slightly sinuous on central region, and sinuous in female; anterior angles of male distinctly projected or barely projected forward, and distinctly projected forward in female; lateral angles absent; posterior angles barely visible or obtuse; margins of latero-basal third slightly convergent; lateral margin of anterior half very distinct, easily visible from above. Elytral punctation variable. Veins  $MP_3$  and  $MP_4$  not fused at their apex (Fig. 210). Apex of prosternal process slightly enlarged. Femora glabrous or with hair very short and very sparse. Dorsal face of tibiae sulcate or slightly sulcate; outer face with longitudinal carina very distinct. Procoxal cavities distinctly open behind. Paronychium with one seta.

**Included species.** *Papuandra araucariae* (Gressitt, 1959), **comb. nov.**; *P. gressitti* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *P. weigeli* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *P. queenslandensis* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *P. norfolkensis* Santos-Silva, Heffern and Matsuda, **sp. nov.**; *P. rothschildi* Santos-Silva, Heffern and Matsuda, **sp. nov.**; and *P. oberthueri* Santos-Silva, Heffern and Matsuda, **sp. nov.**

**Geographical distribution** (Fig. 316). Indonesia (Irian Jaya), Papua New Guinea (New Guinea Island and Normamby Island), and Australia (Norfolk Island).

**Comments.** *Papuandra* differs from *Birandra* by the mandibles sub-falciform or distinctly not falciform (distinctly falciform in *Birandra*). Differs from *Acutandra* by the mandibles of the males not tumid at outer face, and by the dorsal face of the metatibiae longitudinally sulcate. In *Acutandra*, the mandibles of the male are tumid at outer face, and the dorsal face of the metatibiae is not sulcate. Differs from *Archandra*, *Parandra*, *Stenandra*, and *Neandra* by the procoxal cavities open behind (closed in the other four genera). Differs from *Komiyandra* by the margins of the latero-basal third of the prothorax slightly convergent, by the lateral margin of the anterior half of the pronotum very distinct and easily visible from above, by the veins  $MP_3$  and  $MP_4$  (Fig. 210) not fused at their apices, by the dorsal face of the metatibiae longitudinally sulcate, and by the distinct presence of a carina on outer face of the metatibiae. In *Komiyandra*, the margins of the latero-basal third of the prothorax are clearly convergent, the lateral margin of the anterior half of the pronotum is not distinct, and frequently, is hardly visible from above (except in *K. vivesi*), the  $MP_3$  and  $MP_4$  (Fig. 211) are fused at their apices, the dorsal face of the metatibia is not longitudinally sulcate or is slightly sulcate only on apical half, and the lateral carina of the metatibia is visible or slightly visible. Differs from *Melanesiandra* by the outer margin of the mandible wide (narrow in *Melanesiandra*). Differs from *Hawaiiandra* by the mandibles of the males not falciform and *Birandra*-like

in females, and by the apex of prosternal process slightly wide at apex. In *Hawaiiandra*, the mandibles of the males are falciform, and *Parandra*-like in females, and the apex of prosternal process is wide apically. Differs from *Caledonandra* by the dorsal carina of the mandibles of the males not strongly oblique in relation to the longitudinal axis, and by the absence of depression in “V” at dorsal face of the head between the eyes. In *Caledonandra* the dorsal carinae of the mandibles of the male are strongly oblique in relation to the longitudinal axis, and there is depression in “V” at dorsal face of the head between the eyes. Differs from *Malukandra* by the absence of a tooth at the middle of the outer face of the mandibles (present in *Malukandra*). Finally, differs from *Storeyandra* by the presence of a small tooth at apex of the outer margin of the mandibles in both sexes, and by the metathorax of the males not reduced (tooth absent and metathorax reduced in *Storeyandra*).

### Key to the species of *Papuandra*

1. Ventral sensorial area of antennomeres III-XI not divided by carina ..... 2
- Ventral sensorial area of antennomeres III-XI divided by carina ..... 3
- 2(1). Punctures of head and pronotum coarse and abundant (Fig. 395); central projection of female labrum (Fig. 5) wide. Australia (Queensland) ..... *P. queenslandensis*, sp. nov.
- Punctures of head and pronotum fine and not notably abundant (Fig. 392); central projection of female labrum (Fig. 6) narrow. Indonesia (Irian Jaya) ..... *P. weigeli*, sp. nov.
- 3(1). Pronotum slightly convex. Papua New Guinea ..... *P. oberthueri*, sp. nov.
- Pronotum distinctly convex ..... 4
- 4(3). Mandible of male sub-falciform ..... 5
- Mandible of male not falciform ..... 6
- 5(4). Teeth of inner margin of mandibles small; pronotal disc finely punctate. Papua New Guinea .... *P. gressitti*, sp. nov.
- Teeth of inner margin of mandibles large; pronotal disc more coarsely punctate. Papua New Guinea ..... *P. rothschildi*, sp. nov.
- 6(4). Dorsal carina of mandibles of male elevated including after middle; pilosity of antennae (Fig. 230) and tibiae evident and abundant in both sexes. Australia (Norfolk Island) ..... *P. norfolkensis*, sp. nov.
- Dorsal carina of mandibles of male elevated only on basal third; pilosity of antennae (Fig. 226) and tibiae not evident and less abundant. Papua New Guinea, Indonesia (Irian Jaya) ..... *P. araucariae* (Grissett)

### *Papuandra queenslandensis* sp. nov.

(Fig. 6, 90, 146, 229, 272, 318, 395, 396)

**Etymology.** The name refers to the Australian state of Queensland.

**Type-material.** Holotype F, from AUSTRALIA, *Queensland*: Tully Falls (730m; 18 km SSW Ravenshoe), I.18.1988, Storey and Dickinson coll. (QPIM). Paratypes (6 F), as follows: same data as holotype: 4 F (QPIM); F (MZSP); F (DHCO).

**Description.** Integument brown; parts of head and mandibles, margins of pronotum, and elytral suture blackish.

Female (Fig. 395). Dorsal surface of head, on gibbosities and at central region between them and occiput, moderately coarsely and abundantly punctate, gradually coarse and in part confluent laterally and behind eyes; gibbosities well marked, separated by furrow deep and wide; area between gibbosities and ocular carina just depressed, moderately finely, sparsely punctate; ocular carina clearly elevated, not

bifurcated in “Y” near posterior edge of eyes. Eyes (Fig. 90) moderately wide; posterior ocular edge distinct, but without abrupt declivity towards posterior part of head. Central area of clypeus oblique. Central projection of labrum (Fig. 6) wide and rounded at apex. Submentum barely depressed, coarsely and moderately abundantly punctate; pilosity short and very sparse; anterior margin very slightly elevated. Mandibles (Fig. 146) *Birandra*-like; dorsal carina moderately elevated and restricted to basal third. Ventral sensorial area of antennomeres III-XI (Fig. 229) not visible from side and not divided by carina; dorsal sensorial area of antennomere XI absent.

Pronotum just finely and sparsely punctate at central region, gradually coarser and more abundant laterally; posterior angles distinct and obtuse. Elytra coarsely, abundantly punctate, mainly laterally; each elytron with two carinae clear. Metasternum coarse, well marked, moderately abundantly punctate near metepisterna and shallower and sparser towards middle of disc that is flat. Metafemur (Fig. 396) short and moderately elongated; punctures moderately fine and abundant. Dorsal face of metatibiae longitudinally sulcate. Metatarsomere V (without claws) barely longer than I-III together (Fig. 272).

**Dimensions in mm (F).** Total length (including mandibles), 14.5-20.9; prothorax: length, 3.1-4.6; anterior width, 3.3-4.7; posterior width, 3.2-4.8; humeral width, 3.8-5.7; elytral length, 8.8-12.8.

**Comments.** *Papuandra queenslandensis* differs from *P. araucariae* by the: punctures of the head, the pronotum, and the elytra distinctly coarser and more abundant; central projection of labrum (Fig. 6) wide; antennomeres I-XI not divided by carina. In *P. araucariae*, the punctures of the head, and the pronotum, are finer, the central projection of the female labrum (Fig. 2) is narrow, and antennomeres III-XI are divided by carina. Differs from female of *P. weigeli* by the punctures of the head and of the pronotum clear and very abundant, and by the shape of the central projection of the labrum. In females of *P. weigeli*, the punctures of the head and pronotum are clearly finer and less perceptible, and the central projection of labrum (Fig. 5) is clearly narrower. The female of *P. gressitti* is unknown, but in males, the punctation of the head, pronotum, and elytra of that species is clearly finer and sparser, and the ventral sensorial area of antennomeres III-XI is divided by carina.

***Papuandra weigeli* sp. nov.**

(Fig. 4, 5, 88, 144, 145, 228, 271, 330, 392-394)

**Etymology.** Dedicated to our colleague, Mr. Andreas Weigel, Germany, for his fieldwork and publications on Cerambycidae.

**Type material.** Holotype M, INDONESIA, New Guinea, Irian Jaya, *Papua*: Nabire (54km S Ilaga Road, Biological Station of Pusppenssat), IX.1991, P. Hoyois coll. (AWCO). Paratypes (5 F), as follows: INDONESIA, New Guinea, Irian Jaya, *Papua*: Nabire (54km S Ilaga Road, Biological Station of Pusppenssat), 2 F, IX.1991, P. Hoyois coll. (AWCO); (50 km S Pusppenssat), F, I.1996, A. Weigel coll. (AWCO); (50 km S Flaga, Biological Station of Pusppenssat, 3°29'53"S, 135°43'83"E), F, II.24.1998, A. Weigel coll. (MZSP); (50km S Biological Station of Pusppenssat), F, V.1998, A. Weigel coll. (DHCO).

**Description.** Integument shining, chestnut; parts of head and mandibles, margins of pronotum, scutellum, and elytral suture, blackish.

Male (Fig. 392). Dorsal surface of head, on gibbosities, with punctures fine and abundant; central area, between gibbosities and occiput, with punctures sparser than on gibbosities; gibbosities separated by moderately shallow furrow; area between gibbosities and ocular carina barely depressed; ocular carina narrow, with bifurcation in “Y” indicated near posterior edge of eyes; area behind eyes just coarsely, sparsely punctate. Eyes (Fig. 88) narrow; posterior ocular edge (Fig. 392) distinct, with abrupt declivity towards posterior part of head. Central area of clypeus vertical. Central projection of labrum (Fig. 4) narrow and subrounded at apex. Submentum barely depressed, sparsely and shallowly punctate; pilosity short and sparse; anterior margin moderately narrow and elevated. Mandibles sub-falciform; inner margin with two teeth together protracted (completely fused at apex); dorsal carina narrow and clearly elevated. Ventral sensorial area of antennomeres III-XI not visible from side (Fig. 228), and not divided by carina; dorsal sensorial area of antennomere XI small.



Pronotum finely, sparsely punctate in central area, and coarser and more abundant laterally; anterior edge slightly sinuous centrally; anterior angles clearly projected forward. Elytra abundantly and coarsely punctate at basal 3/4, and finer on apical fourth; each elytron with two carinae. Metasternum and metepisterna glabrous, with punctures coarse and abundant (laterally on metasternum). Metafemur (Fig. 393) elongated. Dorsal face of metatibia clearly sulcate only on apical half. Metatarsomere V (without claws) as long as I-III together (Fig. 271).

Female (Fig. 394). Central projection of labrum (Fig. 5). Mandibles as in Fig. 145. Punctuation of head, pronotum and elytra as in males.

**Dimensions in mm (M / F).** Total length (including mandibles), 15.1/15.0-19.0; prothorax: length, 3.4/3.0-3.8; anterior width, 4.5/3.5-4.7; posterior width, 4.0/3.3-4.6; humeral width, 4.4/3.9-5.3; elytral length, 8.8/9.4-11.7.

**Comments.** *Papuandra weigeli* is similar in general appearance to *P. araucariae*. It differs by the: mandible of the males sub-falciform; sensorial area of the antennomeres III-XI not visible from the side, and not divided by carina; gibbosities of the dorsal face of the head without a protuberance in the posterior part near the longitudinal furrow. In *P. araucariae* the mandible of the males is not sub-falciform, the sensorial area of the antennomeres III-XI is visible from the side and are divided by carina, and the gibbosities of the dorsal face of the head have a projection in the posterior part near the longitudinal furrow.

***Papuandra oberthueri* sp. nov.**

(Fig. 11, 92, 147, 232, 275, 403, 404)

**Etymology.** We honor René Oberthür with the name of this species for his contributions in entomology.

**Type material.** Holotype F (ex. Collection Oberthür), from PAPUA NEW GUINEA, [no date indicated], Meek coll. (MNHN).

**Description.** Integument shining, brown; parts of head and mandibles blackish; margins of pronotum and scutellum, and elytral suture, blackish.

Female (Fig. 403). Dorsal face of head very finely, sparsely punctate; gibbosities separated by shallow and wide furrow, and with projection in posterior part near longitudinal furrow; area between gibbosities and ocular carina with narrow depression; ocular carina elevated, without bifurcation in "Y" near posterior edge of eyes; area behind eyes coarsely, sparsely punctate. Eyes (Fig. 92) moderately narrow; posterior ocular edge (Fig. 403) distinct, but without abrupt declivity towards posterior part of head. Central area of clypeus distinctly oblique. Central projection of labrum (Fig. 11) narrow and rounded at apex. Submentum slightly depressed; punctures coarse, shallow and sparse; pilosity somewhat long and sparse; anterior margin wide, elevated only laterally. Mandibles sub-triangular; inner margin with two large teeth together protracted. Dorsal carina elevated only at basal third. Ventral sensorial area of antennomeres III-XI visible from side (Fig. 232) and divided by carina; dorsal sensorial area of antennomere XI large; pilosity of antennomeres III-XI long.

Pronotum slightly convex; punctuation fine and sparse; anterior edge concave; anterior angles clearly projected forwards; lateral margins uniformly rounded, straighter between lateral and posterior angles. Elytra coarsely, abundantly punctate (finer at circum-scutellar area); each elytron with two indistinct carinae. Metasternum glabrous, coarsely and moderately sparsely punctate laterally. Metafemur (Fig. 404) short and somewhat wide. Dorsal face of metatibiae flat on apical half. Tibiae with pilosity short and sparse. Metatarsomere V (without claws) longer than I-III together (Fig. 275).

**Dimensions in mm (F).** Total length (including mandibles), 19.4; prothorax: length, 4.3; anterior width, 4.7; posterior width, 5.0; humeral width, 5.8; elytral length, 12.4.

**Comments.** *Papuandra oberthueri* is similar to *P. araucariae*, but differs by the: head less elongate behind eyes; projection in posterior part of gibbosities near longitudinal furrow, less distinct; prothorax wider; pronotum less convex. In *P. araucariae*, the female head is distinctly more elongate behind eyes,

the projection of gibbosities is very distinct, the prothorax is narrower and the pronotum is distinctly more convex. Although the female of *P. gressitti* is not known, in the female of *P. oberthueri* the pronotum is less convex and the elytra is more coarsely punctate than in males of *P. gressitti*.

*Papuandra oberthueri* was not plotted on the map because there is no detailed locality.

***Papuandra gressitti* sp. nov.**

(Fig. 3, 87, 143, 227, 270, 331, 390, 391)

**Etymology.** The name honors Dr. Jadson Linsley Gressitt, who devoted his life to entomological work in the Pacific and Oriental Regions.

**Type-material.** Holotype M, from PAPUA NEW GUINEA, *Morobe*: Yamap, V.1986, local coll. (EELE). Paratype (M), as follows: PAPUA NEW GUINEA, *East Highland*: Okapa, M, X.1999, [no collector indicated] (ZKCO).

**Description.** Integument dark-brown; almost all dorsal surface of head, mandibles, basal antennomeres, margins of pronotum, suture and elytral margins, blackish; elytra brown.

Male (Fig. 390). Dorsal surface of head, on gibbosities, with punctures barely fine and abundant, coarse and sparse at central area between gibbosities and occiput, and clearly coarser and more abundant laterally; area behind eyes moderately coarsely, abundantly punctate; gibbosities well defined, separated by furrow relatively shallow, and finely and sparsely punctate; ocular carina wide, elevated, with bifurcation in “Y”, close to posterior edge of eyes, indicated. Eyes (Fig. 87) small and narrow; posterior ocular edge (Fig. 390) distinct. Central area of clypeus oblique. Central projection of labrum (Fig. 3) wide, rounded. Submentum barely depressed; punctuation very coarse, abundant, in part confluent; pilosity short, sparse; anterior margin wide, elevated, mainly laterally. Mandibles (Fig. 143) sub-falciform; inner margin with one tooth large at apical third; dorsal carina strongly elevated. Ventral sensorial area of antennomeres III-XI divided by carina, slightly visible from side at antennomeres IX-X (Fig. 227), and more evident at antennomere XI; dorsal sensorial area of antennomere XI small, elliptical, well delimited.

Pronotum finely, sparsely punctate at central region, gradually coarser and more abundant laterally; anterior edge barely concave centrally; anterior angles very slightly projected forwards; posterior angles well defined and almost at right angles. Basal two-thirds of elytra finely, sparsely punctate near suture, gradually coarser and more abundant laterally; apical third fine and sparse (finer and more abundant close to apex). Metasternum coarsely, abundantly punctate close to metepisterna, and gradually finer and sparser towards metasternal suture. Metafemur (Fig. 391) short and moderately enlarged. Dorsal face of metatibiae flat on basal two-thirds, and sulcate on apical third. Metatarsomere V (without claws) longer than I-III together (Fig. 270).

**Variability.** Almost all dorsal surface of head dark-brown; elytra dark-brown; dorsal surface of head, on gibbosities, finely, sparsely punctate; punctuation of dorsal surface of head moderately fine and sparse at area behind gibbosities; punctuation of area behind eyes slightly concentrated; submentum coarsely, shallowly not abundantly punctate; inner margin of mandibles with two large teeth, together protracted, and almost completely fused until apex; lateral punctures of pronotum very similar to that of central region, in concentration and in form; anterior edge of pronotum not concave centrally.

**Dimensions in mm (M).** Total length (including mandibles), 20.9-23.0; prothorax: length, 4.5-5.1; anterior width, 5.7-6.3; posterior width, 5.0-5.2; humeral width, 5.5-6.2; elytral length, 11.0-12.4.

**Comments.** The male of *Papuandra gressitti* differs from *P. araucariae*, mainly by the sub-falciform mandibles (Fig. 143), while in *P. araucariae*, the mandibles are not falciform (Fig. 141). Differs from *P. weigeli* and *P. queenslandensis* by the ventral sensorial areas of antennomeres III-XI divided by carina (not divided in both species).

***Papuandra rothschildi* sp. nov.**

(Fig. 9, 10, 91, 151, 152, 231, 274, 331, 400-402)

**Etymology.** The name honors Lionel Walter Rothschild, a British zoologist and collector.**Type material.** Holotype M (ex. Collection Rothschild; ex. Collection Oberthür), PAPUA NEW GUINEA, *Morobe*: Mount Alexander to Mount Nisbet, I.1896, Anthony coll. (MNHN). Paratypes (1 M, 1 F), as follows: PAPUA NEW GUINEA, *Morobe*: F, same data as holotype (MNHN); Aseki, M, II.18.1999, native collector (KMCT).**Description.** Integument shining, brown; parts of head and mandibles, margins of pronotum and scutellum, and elytral suture, blackish.

Male (Fig. 400). Dorsal surface of head, on gibbosities, with punctures fine and somewhat abundant; central area, between gibbosities and occiput, with punctures coarser and sparser than on gibbosities; gibbosities separated by moderately deep furrow, with a punctiform depression near clypeus; area between gibbosities and ocular carina depressed; ocular carina elevated, without bifurcation in "Y" near posterior edge of eyes; area behind eyes coarsely and sparsely punctate. Eyes (Fig. 91) narrow; posterior ocular edge (Fig. 400) distinct. Central area of clypeus oblique. Central area of labrum distinctly tumid and with tuberculiform process frontally; central projection of labrum (Fig. 9) wide and rounded at apex, distinctly lowered. Submentum barely depressed, sparsely, shallowly punctate and transversely striated; pilosity very short and sparse; anterior margin moderately narrow and elevated. Mandibles (Fig. 151) sub-falciform; inner margin with two teeth together protracted; dorsal carina narrow and clearly elevated. Ventral sensorial area of antennomeres III-XI (Fig. 231) visible from side (mainly in distal antennomeres) and divided by carina.

Pronotum somewhat finely, sparsely punctate on central area, and distinctly coarser and more abundant laterally; anterior edge slightly sinuous centrally; anterior angles clearly projected forward. Elytra abundantly and coarsely punctate on basal 3/4, mainly laterally, and finer on apical fourth; each elytron with two carinae. Metasternum and metepisterna glabrous, with punctures coarse and abundant (laterally on metasternum). Metafemur (Fig. 401) short. Dorsal face of metatibia flat, more distinctly on apical half. Metatarsomere V (without claws) as long as I-III together (Fig. 274).

Female (Fig. 402). Labrum (Fig. 10) as in male, with central projection narrower. Mandibles as in Fig. 152. Punctuation of head, pronotum finer; punctuation of elytra as in male.

**Variability.** Integument brown to dark-brown.**Dimensions in mm (M / F).** Total length (including mandibles), 21.5-21.7/19.7; prothorax: length, 4.7-4.8/4.1; anterior width, 5.8-5.9/4.6; posterior width, 4.9-5.0/4.6; humeral width, 6.0-6.1/5.6; elytral length, 12.5-12.7/12.8.**Comments.** *Papuandra rothschildi* is similar in general appearance to *P. weigeli*. Mainly, it differs by the ventral sensorial area of antennomeres III-XI divided by carina (without carina in *P. weigeli*). From *P. araucariae* it differs, notably, by dorsal carina of mandibles strongly elevated (distinctly lower in *P. araucariae*).***Papuandra norfolkensis* sp. nov.**

(Fig. 7, 8, 89, 148, 149, 150, 230, 273, 341, 397-399)

*Parandra* species; Holloway 1977: 272.*Parandra frenchi*; Webb 1987: 5 (part).*Parandra araucariae*; Webb 1994: 325.*Parandra* ?*araucariae*; Smithers 1998: 19 (cat.).**Etymology.** The name refers to the Australian Norfolk Island.

**Type material.** Holotype M, from AUSTRALIA, Norfolk Island: XII.1984, M. Jowett coll. (ANIC). Paratypes (1 M, 5 F), as follows: Norfolk Island: M (in lichens), II.7.1980, R. Paton coll. (MZSP); F, III.1971, donated by residents of the island (ANIC); F (in *Araucaria* log), II.7.1980, R. Paton coll. (ANIC); F (29°02'S, 167°57'E; Burnt Pine), 1984, B. Evans coll. (ANIC); F (at light), II.5.1980, R. Paton coll. (ANIC); (Botanic Garden), F, V.1984, L. Hill ANPWS coll. (ANIC).

**Description.** Integument shining, brown; parts of head and mandibles blackish; margins of pronotum and scutellum, and elytral suture, dark-brown.

Male (Fig. 397). Dorsal face of head very finely, sparsely punctate; gibbosities separated by shallow and wide furrow, and with projection in posterior part near longitudinal furrow; area between gibbosities and ocular carina with narrow depression; ocular carina narrow, without bifurcation in "Y" near posterior edge of eyes; area behind eyes finely, sparsely punctate. Eyes (Fig. 89) moderately narrow; posterior ocular edge (Fig. 397) distinct, but without abrupt declivity towards posterior part of head. Central area of clypeus oblique. Central projection of labrum (Fig. 7) wide and truncate at apex. Submentum slightly depressed; punctures coarse, shallow and sparse; pilosity short and sparse, with some long hair at anteromedian region; anterior margin narrow, elevated throughout extension. Mandibles not falciform; inner area of left mandible (Fig. 148) larger than in right mandible (Fig. 149); inner margin with two large teeth together protracted, with the projection of teeth of left mandible wider than in right mandible. Dorsal carina notably elevated. Ventral sensorial area of antennomeres III-XI visible from side (Fig. 230) and divided by distinct carina; dorsal sensorial area of antennomere XI moderately wide; pilosity of antennomeres III-XI long and abundant (Fig. 230).

Pronotum finely, sparsely punctate at central area, and coarser and more abundantly punctate laterally; anterior edge slightly concave at central area; anterior angles clearly projected forwards. Elytra moderately coarsely, abundantly punctate (coarser and more abundant at lateral and anterior two-thirds); each elytron with two carinae visible. Metasternum glabrous, with some shallow and fine punctures laterally. Metafemur (Fig. 398) short and wide. Dorsal face of metatibiae longitudinally sulcate on apical half. Tibiae with pilosity moderately abundant. Metatarsomere V (without claws) clearly shorter than I-III together (Fig. 273).

Female (Fig. 399). Central projection of labrum (Fig. 8) narrow and rounded apically. Mandibles (Fig. 150). Punctuation of head, pronotum and elytra as in males.

**Variability.** Integument varies from medium to dark brown; pronotal margins and elytral suture blackish.

**Dimensions in mm (M / F).** Total length (including mandibles), 9.5-12.2/10.1-15.5; prothorax: length, 2.1-2.8/2.3-3.4; anterior width, 2.4-3.3/2.6-3.7; posterior width, 2.3-3.1/2.5-3.7; humeral width, 2.5-3.3/2.8-4.1; elytral length, 5.7-7.3/6.5-9.9.

**Comments.** *Papuandra norfolkensis* is very similar to *P. araucariae*, but differs by the: dorsal carina of the mandible of male more elevated throughout extension, including after the middle of the length of the mandible, where the declivity is abrupt at the base; inner face of the right mandible of male narrower and clearly different from that of the left mandible; pilosity of antennae (Fig. 230) obviously more abundant in both sexes; pilosity of tibiae more abundant in both sexes. In *P. araucariae*, the dorsal carina of the male mandible is elevated only at basal third, and clearly lower after the middle, where the declivity is less abrupt; the inner face of the right mandible of the male is very similar to that of the left mandible and is wide; the pilosity of antennae (Fig. 226) and of tibiae is obviously shorter and sparser in both sexes.

Holloway (1977) was the first to record Parandrinae from Norfolk Island: "Mrs. Jowett has also added a *Parandra* species, resembling the New Guinea *araucariae* Gressitt and New Caledonian species (Parandrinae)". Afterwards, Webb (1994), based on the identification of Arigony, recorded *Parandra araucariae* from Norfolk Island, but he was in doubt: "This lack of previous evidence of its presence on Norfolk Island, the geographical distance from its previously known distribution and the absence of *P. araucariae* and other group 1 *Parandra* (*Parandra*) (*sensu* Arigony 1984) from other islands of the New Zealand block invites some suspicion about its status on Norfolk Island. *Parandra araucariae* may have been accidentally introduced to Norfolk Island in timber (although there is no clear evidence of this).



Alternatively, it may represent a relict population of *P. araucariae* which may have been more widespread in the past (although there is no fossil evidence to support this either) or it may represent a new species closely allied to *P. araucariae*.

Webb (1994) listed only females in “material examined”, and wrote: “Further study on a larger sample (including males) is required”. However, one of the specimens examined by him is a small male and not a female: “R. Paton, 7 Feb 1980, in fungus, F, ANIC”. Probably, the specimen recorded in Webb (1987) is the same recorded in Webb (1994), respectively: “R. Paton; 1980; Norfolk Island; *Araucariae excelsa* (3); ANIC”; “R. Paton, 7 Feb 1980, in Araucaria log, F, ANIC”.

***Papuandra araucariae* (Gressitt, 1959)**

(Fig. 1, 2, 86, 141, 142, 201, 210, 226, 269, 318, 387-389)

*Parandra araucariae* Gressitt, 1959: 65, fig. 1.

*Parandra (Parandra) araucariae*; Arigony 1984: 89, 90, 94, 95, 96, 97, 98, 100, 116, fig. 27, 28, 33, 40, 49, 56, 63-66; Santos-Silva 2002: 32 (note).

**Description.** Integument shining, pale-brown; parts of head, parts of mandibles, margins of pronotum and of scutellum, and elytral suture, blackish.

Male (Fig. 387). Dorsal surface of head finely, sparsely punctate; gibbosities separated by deep furrow, and with projection in posterior part near longitudinal furrow; area between gibbosities and ocular carina with depression well defined; ocular carina narrow, without bifurcation in “Y” near posterior edge of eyes; area behind eyes more coarsely punctate than dorsal surface of head. Eyes (Fig. 86) moderately narrow; posterior ocular edge (Fig. 387) distinct, but without abrupt declivity towards posterior part of head. Central area of clypeus oblique. Labrum tumid at middle-basal area; central projection (Fig. 1) moderately wide, truncate at apex. Submentum barely depressed, sparsely, shallowly punctate; pilosity short and very sparse; anterior margin moderately narrow and elevated. Mandibles (Fig. 141) not falciform; inner margin with two teeth together protracted and distinctly separated at their apices; dorsal carina narrow and not notably elevated. Galea (Fig. 201). Ventral sensorial area of antennomeres III-XI visible from side (Fig. 226) and divided by clear carina; dorsal sensorial area of antennomere XI moderately large.

Pronotum finely, sparsely punctate at central area, and coarser and more abundantly punctate laterally; anterior edge slightly concave centrally; anterior angles clearly projected forward. Elytra abundantly, somewhat coarsely punctate, but finer and sparser towards suture on basal two-thirds, and all of apical third; each elytron with one carina visible. Wings as in Fig. 210. Metasternum glabrous, with punctures shallow, coarser laterally. Metafemur (Fig. 388) moderately elongate. Dorsal face of metatibiae longitudinally sulcate. Metatarsomere V approximately as long as I-III together (Fig. 269).

Female (Fig. 389). Central projection of labrum (Fig. 2). Mandibles as in Fig. 142. Punctuation of head, pronotum, and elytra as in males.

**Variability.** Integument brown. Males: gibbosities of dorsal surface of head separated by shallow furrow; projection of gibbosities in posterior part near longitudinal furrow, barely visible; central area of clypeus barely oblique; central projection of labrum rounded at apex; submentum not depressed; submentum flat; submentum transversely striate; anterior margin of submentum barely elevated. Female: punctuation of basal two-thirds of elytra, close to suture, and laterally.

**Dimensions in mm (M / F).** Total length (including mandibles), 13.0-16.0/15.1-18.2; prothorax: length, 2.9-3.3/3.2-4.0; anterior width, 3.3-4.0/3.6-4.4; posterior width, 2.6-3.5/3.6-4.2; humeral width, 3.2-4.1/4.0-5.0; elytral length, 7.5-9.0/9.0-11.1.

**Geographical distribution** (Fig. 318). Papua New Guinea (New Guinea, Normamby Island), and Indonesia (Irian Jaya).

**Material examined.** (15 M, 7 F), as follows: PAPUA NEW GUINEA. *Morobe*: Bulolo M, 1964, (UNCO); F, II.1974, J. Sedlacek coll. (EVCO); F, (in dead trunk of *Araucaria cunninghamii*), 12.II.1974, J. Sedlacek

coll. (EVCO); M, XII.24-29.1994, K. Hiramatsu coll. (NOCO); M, XII.25.1994, M. Takagi coll. (NOCO); (800m), F, I.15-II.14.1979, J. Sedlacek coll. (IRSN); (700m), F, I.16.1970, (JCCO); M, [date not indicated], J. Sedlacek coll. (MZSP); (1020m), paratype M, VIII.24.1956, E. J. Ford Jr. coll. (BPBM); M, XII.12.1971, J. Sedlacek coll. (DHCO); M, III.5.1972, J. Sedlacek coll. (DHCO); Wau (Wau Ecology Institut; 1200m), 3 M, 1 F, II.15-18.2000, A. Weigel coll. (AWCO); F, II.15-18.2000, A. Weigel coll. (MZSP); (1200m), M, VIII.30.1971, (CHKC). *Madang*: Wum (Upper Jimmi Valley; 840m), paratype M, VII.17.1955, J. L. Gressitt coll. (BPBM). *Eastern Highlands*: Okapa - Okasa, M, F, XII.18.1964, R. Hornabrook coll. (CHKC). *INDONESIA*, New Guinea, Irian Jaya, *Papua*: Epomani-Ugida, km 179 (Paniai region; 1350-1400m), 2 M, I.19-20.1996, A. Riedel coll. (ZSMC).

**Type, type locality.** According to Gressitt (1959) the holotype male is from Western Highlands (Wum), deposited at BPBM, and there are twenty-eight (28) paratypes, deposited at BMNH, USNM, CASC, BPBM, CSIR, RMNH, MZBI, CNHM, and DASF. Gressitt (1959) recorded that the holotype and some paratypes from Wum collected July 16, 1955 by him, and some from Bulolo collected August 22-23, 1956 by him are deposited at BPBM. We examined two paratypes males from Wum and Bulolo, deposited at BPBM, that don't agree with that data (see "Material examined").

**Comments.** *Papuandra araucariae* is the only species in this genus with the mandibles of the male and female similar. It was common to find specimens from New Guinea in many collections misidentified as *P. araucariae*. See comments on *P. norfolkensis*, from Norfolk Island.

### ***Stenandra* Lameere, 1912**

*Parandra* (*Stenandra*) Lameere, 1912: 114; 1913: 7 (cat.); 1919: 18; Gilmour 1956: 8.

*Stenandra*; Quentin and Villiers 1972: 208 (*new status*); 1975: 20; Santos-Silva 2002: 30 (key).

**Type species.** *Parandra kolbei* Lameere, 1903 (monotypy).

**Description.** Dorsal face of head, mandibles, genae, pronotum, elytra (mainly at apical third), pro-, meso- and metasternum, and femora with short hair, relatively abundant.

Dorsal face of head convex, without gibbositities between eyes. Ocular carina absent; antennal tubercles large, placed almost dorsally on head, with their bases surpassing apex of eyes. Clypeus moderately long, oblique, clearly separated from front by suture. Labrum wide, short, concave; central projection narrow and sub-acute. Mandibles very similar in both sexes; as long as head in males, and as long as or shorter than head in females; triangular, with apex clearly curved inside; in males, separated at inner base; in females with inner base separated or not; outer face (Fig. 93) narrow at base, and with small tooth close to apex; dorsal carina with its limits not evident by inclination and width of inner face (absence of abrupt declivity between top of carina and beginning of inner face); inner margin with a strong concavity close to basal tooth of apex, and without evident teeth between that concavity and base. Eyes (Fig. 93) wide at ventral ocular lobes, and narrow at dorsal ocular lobes, emarginate; ocular posterior edge distinct. Mentum with hair very sparse. Galea extremely short, not reaching the base of first segment of maxillary palp. Antennae (Fig. 215) surpassing base of elytra; ventral sensorial area of antennomeres III-XI visible from side, divided by strong carina; dorsal sensorial area of antennomere XI large, deep, well delimited.

Pronotum convex; anterior edge slightly sinuous; anterior angles slightly projected forward; lateral angles absent; posterior angles distinct, almost in right angle. Elytra strongly punctate. Apex of prosternal process enlarged. Procoxal cavities closed behind (sometimes, slightly open). Paronychium absent.

**Included species.** *Stenandra kolbei* (Lameere, 1903); *S. vadoni* Quentin and Villiers, 1972.

**Geographical distribution.** Tropical Africa, Madagascar, and Vietnam (Fig. 315).

**Comments.** The general appearance of *Stenandra* easily separates it from other genera of Parandriini, notably by the pilosity of the elytra and the form of the mandibles.

***Stenandra kolbei* (Lameere, 1903)**

(Fig. 29, 93, 122, 215, 258, 322, 354)

*Parandra kolbei* Lameere, 1903: 6.*Parandra (Stenandra) Kolbei*; Lameere 1912: 116; 1913: 7 (cat.); 1919: 18; Gilmour 1956: 8.*Parandra (Stenandra) kolbei*; Quentin and Villiers 1972: 208 (key).*Stenandra kolbei*; Villiers 1966: 1220; Jenis 2008: 121.

**Description.** Integument dark-brown; parts of mandibles, margins of pronotum, and elytral suture. blackish; apical third or fourth of elytra darker.

Dorsal face of head (Fig. 354) coarse and somewhat sparsely punctate centrally, gradually coarser, more abundant and confluent laterally; area behind eyes coarsely, confluent punctate. Clypeus coarsely, abundantly punctate. Labrum (Fig. 29) smooth, glabrous laterally, and somewhat coarsely punctate and with short hair centrally, mainly near central projection. Superior ocular (Fig. 93) lobe not notably separated from base of antenna. Submentum with piliferous punctures; anterior edge slightly elevated throughout extension. Mandibles as in Fig. 122. Antennae as in Fig. 215.

Dorsal surface of tibiae rounded. Metatarsomere V (without claws) longer than I-III together (Fig. 258).

**Dimensions in mm (F).** Total length (including mandibles), 17.4; prothorax: length, 3.2; anterior width, 3.5; posterior width, 3.2; humeral width, 4.4; elytral length, 9.8. Dimensions according to Lameere (1912): “Long de 17 millimètres”.

**Geographical distribution.** Tropical Africa and Vietnam (Fig. 322).

**Material examined.** VIETNAM, *Vinh Phuc*: Tam Dao National Park, F, VII.14-27.1992, N. Katsura coll. (ZKCO).

**Types, type locality.** Lameere (1912) described the species based on a pair: “Semio (pays de Niam-Niam), um mâle du Musée de Berlin: Camerum (Jardim botanique de Victoria), une femelle du Musée de Hambourg”.

**Comments.** As seen above, *Stenandra kolbei* was originally described from Central Africa, but Ziro Komiya (personal communication), confirmed that the specimen studied by us was collected in Vietnam. We do not know if the species was introduced in Asia. However, in the last few decades, Vietnam has imported great numbers of exotic trees for tree farms, besides a great amount of wood importation for manufacture.

According to the Embassy of Denmark, Hanoi (<http://www.ambhanoi.um.dk>): “Around 70-80% of the raw material used in the woodworking and furniture industry are imported. Vietnam has scarce resources of forest areas with timber for manufacturing use”, and “The lumber from Vietnam today is of rather low quality which forces the manufacturers to import their raw materials. Most of these are from the neighboring countries Laos, Cambodia, Malaysia and Indonesian, but also largely from the US, Southern America, New Zealand and other places. The imported woods are oak, pine, eucalypts, and peach among others”.

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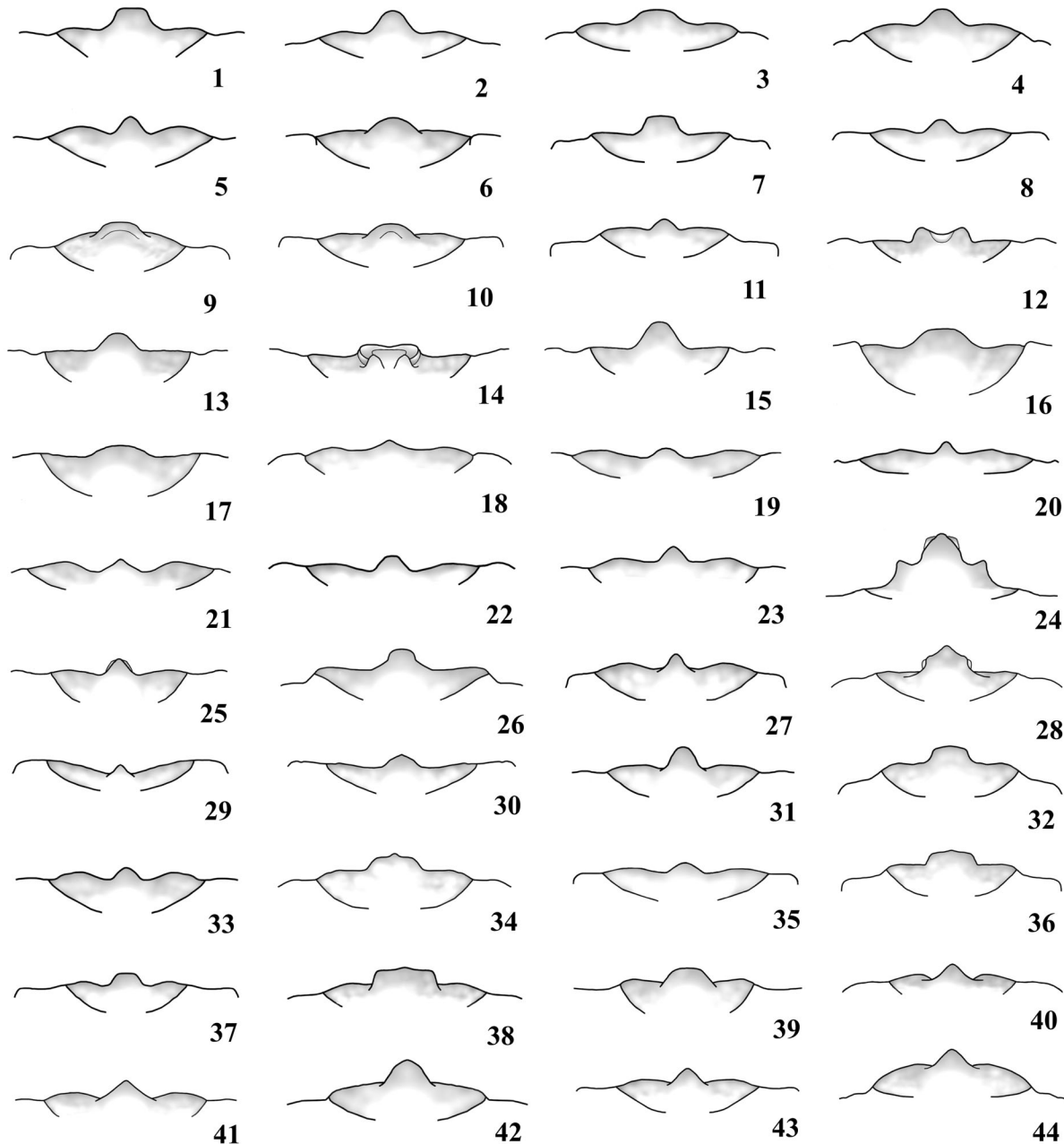
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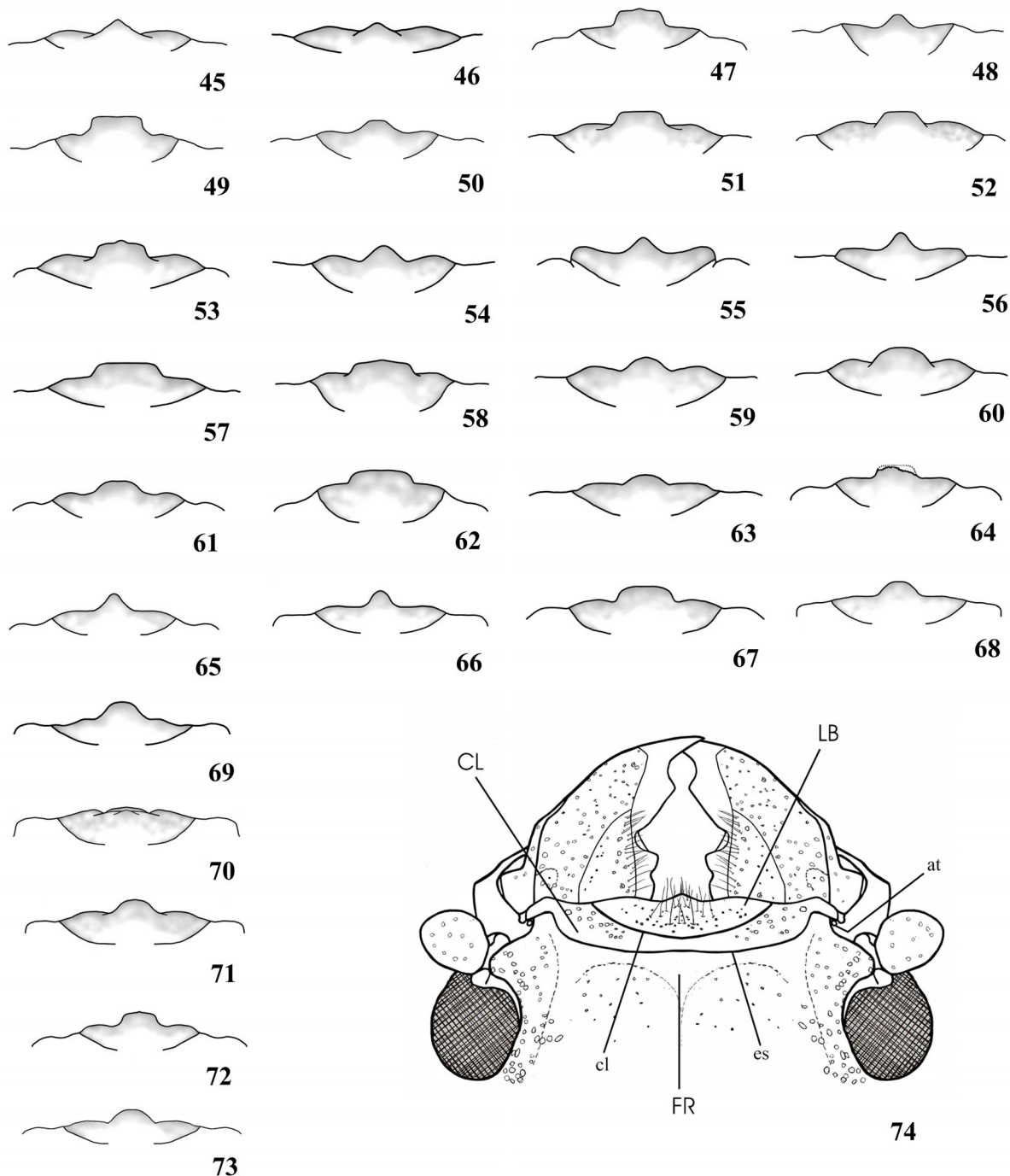
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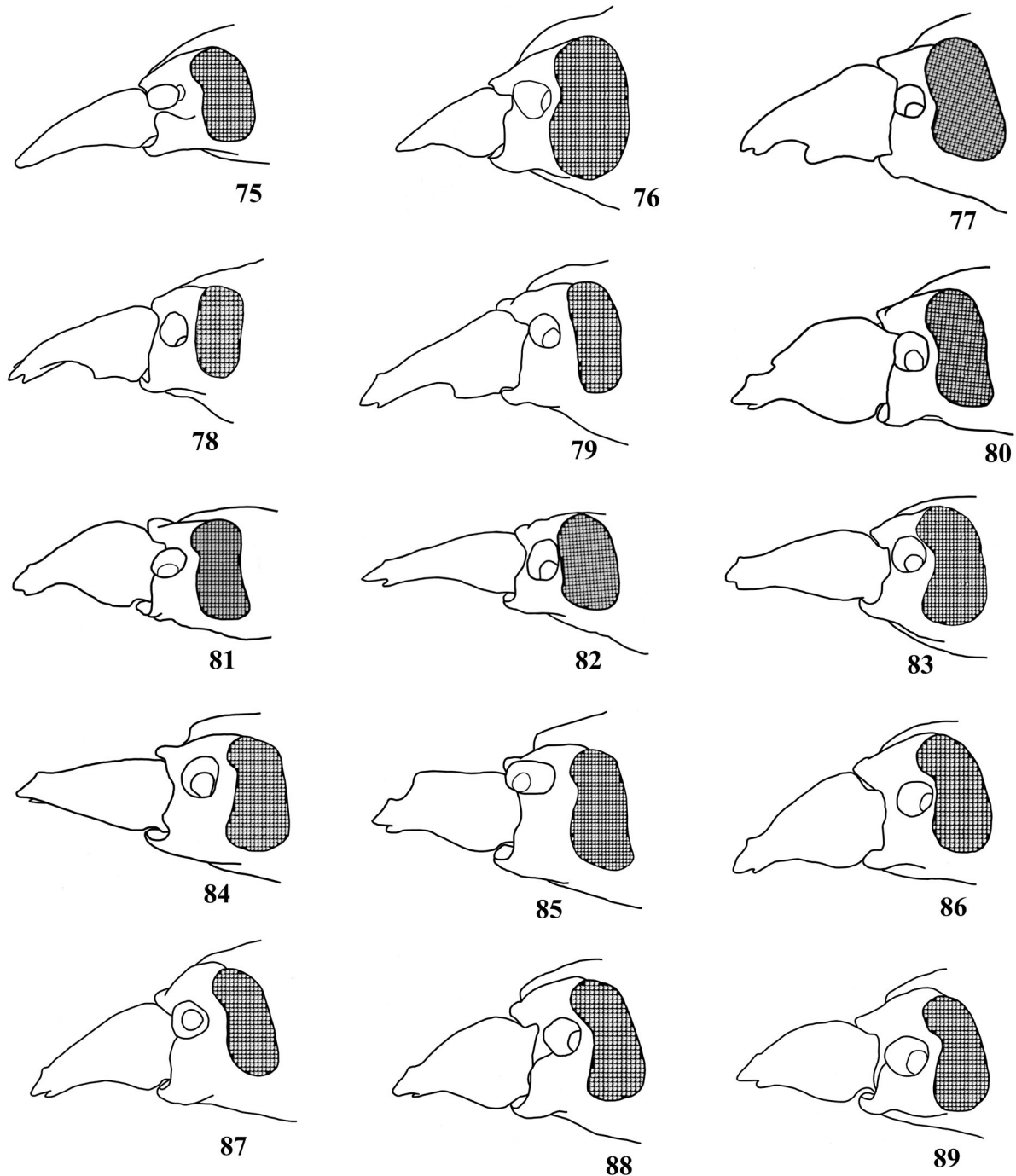




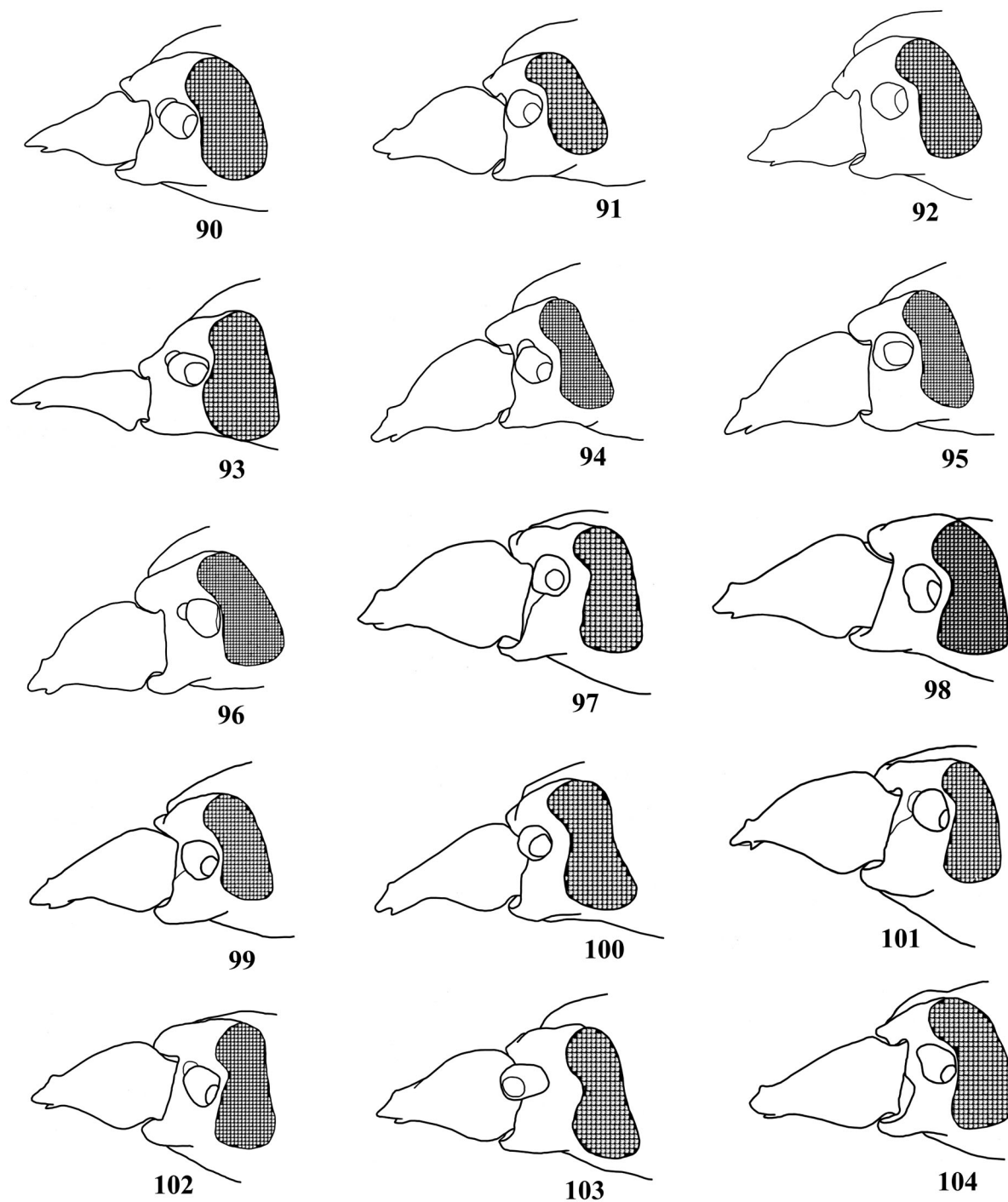
**Figure 1-44.** Labrum. 1) *Papuandra araucariae*, male. 2) *P. araucariae*, female. 3) *P. gressitti*, holotype male. 4) *P. weigeli*, holotype male. 5) *P. weigeli*, paratype female. 6) *P. queenslandensis*, holotype female. 7) *P. norfolkensis*, holotype male. 8) *P. norfolkensis*, paratype female. 9) *P. rothschildi*, holotype male. 10) *P. rothschildi*, paratype female. 11) *P. oberthueri*, holotype female. 12) *Caledonandra austrocaledonica*, male. 13) *C. austrocaledonica*, female. 14) *C. passandroides*, male. 15) *C. passandroides*, female. 16) *Storeyandra frenchi*, male. 17) *S. frenchi*, female. 18) *Malukandra heterostyla*, holotype male. 19) *M. jayawijayana*, holotype male. 20) *M. hornabrooki*, holotype male. 21) *M. hornabrooki*, paratype female. 22) *Melanesiandra striatifrons*, male. 23) *M. striatifrons*, holotype female of *Parandra vitiensis*. 24) *M. solomonensis*, male. 25) *M. solomonensis*, female. 26) *M. bougainvillensis*, holotype male. 27) *M. bougainvillensis*, paratype female. 28) *M. birai*, holotype male. 29) *Stenandra kolbei*, female. 30) *Hawaiiandra puncticeps*, male. 31) *Komiyandra janus*, female. 32) *K. shibatai*, male. 33) *K. shibatai*, female. 34) *K. formosana*, male. 35) *K. formosana*, female. 36) *K. lanyuana*, male. 37) *K. lanyuana*, female. 38) *K. javana*, holotype male. 39) *K. javana*, paratype female. 40) *K. nayani*, paratype male. 41) *K. nayani*, paratype female. 42) *K. ohbayashii*, holotype male. 43) *K. ohbayashii*, paratype female. 44) *K. vivesi*, holotype male.



**Figure 45-74.** 45-73) Labrum. 45) *Komiyandra luzonica*, holotype male. 46) *K. luzonica* paratype female. 47) *K. philippinensis*, paratype male. 48) *K. philippinensis*, paratype female. 49) *K. mindanao*, holotype male. 50) *K. mindanao*, paratype female. 51) *K. mehli*, holotype male. 52) *K. mehli*, paratype female. 53) *K. lombokia*, holotype male. 54) *K. lombokia*, paratype female. 55) *K. sulawesiana*, holotype male. 56) *K. sulawesiana*, paratype female. 57) *K. irianjayana*, holotype male. 58) *K. menieri*, paratype male. 59) *K. menieri*, paralectotype female of *P. janus*. 60) *K. sangihe*, holotype male. 61) *K. mindoro*, holotype male. 62) *K. niisatoi*, holotype male. 63) *K. niisatoi*, paratype female. 64) *K. drumonti*, holotype male. 65) *K. cabigasi*, paratype male. 66) *K. cabigasi*, paratype female. 67) *K. koni*, paratype male. 68) *K. koni*, paratype female. 69) *K. johkii*, holotype male. 70) *K. poggii*, holotype male. 71) *K. poggii*, paratype female. 72) *K. uenoi*, paratype male. 73) *K. uenoi*, paratype female. 74) *Hawaiiandra puncticeps*, head dorsal view, female (CL, clypeus; LB, labrum; FR, frons; at, anterior tentorial pit; cl, clypeolabral suture; es, epistomal suture).

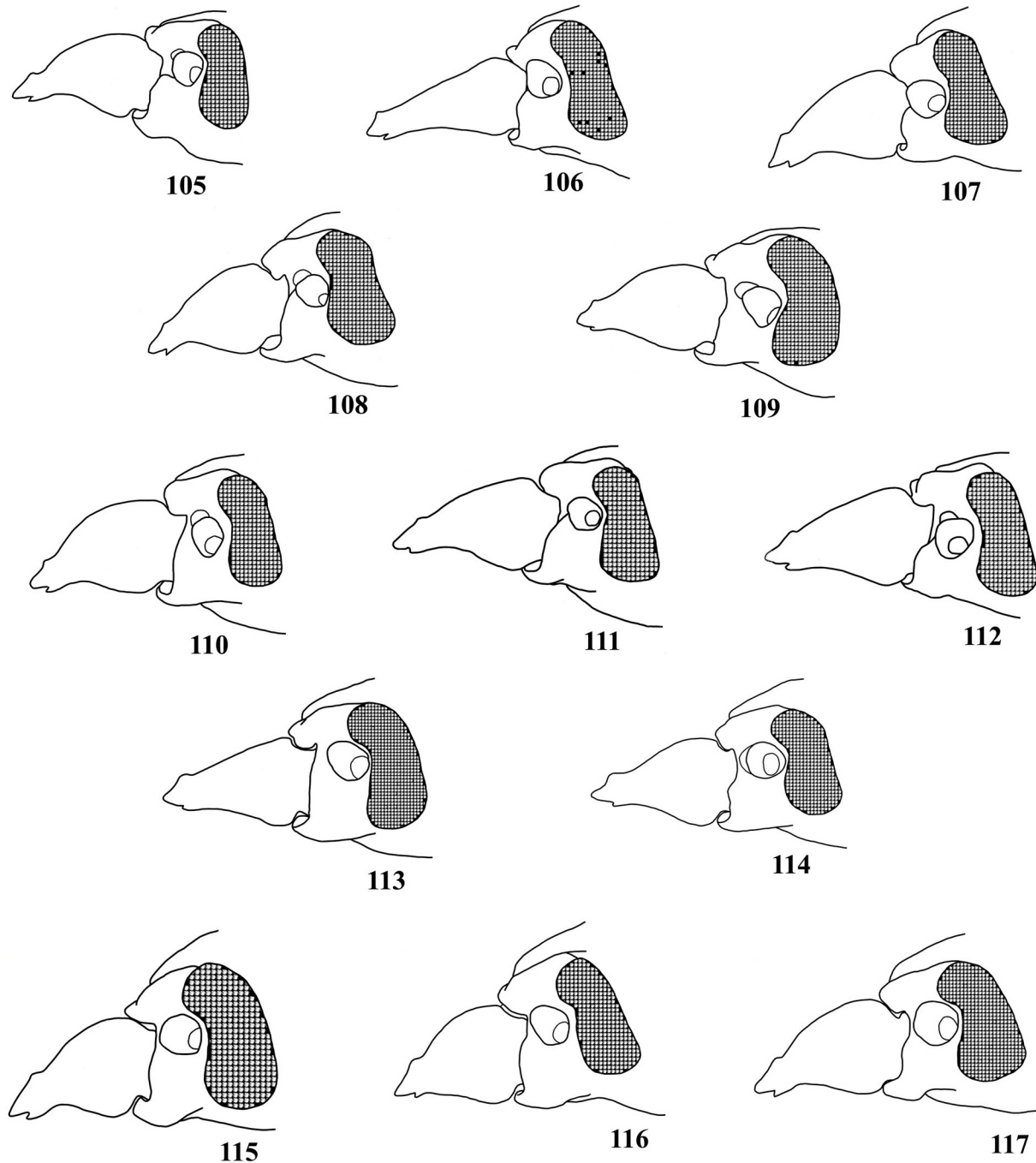


**Figure 75-89.** Head, lateral view, male. **75)** *Hawaiiandra puncticeps*. **76)** *Storeyandra frenchi*. **77)** *Malukandra heterostyla*. **78)** *M. jayawijayana*, holotype. **79)** *M. hornabrooki*, holotype. **80)** *Caledonandra austrocaledonica*. **81)** *C. passandroides*. **82)** *Melanesiandra striatifrons*. **83)** *M. solomonensis*, paratype. **84)** *M. bougainvillensis*, holotype. **85)** *M. birai*, holotype. **86)** *Papuandra araucariae*. **87)** *P. gressitti*, holotype. **88)** *P. weigeli*, holotype. **89)** *P. norfolkensis*, holotype.

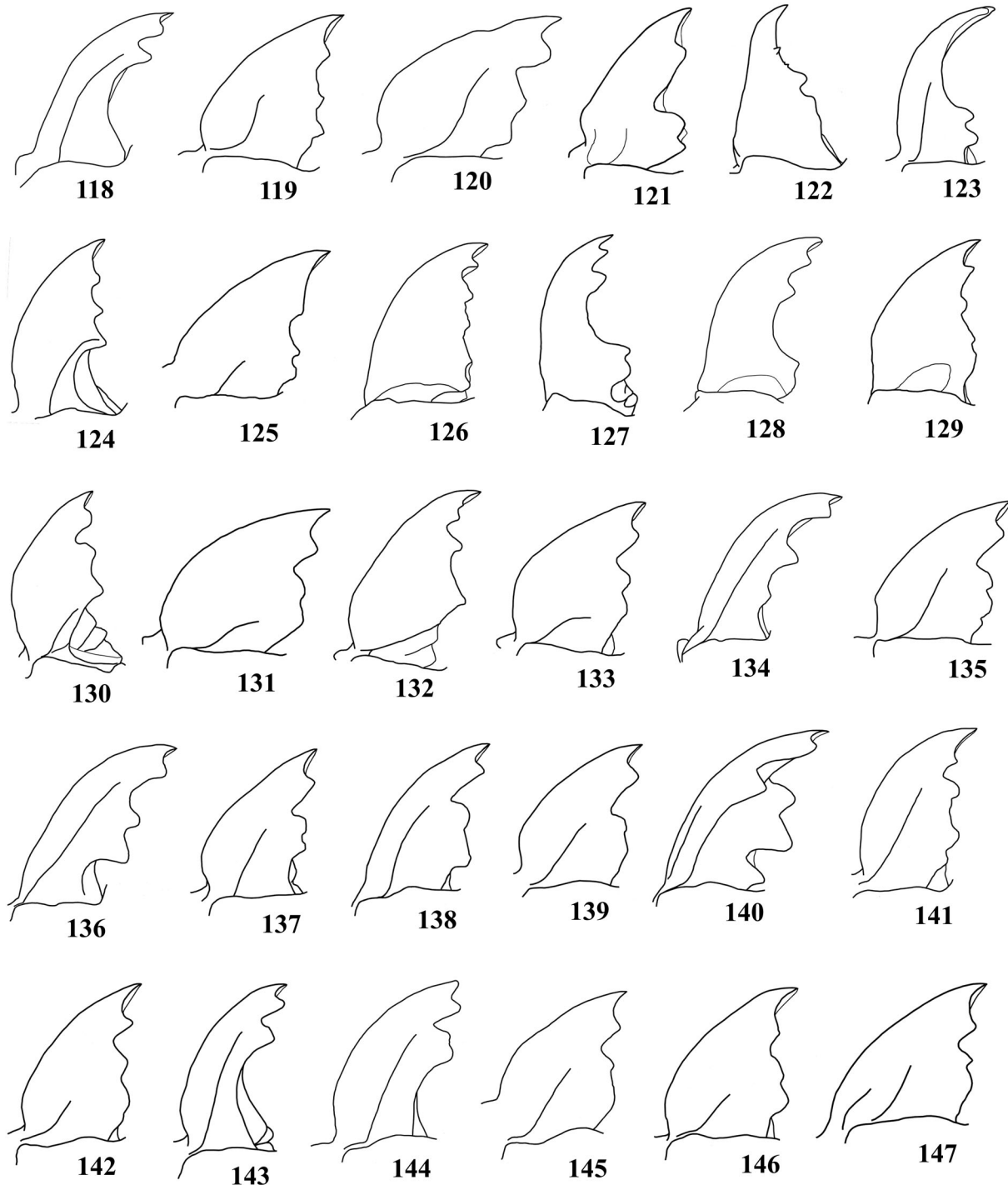


**Figure 90-104.** Head, lateral view. **90)** *Papuandra queenslandensis*, holotype female. **91)** *P. rothschildi*, holotype male. **92)** *P. oberthueri*, holotype female. **93)** *Stenandra kolbei*, female. **94)** *Komiyandra shibatai*, male. **95)** *K. formosana*, male. **96)** *K. lanyuana*, male. **97)** *K. javana*, holotype male. **98)** *K. nayani*, paratype male. **99)** *K. ohbayashii*, holotype male. **100)** *K. luzonica*, paratype male. **101)** *K. philippinensis*, paratype male. **102)** *K. mindanao*, holotype male. **103)** *K. mehli*, paratype male. **104)** *K. vivesi*, holotype male.

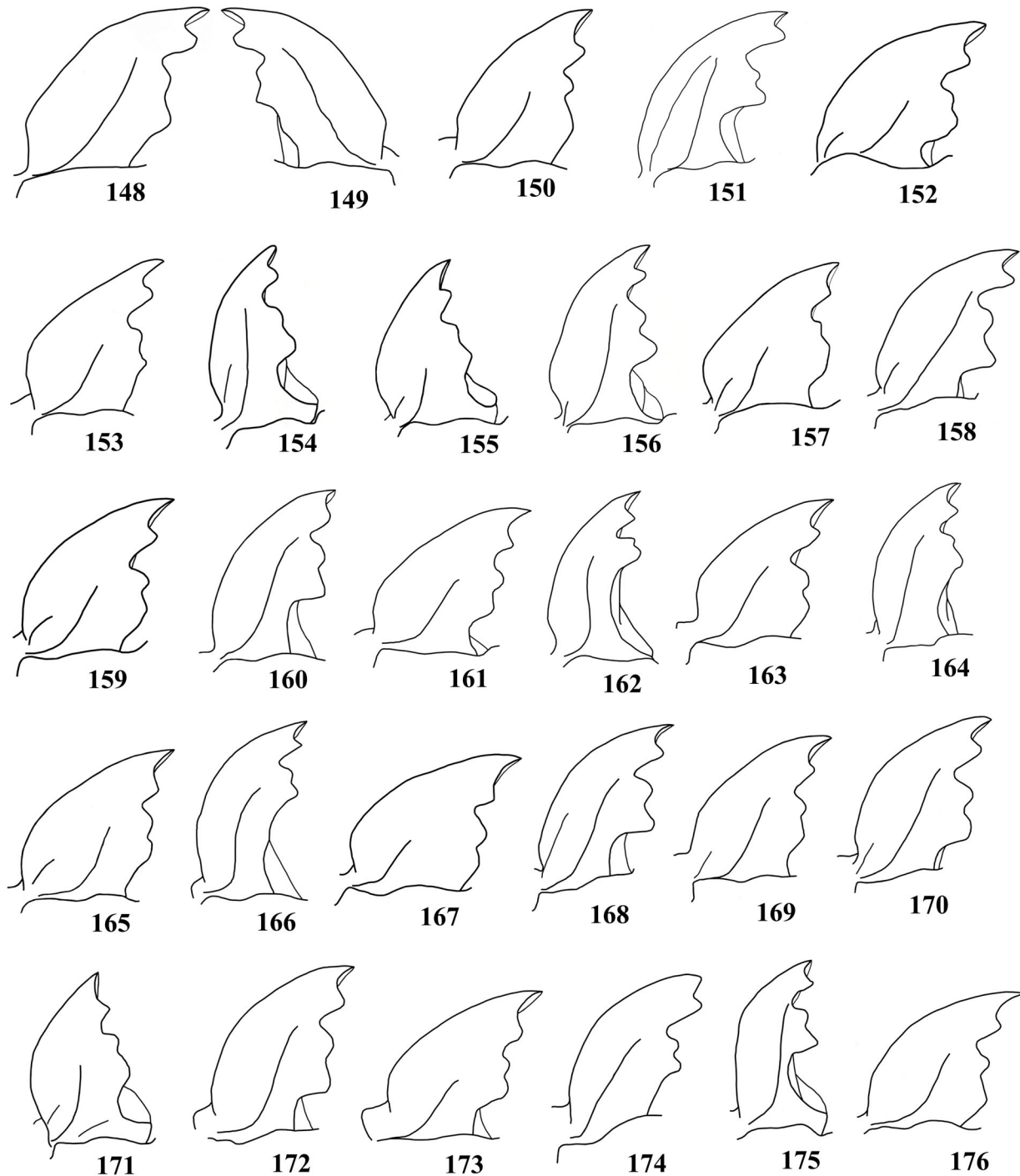




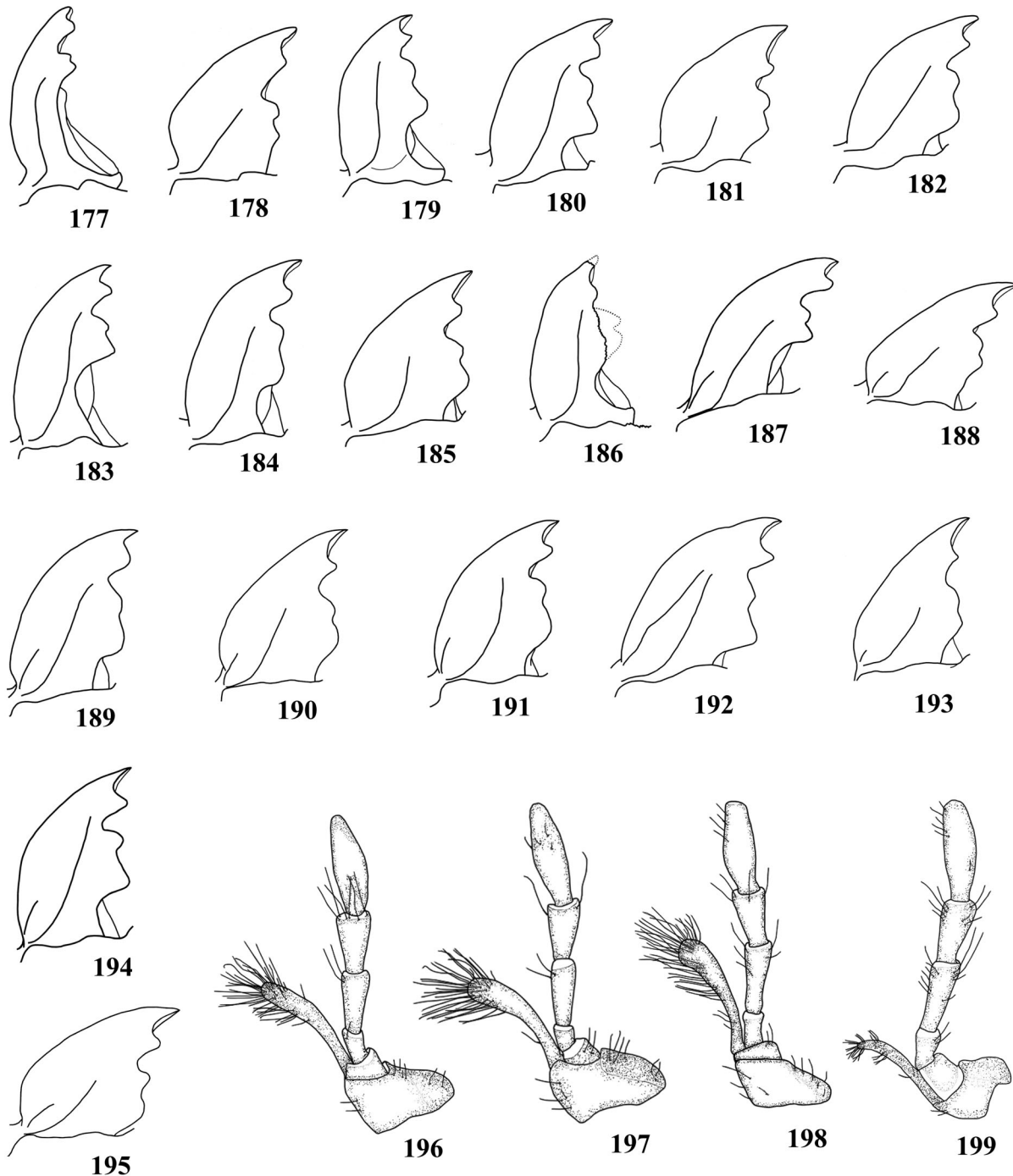
**Figure 105-117.** Head, lateral view. **105)** *K. lombokia*, paratype male. **106)** *K. sulawesiana*, holotype male. **107)** *K. irianjayana*, holotype male. **108)** *K. menieri*, paratype male. **109)** *K. sangihe*, paratype male. **110)** *K. mindoro*, holotype male. **111)** *K. niisatoi*, paratype male. **112)** *K. drumonti*, holotype male. **113)** *K. cabigasi*, paratype male. **114)** *K. koni*, paratype male. **115)** *K. johkii*, holotype male. **116)** *K. poggii*, holotype male. **117)** *K. uenoi*, paratype male.



**Figure 118-147.** Mandibles, dorsal view. **118)** *Birandra (Yvesandra) angulicollis*, male. **119)** *B. (Y.) angulicollis*, female. **120)** *Acutandra araucana*, male. **121)** *Parandra (Parandra) glabra*, female. **122)** *Stenandra kolbei*, female. **123)** *Hawaiiandra puncticeps*, male. **124)** *Storeyandra frenchi*, male. **125)** *S. frenchi*, female. **126)** *Malukandra heterostyla*, holotype male. **127)** *M. jayawijayana*, holotype male. **128)** *M. hornabrooki*, holotype male. **129)** *M. hornabrooki*, paratype female. **130)** *Caledonandra austrocaledonica*, male. **131)** *C. austrocaledonica*, female. **132)** *C. passandroides*, male. **133)** *C. passandroides*, female. **134)** *Melanesiandra striatifrons*, male. **135)** *M. striatifrons*, female. **136)** *M. solomonensis*, male. **137)** *M. solomonensis*, female. **138)** *M. bougainvillensis*, holotype male. **139)** *M. bougainvillensis*, paratype female. **140)** *M. birai*, holotype male. **141)** *Papuandra araucariae*, paratype male. **142)** *P. araucariae*, female. **143)** *P. gressitti*, holotype male. **144)** *P. weigeli*, holotype male. **145)** *P. weigeli*, paratype female. **146)** *P. queenslandensis*, holotype male. **147)** *P. oberthueri*, holotype female.

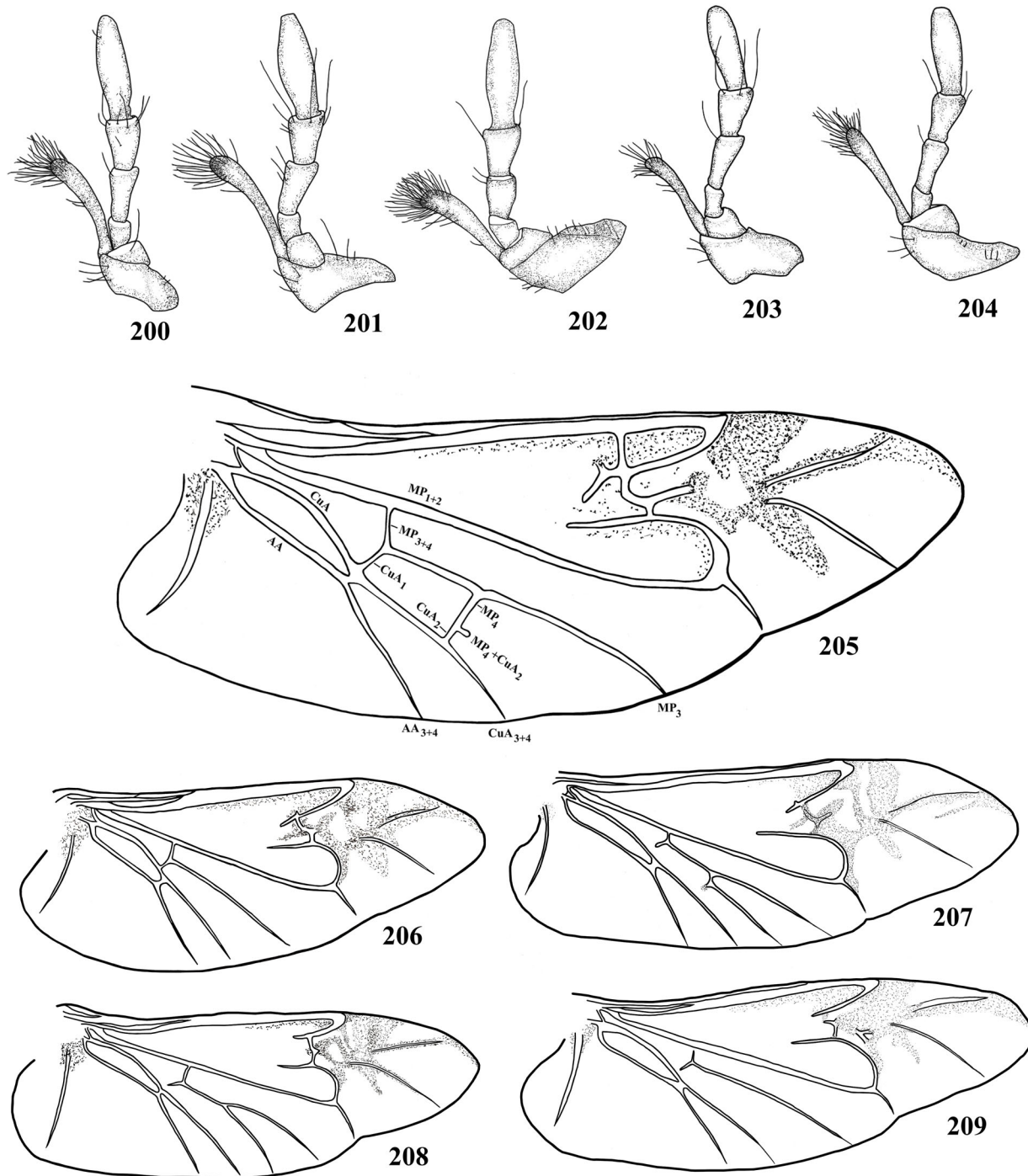


**Figure 148-176.** Mandibles, dorsal view. 148) *Papuandra norfolkensis*, holotype male (left mandible). 149) *P. norfolkensis*, holotype male (right mandible). 150) *P. norfolkensis*, paratype female. 151) *P. rothschildi*, holotype male. 152) *P. rothschildi*, paratype female. 153) *Komiyandra janus*, female. 154) *K. shibatai*, male. 155) *K. shibatai*, female. 156) *K. formosana*, male. 157) *K. formosana*, female. 158) *K. lanyuana*, male. 159) *K. lanyuana* female. 160) *K. javana*, holotype male. 161) *K. javana*, paratype female. 162) *K. nayani*, paratype male. 163) *K. nayani*, paratype female. 164) *K. ohbayashii*, holotype male. 165) *K. ohbayashii*, paratype female. 166) *K. luzonica*, holotype male. 167) *K. luzonica*, paratype female. 168) *K. philippinensis*, holotype male. 169) *K. philippinensis*, paratype female. 170) *K. mindanao*, holotype male. 171) *K. mindanao*, paratype female. 172) *K. mehli*, holotype male. 173) *K. mehli*, paratype female. 174) *K. vivesi*, holotype male. 175) *K. lombokia*, holotype male. 176) *K. lombokia*, paratype female.

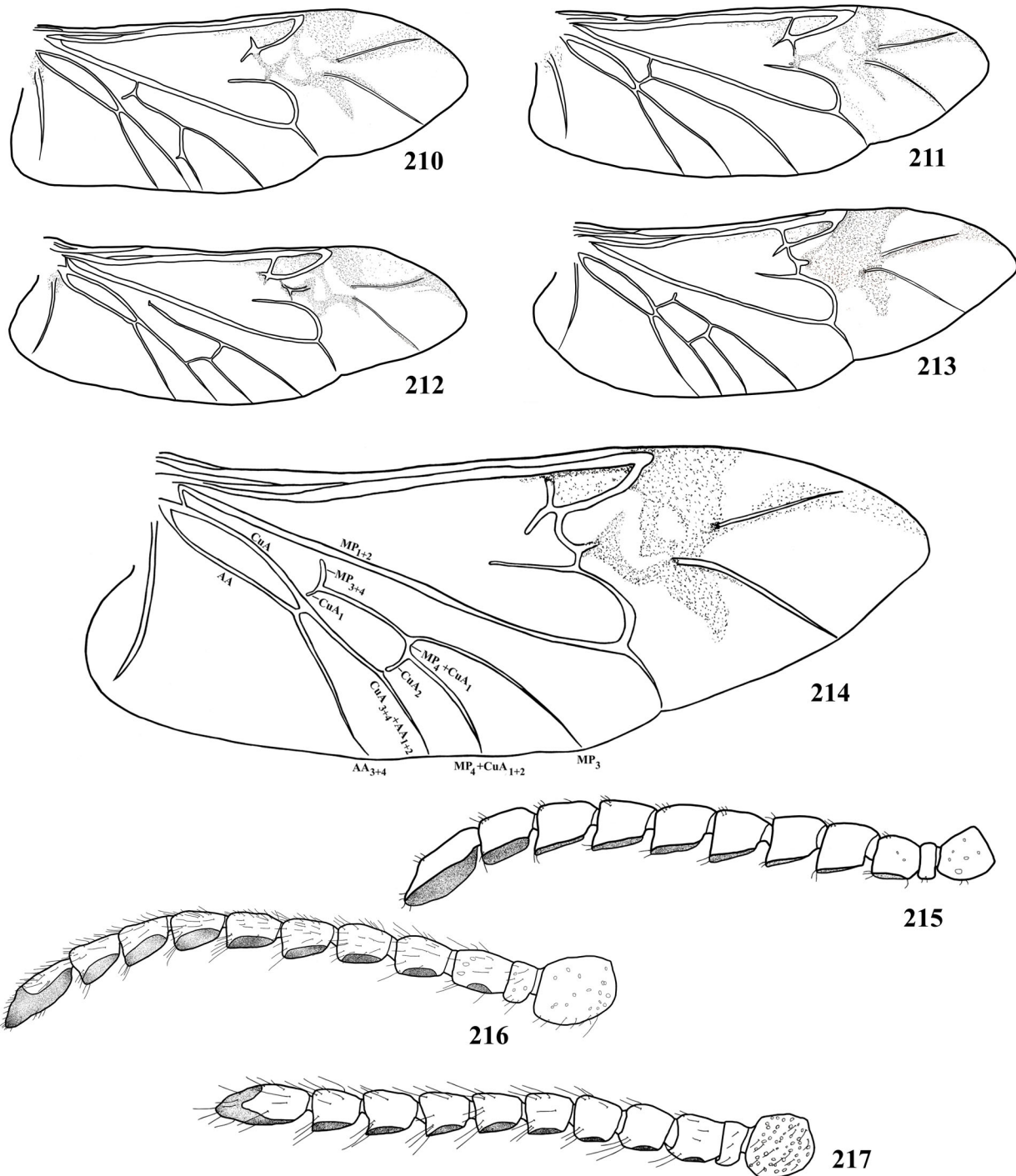


**Figure 177-199.** 177-195) Mandibles, dorsal view. 177) *Komiyandra sulawesiana*, holotype male. 178) *K. sulawesiana*, paratype female. 179) *K. irianjayana*, holotype male. 180) *K. menieri*, paratype male. 181) *K. menieri*, paratype female (paralectotype of *Parandra janus*). 182) *K. sangihe*, paratype male. 183) *K. mindoro*, holotype male. 184) *K. niisatoi*, holotype male. 185) *K. niisatoi*, paratype female. 186) *K. drumonti*, holotype male. 187) *K. cabigasi*, paratype male. 188) *K. cabigasi*, paratype female. 189) *K. koni*, paratype male. 190) *K. koni*, paratype female. 191) *K. johkii*, holotype male. 192) *K. poggii*, holotype male. 193) *K. poggii*, paratype female. 194) *K. uenoi*, paratype male. 195) *K. uenoi*, paratype female. 196-199) Maxillary palp. 196) *Komiyandra javana*, paratype male. 197) *Caledonandra austrocaledonica*, male. 198) *C. passandroides*, male. 199) *Hawaiiandra puncticeps*, male.

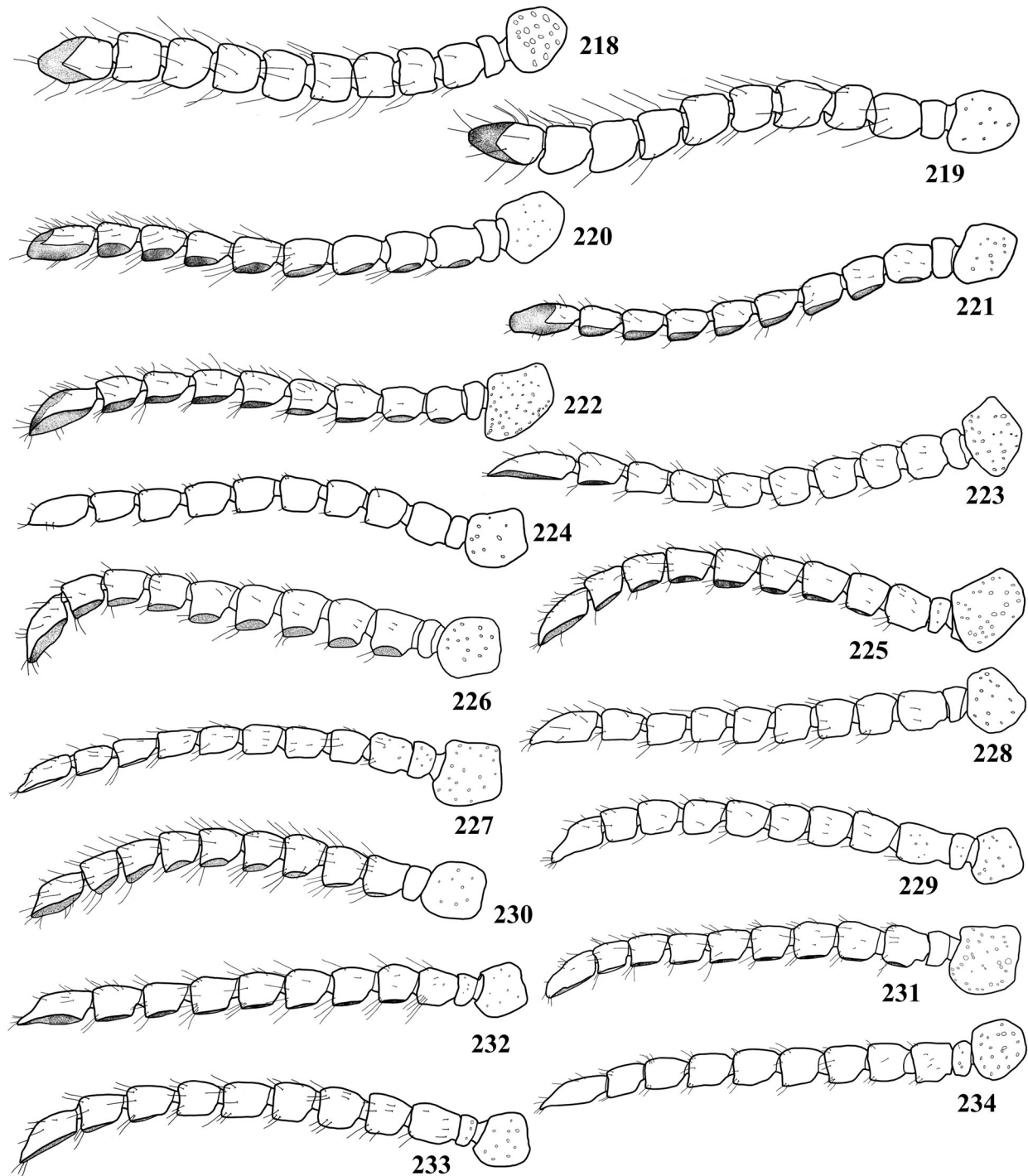




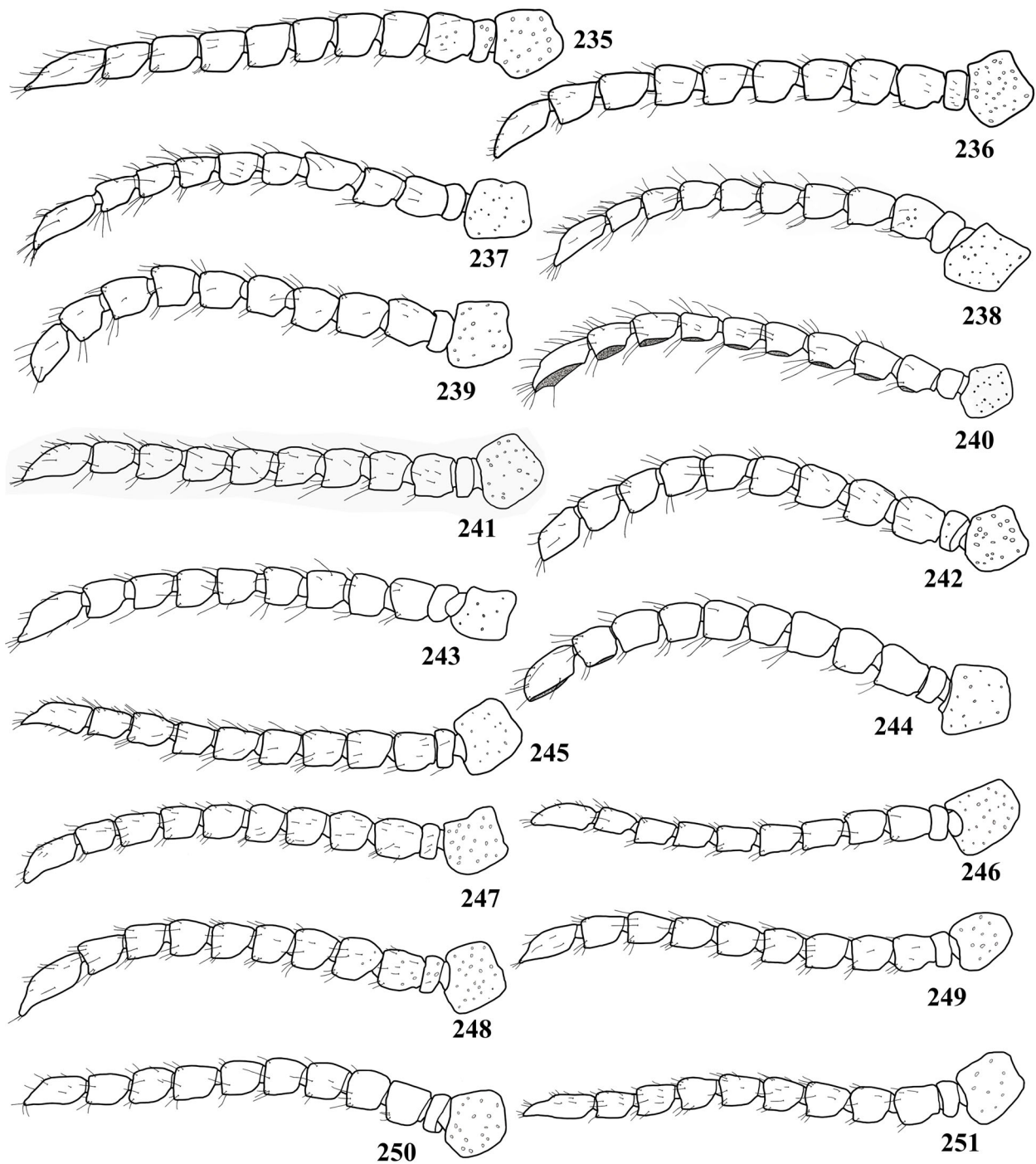
**Figure 200-209.** 200-204) Maxillary palp. 200) *Komiyandra nayani*, paratype male. 201) *Papuandra araucariae*, male. 202) *Storeyandra frenchi*, female. 203) *Melanesiandra striatifrons*, male. 204) *Acutandra murrayi*, female. 205-209) Wing. 205) *Acutandra murrayi*, female. 206) *Neandra brunnea*, male. 207) *Archandra caspia*, male. 208) *Parandra (Parandra) ubirajarai*, male. 209) *Hawaiiandra puncticeps*, male.



**Figure 210-217.** 210-214) Wings. 210) *Papuandra araucariae*, male. 211) *Komiyandra nayani*, paratype male. 212) *Birandra (Birandra) silvaini*, male. 213) *Caledonandra passandroides*, male. 214) *Melanesiandra striatifrons*, male. 215-217) Antenna. 215) *Stenandra kolbei*, female. 216) *Hawaiiandra puncticeps*, male. 217) *Storeyandra frenchi*, male.

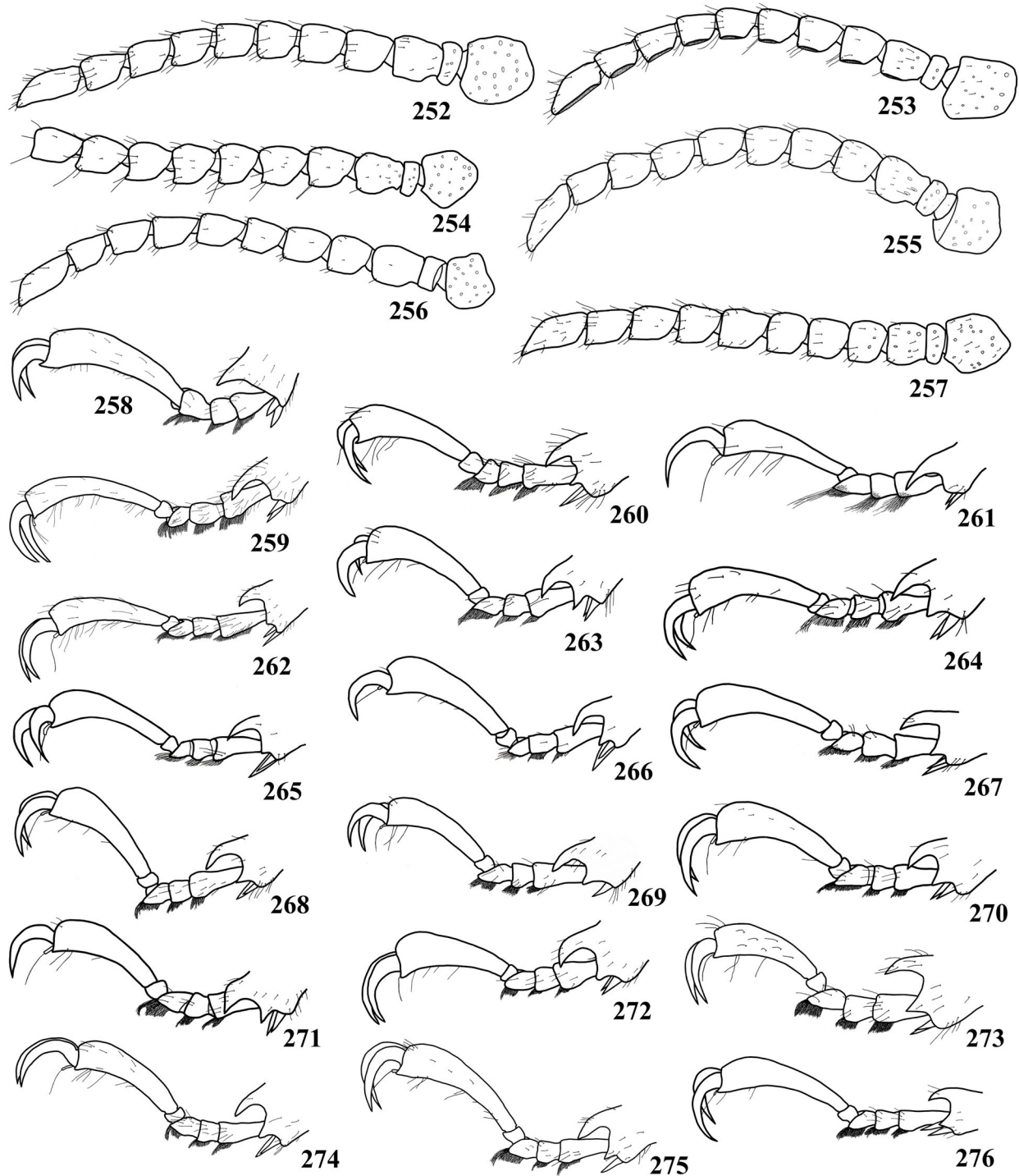


**Figure 218-234.** Antenna. **218)** *Malukandra jayawijayana*, holotype male. **219)** *M. hornabrooki*, paratype female. **220)** *Caledonandra austrocaledonica*, male. **221)** *C. passandroides*, male. **222)** *Melanesiandra striatifrons*, male. **223)** *M. solomonensis*, male. **224)** *M. bougainvillensis*, holotype male. **225)** *M. birai*, holotype male. **226)** *Papuandra araucariae*, male. **227)** *P. gressitti*, holotype male. **228)** *P. weigeli*, holotype male. **229)** *P. queenslandensis*, holotype female. **230)** *P. norfolkensis*, holotype male. **231)** *P. rothschildi*, paratype male. **232)** *P. oberthueri*, holotype female. **233)** *Komiyandra janus*, female. **234)** *K. shibatai*, male.

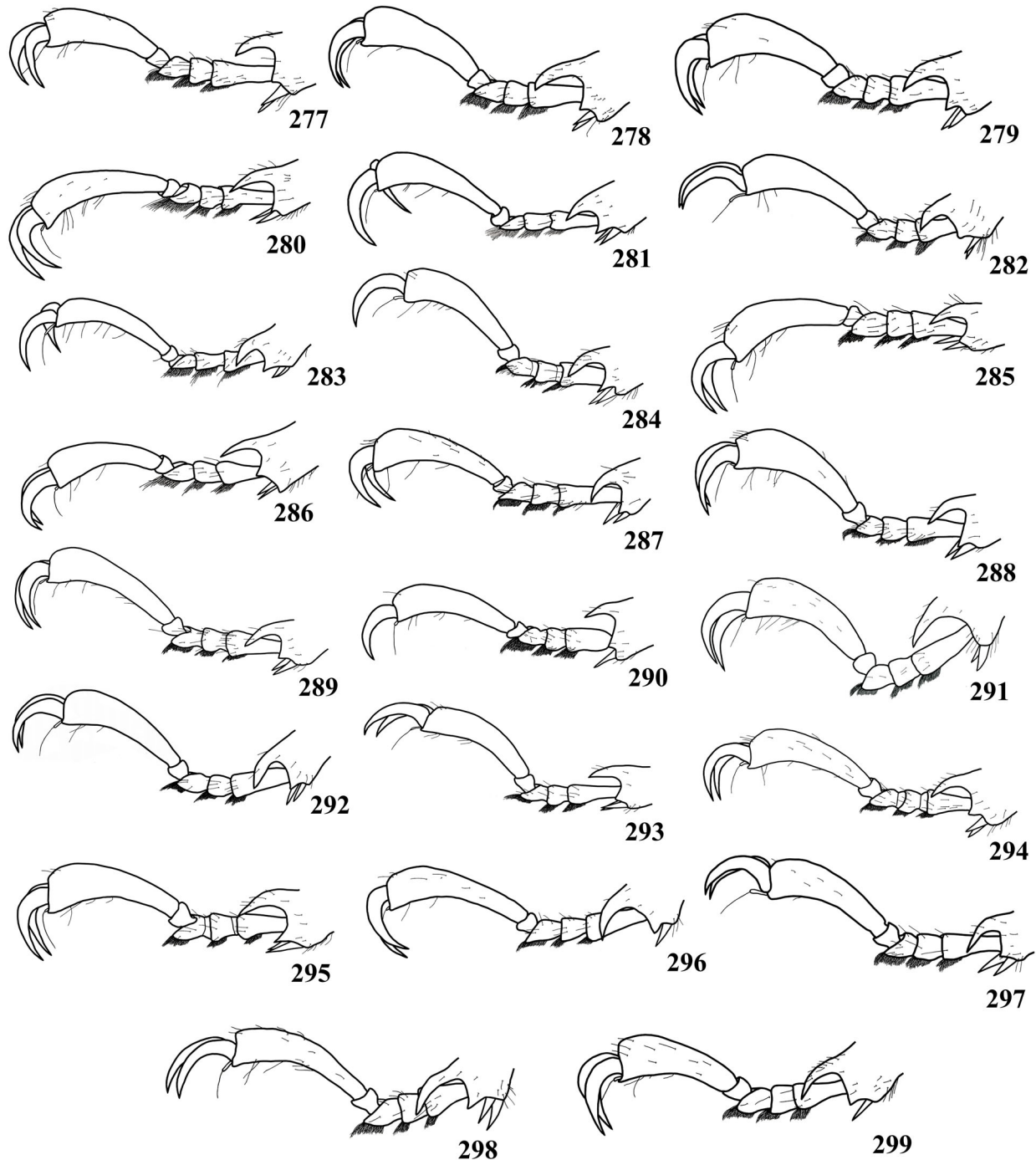


**Figure 235-251.** Antenna. **235)** *Komiyandra formosana*, male. **236)** *K. lanyuana*, male. **237)** *K. javana*, holotype male. **238)** *K. nayani*, paratype male. **239)** *K. ohbayashii*, holotype male. **240)** *K. luzonica*, paratype male. **241)** *K. philippinensis*, paratype male. **242)** *K. mindanao*, holotype male. **243)** *K. mehli*, paratype male. **244)** *K. vivesi*, holotype male. **245)** *K. lombokia*, paratype male. **246)** *K. sulawesiana*, paratype male. **247)** *K. irianjayana*, holotype male. **248)** *K. menieri*, paratype male. **249)** *K. sangihe*, holotype male. **250)** *K. mindoro*, holotype male. **251)** *K. niisatoi*, holotype male.

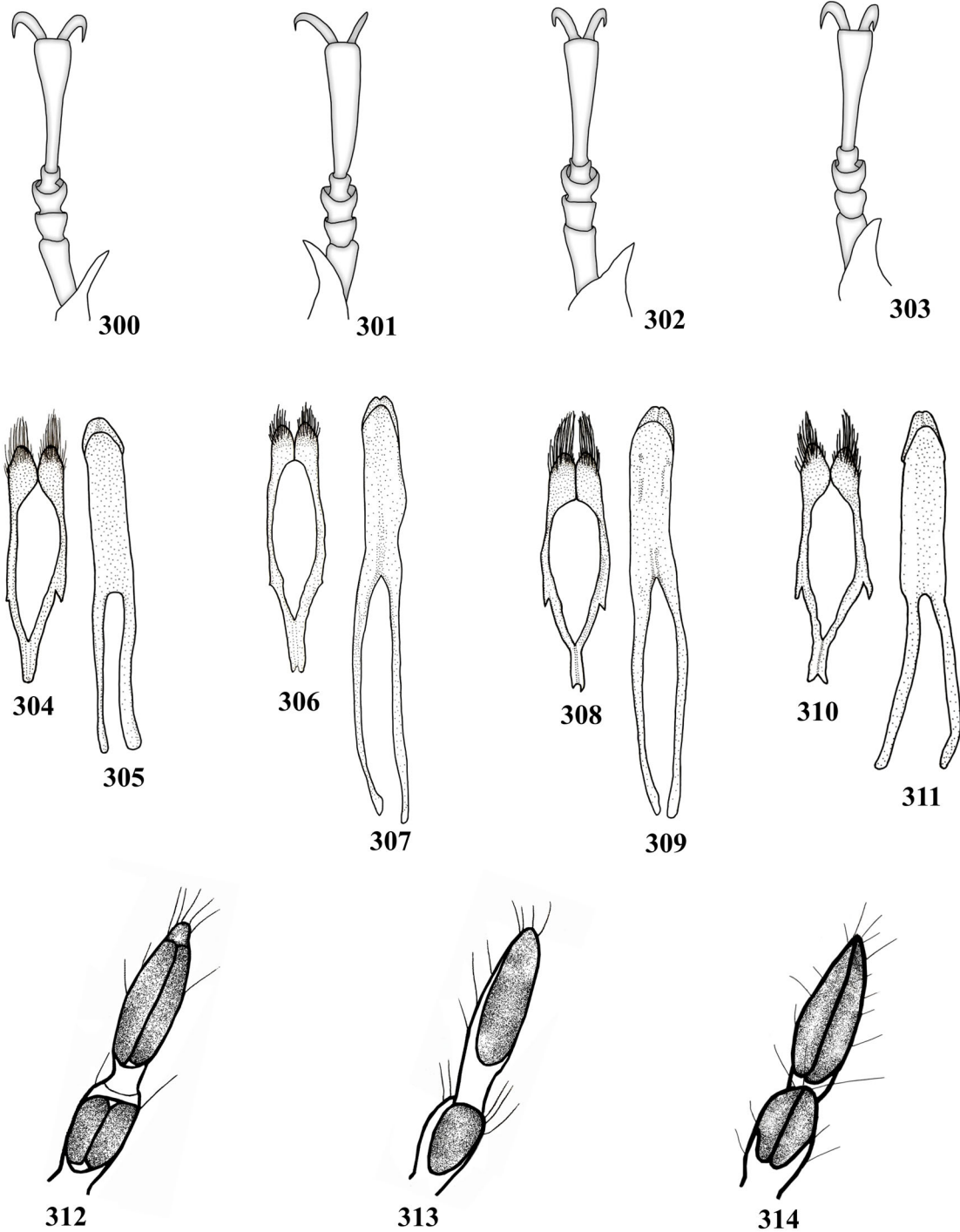




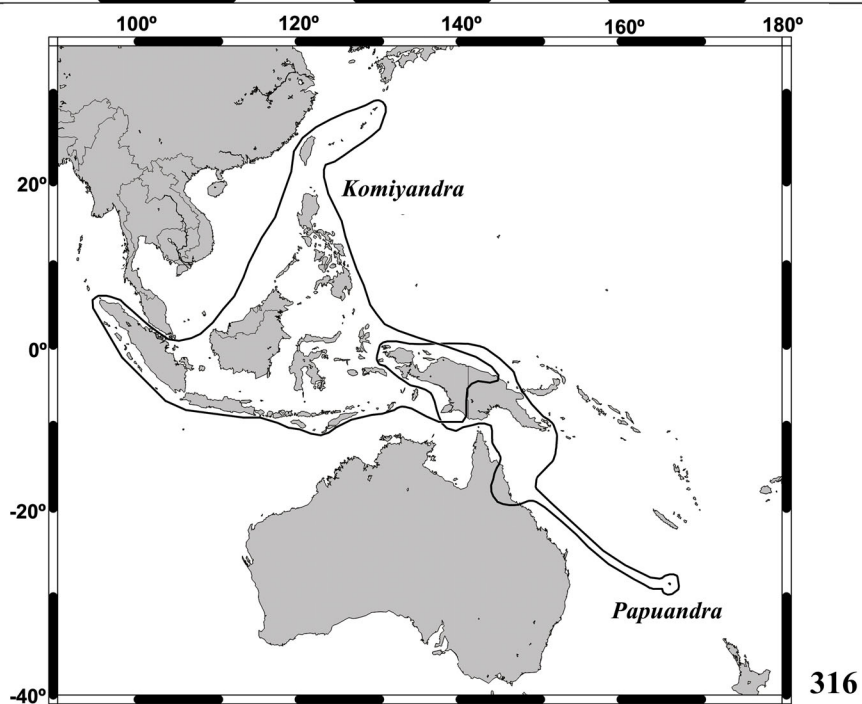
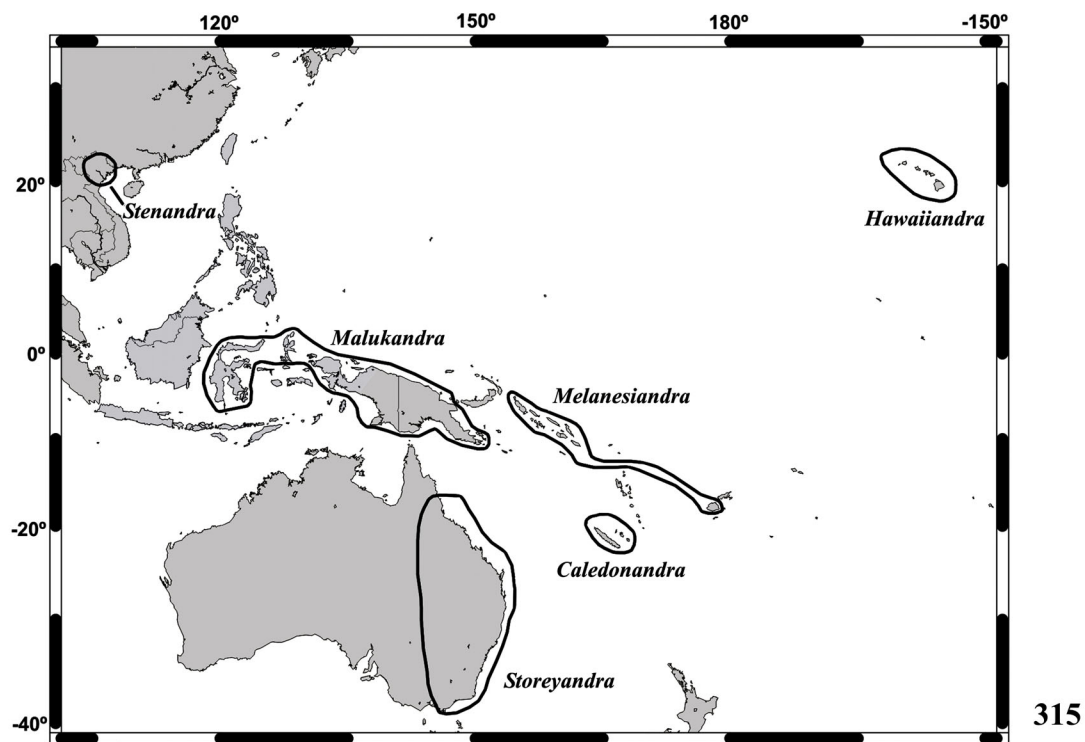
**Figure 252-276.** 252-257) Antenna. 252) *Komiyandra drumonti*, holotype male. 253) *K. cabigasi*, paratype male. 254) *K. johkii*, holotype male. 255) *K. poggii*, holotype male. 256) *K. koni*, paratype male. 257) *K. uenoi*, paratype male. 258-276) Metatarsus. 258) *Stenandra kolbei*, female. 259) *Hawaiiandra puncticeps*, male. 260) *Storeyandra frenchi*, male. 261) *Malukandra jayawijayana*, holotype male. 262) *M. hornabrooki*, holotype male. 263) *Caledonandra austrocaledonica*, male. 264) *C. passandroides*, male. 265) *Melanesiandra striatifrons*, male. 266) *M. solomonensis*, male. 267) *M. bougainvillensis*, holotype male. 268) *M. birai*, holotype male. 269) *Papuandra araucariae*, male. 270) *P. gressitti*, holotype male. 271) *P. weigeli*, holotype male. 272) *P. queenslandensis*, holotype female. 273) *P. norfolkensis*, holotype male. 274) *P. rothschildi*, holotype male. 275) *oberthueri*, holotype female. 276) *Komiyandra janus*, female.



**Figure 277-299.** Metatarsus. **277)** *Komiyandra shibatai*, male. **278)** *K. formosana*, male. **279)** *K. lanyuana*, male. **280)** *K. javana*, paratype male. **281)** *K. nayani*, paratype male. **282)** *K. ohbayashii*, holotype male. **283)** *K. luzonica*, paratype male. **284)** *K. philippinensis*, paratype male. **285)** *K. mindanao*, holotype male. **286)** *K. mehli*, paratype male. **287)** *K. vivesi*, holotype male. **288)** *K. lombokia*, paratype male. **289)** *K. sulawesiana*, holotype male. **290)** *K. irianjayana*, holotype male. **291)** *K. menieri*, holotype male. **292)** *K. sangihe*, holotype male. **293)** *K. mindoro*, holotype male. **294)** *K. niisatoi*, holotype male. **295)** *K. drumonti*, holotype male. **296)** *K. cabigasi*, paratype male. **297)** *K. koni*, paratype male. **298)** *K. poggii*, holotype male. **299)** *K. uenoi*, paratype male.

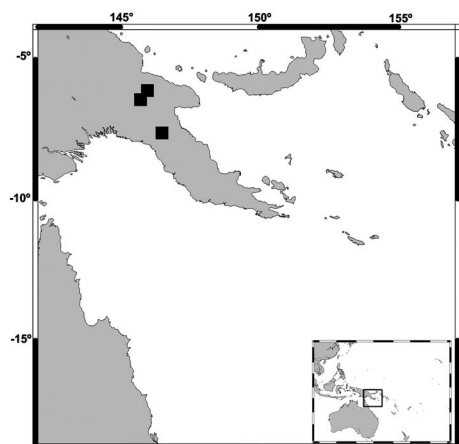


**Figure 300-314.** 300-303) Metatarsomere V. 300) *Komiyandra shibatai*, male. 301) *K. formosana*, male. 302) *K. lanyuana*, male. 303) *K. uenoi*, holotype male. 304-311) Aedeagus. 304) *K. shibatai*, parameres. 305) *K. shibatai*, median lobe. 306) *K. formosana*, parameres. 307) *K. formosana*, median lobe. 308) *K. lanyuana*, parameres. 309) *K. lanyuana*, median lobe. 310) *K. uenoi*, paratype parameres. 311) *K. uenoi*, paratype median lobe. 312-314) Antennomere XI. 312) *K. nayani*, paratype male. 313) *K. javana*, holotype male. 314) *Melanesiandra striatifrons*, male.

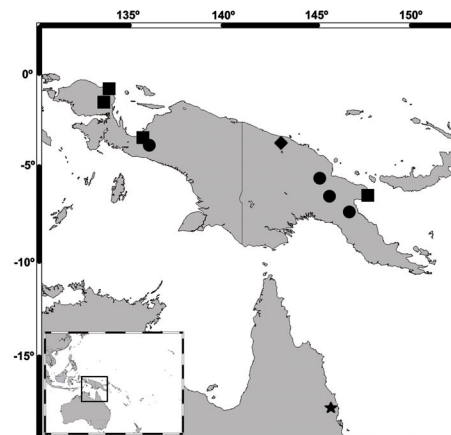


**Figure 315-316.** Maps. **315)** Distribution of *Melanesiandra*, *Caledonandra*, *Storeyandra*, *Hawaiiandra*, *Malukandra*, and *Stenandra* in Asia. **316)** Distribution of *Komiyandra* and *Papuandra*.

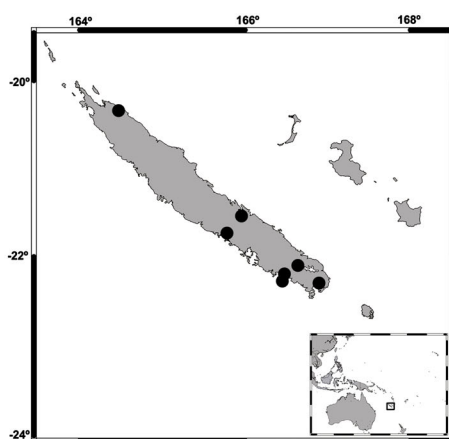




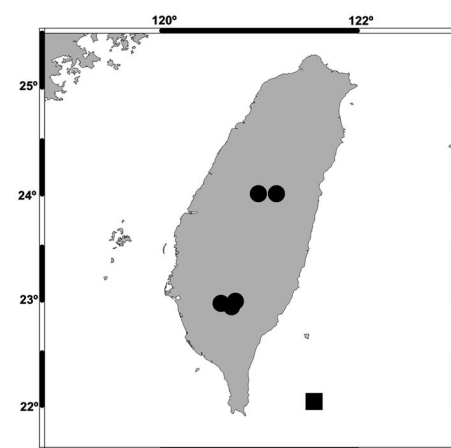
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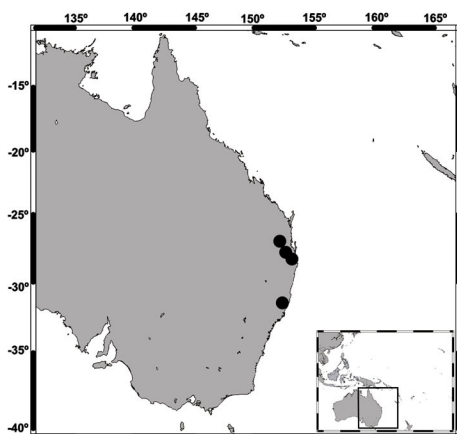
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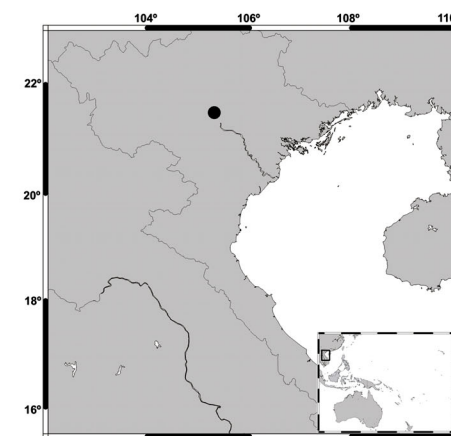
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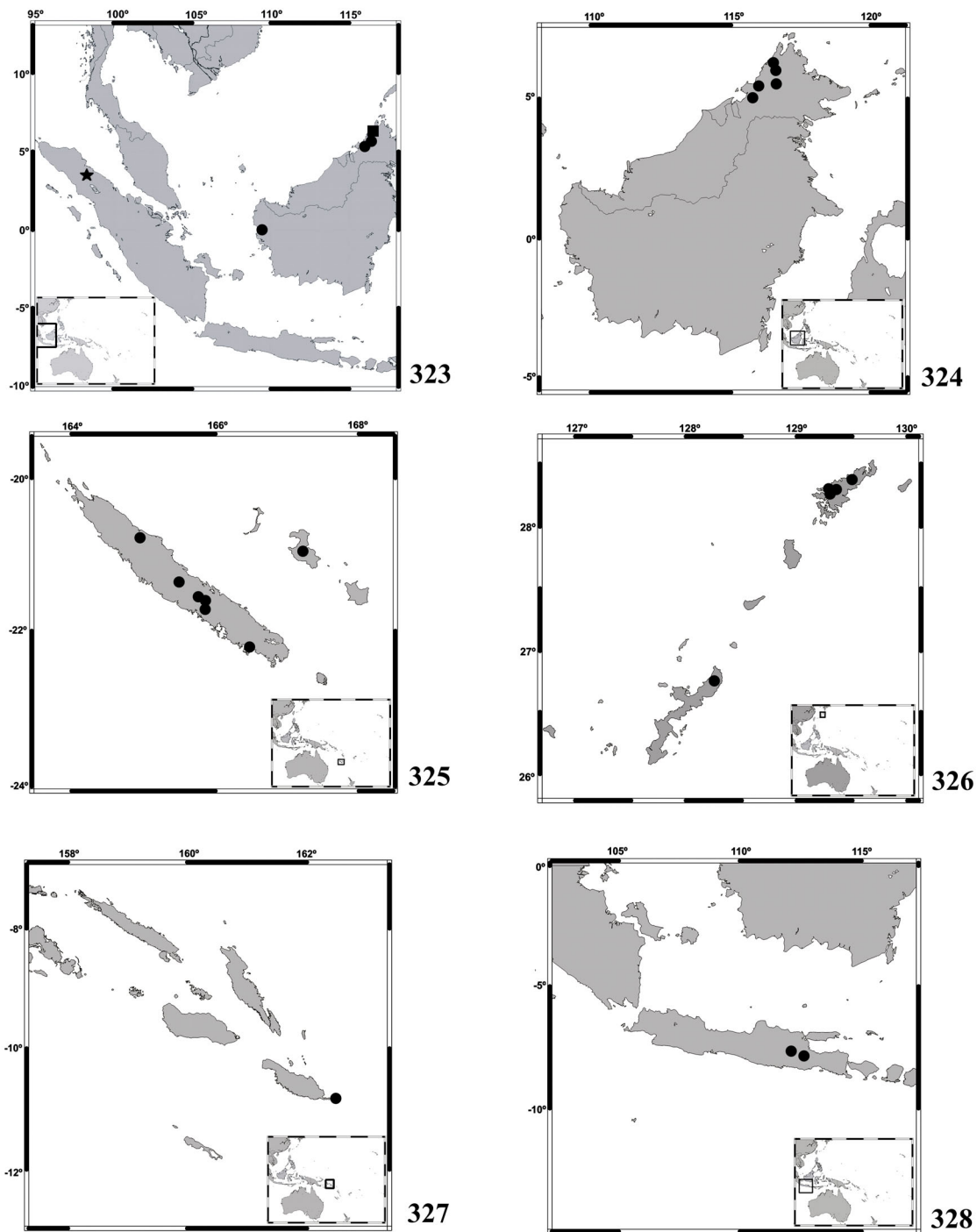


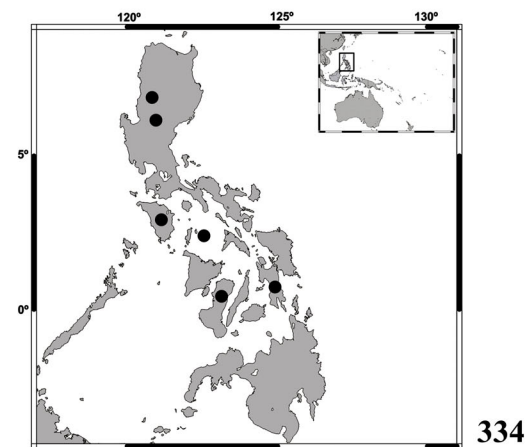
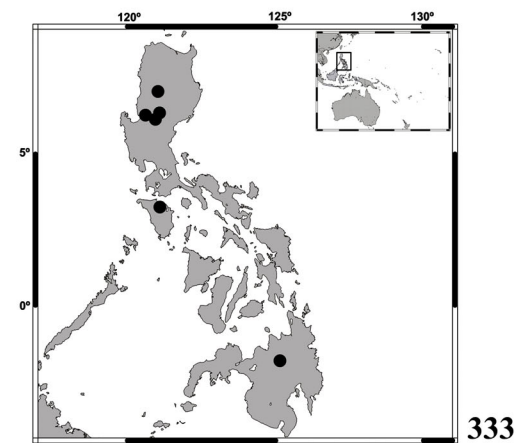
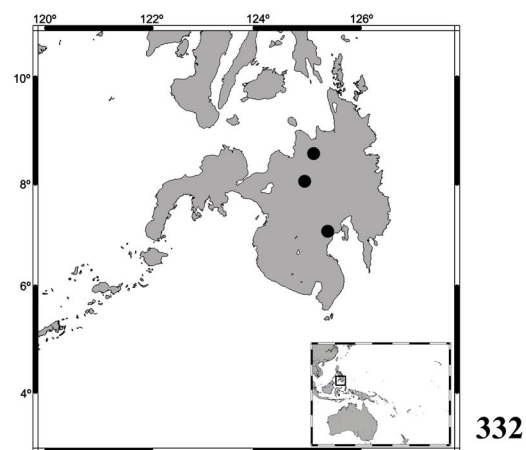
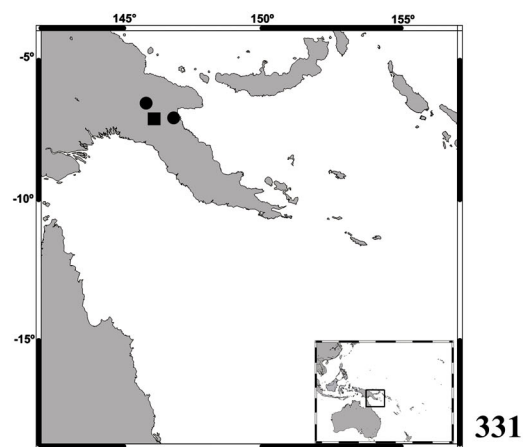
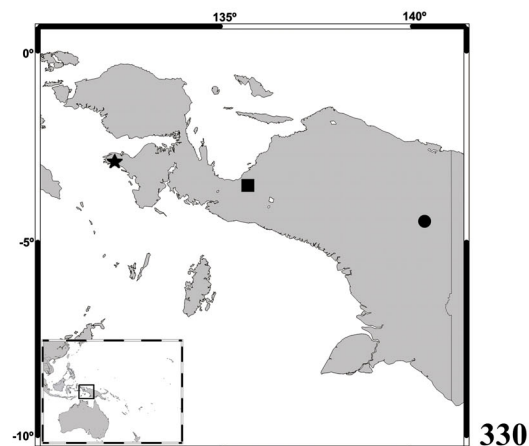
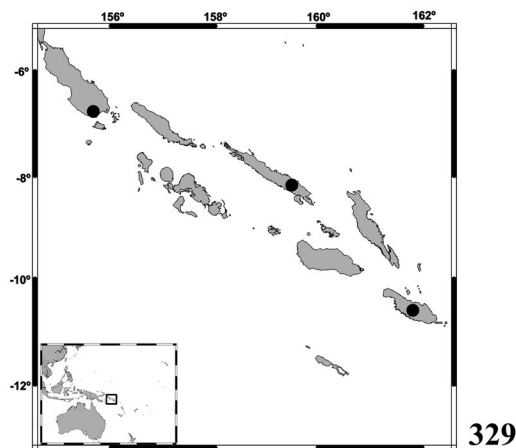
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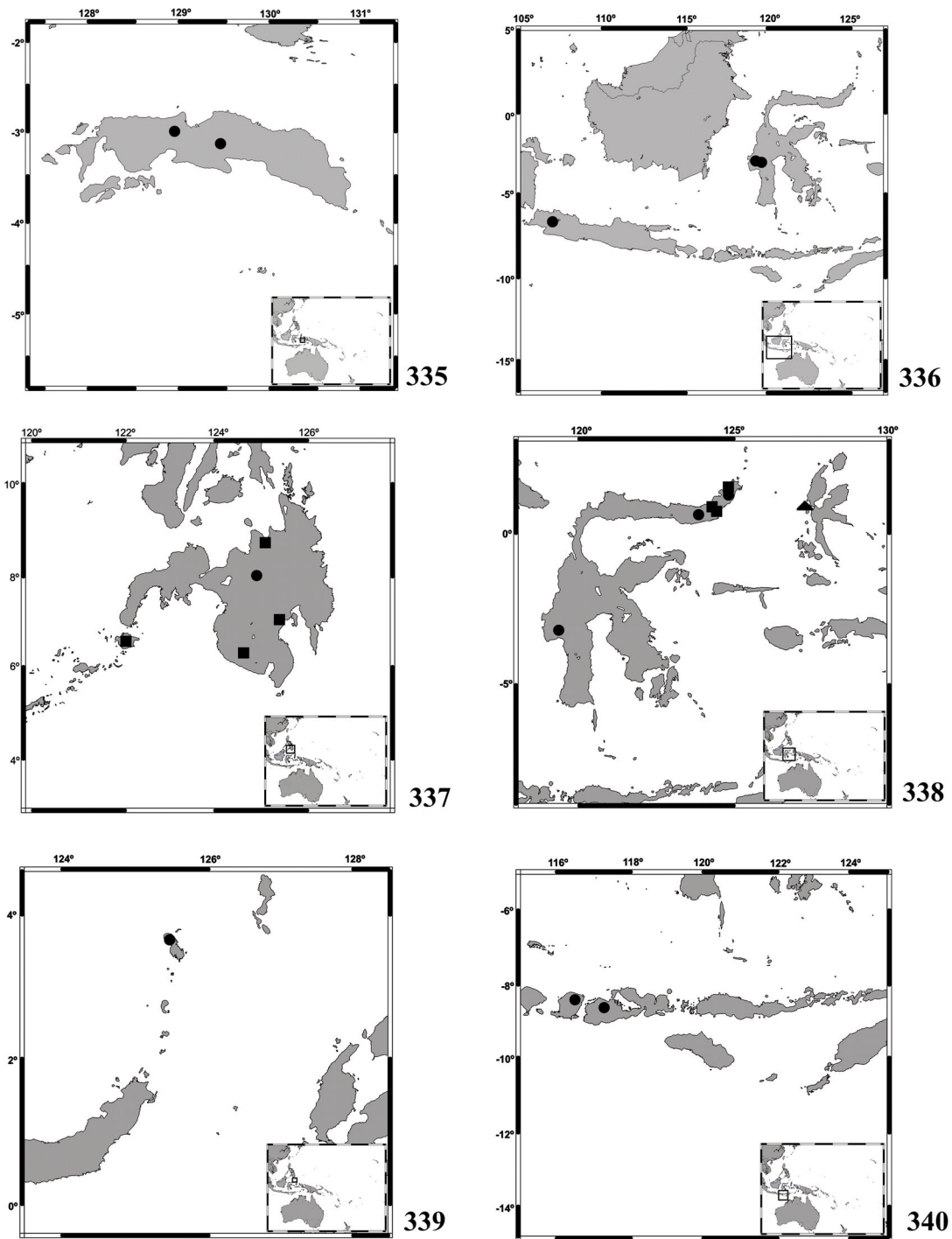
322

**Figure 317-322.** Maps. 317) *Malukandra hornabrooki*. 318) *Papuandra araucariae* (circle), *Komiyandra menieri* (square), *K. drumonti* (diamond), *Papuandra queenslandensis* (star). 319) *Caledonandra austrocaledonica*. 320) *Komiyandra formosana* (circle), *K. lanyuana* (square). 321) *Storeyandra frenchi*. 322) *Stenandra kolbei* in Asia.





**Figure 329-334.** Maps. **329)** *Melanesiandra bougainvillensis*. **330)** *Malukandra jayawijayana* (circle), *Papuandra weigeli* (square), *Komiyandra irianjayana* (star). **331)** *Papuandra gressitti* (circle), *P. rothschildi* (square). **332)** *Komiyandra ohbayashii*. **333)** *K. luzonica*. **334)** *K. philippinensis*.



**Figure 335-340.** Maps. 335) *Komiyandra mehli*. 336) *K. sulawesiana*. 337) *K. vivesi* (circle), *K. mindanao* (square). 338) *K. niisatoi* (circle), *K. janus* (square), *K. menieri* (triangle). 339) *K. sangihe*. 340) *K. lombokia*.



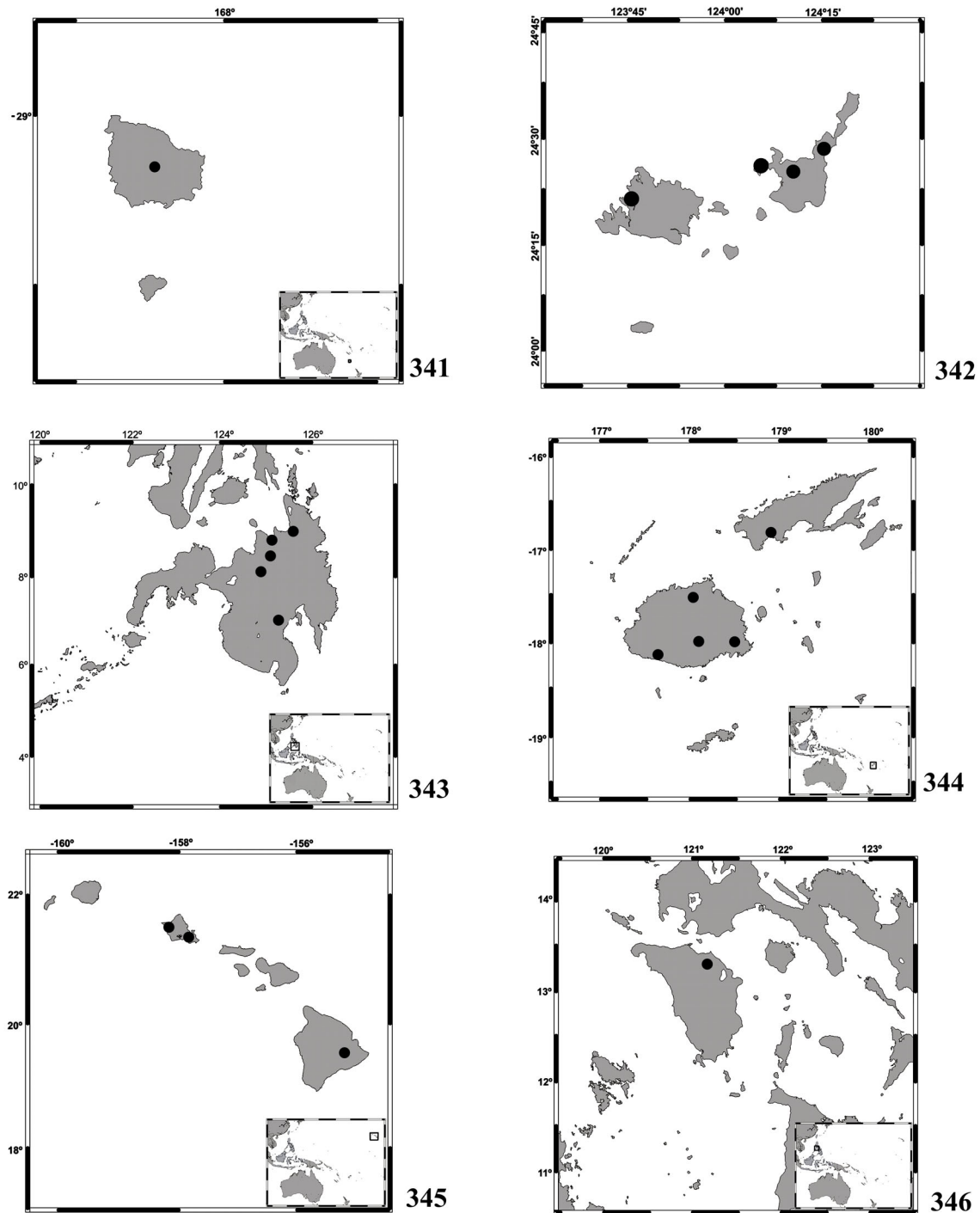
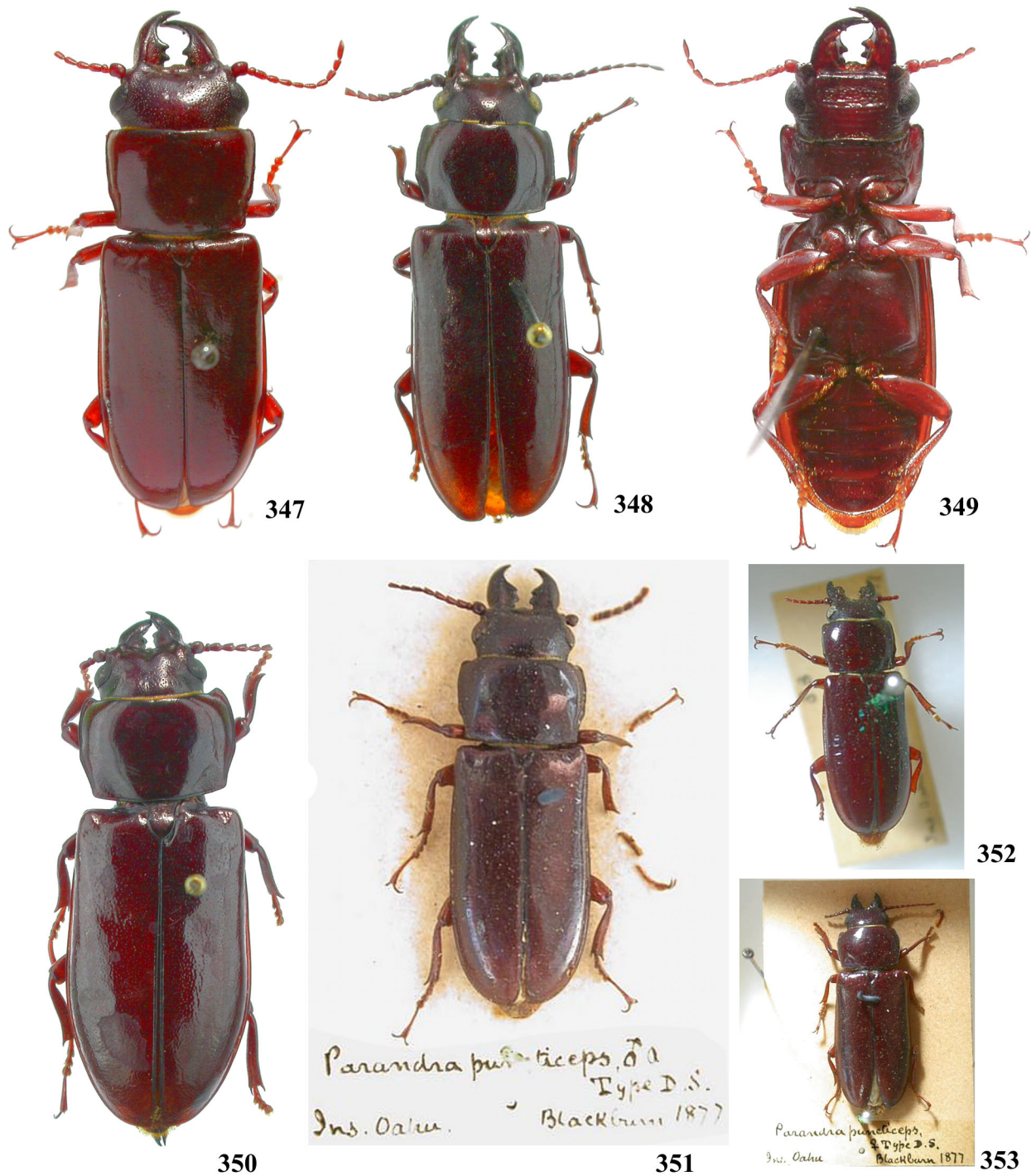
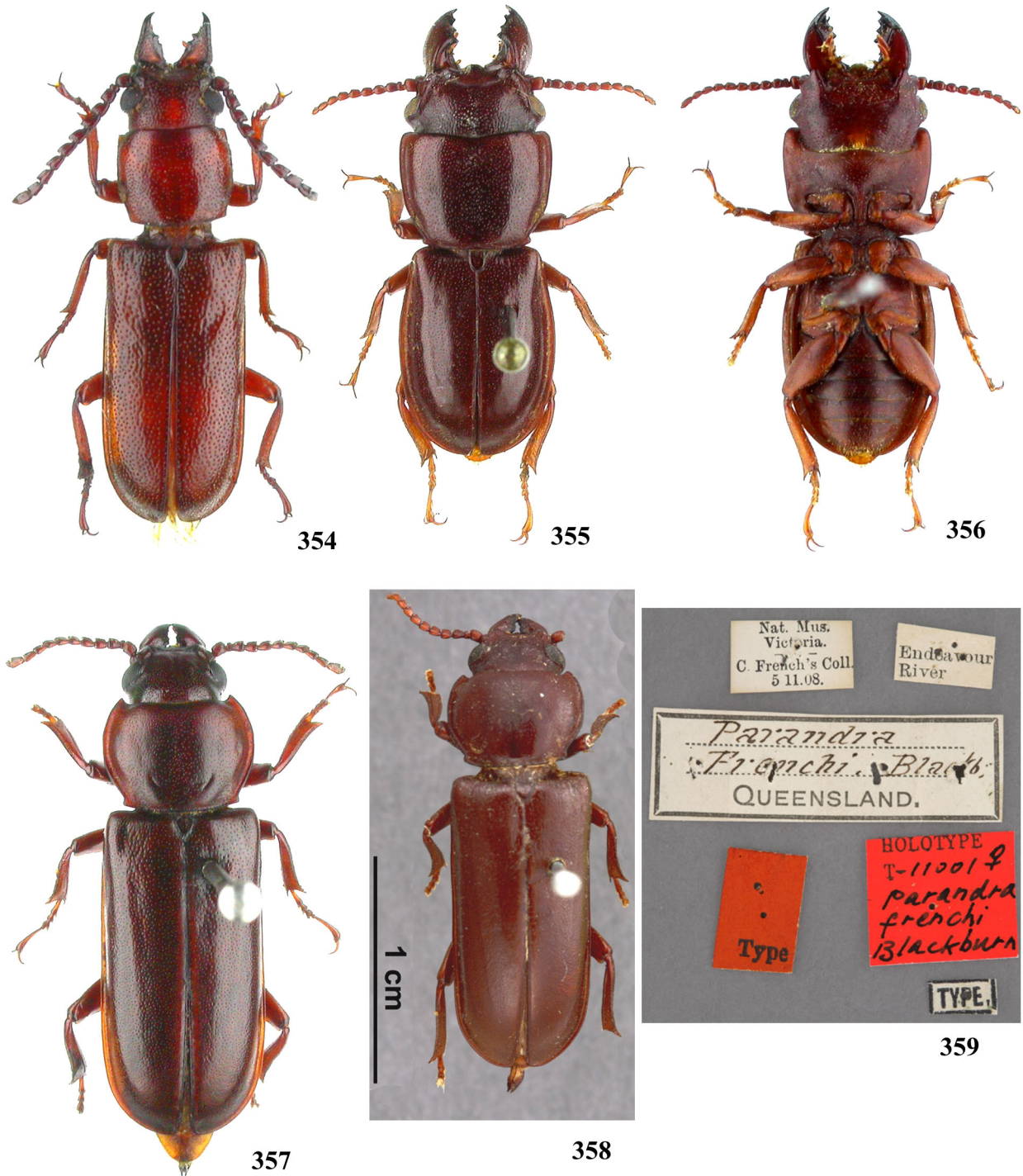


Figure.s 341-346. Maps. 341) *Papuandra norfolkensis*. 342) *Komiyandra uenoi*. 343) *K. cabigasi*. 344) *Melanesiandra striatifrons*. 345) *Hawaiiandra puncticeps*. 346) *K. mindoro*.



**Figure 347-353.** Habitus. *Hawaiiandra puncticeps*. 347-348) Males, dorsal view. 349) Male, ventral view. 350) Female, dorsal view. 351-352) Syntypes male. 353) Syntype female. Syntypes, Sharon Shute photos.



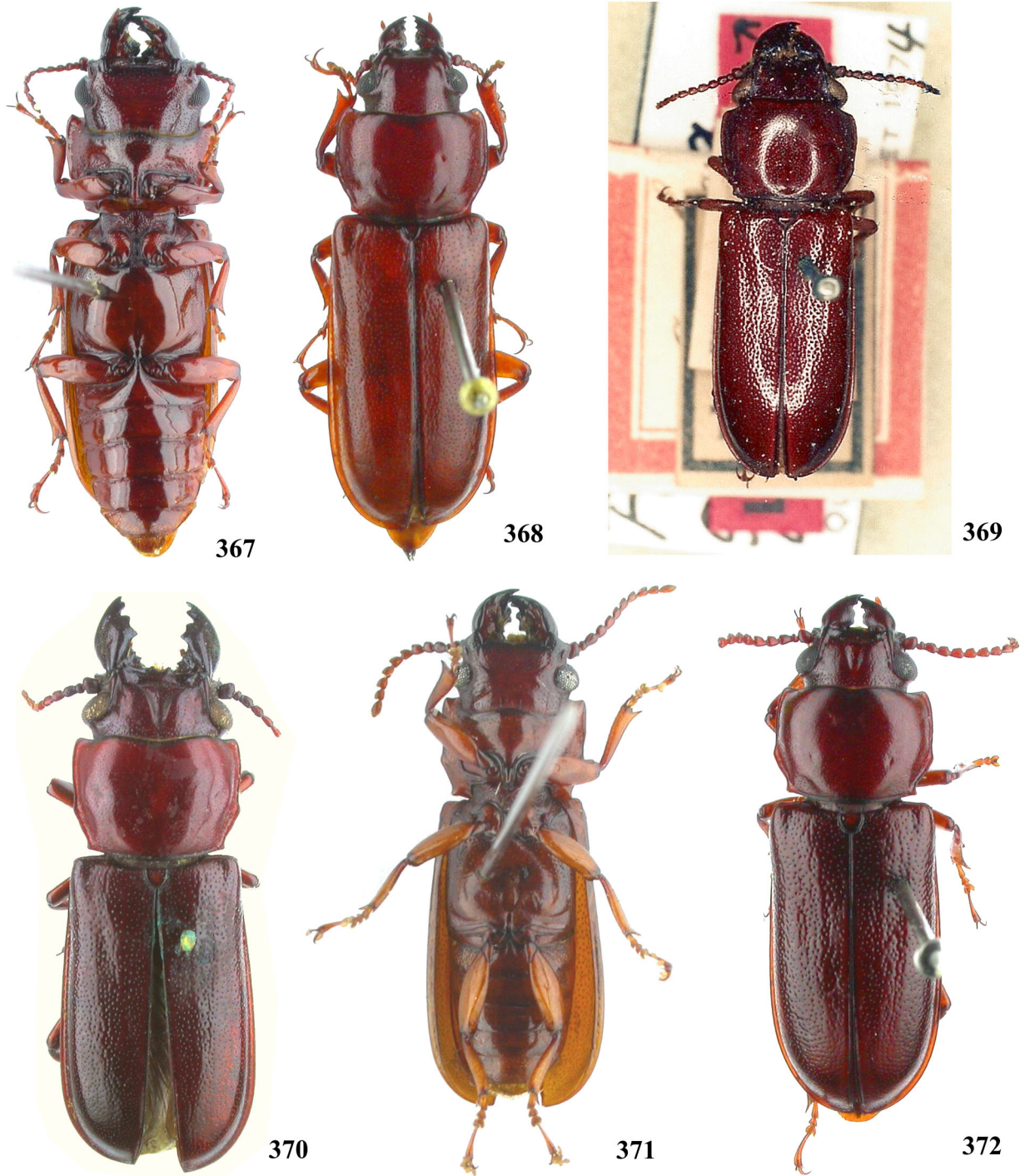
**Figure 354-359.** Habitus. 354) *Stenandra kolbei*, female. 355-359) *Storeyandra frenchi*. 355) Male dorsal view. 356) Male, ventral view. 357) Female dorsal view. 358) Holotype female. 359) Labels, holotype female. Holotype, Peter Lillywhite photos.



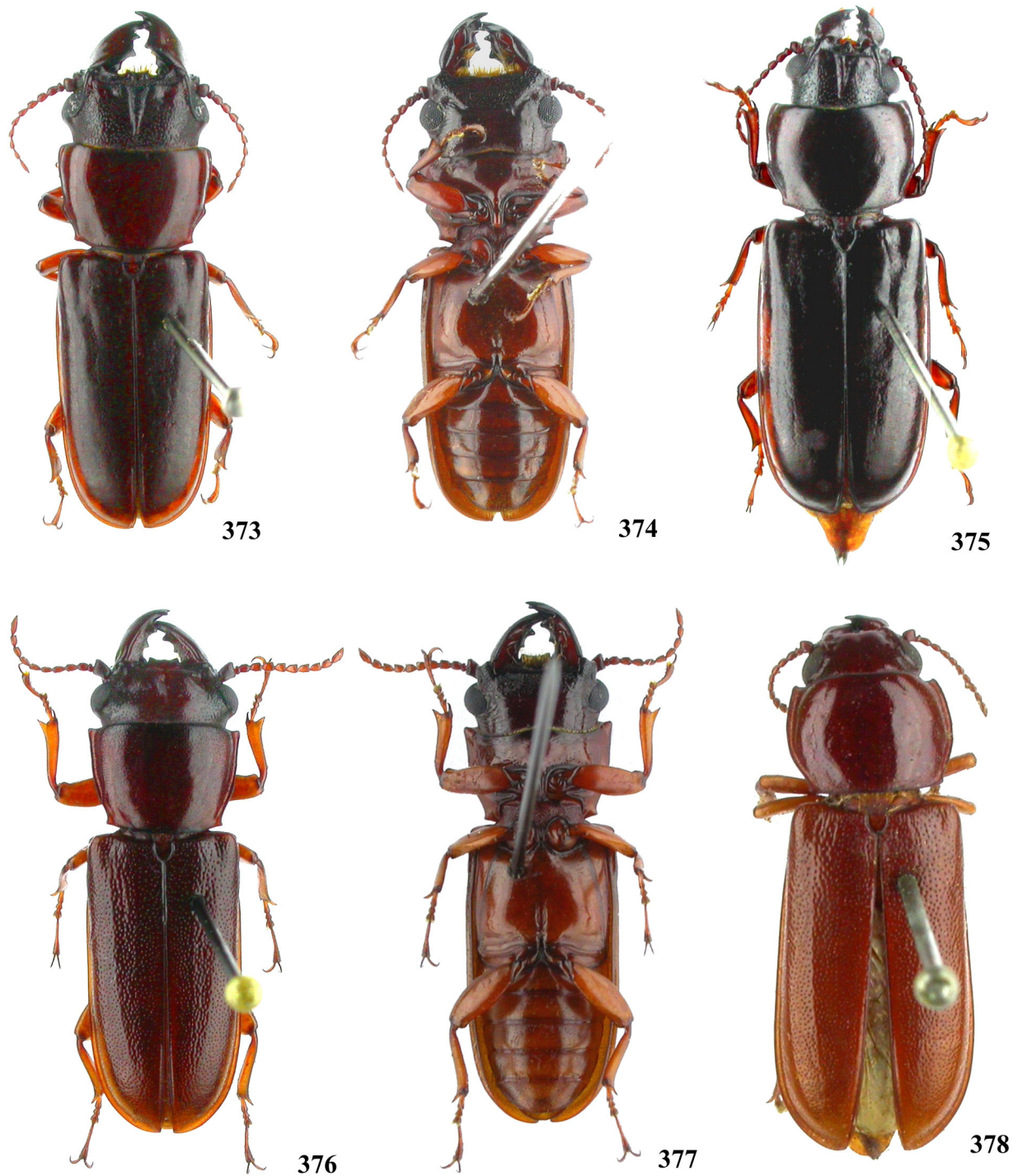


**Figure 360-366.** 360-363) *Malukandra heterostyla*, holotype male. 360) Dorsal view. 361) Mandible, ventral view. 362) Labels. 363) Antennae. 364-365) *M. jayawijayana*, holotype male. 364) Dorsal view. 365) Ventral view. 366) *M. hornabrooki*, holotype male, dorsal view.



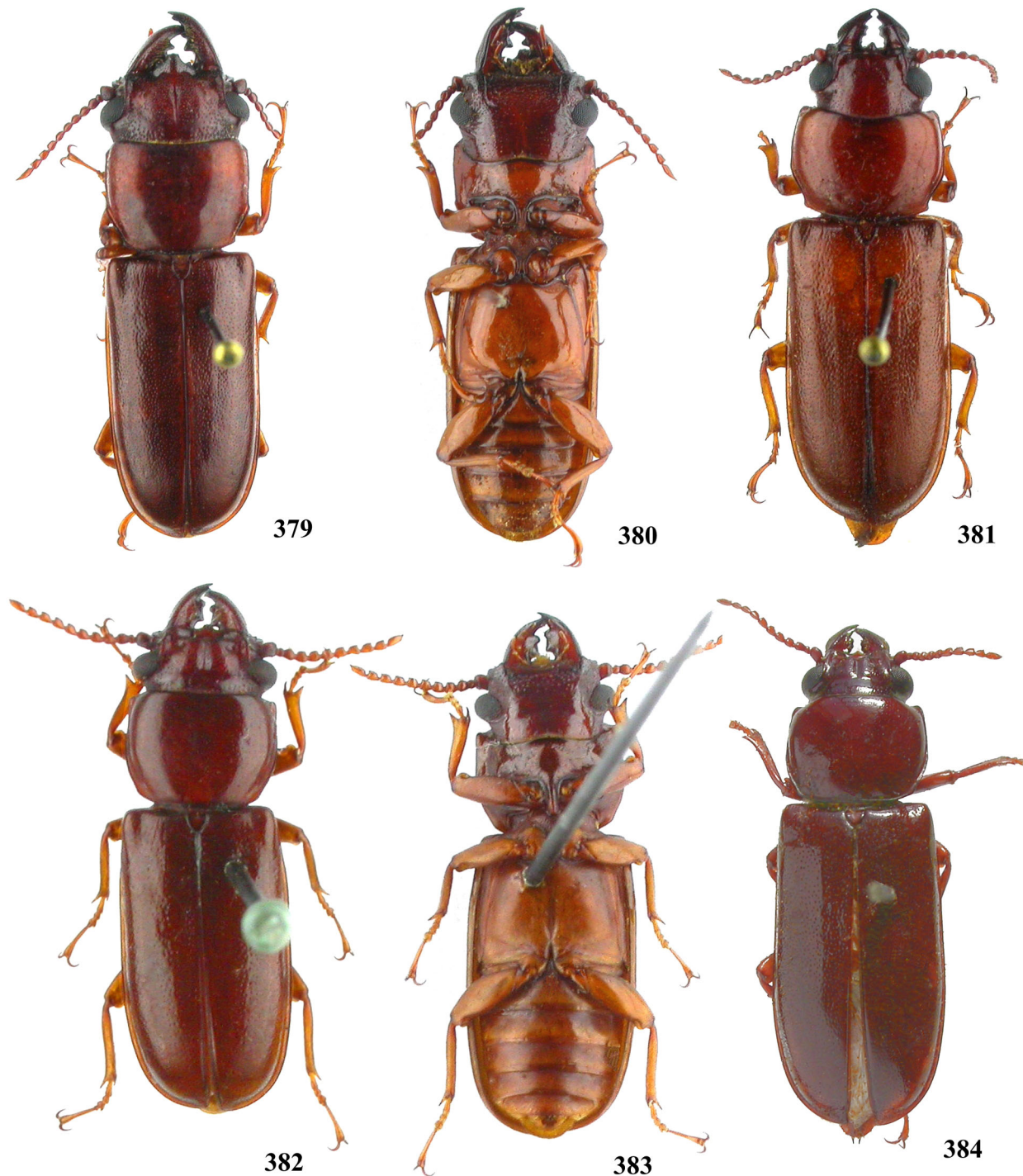


**Figure 367-372.** Habitus. **367)** *Malukandra hornabrooki*, holotype male, ventral view. **368)** *M. hornabrooki*, paratype female. **369)** *Caledonandra austrocaledonica*, “lectotype” male of *Parandra gabonica*. **370)** *C. austrocaledonica*, neotype male, dorsal view. **371)** *C. austrocaledonica*, male, ventral view. **372)** *C. austrocaledonica*, female, dorsal view.

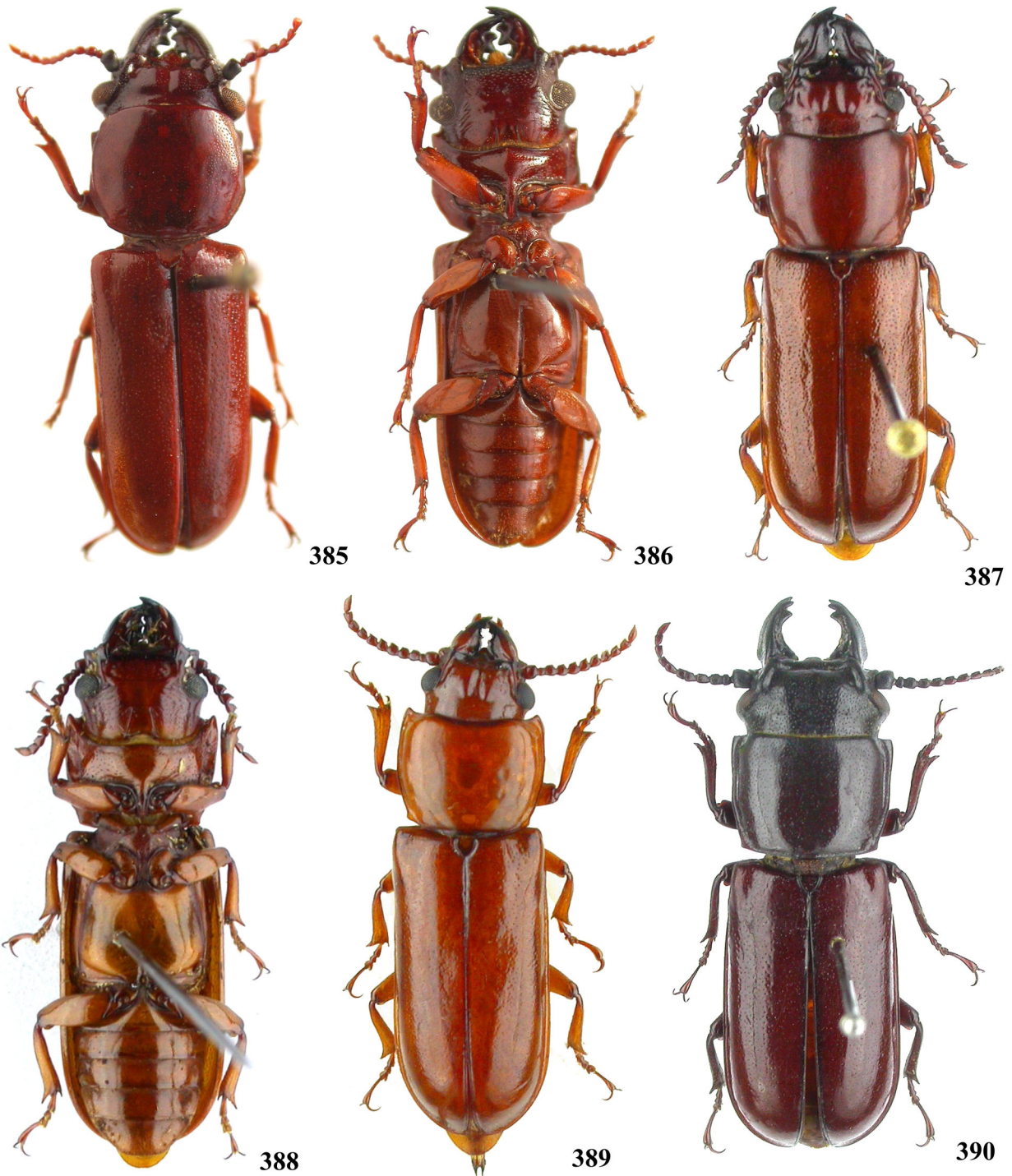


**Figure 373-378.** Habitus. **373)** *Caledonandra passandroides*, male, dorsal view. **374)** *C. passandroides*, male, ventral view. **375)** *C. passandroides*, female, dorsal view. **376)** *Melanesiandra striatifrons*, male, dorsal view. **377)** *M. striatifrons*, male, ventral view. **378)** *M. striatifrons*, holotype female of *Parandra vitiensis*.



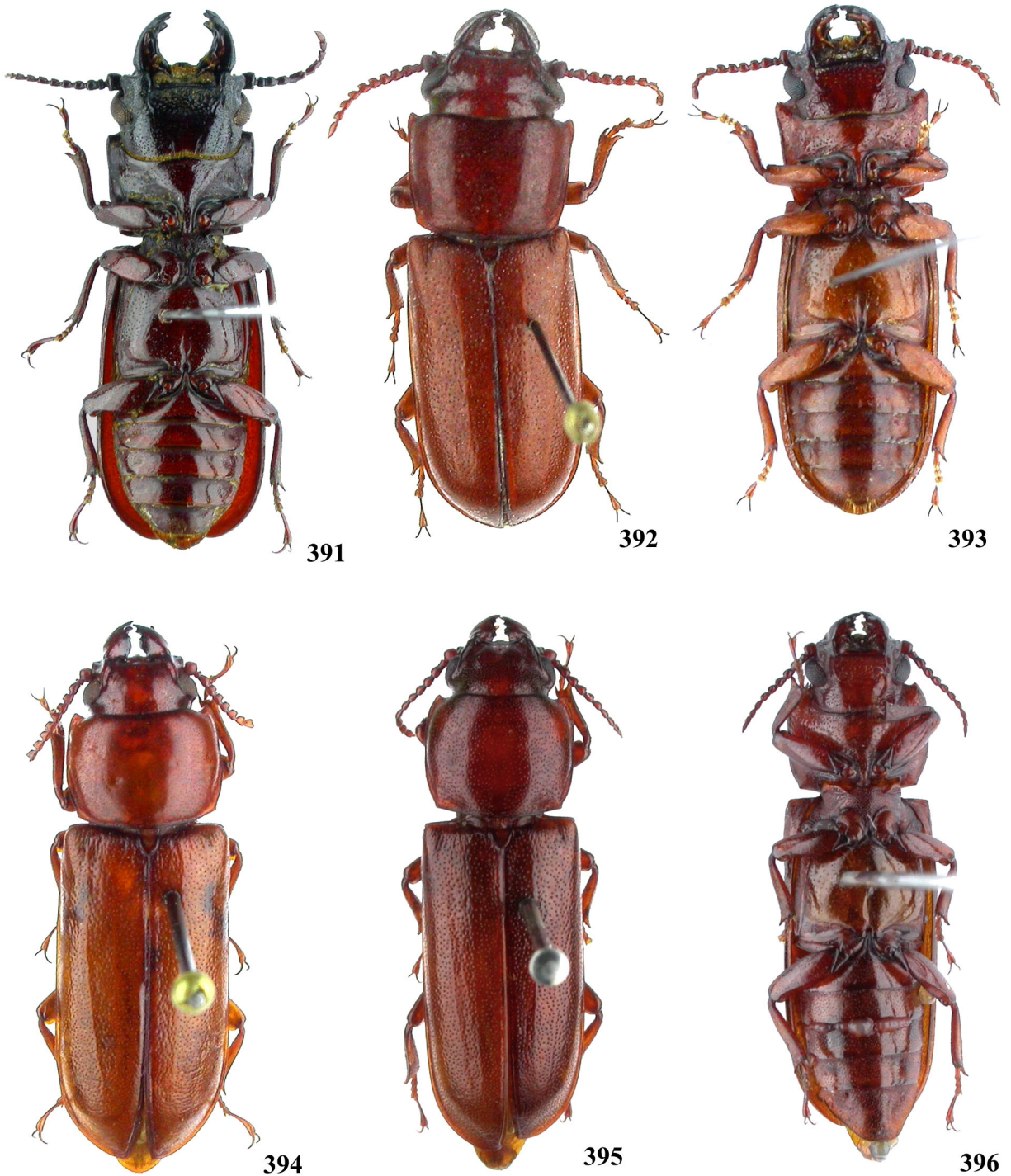


**Figure 379-384.** Habitus. **379)** *Melanesiandra solomonensis*, male, dorsal view. **380)** *M. solomonensis*, male, ventral view. **381)** *M. solomonensis*, female, dorsal view. **382)** *M. bougainvillensis*, holotype male, dorsal view. **383)** *M. bougainvillensis*, holotype male, ventral view. **384)** *M. bougainvillensis*, paratype female, dorsal view.

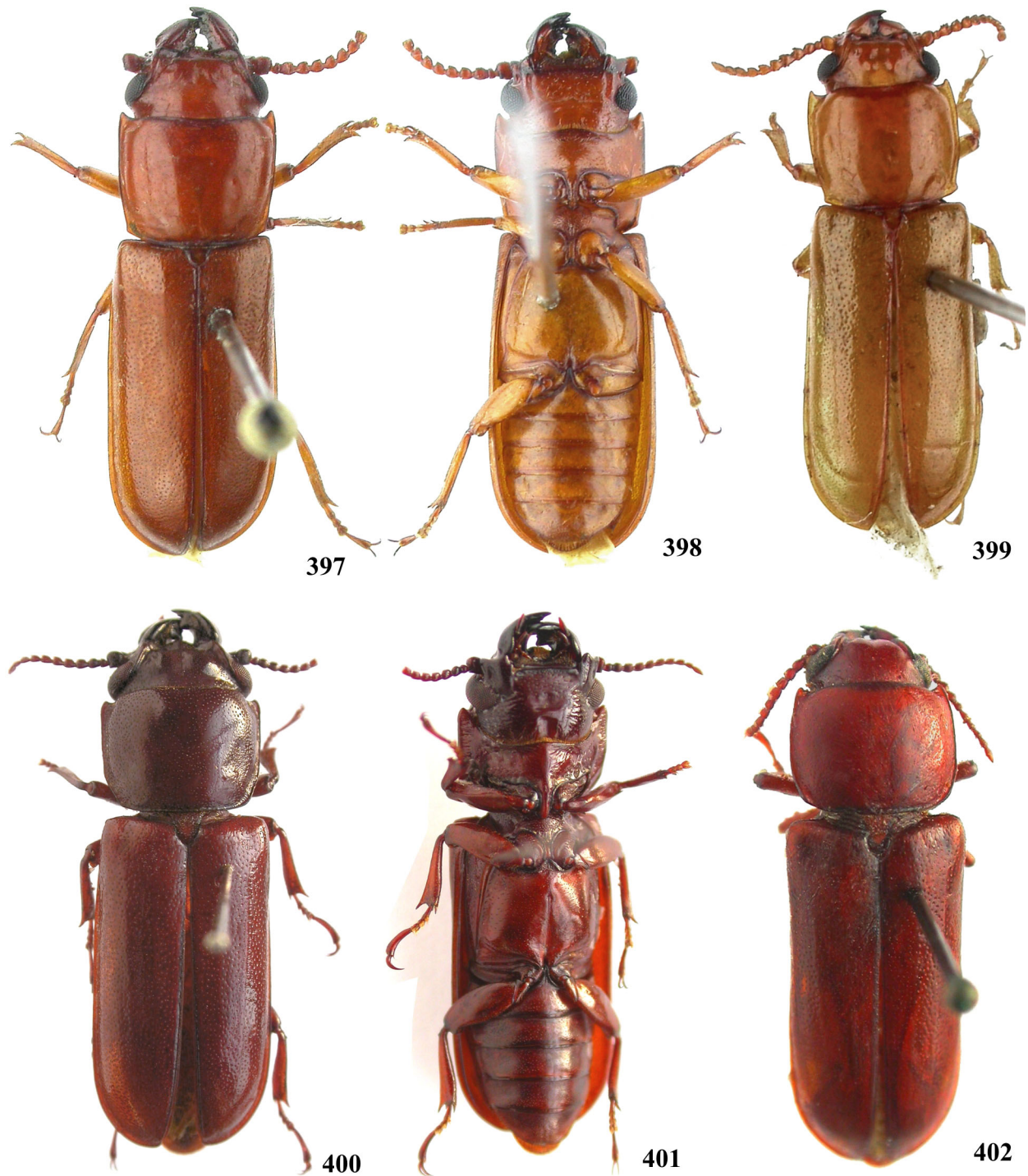


**Figure 385-390.** Habitus. **385)** *Melanesiandra birai*, holotype male, dorsal view. **386)** *M. birai*, holotype male, ventral view. **387)** *Papuandra araucariae*, male, dorsal view. **388)** *P. araucariae*, male ventral view. **389)** *P. araucariae*, female, dorsal view. **390)** *P. gressitti*, holotype male, dorsal view.



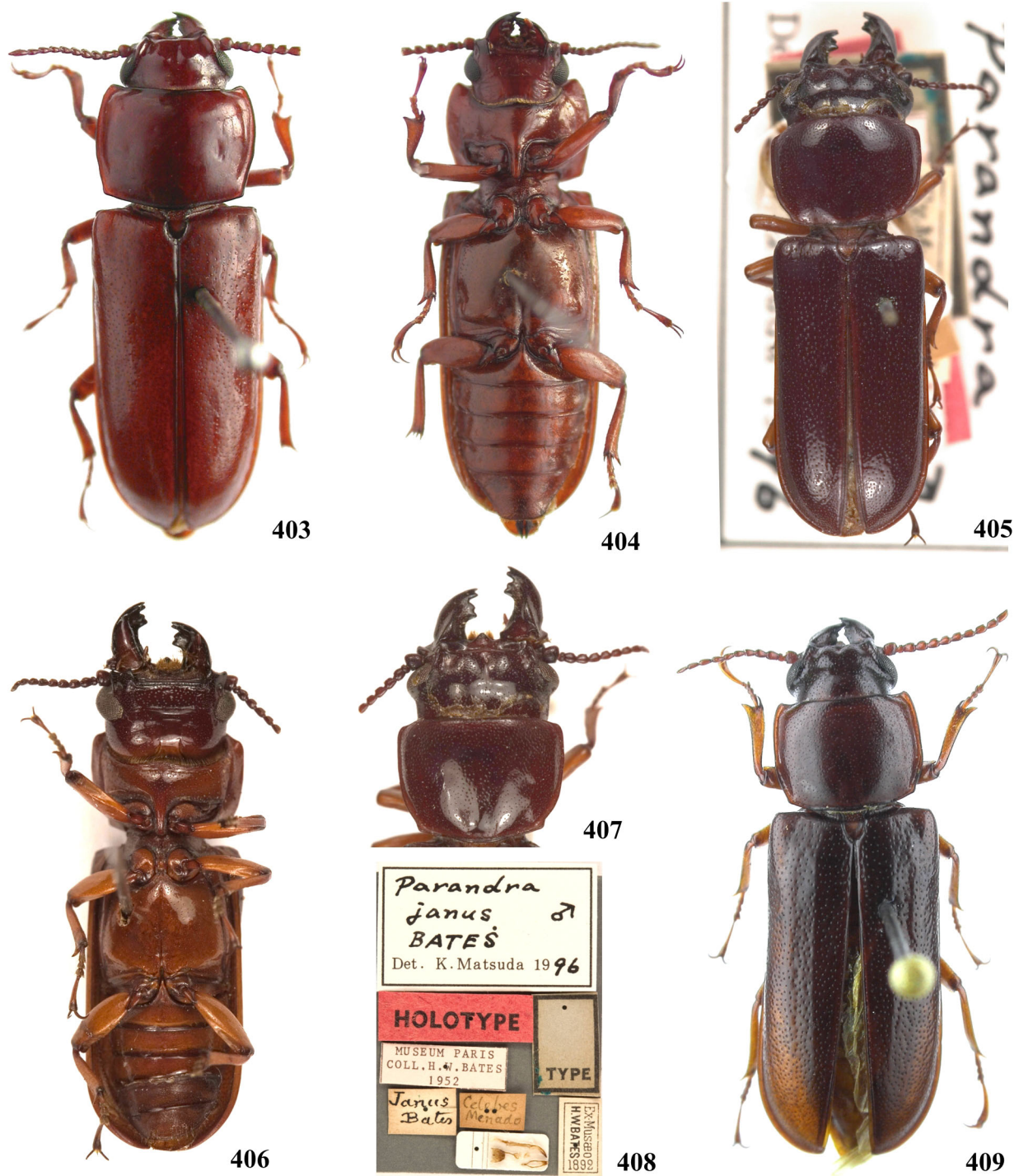


**Figure 391-396.** Habitus. **391)** *Papuandra gressitti*, holotype male, ventral view. **392)** *P. weigeli*, holotype male, dorsal view. **393)** *P. weigeli*, holotype male, ventral view. **394)** *P. weigeli*, paratype female, dorsal view. **395)** *P. queenslandensis*, holotype female, dorsal view. **396)** *P. queenslandensis*, holotype female, ventral view.

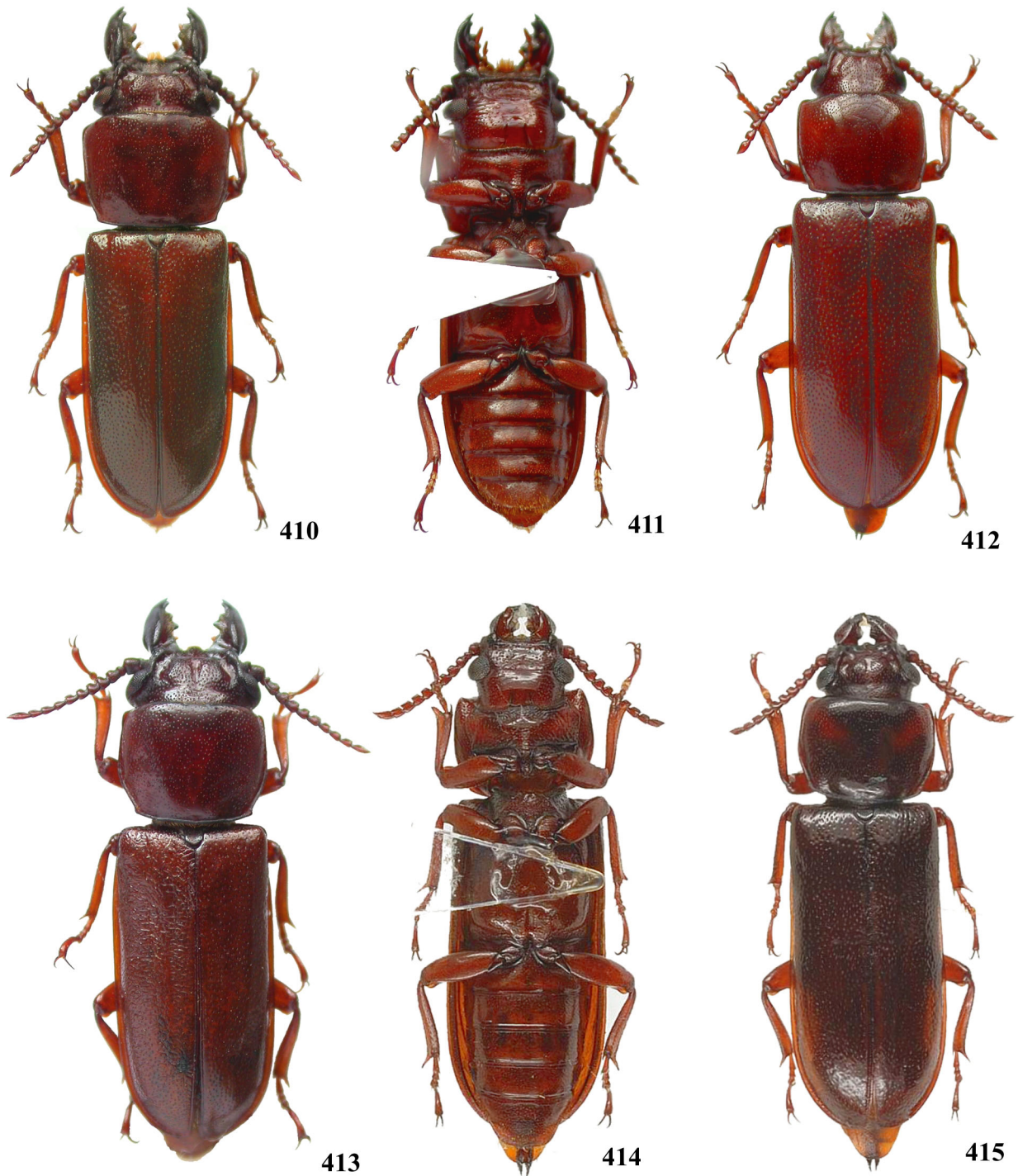


**Figure 397-402. Habitus.** 397) *Papuandra norfolkensis*, holotype male, dorsal view. 398) *P. norfolkensis*, holotype male, ventral view. 399) *P. norfolkensis*, paratype female, dorsal view. 400) *P. rothschildi*, paratype male, dorsal view. 401) *P. rothschildi*, paratype male, ventral view. 402) *P. rothschildi*, paratype female, dorsal view.



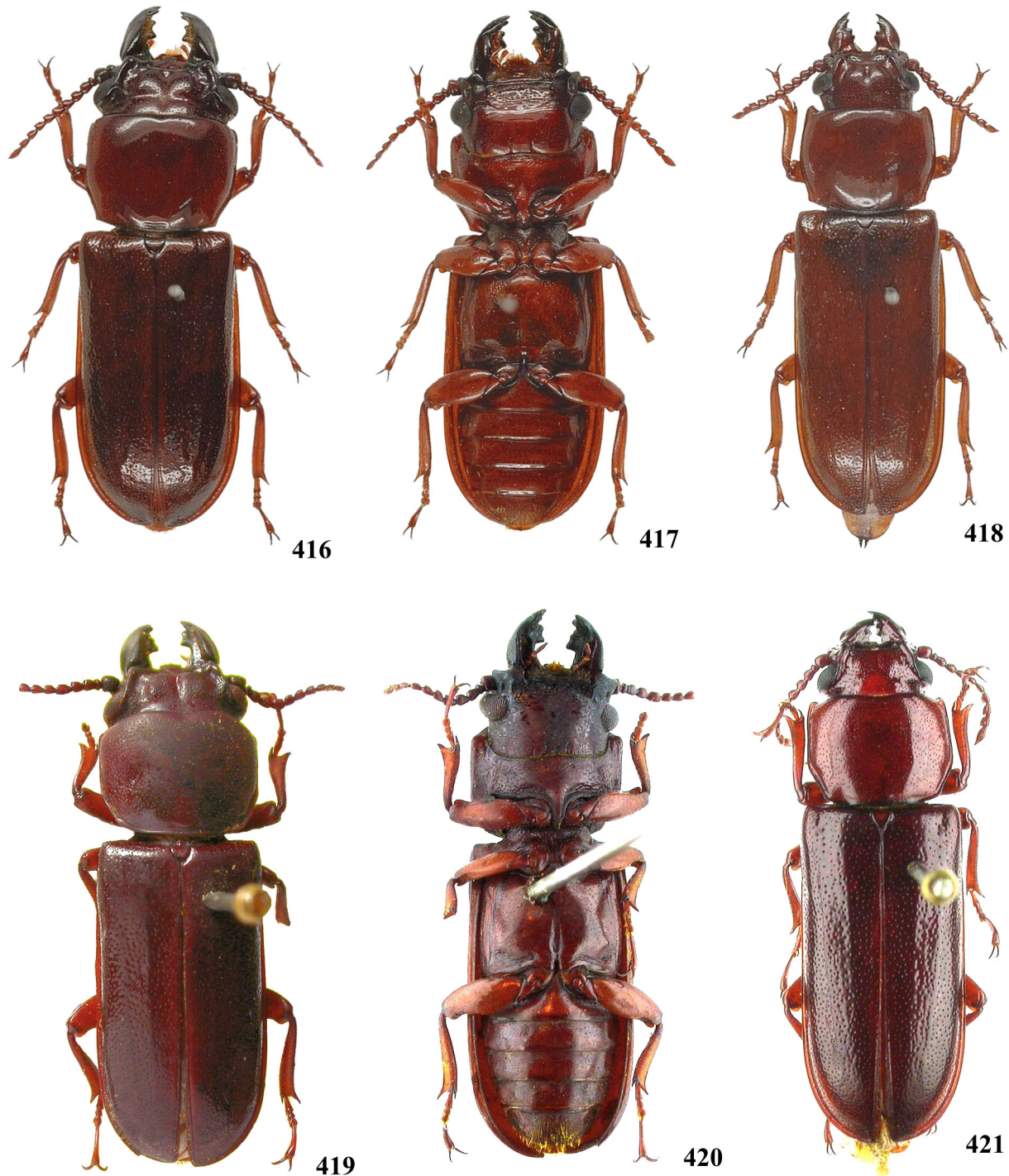


**Figure 403-409.** Habitus. 403) *Papuandra oberthueri*, holotype female, dorsal view. 404) *P. oberthueri*, holotype female, ventral view. 405) *Komiyandra janus*, lectotype male, dorsal view. 406) *K. janus*, lectotype male, ventral view. 407) *K. janus*, lectotype male, head and prothorax. 408) *K. janus*, lectotype male, labels. 409) *K. janus*, female, dorsal view.

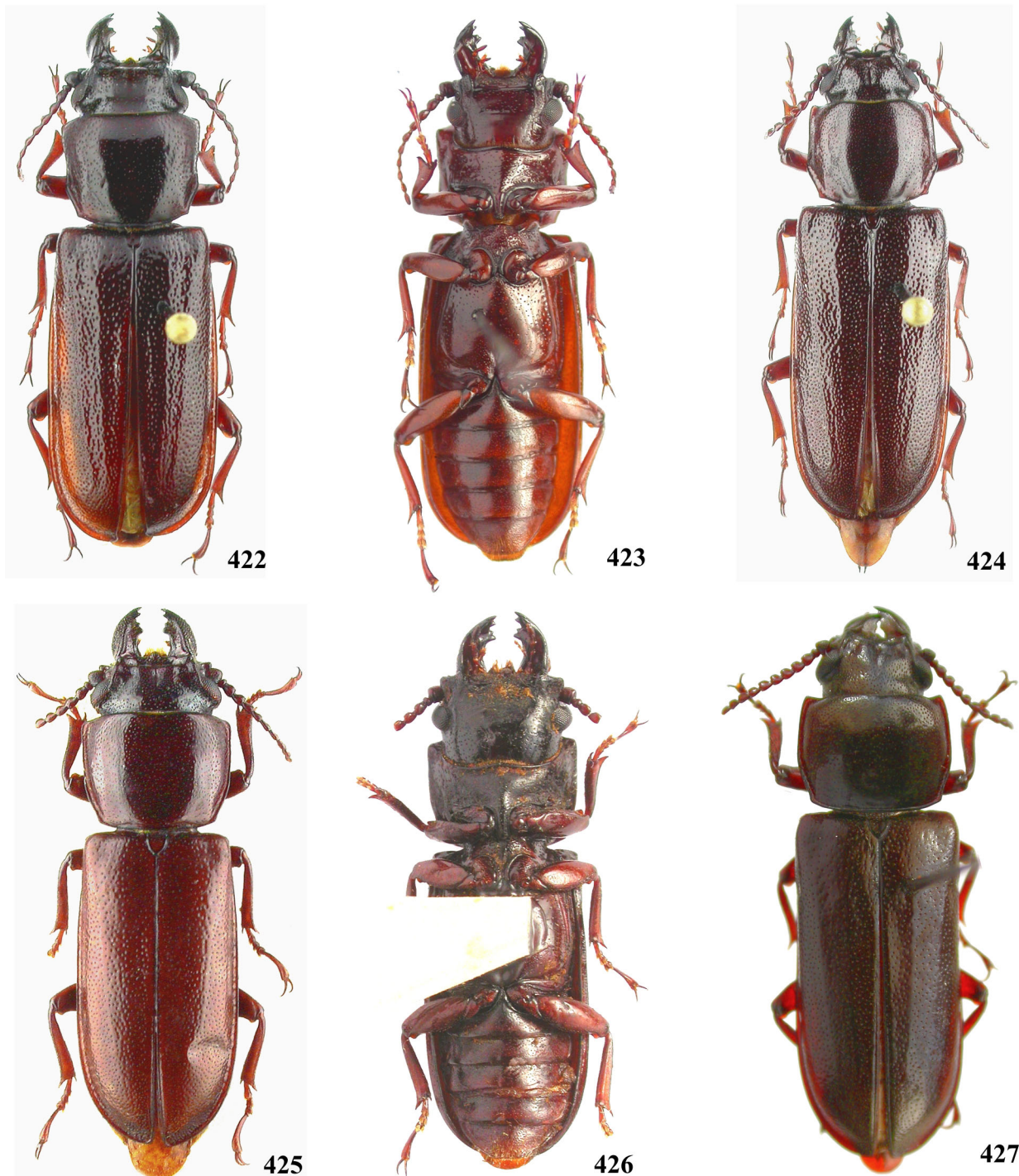


**Figure 410-415.** Habitus. 410) *Komiyandra shibatai*, male, dorsal view. 411) *K. shibatai*, male, ventral view. 412) *K. shibatai*, female, dorsal view. 413) *K. formosana*, male, dorsal view. 414) *K. formosana*, female, ventral view. 415) *K. formosana*, female, dorsal view.



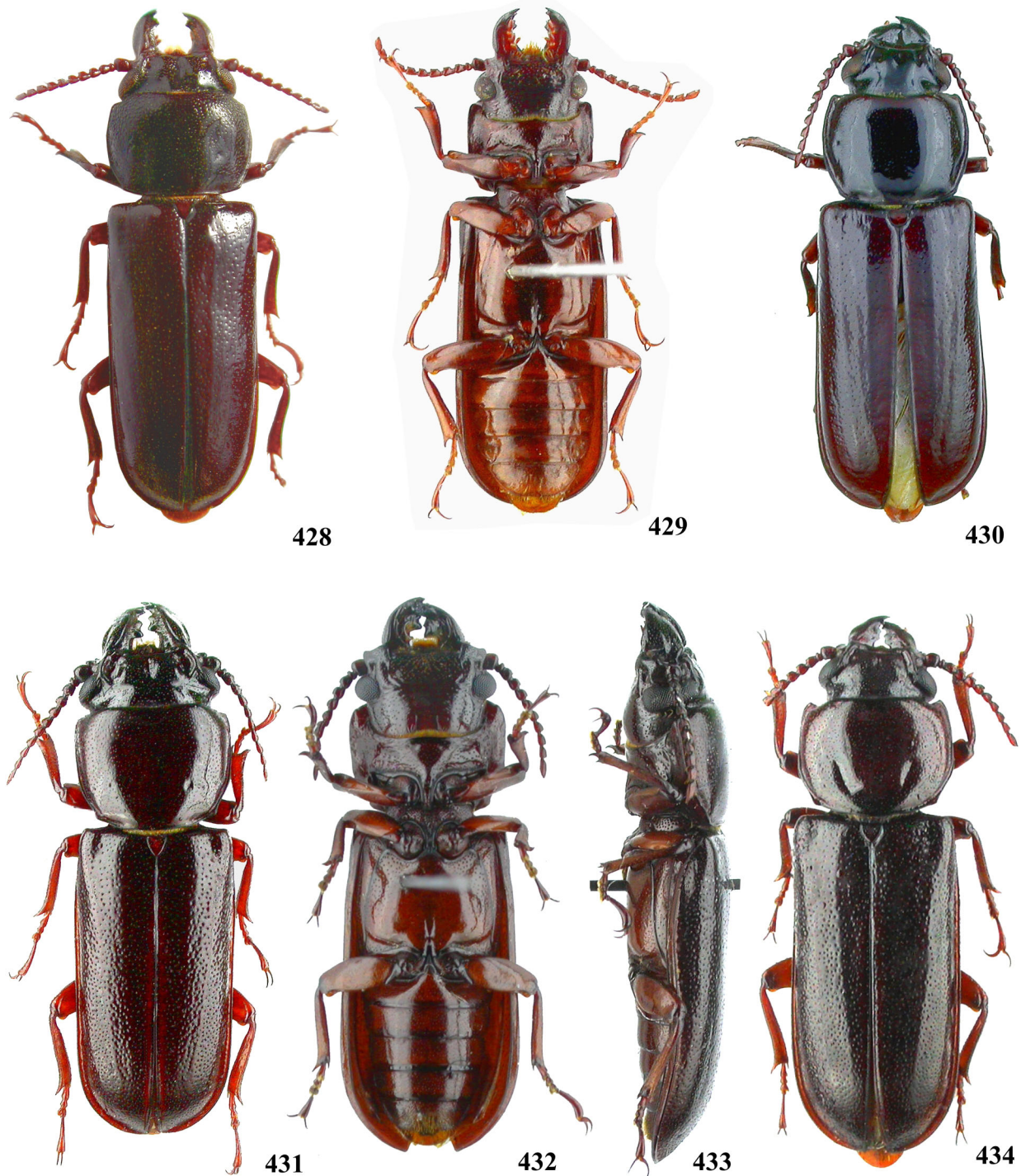


**Figure 416-421.** Habitus. **416)** *Komiyandra lanyuana*, male, dorsal view. **417)** *K. lanyuana*, male, ventral view. **418)** *K. lanyuana*, female, dorsal view. **419)** *K. javana*, holotype male, dorsal view. **420)** *K. javana*, holotype male, ventral view. **421)** *K. javana*, paratype female, dorsal view.

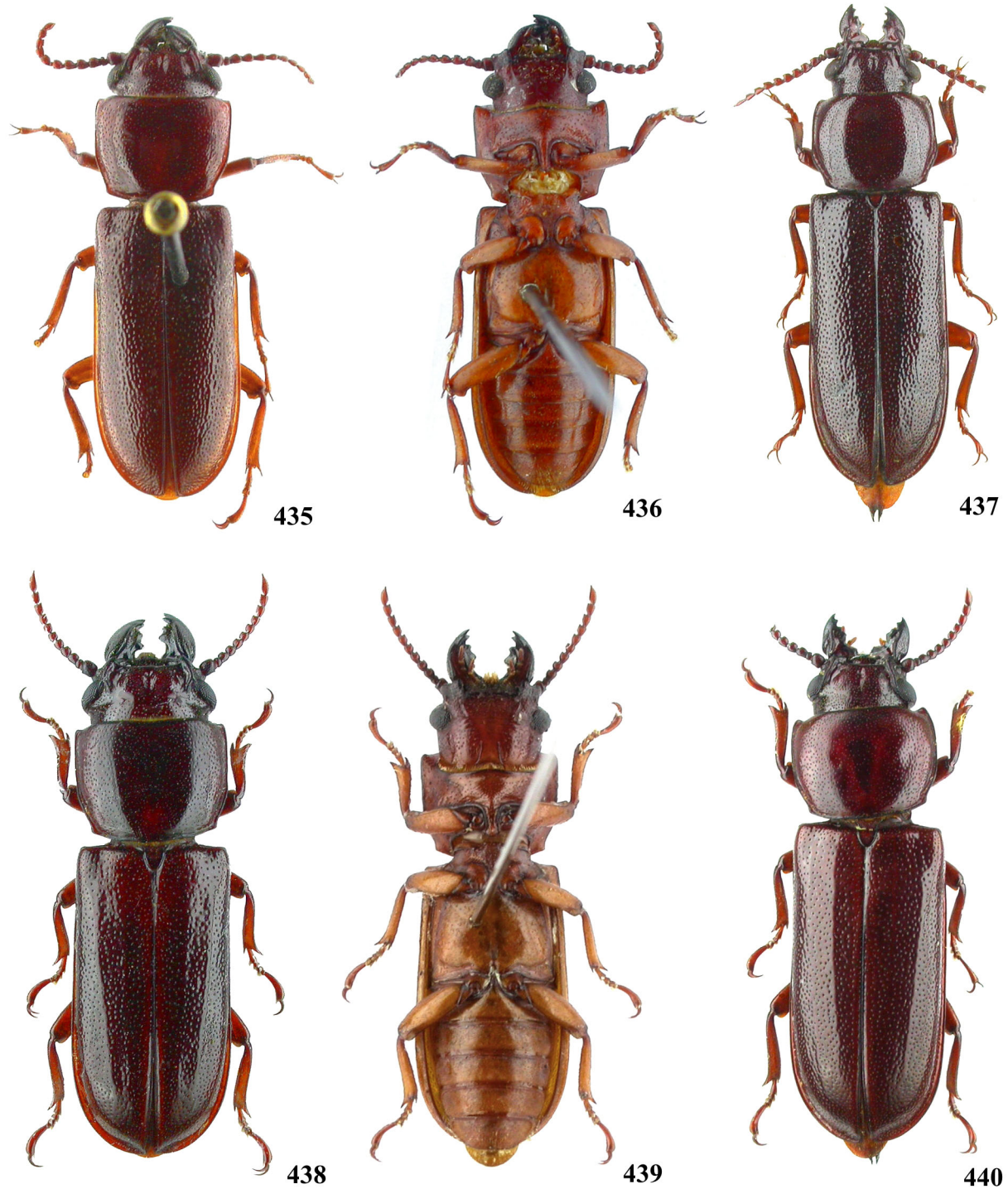


**Figure 422-427.** Habitus. **422)** *Komiyandra nayani*, holotype male, dorsal view. **423)** *K. nayani*, holotype male, ventral view. **424)** *K. nayani*, paratype female, dorsal view. **425)** *K. ohbayashii*, holotype male, dorsal view. **426)** *K. ohbayashii*, holotype male, ventral view. **427)** *K. ohbayashii*, paratype female, dorsal view.



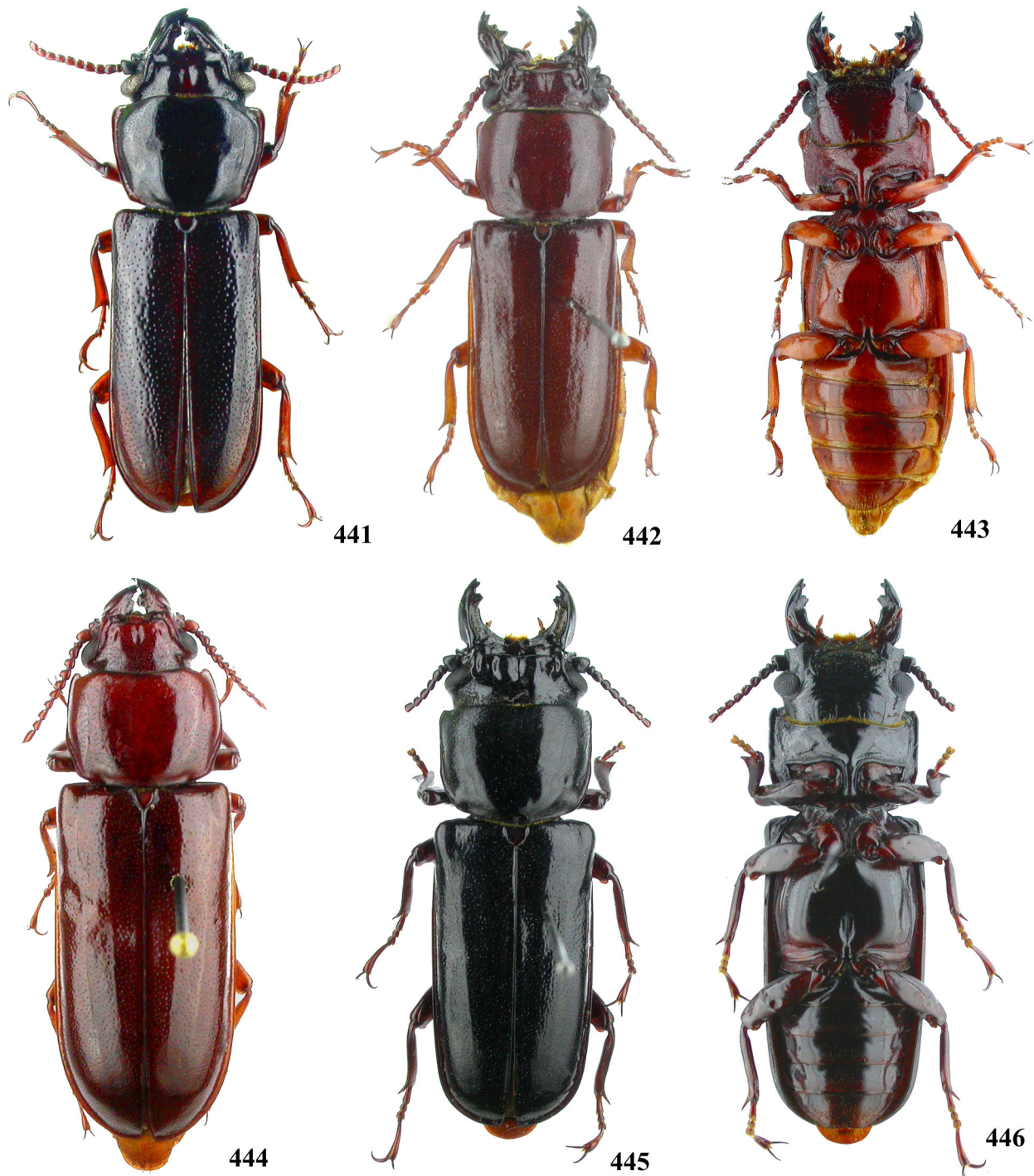


**Figure 428-434.** Habitus. **428)** *Komiyandra luzonica*, paratype male, dorsal view. **429)** *K. luzonica*, paratype male, ventral view. **430)** *K. luzonica*, paratype female, dorsal view. **431)** *K. philippinensis*, paratype male, dorsal view. **432)** *K. philippinensis*, paratype male, ventral view. **433)** *K. philippinensis*, paratype male, lateral view. **434)** *K. philippinensis*, paratype female, dorsal view.

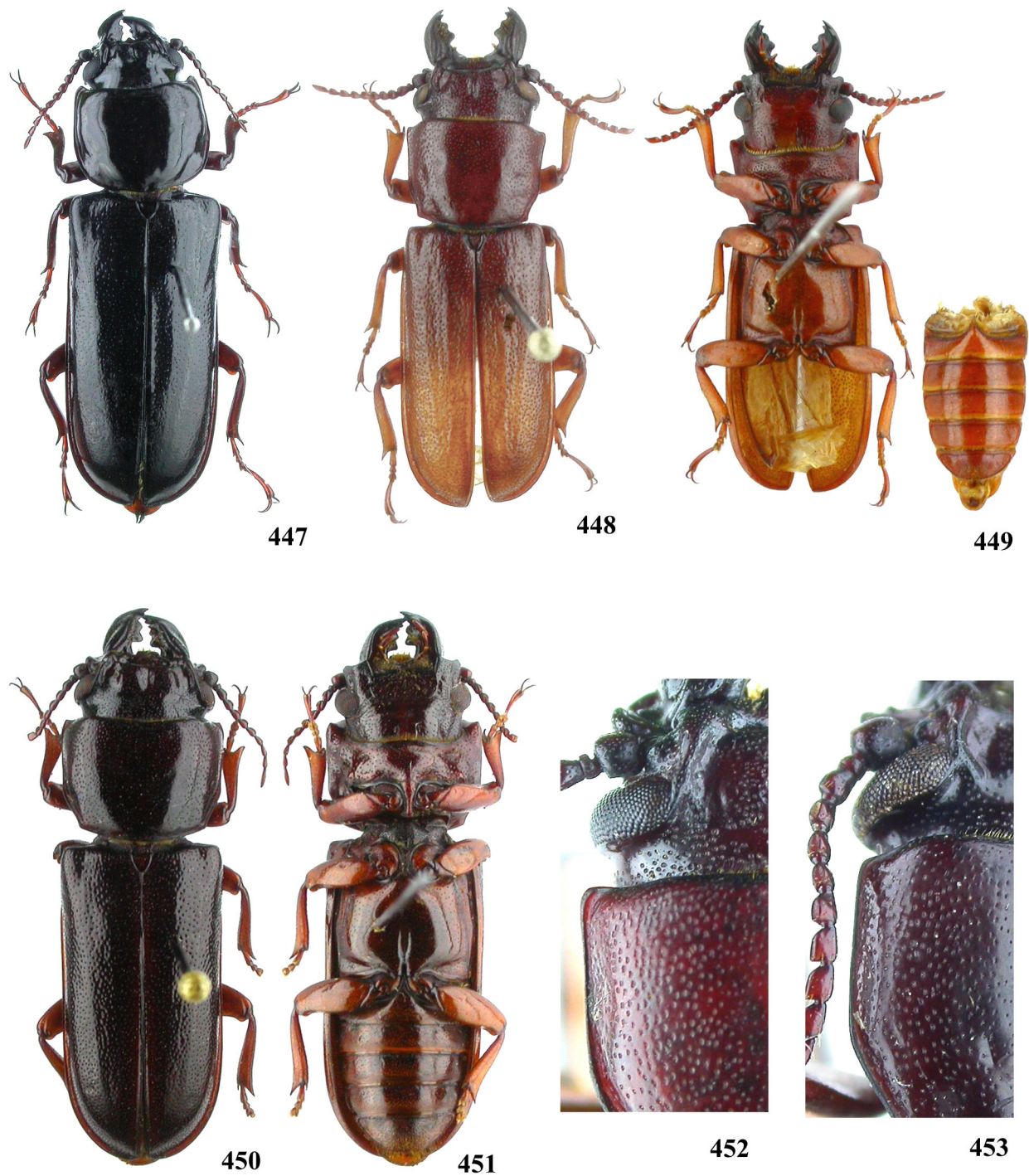


**Figure 435-440.** Habitus. 435) *Komiyandra mindanao*, holotype male, dorsal view. 436) *K. mindanao*, holotype male, ventral view. 437) *K. mindanao*, paratype female. 438) *K. mehli*, holotype male, dorsal view. 439) *K. mehli*, paratype male, ventral view. 440) *K. mehli*, paratype female, dorsal view.



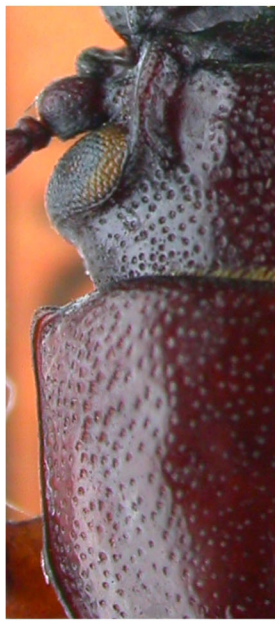


**Figure 441-446.** Habitus. 441) *Komiyandra vivesi*, holotype male, dorsal view. 442) *K. lombokia*, holotype male, dorsal view. 443) *K. lombokia*, holotype male, ventral view. 444) *K. lombokia*, paratype female, dorsal view. 445) *K. sulawesiana*, holotype male, dorsal view. 446) *K. sulawesiana*, holotype male, ventral view.



**Figure 447-453.** Habitus. 447) *Komiyandra sulawesiana*, paratype female, dorsal view. 448) *K. irianjayana*, holotype male, dorsal view. 449) *K. irianjayana*, holotype male, ventral view. 450) *K. menieri*, paratype male, dorsal view. 451) *K. menieri*, paratype male, ventral view. 452) *K. menieri*, paratype male, punctation, head and pronotum. 453) *K. philippinensis*, paratype male, punctation, head and pronotum.

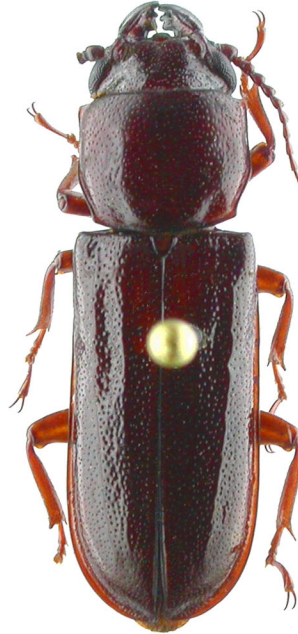




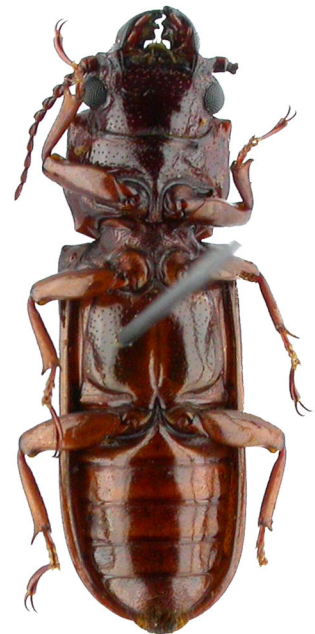
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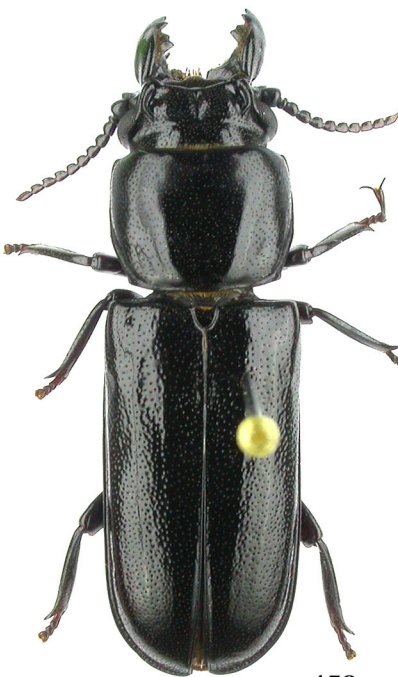
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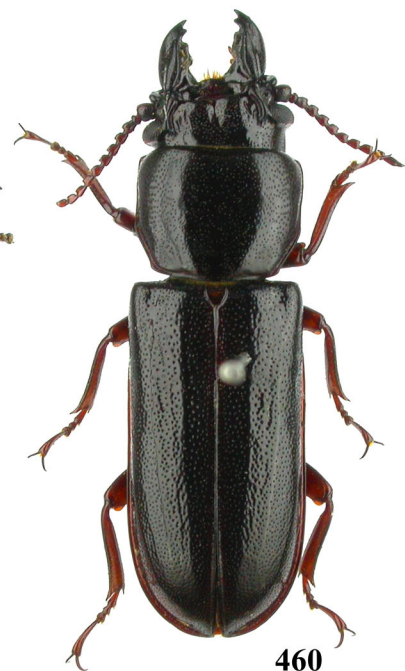
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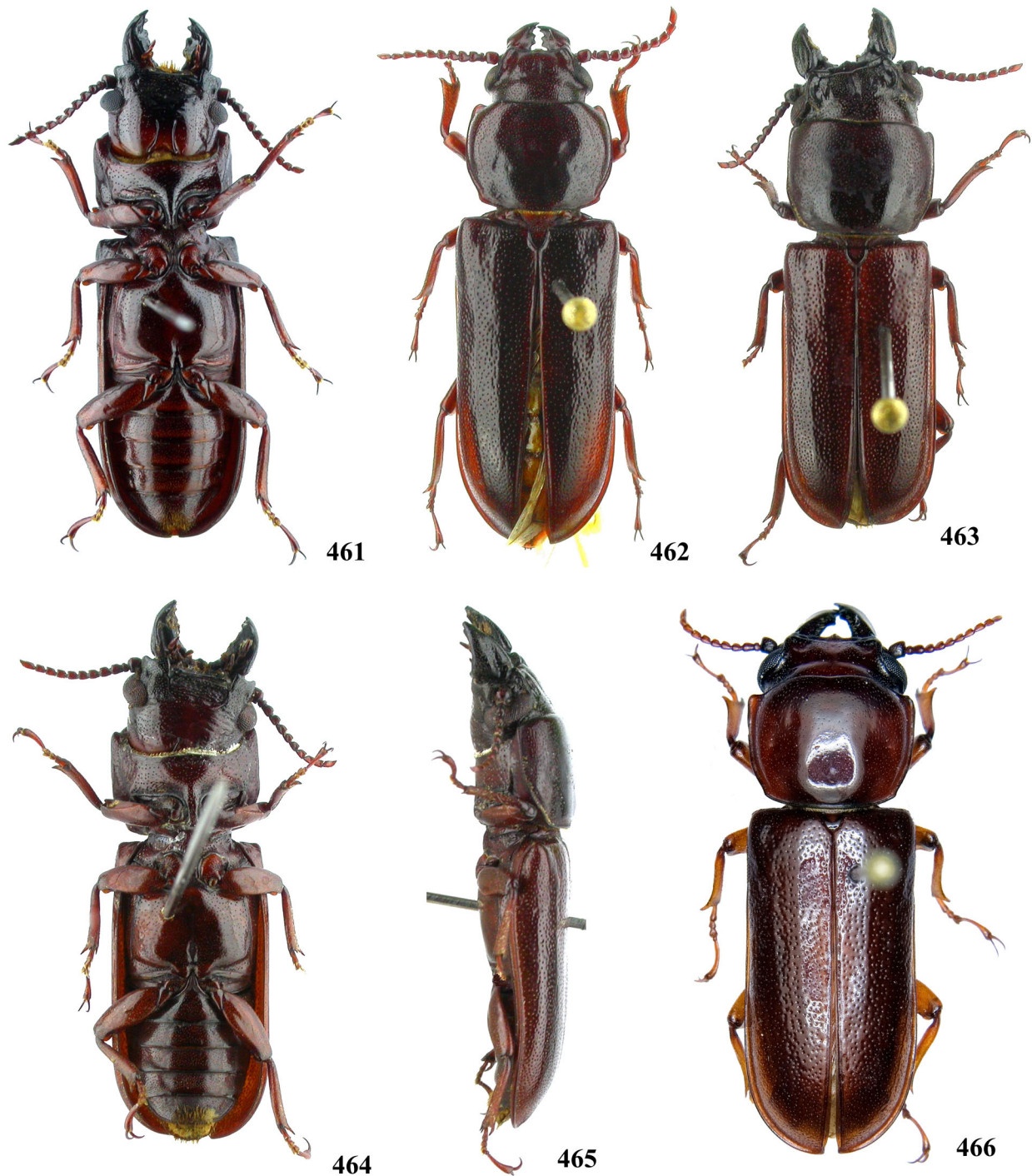


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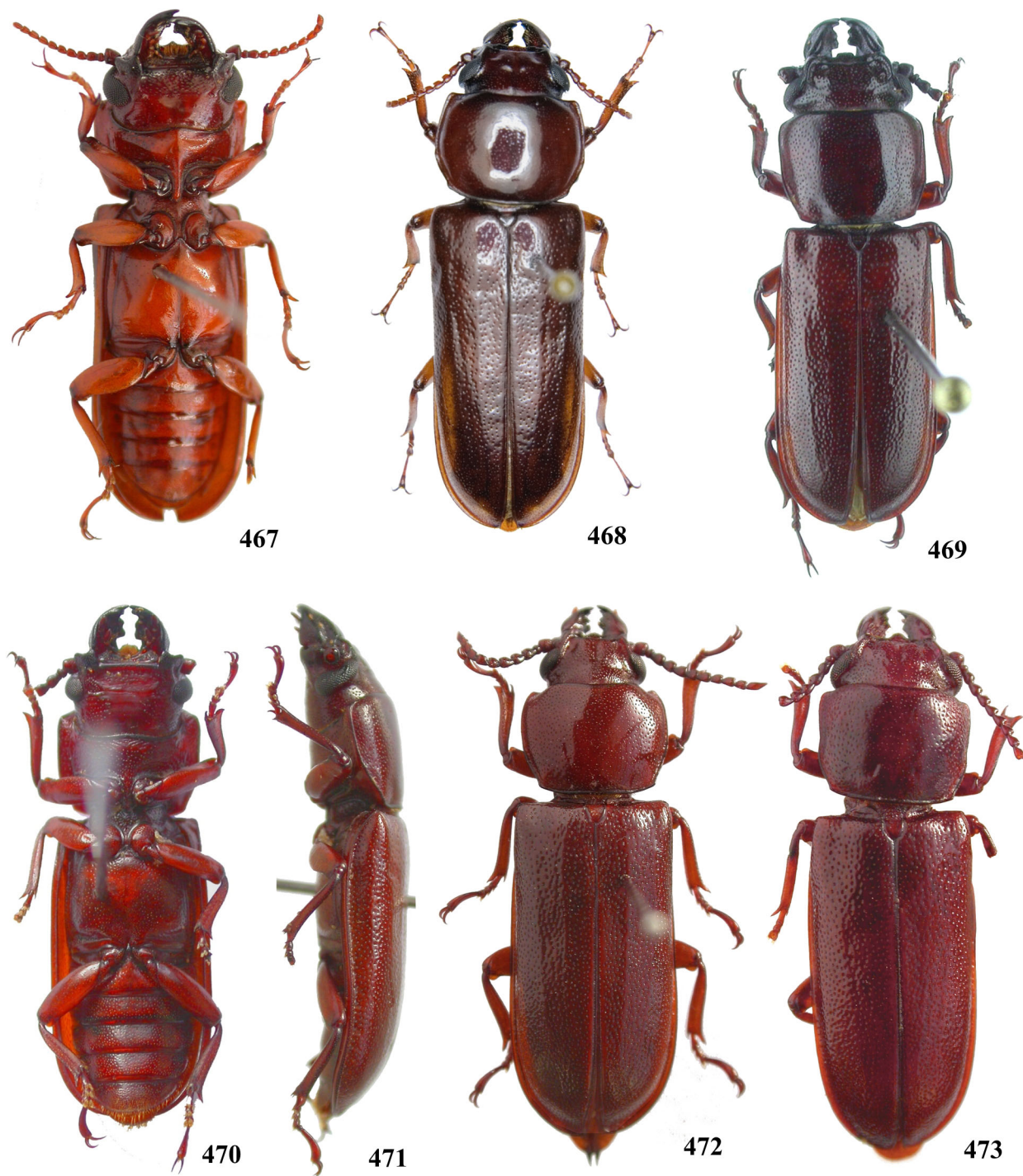
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**Figure 454-460.** Habitus. 454) *Komiyandra irianjayana*, holotype male, punctation, head and pronotum. 455) *K. menieri*, paratype female, dorsal view (paralectotype of *Parandra janus*). 456) *K. sangihe*, holotype male, dorsal view. 457) *K. sangihe*, holotype male, ventral view. 458) *K. mindoro*, holotype male, dorsal view. 459) *K. mindoro*, holotype male, ventral view. 460) *K. niisatoi*, holotype male, dorsal view.

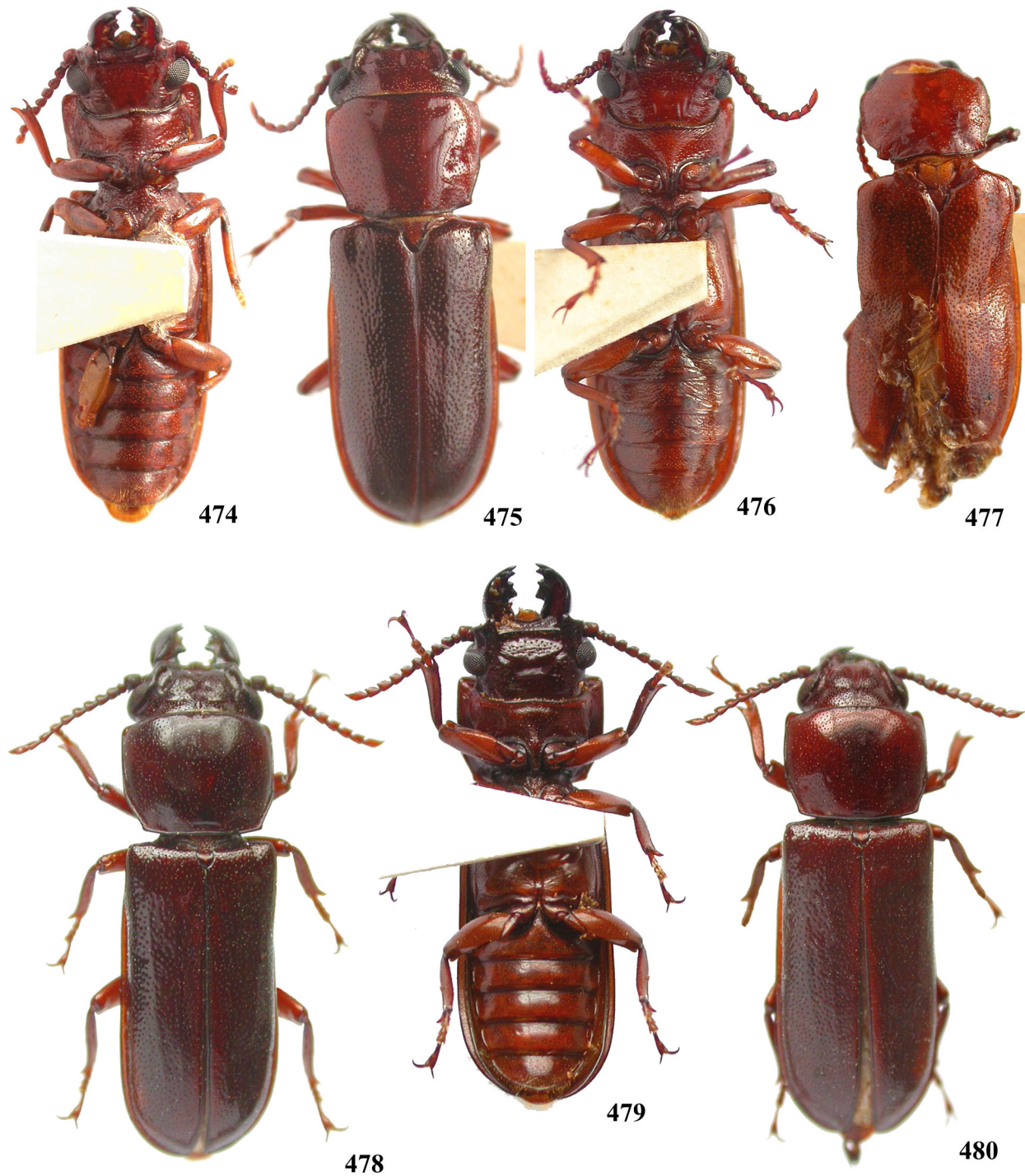


**Figure 461-466.** Habitus. **461)** *Komiyandra niisatoi*, holotype male, ventral view. **462)** *K. niisatoi*, paratype female, dorsal view. **463)** *K. drumonti*, holotype male, dorsal view. **464)** *K. drumonti*, holotype male, ventral view. **465)** *K. drumonti*, holotype male, lateral view. **466)** *K. cabigasi*, holotype male, dorsal view.





**Figure 467-472.** Habitus. **467)** *Komiyandra cabigasi*, holotype male, ventral view. **468)** *K. cabigasi*, paratype female, ventral view. **469)** *K. koni*, paratype male, dorsal view. **470)** *K. koni*, paratype male, ventral view. **471)** *K. koni*, paratype male, lateral view. **472)** *K. koni*, paratype female, dorsal view. **473)** *K. johkii*, holotype male, dorsal view.



**Figure 474-480.** Habitus. **474)** *Komiyandra johkii*, holotype male, ventral view. **475)** *K. poggii*, holotype male, dorsal view. **476)** *K. poggii*, holotype male, ventral view. **477)** *K. poggii*, paratype female, dorsal view. **478)** *K. uenoi*, paratype male, dorsal view. **479)** *K. uenoi*, paratype male, ventral view. **480)** *K. uenoi*, paratype female, dorsal view.