

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Insecta Mundi

Center for Systematic Entomology, Gainesville,  
Florida

---

6-10-2013

## Descriptions of new species of the New World genus *Perilypus* Spinola (Coleoptera: Cleridae: Clerinae)

Weston Opitz

Kansas Wesleyan University, opitz@kwu.edu

Follow this and additional works at: <https://digitalcommons.unl.edu/insectamundi>

---

Opitz, Weston, "Descriptions of new species of the New World genus *Perilypus* Spinola (Coleoptera: Cleridae: Clerinae)" (2013). *Insecta Mundi*. 810.

<https://digitalcommons.unl.edu/insectamundi/810>

This Article is brought to you for free and open access by the Center for Systematic Entomology, Gainesville, Florida at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Insecta Mundi by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

# INSECTA MUNDI

A Journal of World Insect Systematics

---

0305

Descriptions of new species of the New World genus *Perilypus* Spinola  
(Coleoptera: Cleridae: Clerinae)

Weston Opitz

Kansas Wesleyan University, Department of Biology  
100 East Claflin Avenue  
Salina, Kansas 67401-6196  
opitz@kwu.edu

Date of Issue: June 10, 2013

Weston Optiz

Descriptions of new species of the New World genus *Perilypus* Spinola  
(Coleoptera: Cleridae: Clerinae)

Insecta Mundi 0305: 1-28

ZooBank Registration urn:lsid:zoobank.org:pub:A62F6C77-440D-4333-B407-3E64AECFE9AE

**Published in 2013 by**

Center for Systematic Entomology, Inc.

P. O. Box 141874

Gainesville, FL 32614-1874 U. S. A.

<http://www.centerforsystematicentomology.org/>

**Insecta Mundi** is a journal primarily devoted to insect systematics, but articles can be published on any non-marine arthropod. Topics considered for publication include systematics, taxonomy, nomenclature, check-lists, faunal works, and natural history. **Insecta Mundi** will not consider works in the applied sciences (i.e. medical entomology, pest control research, etc.), and no longer publishes book reviews or editorials. **Insecta Mundi** publishes original research or discoveries in an inexpensive and timely manner, distributing them free via open access on the internet on the date of publication.

**Insecta Mundi** is referenced or abstracted by several sources including the Zoological Record, CAB Abstracts, etc. **Insecta Mundi** is published irregularly throughout the year, with completed manuscripts assigned an individual number. Manuscripts must be peer reviewed prior to submission, after which they are reviewed by the editorial board to ensure quality. One author of each submitted manuscript must be a current member of the Center for Systematic Entomology. Manuscript preparation guidelines are available at the CSE website.

**Managing editor:** Paul E. Skelley, e-mail: [insectamundi@gmail.com](mailto:insectamundi@gmail.com)

**Production editors:** Michael C. Thomas, Brian J. Armitage, and Ian Stocks

**Editorial board:** J. H. Frank, M. J. Paulsen

**Subject editors:** G.B. Edwards, J. Eger, A. Rasmussen, F. Shockley, G. Steck, Ian Stocks, A. Van Pelt, J. Zaspel

**Spanish editors:** Julieta Brambila, Angélico Asenjo

**Printed copies (ISSN 0749-6737) deposited in libraries of:**

CSIRO, Canberra, ACT, Australia

Museu de Zoologia, São Paulo, Brazil

Agriculture and Agrifood Canada, Ottawa, ON, Canada

The Natural History Museum, London, Great Britain

Muzeum i Instytut Zoologiczny PAN, Warsaw, Poland

National Taiwan University, Taipei, Taiwan

California Academy of Sciences, San Francisco, CA, USA

Florida Department of Agriculture and Consumer Services, Gainesville, FL, USA

Field Museum of Natural History, Chicago, IL, USA

National Museum of Natural History, Smithsonian Institution, Washington, DC, USA

Zoological Institute of Russian Academy of Sciences, Saint-Petersburg, Russia

**Electronic copies (On-Line ISSN 1942-1354, CDROM ISSN 1942-1362) in PDF format:**

Printed CD mailed to all members at end of year.

Florida Virtual Campus: <http://purl.fcla.edu/fcla/insectamundi>

University of Nebraska-Lincoln, Digital Commons: <http://digitalcommons.unl.edu/insectamundi/>

Goethe-Universität, Frankfurt am Main: <http://edocs.ub.uni-frankfurt.de/volltexte/2010/14363/>

**Author instructions** available on the Insecta Mundi page at:

<http://www.centerforsystematicentomology.org/insectamundi/>

Copyright held by the author(s). This is an open access article distributed under the terms of the Creative Commons, Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original author(s) and source are credited. <http://creativecommons.org/licenses/by-nc/3.0/>

Descriptions of new species of the New World genus *Perilypus* Spinola  
(Coleoptera: Cleridae: Clerinae)

Weston Opitz

Kansas Wesleyan University, Department of Biology  
100 East Claflin Avenue  
Salina, Kansas 67401-6196  
opitz@kwu.edu

**Abstract.** Thirty-two **new species** of *Perilypus* Spinola (Coleoptera: Cleridae: Clerinae) are described; they are *Perilypus ancorus*, *P. angustatus*, *P. aquilus*, *P. arenaceus*, *P. caligneus*, *P. cartagoensis*, *P. collatus*, *P. comosus*, *P. concisus*, *P. copanensis*, *P. copiosus*, *P. diutius*, *P. divaricatus*, *P. elimatus*, *P. flavoapicalis*, *P. galenae*, *P. hamus*, *P. hornito*, *P. infusus*, *P. iodus*, *P. lateralis*, *P. latissimus*, *P. licinus*, *P. limbus*, *P. miculus*, *P. odous*, *P. orophus*, *P. patulus*, *P. punctus*, *turnbowi*, *P. violaceus*, and *P. yasuniensis*. Included in this work are 58 line drawings and 32 color habitus photographs of primary types. To facilitate species identification the species included herein are linked to a key to *Perilypus* species provided in a previous review of the genus.

## Introduction

A revision of *Perilypus* Spinola (Coleoptera: Cleridae: Clerinae) was published by Ekis (now Opitz) (1977) and contained 49 species. Generic revisionists are in the best position to identify new taxa of genera that they revised. It is under this premise that I aggregate post revisionary specimens of genera with which I have dealt. Since Ekis (1977), 32 new species of *Perilypus* have been discovered and are described here. These discoveries nearly double the known species of *Perilypus* and form the basis of this contribution.

## Materials and Methods

Among this aggregate of new species no major differences of natural history or morphology were found requiring altering the generic definition, phylogenetics, or zoogeographic patterns presented in Ekis (1977). Methodologies implemented here were similar to those in Ekis (1977). In the descriptions, the holotype label information is present as it is noted on the specimen label. The illustrations involving the tegmen are presented in ventral view, except Figure 35 which involves the lateral view. Photographs of habitus were taken with an Olympus C765 (4 mega pixel), then digitally printed. The biological concept of the species as proposed by Standfuss (1896: 115), Dobzhansky (1937: 312), and Mayr (1963: 19) is used as the theoretical basis for predicting species status. With some modification, codens identifying repositories of specimens are from Arnett et al. (1993).

The following codens indicate the depository of type and non-type specimens:

**BMNH** -British Museum of Natural History, Department of Entomology, SW 5BD, London, United Kingdom (Beulah Garner, Maxwell V. L. Barclay).

**CMNC** -Canadian Museum of Nature, Insect Collection, Post Office Box 3443, Station D, Ottawa, Ontario, K1P 6P4 Canada (Robert S. Anderson, Francois Genier).

**CSCA** -California State Collection of Arthropods, Plant Pest Diagnostic Center, California Department of Food and Agriculture, 3294 Meadowview Road, Sacramento, CA 95832-1448 USA (Charles L. Bellamy).

**EMEC** -Essig Museum of Entomology, 1101 Valley Life Science Building-4780, University of California, Division of Entomology and Parasitology, California Insect Survey, Berkeley, CA 94720 USA (Pete Oboyski).

**FMNH** -Field Museum of Natural History, Department of Entomology, 1400 South Lake Shore Drive, Chicago, IL 60605-2496 USA (James H. Boone).

- FSCA** -Florida State Collection of Arthropods, Division of Plant Industry, Florida Department of Agriculture, P. O. Box 147100, Gainesville, FL 32614-7100 USA (Michael Thomas, Paul E. Skelley).
- IAVH** -Instituto de Investigaci3n de Recursos Biol3gicos Alexander von Humbolt, Carrera 7 No. 35-20, Bogot3, D. C. Colombia (J.E. Castillo)
- INBC** -Instituto Nacional de Bioversidad, Santo Domingo de Heredia, Apartado Postal 22-3100, Heredia, Costa Rica (Angel Solis)
- ISNB** -Institute royal des Sciences naturelles de Belgique, 29, rue Vautier, B.1000 Bruxelles, Belgium (Pol Limbourg).
- JEWC** -James E. Wappes Collection, 8734 Paisano Pass, San Antonio, TX 78255 USA.
- JNRC** -Jacques Rifkind Collection, 5105 Morella Ave., Valley Village, CA 91607-3219 USA.
- JPHC** -Jeffrey P. Huether Collection, 443 Turk Road, Geneva, NY 14456 USA.
- LACM** -Natural History Museum of Los Angeles County, Entomology Section, 900 Exposition Boulevard, Los Angeles, CA 90007 USA (Brian P. Harris).
- MIUP** - Universidad de Panam3, Museo de Invertebrados G. B. Fairchild, Departamento de Zoologia, Estafeta Universitaria, Panam3, Panama (Roberto Cambra T.).
- RDCC** -Ronald D. Cave Collection, 638 SW Munjack Cove, Port St. Lucie, FL 34986 USA.
- RHTC** -Robert H. Turnbow, Jr. Collection, Directorate of Engineering and Logistics, Fort Rucker, AL 36362-5000.
- TAMU** -Texas A&M University, College of Agriculture and Life Sciences, Department of Entomology, Minnie Belle Heep Building, College Station, TX 77843-7029 (Edward G. Riley).
- USNM** -United States National Museum of Natural History MRC 168, Washington, D.C. 20560-0165 USA (Natalia J. Vandenberg).
- WOPC** -Weston Opitz Collection, Kansas Wesleyan University, Department of Biology, 100 E. Claflin Avenue, Salina, KS 67401-6196 USA.
- ZMHB** -Museum f3r Naturkunde, Institute f3r Systematische Zoologie, Invalidenstrasse 43, D-10115 Berlin Germany (Bernd Jaeger)

## Descriptions

### *Perilypus ancorus*, new species

Figures 2, 34, 60.

**Type Material. Holotype:** Male. COLOMBIA Cauca PNN Gorgona El Saman 2°58'N 78°11'W 5m Malaise 28.ix-22.x.2001 H. Torres Leg. M.2457 (IAVH). **Paratypes:** Seventeen specimens. Five from the type locality (IAVH, 3; WOPC, 2). Ecuador: Pichincha: Santo Domingo, 47 km S Santo Domingo de los Colorados, Rio Palenque, 26-II-1976, on *Heliconia*, H. & A. Howden (CMNC, 1); 15 km E Sto. Domingo, Tinalandia, 23-26.II.1981, 700 m, beating *Inga* trees, H. Howden. (CMNC, 4; WOPC, 3); 26-II-1981 (CMNC, 1; WOPC, 1); *idem*, 16 km SE Santo Domingo, Tinalandia, 15-30-VI-1975, 680 m, S. & J. Peck (CMNC, 1; WOPC, 1).

**Diagnosis.** Specimens of *P. ancorus* are most similar to those of *P. acus* Ekis and will key to that species in Ekis (1977), but *P. ancorus* specimens differ by being stouter in form and the ends of the tegminal lobes are hooked.

**Description.** *Size:* Length 5.8 mm; width 2.0 mm. *Integument:* Cranium mostly yellow, epicranium with quadrate black macula; antenna black; pronotum mostly black, discal sides broadly yellow; elytra mostly brown, with yellow discal streak, and yellow line on epipleural margin that extends to elytral apex; femora mostly yellow, profemora infuscated distally; tibiae mostly yellow, with anterior and posterior dark margin; abdomen brown. *Head:* Antenna boldly serrate (Fig. 2). *Thorax:* Pronotum transverse (40:37), subapical depression well defined; elytra 3.8 x longer than wide, epipleuron convex, asetiferous punctations extend to elytral apex. *Abdomen:* Tegmen as in Figure 34.

**Variation.** The available specimens did not vary significantly in body length. The elytral disc may be entirely dark brown and the base of the phallobasic apodeme may be slightly narrower.

**Natural history.** The type series was collected in a Malaise trap, from 5 to 30 m, during a time frame that extends from the end of November to the beginning of December. One specimen from Ecuador was captured on *Heliconia* in February at 213 m. Seven Ecuadorian specimens were collected on *Inga* trees. The Tinalandia specimens were collected at altitudes ranging from 680 to 700 m.

**Distribution.** Known from Colombia and Ecuador.

**Etymology.** The specific epithet stems from the Latin *ancorus* (= hood), referring to the hood-like dorsal facies of the phallobasic lobes.

***Perilypus angustatus*, new species**

Figures 3, 35, 61.

**Type Material. Holotype:** Male. MEXICO, Ver., 250 ' , Los Tuxtlas, Biol. Sta., UNAM, 20 May 1983, C. & L. O'Brien, & G. M. Marshall (FSCA). **Paratypes:** One Specimen. México: Veracruz: 33 km N Catemaco, Los Tuxtlas Biology Station, 22-29-VI-1984, D. H. Lindeman (WOPC, 1).

**Diagnosis.** Specimens of *P. angustatus* are most similar to those of *P. exilis* Ekis and will key to that species in Ekis (1977), but *P. angustatus* specimens differ by having the elytral disc concolorous, brown, and the phallobasic lobes are much longer.

**Description.** *Size:* Length 6.0 mm; width 1.7 mm. *Integument:* Cranium mostly yellow, epicranium with quadrate black macula; antenna black; pronotum black at middle, discal sides broadly yellow; elytra brown; femora mostly yellow, profemora infuscated distally; tibiae progressively more yellow from protibia to metatibia; abdomen brown. *Head:* Antenna moderately serrate (Fig. 3). *Thorax:* Pronotum transverse (43:40), subapical depression well defined; elytra 2.6 x longer than wide, epipleuron flat, asetiferous punctations extend to elytral apex. *Abdomen:* Tegmen as in Figure 35.

**Variation.** The available specimens did not vary significantly.

**Natural history.** The available specimens were collected by beating, one in May and one in June.

**Distribution.** Known from southeastern México .

**Etymology.** The specific epithet *angustatus* (= narrow) is a Latin adjective. I refer to the narrow portion of the pronotal discal vitta.

***Perilypus aquilus*, new species**

Figures 4, 36, 62.

**Type Material. Holotype:** Male. Santa Ana, Venezuela, Tachira, 22-VII-1972, J. & B. Bechyne (FSCA). **Paratypes:** Three specimens. One specimen from the same locality as the Holotype (WOPC, 1). Venezuela: Barinas: San Isidro, 14 km S La Soledad, 30-31-V-1975, R. E. Dietz (WOPC, 1); Táchira: San Cristobal , 10 km SE P. N. Chorro El Indio, 7°44'3"N 72°13'1"W, 20-V-1998, J. Ashe, R. Brooks, R. Hanley (SEMC, 1).

**Diagnosis.** Specimens of *P. aquilus* are most similar to those of *P. limbatus* Ekis and will key to that species in Ekis (1977), but *P. aquilus* specimens differ by having a broader yellow band alongside the epipleuron. Also, the tegminal lobes are much longer in *P. aquilus*.

**Description.** *Size:* Length 10.0 mm; width 3.0 mm. *Integument:* Cranium mostly black, lower frons yellow; antenna black; pronotum mostly black, anterior angles yellow; elytra mostly brown, with

broad yellow vitta that extends to elytral apex; femora mostly yellow, profemora and mesofemora infuscated distally; tibiae black; abdomen brown. *Head*: Antenna moderately serrate (Fig. 4). *Thorax*: Pronotum transverse (48:45), subapical depression well defined; elytra 2.1 x longer than wide, epipleuron convex, asetiferous punctations extend to elytral apex. *Abdomen*: Tegmen as in figure 36.

**Variation.** One specimen has a yellow spot at the center of the pronotal disc.

**Natural history.** The available specimens were collected by in May and July at altitudes ranging from 1500 m to 1320 m.

**Distribution.** Known only from Venezuela.

**Etymology.** The specific epithet *aquilus* (= blackish) is a Latin adjective, referring to the dark coloration of the available specimens.

***Perilypus arenaceus*, new species**

Figures 5, 63.

**Type Material. Holotype:** Female. Panamá: Panamá Pr. Cerro Campana, 850 M, 8°40'N 79°56'W. Second label: 9-IV-1973, Susan White. Third label: Weston Opitz Collection (FSCA). **Paratypes:** None.

**Diagnosis.** *Perilypus arenaceus* is most similar to *P. latilira* Ekis and will key to that species in Ekis (1977), but *P. arenaceus* differs by having the elytral disc gritty and vested with abundant small setae, and the antenna is more serrate.

**Description.** *Size*: Length 6.0 mm; width 1.8 mm. *Integument*: Cranium mostly black, slightly yellow behind eyes, cranial venter yellow; antenna black; pronotum broadly roseate-yellow at sides, disc with black vitta; elytra mostly brown, epipleural margin yellow; legs mostly brown; abdomen brown. *Head*: Antenna moderately serrate (Fig. 5). *Thorax*: Pronotum transverse (45:40), subapical depression well defined; elytra 2.3 x longer than wide, epipleuron convex, asetiferous punctations extend to elytral apex, surface gritty. *Abdomen*: Aedeagus not available.

**Variation.** One specimen studied.

**Natural history.** The available specimen was collected in April at 850 m.

**Distribution.** Known only from Panamá.

**Etymology.** The specific epithet *arenaceus* (= of sand) is a Latin adjective, referring to the gritty surface on the elytral interstitial spaces.

***Perilypus caligneus*, new species**

Figures 6, 37, 64.

**Type Material. Holotype:** Male. MEXICO: Chiapas, 30 km NW Comitán, 20 June 1990, R. Turnbow (FSCA). **Paratypes:** One specimen from the type locality (RHTC, 1)

**Diagnosis.** Specimens of *P. caligneus* are most similar to those of *P. latilira* Ekis and will key to that species in Ekis (1977), but *P. caligneus* specimens differ by having a cranium that is completely black, the dark band on the pronotal disc is complete, and the body form is more slender.



**Description.** *Size:* Length 6.2 mm; width 1.5 mm. *Integument:* Cranium black; antenna black; pronotum mostly black, side margins yellow; elytra and legs black; abdomen black. *Head:* Antenna boldly serrate (Fig. 6). *Thorax:* Pronotum transverse (39:32), subapical depression well defined; elytra 2.2 x longer than wide, epipleuron flat, asetiferous punctations extend to elytral apex. *Abdomen:* Tegmen particularly short (Fig. 37).

**Variation.** The available specimens are quite homogeneous.

**Natural history.** The available specimens were collected in June.

**Distribution.** Known only from southern México .

**Etymology.** The specific epithet *caligneus* (= dark) is a Latin adjective, referring to the mostly black coloration of these specimens.

***Perilypus cartagoensis*, new species**

Figures 7, 38, 65.

**Type Material. Holotype:** Male. COSTA RICA: Prov. Heredia, 11 km SE La Virgen, 450-550 m, 10°20'N 84°04'W, 20 April 2003, INBio-OET-ALAS, transect (INBC). **Paratypes:** Forty-six specimens. Twenty-one specimens from the type locality (INBC, 14; WOPC, 7). Costa Rica: Heredia: 16 km SSE La Virgen, 10°16'N 84°05'W, 21-IV-2001, 1150 m (WOPC, 1); *idem*, 21-V-2001 (INBio, 1); Rara avis, 15 km SW Las Horquetas, 24-27-1994, rain forest, J. Rifkind, P. Gum (JNRC, 2; WOPC, 1); Cartago: Vicinity Atirro, Hotel Casa Turire, 30-VI-1-VII-1996, beating, 579 m, J. Rifkind, H. Lezama (JNRC, 1); Turrialba, CATIE, 25-V-1995, beating trailside vegetation, J. Rifkind (JNRC, 1); *idem*, 427 m (JNRC, 1); *idem*, 13-14-VIII-1968, Dale H. Habeck (WOPC, 1); *idem*, grounds of IICA, 3-5-VI-1976, Malaise, M. Wasbauer (CSCA, 1); Rio Aquiares, near Santa Cruz, 9 km NW Turrialba, 16-V-1985, P. A. Opler (EMEC, 1); 7 km NE Pavones, 30-V-1985, J. Dojen (EMEC, 1); 5 km N pavones, 26-V-1985, A. J. Gilbert (EMEC, 1); Alajuela: Penas Blancas, IX-X-1986, E. Cruz (CMNC, 1); Guanacaste: Pitilla, 9 km S Santa Cecilia, 1988, Malaise, 700 m (INBC, 1). Costa Rica, B. Carrillo N. P. 84°07'W 10°10'N, 500 m, H. Goulet, L. Masner (CMNC, 1). Panamá: Veraguas: 8 km W Santa Fe, Cerro Tute, 08°30'N 81°6'W, 24-26-VII-1999, Malaise trap, 915 m, J. B. Woolley (TAMU, 6; WOPC, 3)

**Diagnosis.** Specimens of *P. cartagoensis* are most similar to those of *P. latilira* Ekis and will key to that species in Ekis (1977), but *P. cartagoensis* specimens differ by having the pronotal sides roseate and the apex of the tegminal lobes are not uncinatae.

**Description.** *Size:* Length 5.3 mm; width 2.0 mm. *Integument:* Cranium mostly yellow, with quadrate macula that extends from upper frons to epicranium; antenna black; pronotum mostly black, with upper sides reddish-yellow; elytra black; femora mostly yellow, dark at apices; tibiae brown; abdomen black. *Head:* Antenna boldly serrate (Fig. 7). *Thorax:* Pronotum transverse (44:37), subapical depression well defined; elytra 2.5 x longer than wide, epipleuron flat, asetiferous punctations extend to elytral apex. *Abdomen:* Tegmen as in Figure 38.

**Variation.** The elytral disc may show a short yellow vitta placed equidistant from the sutural and epipleural margins.

**Natural history.** The available specimens were collected in April, May, June, July, August, and September, some in a Malaise trap, at altitudes ranging from 427 to 915 m. A beating sheet and Malaise trap were used to capture some of the specimens.

**Distribution.** Known only from Costa Rica and Panamá.



**Etymology.** The specific epithet *cartagoensis* is a Latin compound name derived from Cartago and the suffix *-ensis* (= place for), referring to the type locality of this beetle.

***Perilypus collatus***, new species

Figures 8, 39, 66.

**Type Material. Holotype:** Male. Costa Rica, San Jose, Zurqui de Moravia, 1600 m 10°03'N 84°01'W, P. Hansen, Malaise Trap, VII-1990 (LACM). **Paratypes:** One specimen from the same locality as the Holotype (WOPC, 1).

**Diagnosis.** Specimens of *P. collatus* are most similar to those of *P. sapientis* Ekis and will key to that species in Ekis (1977), but *P. collatus* specimens possess a more slender body and a particularly short aedeagus.

**Description.** *Size:* Length 6.5 mm; width 2.0 mm. *Integument:* Cranium yellow; antenna mostly yellow, apex brown; pronotum yellow, with dark basal streak; elytra dark brown; legs yellow; abdomen brown. *Head:* Antenna moderately serrate (Fig. 8). *Thorax:* Pronotum quadrate (30:30), subapical depression well defined; elytra 2.8 x longer than wide, epipleuron flat, asetiferous punctations extend to elytral apex. *Abdomen:* Tegmen as in Figure 39.

**Variation.** The paratype has the cranium, pronotum, and legs infuscated.

**Natural history.** The available specimens were collected in June and July, one in a cloud forest.

**Distribution.** Known only from Costa Rica.

**Etymology.** The specific epithet *collatus* (= extended) is a Latin adjective, referring to the thin and elongated body of these beetles.

***Perilypus comosus***, new species

Figures 9, 67.

**Type Material. Holotype:** Female. GUAT. Zacapa, 7 km S San Lorenzo, 900 m, 18. VI. 1993, H. & A. Howden. Second label: Beating *Quercus* spp. (CMNC). **Paratypes:** None.

**Diagnosis.** *Perilypus comosus* is most similar to *P. sapientis* Ekis and will key to that species in Ekis (1977), but *P. comosus* has a more robust body form.

**Description.** *Size:* Length 6.5 mm; width 2.2 mm. *Integument:* Cranium black, lower frons yellow; antenna black; pronotal disc with broad black vitta, sides yellow; elytra dark brown; femora progressively more brown from profemora to metafemora; tibiae brown; abdomen brown. *Head:* Antenna boldly serrate (Fig. 9). *Thorax:* Pronotum transverse (40:34), subapical depression well defined; elytra 2.0 x longer than wide, epipleuron flat, asetiferous punctations small, punctations extend to elytral apex. *Abdomen:* Aedeagus not available.

**Variation.** One specimen examined.

**Natural history.** The available specimen was collected in June, by beating branches of *Quercus*.

**Distribution.** Known only from Guatemala.

**Etymology.** The specific epithet *comosus* (= hairy) is a Latin adjective, referring to the highly setose condition of the antenna of these beetles.

***Perilypus concisus***, new species

Figures 10, 40, 68.

**Type Material. Holotype:** Male. PANAMA, Colon Pr. Fort Sherman, 917N 7959W, 16 Nov 2001, leg. F. On. Second label: on *Inga cocleensis*. Third label: In flowers (MIUP). **Paratypes:** None.

**Diagnosis.** *Perilypus concisus* is most similar to *P. limbatus* Ekiş and will key to that species in Ekiş (1977), but *P. concisus* differs by having a yellow antennal apex and violaceous elytral disc.

**Description.** *Size:* Length 6.0 mm; width 1.8 mm. *Integument:* Cranium mostly yellow, epicranium with small quadrate macula; antenna mostly black, apex yellow; pronotum mostly yellow, with black macula on pronotal arch, narrowly black at base; elytral disc violaceous, epipleural margin yellow, yellow margin extends to elytral apex; femora mostly yellow, infuscated distally; tibiae mostly yellow, slightly infuscated; abdomen brown. *Head:* Antenna moderately serrate (Fig. 10). *Thorax:* Pronotum quadrate (45:45), subapical depression well defined; elytra 2.4 x longer than wide, epipleuron convex, asetiferous punctations extend to elytral apex. *Abdomen:* Tegmen as in Figure 40.

**Variation.** One specimen examined.

**Natural history.** The available specimen was collected in November, in the flowers of *Inga cocleensis*.

**Distribution.** Known only from Panamá.

**Etymology.** The specific epithet *concisus* (= short) is a Latin adjective, referring to the short aedeagus.

***Perilypus copanensis***, new species

Figures 11, 41, 69.

**Type Material. Holotype:** Male. HONDURAS: Copan, 6 km NW San Agustín, mv, 19 May 2002, R. Turnbow (FSCA). **Paratypes:** Three specimens. One specimen from the same locality as the Holotype (RHTC, 1). Honduras: Cortes: Merendon, 15°30'N 12°88'W, 7-VI-2003, R. Turnbow (WOPC, 1). Guatemala: Zacapa: 3 km S La Unión, 6-VI-1991, H. & A. Howden (CMNC, 1).

**Diagnosis.** Specimens of *P. copanensis* are most similar to those of *P. flavoapicalis*, new species, but in *P. copanensis* specimens the pronotal vitta is considerably wider.

**Description.** *Size:* Length 8.5 mm; width 3.0 mm. *Integument:* Cranium mostly black, epicranial sides yellow; antenna black; pronotum yellow at sides, black in remainder; elytral disc dark brown; legs brown; abdomen brown in basal two-thirds, yellow in remainder. *Head:* Antenna boldly serrate (Fig. 11). *Thorax:* Pronotum transverse (57:47), subapical depression well defined; elytra 2.3 x longer than wide, suboval, strongly deflected at sides, epipleuron flat, asetiferous punctations very small and profusely distributed to elytral apex. *Abdomen:* Tegmen as in Figure 41.

**Variation.** The paratype from Guatemala has a yellow streak along the humeral and sutural margins.

**Natural history.** The available specimens were collected in May and June, one at 1400 m.

**Distribution.** Known only from Guatemala and Honduras.

**Etymology.** The specific epithet *copanensis* is a Latin compound name derived from Copan and the suffix *-ensis* (= place for), referring to the type locality.

***Perilypus copiosus***, new species

Figures 12, 42, 70.

**Type Material. Holotype:** Male. GUAT. ZACAPA, 12-14 km S SAN LORENZO, 1000-2000', JUN 3-6 1989, E. GIESBERT, COLL (FSCA). **Paratypes:** Fifteen specimens. One specimen from the same locality as the Holotype (WOPC, 1). Mexico: Oaxaca: 2 km E Mitla, 3-8-VIII-1994, 1890 m, E. Giesbert (FSCA, 2; WOPC, 1); 1 km N Diaz Ordaz, 9-10-VIII-1994, 1951 m, E. Giesbert (FSCA, 1); Morelos: 1.3 km E Cuernavaca, 27-29-VII-1976, Peigler, Gruetmacher, R. & M. Murray, Schaeffner (TAMU, 1); Guerrero: 2 km SW Xochipala, J. C. Schaeffner, R. W. Jones (TAMU, 1). Guatemala: Zacapa: Cerro de Mono, 25-28-V-1997, 2275 m, E. Giesbert (WOPC, 1); Baja Verapaz: 19-24 km N Salama, 25-31-V-1989, E. Giesbert (FSCA, 1); *idem*, 6 km E Purulhá, 26-31-V-1989, 1555 m, E. Giesbert (WOPC, 1). Honduras: Francisco Morazán: 1 km W Hatilla, 29-V-1995, R. Turnbow (RHTC, 1, WOPC, 1); Olancho: Parque Nacional La Muralla, 24-27-V-1995, J. Huether (JPHC, 1); El Paraiso: 7 km SE Danli em., 30-IV-1994, R. Turnbow (RHTC, 1). Costa Rica: San José: Cerros de Escazú, Mantinilla, 24-V-1995, 1159 m, beating slash, J. Rifkind, H. Lezama (JNRC, 1).

**Diagnosis.** Specimens of *P. copiosus* are most similar to those of *P. sapientis* Ekis and will key to that species in Ekis (1977), but *P. copiosus* specimens differ by having the elytra disc copiously vested with fine setae.

**Description.** *Size:* Length 6.0 mm; width 2.0 mm. *Integument:* Cranium mostly yellow, upper frons and epicranium black at center; antenna black; pronotum mostly yellow, black at base and with black central macula on pronotal collar; elytral disc dark brown, epipleural margin yellow, yellow line extends to elytral apex; femora mostly yellow, infuscated at apices; tibiae dark brown; abdomen brown. *Head:* Antenna boldly serrate (Fig. 12). *Thorax:* Pronotum transverse (55:47), subapical depression well defined; elytra 2.3 x longer than wide, profusely vested with fine setae, epipleuron convex, asetiferous punctations distributed to elytral apex. *Abdomen:* Tegmen as in Figure 42.

**Variation.** The pronotal disc may be mostly yellow and the elytral disc may display a faintly expressed yellow vitta.

**Natural history.** The available specimens were collected from April thru August, from 304 to 2275 m; one by beating slash.

**Distribution.** Known from México, Guatemala, Honduras, and Costa Rica.

**Etymology.** The specific epithet *copiosus* (= abundant) is a Latin adjective, referring to copious distribution of fine setae on the elytral disc.

***Perilypus diutius***, new species

Figures 13, 43, 71.

**Type Material. Holotype:** Male. PANAMA, Chir., 7 mi. W El Volcan, 4800, VII-8-1974, C. W. & L. O'Brien (FSCA). **Paratypes:** Two specimens. Panamá: Chiriqui: 10 km N Hato del Volcan, 6-VIII-2000, 1420 m, beating intermix of vines & verdure, W. Opitz (WOPC, 1); *idem*, Hartman's finca, Santa Clara, 15-18-VI-1985, Riley & Rider (TAMU, 1).

**Diagnosis.** Specimens of *P. diutius* are most similar to those of *P. sapientis* Ekis and will key to that species in Ekis (1977), but *P. diutius* specimens differ by having a brown hue on the elytral disc.

**Description.** *Size:* Length 6.5 mm; width 1.8 mm. *Integument:* Cranium mostly black, epicranial sides yellow; antenna black; pronotum yellow at sides, black in remainder; elytral disc mostly dark brown, with yellow vitta equidistant between epipleural and sutural margin, yellow vitta does not reach elytral

apex; legs mostly brown; abdomen brown. *Head*: Antenna moderately serrate (Fig. 13). *Thorax*: Pronotum transverse (40:35), subapical depression well defined; elytra 2.8 x longer than wide, epipleuron flat, asetiferous punctations distributed to elytral apex. *Abdomen*: Tegmen as in Figure 43.

**Variation.** The two female paratypes show a yellow abdomen and in one of these the elytral discal vitta reaches the elytral apex.

**Natural history.** The available specimens were collected in June, July, and August, one at 1420 m and one at 1463 m.

**Distribution.** Known only from Panamá.

**Etymology.** The specific epithet *diutius* (= longer) is a Latin adjective, referring to long dorsal sinus of the tegmen.

***Perilypus divaricatus*, new species**

Figures 14, 44, 72.

**Type Material. Holotype:** Male. Santa Ana, Venezuela, Tachira, 22.VII.72. Second label: J. & B. Bechyne (FSCA). **Paratypes:** One specimen. Venezuela: Tachira: San Joaquin, 24-VIII-1974, J. & B. Bechyne (WOPC, 1).

**Diagnosis.** Specimens of *P. divaricatus* are most similar to those of *P. sapientis* Ekis and will key to that species in Ekis (1977), but *P. divaricatus* specimens differ by having a much longer phallobasic ventral sinus. The females of these two species cannot be separated at this time.

**Description.** *Size*: Length 6.0 mm; width 2.0 mm. *Integument*: Cranium mostly black, venter light brown; antenna dark brown, apex yellow; pronotum mostly black, yellow on anterior side angles; elytral disc mostly black, epipleural margin yellow, yellow line extends to elytral apex; femora mostly yellow, infuscated; tibiae black; abdomen brown. *Head*: Antenna slightly serrate (Fig. 14). *Thorax*: Pronotum transverse (45:40), subapical depression well defined; elytra 2.3 x longer than wide, epipleuron convex, asetiferous punctations distributed to elytral apex. *Abdomen*: Tegmen as in Figure 44.

**Variation.** The paratype has the post ocular cranium yellow, pronotal sides yellow, and a wider yellow streak along the epipleural margin.

**Natural history.** The available specimens were collected in July and August.

**Distribution.** Known only from Venezuela.

**Etymology.** The specific epithet *divaricatus* (= spread apart) is a Latin adjective, referring to extent to which the apices of the phallobasic lobes diverge.

***Perilypus elimatus*, new species**

Figures 15, 73.

**Type Material. Holotype:** Female. MEXICO: Vera Cruz, Los Tuxtlas Biology Station, July, 1984, G. J. Steck, Malaise (FSCA). **Paratypes:** None.

**Diagnosis.** *Perilypus elimatus* is most similar to *P. crabronarius* Spinola and will key to that species in Ekis (1977), but *P. elimatus* differs by having the elytral vitta restricted to the epipleural margin, the vitta does not extend to the humeral angle or to the elytral apex.

**Description.** *Size:* Length 7.0 mm; width 2.6 mm. *Integument:* Cranium mostly yellow, with quadrate macula that extends from upper frons to epicranium; antenna black; pronotum with middle of side margins and central disc yellow, remainder dark brown; elytra mostly dark brown, middle three-fifths of epipleural margin yellow; femora mostly yellow, dark at apices; tibiae brown; abdomen yellow. *Head:* Antenna moderately serrate (Fig. 15). *Thorax:* Pronotum transverse (63:55), subapical depression well defined; elytra 2.3 x longer than wide, epipleuron flat, asetiferous punctations extend to elytral apex. *Abdomen:* Aedeagus not available.

**Variation.** One specimen examined.

**Natural history.** The available specimen was collected in July.

**Distribution.** Known only from southeastern México .

**Etymology.** The specific epithet *elimatus* (= adorned) is a Latin adjective, referring to the diamond-shape yellow macula on the pronotal disc.

***Perilypus flavoapicalis*, new species**

Figures 16, 45, 74.

**Type Material.** **Holotype:** Male. HONDURAS: Comayagua, 2.8 km NNE Los Planes 26 May 2002, R. Turnbow (FSCA). **Paratypes:** None.

**Diagnosis.** *Perilypus flavoapicalis* is most similar to *P. telephoroides* Ekis and will key to that species in Ekis (1977), but *P. flavoapicalis* differs by having the humeral angle black and the abdominal apex yellow.

**Description.** *Size:* Length 8.8 mm; width 3.0 mm. *Integument:* Cranium mostly black, epicranial sides yellow; antenna black; pronotum yellow at sides, black in remainder; elytral disc dark brown; legs brown; abdomen brown in basal two-thirds yellow in remainder. *Head:* Antenna boldly serrate (Fig. 16). *Thorax:* Pronotum very transverse (77:55), subapical depression shallow; elytra 2.2 x longer than wide, suboval, strongly deflected at sides, epipleuron flat, asetiferous punctations very small and profusely distributed to elytral apex. *Abdomen:* Tegmen as in Figure 45.

**Variation.** One specimen examined.

**Natural history.** The available specimen was collected in May.

**Distribution.** Known only from Honduras.

**Etymology.** The specific epithet *flavoapicalis* is a Latin compound name derived from *flavus* (= yellow) and *apex* (= tip), referring to the yellow apex of the abdomen.

***Perilypus galenae*, new species**

Figures 1, 17, 46.

**Type Material.** **Holotype:** Male. Est. Cacao, 1000-1400 m, Lado SO Vol. Cacao, Prov. Guan., Costa Rica, C. Chaves, Mar 1991, L-N- 323300, 875700 (INBC). **Paratypes:** Three specimens. Costa Rica: Heredia: 11 km SE La Virgen, 450-550, 10°20'N 84°04'W, 23-III-2003 (INBC, 1); Finca La Selva, 3 km S Pto. Viejo, 10°26'N 84°01'W, 12-VII-1976, Malaise trap, D. Perry (WOPC, 1); Guanacaste: 3 km SE Rio Naranjo, 1-15-VI-1993, F. D. Parker (WOPC, 1).

**Diagnosis.** Specimens of *P. galenae* are most similar to those of *P. floralis* Ekiş and will key to that species in Ekiş (1977), but *P. galenae* specimens differ by not having a yellow discal vitta and the sutural margin is yellow.

**Description.** *Size:* Length 6.0 mm; width 1.6 mm. *Integument:* Cranium mostly black, lower frons yellow; antenna yellow; pronotum mostly yellow, black at posterior angles and at center of pronotal arch; elytral disc black, epipleural and sutural margins yellow; legs yellow; abdomen brown. *Head:* Antenna slightly serrate (Fig. 17). *Thorax:* Pronotum slightly transverse (37:35), subapical depression well defined; elytra 2.0 x longer than wide, epipleuron convex, asetiferous punctations present to elytral apex. *Abdomen:* Tegmen as in Figure 46.

**Variation.** The specimens examined do not vary appreciably.

**Natural history.** The available specimens were collected during March, June, and July; at an altitude that ranges from 450 to 1400 m.

**Distribution.** Known only from Costa Rica.

**Etymology.** I dedicate this species to my wife Galena, who has been exceptionally supportive of my research program.

*Perilypus hamus*, new species  
Figures 18, 47, 75.

**Type Material.** **Holotype:** Male. BELIZE, June 2006, Chiquibul Forest Res., Las Cuevas field Station, 88°59'W 16°44'N, James Kitsone, leg. Second label: BMNH (E), 2006-141, Kitson & Gillett (BMNH). **Paratypes:** Eight specimens. Belize: Cayo: Chiquibul Forest Reserve, Las Cuevas Research Station, Las Cuevas plot 11 (logged IV-1995), 3-6 VII-1995, Malaise trap 11, How & King (BMNH, 1; WOPC, 1); *idem*, 9-VI-1996, fogging *Swietenia macrophylla*, Howe & King (BMNH, 1); *idem*, 16-19-V-1995, San Pastor plot 14 (unlogged), Howe & King (WOPC, 1); *idem*, 88°59'W 16°44'N, 500-700 m, Malaise trap, D. Inward (BMNH, 2; WOPC, 1); Toledo: Columbia Forest, 5 km N. San Antonio, 24-VI-1981, D. H. Messersmith & W. E. Steiner (USNM, 1).

**Diagnosis.** Specimens of *P. hamus* are most similar to those of *P. exilis* Ekiş and will key to that species in Ekiş (1977), but *P. hamus* specimens differ by having a complete black vitta on the pronotal disc. The females of these two species cannot be separated at present.

**Description.** *Size:* Length 6.0 mm; width 1.9 mm. *Integument:* Cranium mostly reddish-brown, epicranium with central black macula; antenna black; pronotum mostly black, broadly yellow at sides; elytra black; femora mostly yellow, infuscated at apices; tibiae black; abdomen brown. *Head:* Antenna slightly serrate (Fig. 18). *Thorax:* Pronotum slightly transverse (42:40), subapical depression well defined; elytra 2.5 x longer than wide, epipleuron flat, asetiferous punctations distributed to elytral apex. *Abdomen:* Tegmen as in Figure 47.

**Variation.** Some specimens have a yellow vitta on the elytral disc.

**Natural history.** The available specimens were collected in May and June, some in a Malaise trap at altitudes ranging from 500 to 700 m. One specimen was collected by fogging *Swietenia macrophylla*.

**Distribution.** Known only from Belize.

**Etymology.** The specific epithet *hamus* (= hook) is a Latin noun, referring to hook at the apices of the tegminal lobes.



***Perilypus hornito***, new species

Figures 19, 48, 76.

**Type Material. Holotype:** Male. PANAMA: Chiriqui, 5 km N Hornito, 15 May 1996, R. Turnbow (FSCA). **Paratypes:** Nine specimens. Five specimens from the same locality as the Holotype: 16-V-1996 (RHTC, 2); 17-V-1996 (RHTC, 2; WOPC, 1). Panamá: Chiriquí: 8 km N Continental Divide, 15-V-1996, Wappes, Huether, & Morris (JEWG, 1); Vicinity Hornito, 14-18-V-1996, 1280 m, Wappes, Huether, & Morris (WOPC, 1); Continental Divide Trail, 17-V-1996, R. Turnbow (RHTC, 1); 4.7 km N Valle de las Minas, 8-VII-1997, R. Turnbow (WOPC, 1).

**Diagnosis.** Specimens of *P. hornito* are most similar to those of *P. claudus* Ekiş and will key to that species in Ekiş (1977), but male *P. hornito* specimens differ by having a brown abdomen. In *claudus* specimens the abdomen is mostly yellow.

**Description.** *Size:* Length 7.0 mm; width 2.0 mm. *Integument:* Cranium, antenna, and prothorax yellow; elytra with violaceous tinge; femora increasing in infuscation from profemur to metafemur; tibiae brown; abdomen brown. *Head:* Antenna slightly serrate (Fig. 19). *Thorax:* Pronotum slightly transverse (47:45), subapical depression well defined; elytra 2.6 x longer than wide, epipleuron flat, asetiferous punctations distributed to elytral apex. *Abdomen:* Tegmen as in Figure 48.

**Variation.** Female specimens have a yellow vitta on the elytral disc and the cranium is infuscated.

**Natural history.** The available specimens were collected in May, one at 1280 m.

**Distribution.** Known only from western Panamá.

**Etymology.** The specific epithet, *hornito*, constitutes a noun in apposition and refers to the type locality.

***Perilypus infissus***, new species

Figures 20, 49, 77.

**Type Material. Holotype:** Male. PANAMA: Chiriqui, continental divide trail, 17 May 1996, R. Turnbow (FSCA). **Paratypes:** Twenty one specimens. Fourteen specimens from the same locality as the Holotype (RHTC, 7; WOPC, 7); Finca La Suiza, 18-V-1996 (RHTC, 1); 8 km N Continental Divide, 15-V-1996, Wappes, Huether & Morris (JEWG, 3; WOPC, 1); *idem*, 17-V-1996, 1098 m, Wappes, Huether & Morris (JEWG, 1; WOPC, 1).

**Diagnosis.** Specimens of *P. infissus* are most similar to those of *P. cerroazul* Ekiş and will key to that species in Ekiş (1977), but *P. infissus* specimens differ by being shorter and narrower in body length and the tegmen is quite reduced. Also, the terminal antennomere is considerably shorter in *P. infissus* specimens.

**Description.** *Size:* Length 6.0 mm; width 1.2 mm. *Integument:* Cranium black; antenna black; pronotum proper black, pronotal arch mostly yellow; legs light brown; elytra dark brown; abdomen brown. *Head:* Antenna slightly serrate (Fig. 20). *Thorax:* Pronotum quadrate (33:33), subapical depression well defined; elytra 2.6 x longer than wide, epipleuron flat, asetiferous punctations distributed to elytral apex. *Abdomen:* Tegmen as in Figure 49.

**Variation.** Some specimens have the cranium yellow and the pronotum is widely yellow at sides. One specimen has the epipleural margin yellow.

**Natural history.** The available specimens were collected in May, two at 1098 m.



**Distribution.** Known only from the highlands of Chiriquí, in Panamá.

**Etymology.** The trivial name, *infissus* is a Latin adjective *findo* (= split). It refers to the collecting site, which was the Continental divide of eastern Panamá.

***Perilypus iodus***, new species

Figures 21, 50, 78.

**Type Material. Holotype:** Male. Est. Pittier, Send. A Rio Canasta, Puntarenas, Costa Rica, 1750-1800 m, 6-28 MAR 1996, M. Moraga, Sombreneta, S 332100 576800 # 7061 (INBC). **Paratypes:** One specimen. Costa Rica: Puntarenas, Las Alturas Field Station, 20 km N San Vito de Hava, 21-24-VI-1992, 1500 m, Malaise trap, Snyder (WOPC).

**Diagnosis.** Specimens of *P. iodus* are most similar to those of *P. relucens* (Gorham) and will key to that species in Ekis (1977), but *P. iodus* specimens differ in that the elytral disc has a violaceous tint.

**Description.** *Size:* Length 6.0 mm; width 2.0 mm. *Integument:* Cranium reddish-yellow; antenna yellow; pronotum yellow, except pronotal arch infuscated at middle; elytra violaceous; legs yellow; abdomen brown. *Head:* Antenna slightly serrate (Fig. 21). *Thorax:* Pronotum transverse (47:40), subapical depression well defined; elytra 2.3 x longer than wide, epipleuron flat, asetiferous punctations diminutive near elytral apex. *Abdomen:* Tegmen as in Figure 50.

**Variation.** The available specimens are quite homogenous.

**Natural history.** One specimen was collected in March, the other in June; one at an altitude between 1500-1800 m.

**Distribution.** Known only from Costa Rica.

**Etymology.** The trivial name, *ion* (= violet) is a Greek noun, referring to the color of the elytral disc.

***Perilypus lateralis***, new species

Figures 22, 51, 79.

**Type Material. Holotype:** Male. MEXICO, Colima, 4500', El Terrero (vic. El Gauz), Sept 30-Oct 4, 1991, E. Giesbert, coll. (FSCA). **Paratypes:** Five specimens. México: Colima: Volcán Colima, 1918, J. Laue (ZMHB, 1); 14 km NE Comala, 18-19-VII-1983, Schaeffer, Kovarik, Harrison (TAMU, 1); San Antonio (N of Comala), 21-VII-1995, 1128 m, J. Rifkind, A. Reifschneider (JNRC, 1; WOPC, 1); Jalisco: Hwy. 54, 2 km W Atenquique, 22-VII-1995, J. Rifkind, A. Reifschneider (JNRC, 1).

**Diagnosis.** Specimens of *P. lateralis* are most similar to those of *P. quadrilineatus* (Chevrolat) and will key to that species in Ekis (1977), but *P. lateralis* specimens differ by having an elytral disc that is devoid of a yellow vitta and the epipleural fold cannot be seen in elytral dorsal view.

**Description.** *Size:* Length 7.0 mm; width 2.0 mm. *Integument:* Cranium mostly black, frons and cranial venter yellow; antenna brown; pronotum broadly yellow at sides, with a black central vitta; elytral disc black, epipleural margin yellow; femora yellow in basal half, brown in distal half; tibiae brown; abdomen brown. *Head:* Antenna moderately serrate (Fig. 22). *Thorax:* Pronotum quadrate (47:40), subapical depression well defined; elytra 2.4 x longer than wide, sides strongly deflexed, epipleuron flat, asetiferous punctations small and profusely distributed to elytral apex. *Abdomen:* Tegmen as in Figure 51.

**Variation.** The specimens examined are quite homogeneous.

**Natural history.** The available specimens were collected during July, September, and October; at altitudes ranging from 1128 to 1372 m.

**Distribution.** Known only from México.

**Etymology.** The trivial name, *lateralis* (= of the side) is a Latin adjective, referring to the sharp decumbency of the sides of the elytra.

***Perilypus latissimus*, new species**

Figures 23, 80.

**Type Material. Holotype:** Female. PANAMA: Darien Pr., Cana, El. 460 m, 745.5N, 7741W, 3-9 VI 96 Stockwell (MIUP). **Paratypes:** None

**Diagnosis.** *Perilypus latissimus* is most similar to *P. latilira* Ekis and will key to that species in Ekis (1977), but *P. latissimus* differs by having a much more serrated antenna.

**Description.** *Size:* Length 7.0 mm; width 2.0 mm. *Integument:* Cranium mostly black, faintly yellow behind eyes, lower frons yellow; antenna black; pronotum mostly yellow, pronotal arch infuscated at middle, pronotal collar black; femora mostly yellow, black at apices, protibia and mesotibia black, metatibia mostly yellow; tibiae brown; elytral disc black, epipleural margin yellow, yellow streak extends to elytral apex; abdomen brown. *Head:* Antenna slightly serrate (Fig. 23). *Thorax:* Pronotum transverse (48:45), subapical depression well defined; elytra 2.4 x longer than wide, epipleuron convex, asetiferous punctations densely distributed to elytral apex. *Abdomen:* Aedeagus not available.

**Variation.** One specimen examined.

**Natural history.** The available specimen was collected in June, at 460 m.

**Distribution.** Eastern Panamá.

**Etymology.** The trivial name, *latissimus* (= wide) is a Latin adjective, referring to the width of the epipleural fold.

***Perilypus licinus*, new species**

Figures 24, 52, 81.

**Type Material. Holotype:** Male. MEXICO, Ver., 250', Los Tuxtlas, Biol. Sta. UNAM, 20 May 1983, C & L O'Brien & G. Marshall (FSCA). **Paratypes:** None.

**Diagnosis.** *Perilypus licinus* is most similar to *P. distinctus* (Chevrolat) and will key to that species in Ekis (1977), but *P. licinus* differs by having a posterior curvature of the yellow elytral discal vitta. Also, the tegminal lobes are expanded dorsally in the *P. licinus* male, which is not the case in the tegmen of *P. distinctus* males.

**Description.** *Size:* Length 6.0 mm; width 2.0 mm. *Integument:* Cranium mostly yellow, epicranium black at middle; antenna black; pronotum mostly yellow, with central black vitta; femora mostly yellow, profemur infuscated dorsoapically; protibia and mesotibia black, metatibia mostly yellow; elytral disc mostly brown, disc with yellow vitta that is curvate distally; abdomen brown. *Head:* Antenna slightly serrate (Fig. 24). *Thorax:* Pronotum transverse (50:53), subapical depression well

defined; elytra 2.5 x longer than wide, epipleuron flat, asetiferous punctations densely distributed to elytral apex. *Abdomen*: Tegmen as in Figure 52.

**Variation.** One specimen examined.

**Natural history.** The available specimen was collected in May, at 76 m.

**Distribution.** Southeastern México.

**Etymology.** The trivial name, *licinus* (= bent) is a Latin adjective, referring to the posterior curvature of the elytral vitta.

*Perilypus limbatus*, new species  
Figures 25, 82.

**Type Material. Holotype:** Female. Fortin de las Flores, Mex., 1-VIII-1972. A second label: Coll. R. Gregg (FMNH). **Paratypes:** None

**Diagnosis.** This is the only known species from México with a combination of epipleural fold convex and elytral punctations extended to the elytral apex

**Description.** *Size:* Length 5.5 mm; width 2.0 mm. *Integument:* Cranium mostly black, frons and cranial venter yellow; antenna brown; pronotum mostly yellow, arch central black macula, collar black; femora mostly yellow, apices black; tibiae black; elytral disc black, epipleural margin yellow; abdomen brown. *Head:* Antenna slightly serrate (Fig. 25). *Thorax:* Pronotum transverse (46:40), subapical depression well defined; elytra 2.5 x longer than wide, epipleuron convex, asetiferous punctations densely distributed to elytral apex. *Abdomen:* Aedeagus not available.

**Variation.** One specimen examined.

**Natural history.** The available specimen was collected in August.

**Distribution.** Known only from México.

**Etymology.** The trivial name, *limbus* (= border) is a Latin noun, referring to the conspicuous nature of the epipleural margin.

*Perilypus miculus*, new species  
Figures 26, 53, 83.

**Type Material. Holotype:** Male. ECUADOR: Napo, Rio Yasuni, Site No. 2, 15-22 September 1977, Joseph J. Anderson. Second label: USNM 2018603 (USNM). **Paratypes:** One specimen with the same locality as the Holotype (WOPC, 1).

**Diagnosis.** Specimens of *P. miculus* are most similar to those of *P. buga* Ekis and will key to that species in Ekis (1977), but *P. miculus* specimens differ by having a convex epipleural fold and the epipleural margin is yellow.

**Description.** *Size:* Length 4.8 mm; width 1.3 mm. *Integument:* Cranium mostly black, frons and cranial venter yellow; antenna brown; pronotum mostly black, upper angles yellow; femora mostly yellow, infuscated distally; tibiae brown; elytral disc black, epipleural margin yellow; abdomen brown.

*Head*: Antenna slightly serrate (Fig. 26). *Thorax*: Pronotum quadrate (35:35), subapical depression well defined; elytra 2.6 x longer than wide, epipleuron convex, asetiferous punctations densely distributed to elytral apex. *Abdomen*: Tegmen as in Figure 53.

**Variation.** Paratype has the pronotum mostly yellow. A black macula is present on the pronotal arch.

**Natural history.** The available specimens were collected in September.

**Distribution.** Known only from Ecuador.

**Etymology.** The trivial name, *miculus* (= diminutive) is a Latin adjective, referring to the small size of the aedeagus.

***Perilypus odous***, new species

Figures 27, 54, 84.

**Type Material. Holotype:** Male. Puerta del Diablo, Parque los Planes, Depto. San Salvador, El Salvador, V 6 1979. Second label: RD Cave col (FSCA). **Paratypes:** Four specimens. One specimen from the same locality as the Holotype (RDCC, 1). El Salvador: San Salvador: El Boquer n, 25-V-1960, J. Bechyn  (ISNB, 1; WOPC, 1); La Libertad: Comasagna, 3-VII-1959, J. Bechyn  (ISNB, 1).

**Diagnosis.** Specimens of *P. odous* are most similar to those of *P. distinctus* (Chevrolat) and will key to that species in Ekis (1977), but *P. odous* specimens differ by having a yellow annulation near the apex of the mesofemur and metafemur.

**Description.** *Size*: Length 8.0 mm; width 2.0 mm. *Integument*: Cranium mostly yellow, upper frons cranium behind eyes black; antenna brown; pronotum broadly yellow at sides, with a black central vitta; elytral disc black; femora yellow in basal half, brown in distal half except with yellow annulation near apex; tibiae brown; abdomen brown. *Head*: Antenna moderately serrate (Fig. 27). *Thorax*: Pronotum quadrate (44:45), subapical depression well defined; elytra 2.4 x longer than wide, epipleuron flat, asetiferous punctations distributed to elytral apex. *Abdomen*: Tegmen as in Figure 54.

**Variation.** A female specimen has the abdomen mostly yellow.

**Natural history.** The available specimens were collected during May and July.

**Distribution.** Known only from El Salvador.

**Etymology.** The trivial name, *odous* (= tooth) is a Greek noun, referring to the sharp hook at the inner border of the tegminal lobe.

***Perilypus orophus***, new species

Figures 28, 55, 85.

**Type Material. Holotype:** Male. PANAMA, Panam  pr. Altos de Pacora, Jan 4-10, E. Giesbert, coll. (FSCA). **Paratypes:** Four specimens. Panam : Panam : Cerro Campana, 18-19-V-1984, 671 m, E. Giesbert (WOPC, 1); *idem*, 8-VI-1994, F. Andrews & A. Gilbert (CSCA, 1); *idem*, 7-I-1994, J. E. Wappes (JEWG, 1); Veraguas: 1 km W Santa Fe, Cerro Tute 08 30'N 81 6'W, 24-VII-8-VIII-1999, Malaise, 915 m, J. B. Woolley (WOPC, 1).

**Diagnosis.** Specimens of *P. orophus* are most similar to those of *P. latilira* Ekis and will key to that species in Ekis (1977), but *P. orophus* specimens differ by having the last antennomere yellow.

**Description.** *Size:* Length 5.0 mm; width 1.5 mm. *Integument:* Cranium mostly yellow, frons and cranial venter black; antenna mostly brown, apex yellow; pronotum broadly yellow at sides, with a black infuscation at base and in center of arch; elytral disc black, but with a bluish hue, epipleural margin yellow; femora mostly yellow, infuscated distally; tibiae mostly yellow; abdomen brown. *Head:* Antenna moderately serrate (Fig. 28). *Thorax:* Pronotum slightly transverse (35:33), subapical depression well defined; elytra 2.5 x longer than wide, epipleuron convex, asetiferous punctations distributed to elytral apex. *Abdomen:* Tegmen as in Figure 55.

**Variation.** The pronotal proper may be completely yellow.

**Natural history.** The available specimens were collected from May thru August, two in January.

**Distribution.** Known only from Panamá.

**Etymology.** The trivial name, *orophus* (= ceiling ) is a Greek noun, referring to the rotund characteristic of the epipleuron.

***Perilypus patulus*, new species**

Figures 29, 56, 86.

**Type Material. Holotype:** Male. PANAMA: Chiriqui, 5 km H. Hornito, 16-V-1996, R. Turnbow (FSCA). **Paratypes:** Fourteen specimens. Panamá: Chiriquí: Finca La Suiza, 16-V-1996, R. Turnbow (RHTC, 1; WOPC, 1); *idem*, 18-V-1996, R. Turnbow (RHTC, 1; WOPC, 1); *idem*, 2-7-VII-1997, J. Huether (JPHC, 1; WOPC, 1); *idem*, 6-VII-1997, R. Turnbow (RHTC, 1); Quebrada Aleman Trail, 4-VII-1997, R. Turnbow (WOPC, 1); Finca Suiza, 1 km SE Hornito, 28-V-2-VI-1991, Malaise trap, F. Andrews & A. Gilbert (CSCA, 1); vicinity Hornito, 14-18-V-1996, 1280 m, Wappes, Huether & Morris (JEW, 3; WOPC, 2).

**Diagnosis.** Specimens of *P. patulus* are most similar to those of *P. ordinatus* Ekis and will key to that species in Ekis (1977), but *P. patulus* specimens differ by having a yellow epipleural margin.

**Description.** *Size:* Length 8.0 mm; width 2.0 mm. *Integument:* Cranium, pronotum, and antenna yellow; elytral disc black, but with a violaceous hue, epipleural narrowly yellow; femora increasing in infuscation from profemora to metafemora; tibiae brown; abdomen brown. *Head:* Antenna moderately serrate (Fig. 29). *Thorax:* Pronotum slightly transverse (42:38), subapical depression well defined; elytra 2.4 x longer than wide, epipleuron flat, asetiferous punctations distributed to elytral apex. *Abdomen:* Tegmen as in Figure 56.

**Variation.** The epicranium may be infuscated, the pronotum may have a wide central black vitta, and the yellow epipleural line varies in width.

**Natural history.** The available specimens were collected during May, June, and July, one in a Malaise trap, another with a black light.

**Distribution.** Known only from Panamá.

**Etymology.** The trivial name, *patulus* (= broad ) is a Latin adjective, referring to the substantial width of the tegminal ventral sinus.

***Perilypus punctus*, new species**

Figures 30, 87.

**Type Material. Holotype:** Female. Est. Pitilla, 700 m, 9 km S Sta. Cecilia, P. N. Guanacaste, Prov. Guanacaste, Costa Rica, P. Rios. 31 mar – 15 abr 1992, L-N 330200, 880200 (INBC). **Paratypes:** One specimen. Costa Rica: Alajuela: San Ramón de los Ríos, 18-III-13-IV-1995, 620 m, F. Quesada (WOPC, 1).

**Diagnosis.** Specimens of *P. punctus* are most similar to those of *P. cultratus* Ekiş and will key to that species in Ekiş (1977), but *P. punctus* specimens differ by having the discal elytral yellow vitta reduced to a basal spot.

**Description.** *Size:* Length 7.0 mm; width 2.0 mm. *Integument:* Cranium mostly black, lower frons and region behind eyes yellow; antenna black; pronotum mostly black, sides broadly yellow; elytral disc black, with a yellow spot at base; femora mostly yellow, infuscated distally; protibiae and mesotibiae mostly brown, metatibiae mostly yellow; abdomen mostly yellow, sixth visible sternite brown. *Head:* Antenna moderately serrate (Fig. 30). *Thorax:* Pronotum transverse (48:42), subapical depression well defined; elytra 2.3 x longer than wide, epipleuron flat, asetiferous punctations distributed to elytral apex. *Abdomen:* Aedeagus not available.

**Variation.** The specimens before me are quite homogeneous.

**Natural history.** The available specimens were collected during a time span between March and April, from 620 to 700 m.

**Distribution.** Known only from Panamá.

**Etymology.** The trivial name *punctus* (= dot) is a Latin noun, referring to the small yellow spot on the base of the elytral disc.

*Perilypus turnbowi*, new species  
Figures 31, 57, 88.

**Type Material. Holotype:** Male. HONDURAS: Yoro, PN Pico Pijol, 3 June 2003, R. Turnbow (FSCA). **Paratypes:** Two specimens. One specimen from the same locality as the Holotype (WOPC, 1); *idem*, 22-VII-2001, black light, R. Turnbow (RHTC, 1).

**Diagnosis.** Specimens of *P. turnbowi* are most similar to those of *P. telephoroides* Ekiş and will key to that species in Ekiş (1977), but *P. turnbowi* specimens differ by having the abdominal apex yellow and the inner margins of the phallobasic sinuses crenulated.

**Description.** *Size:* Length 7.0 mm; width 2.2 mm. *Integument:* Cranium mostly black, epicranial sides yellow; antenna black; pronotum yellow at sides, black in remainder; elytral disc dark brown; femora progressively more yellow from profemora to metafemora; tibiae brown; abdomen brown in basal two-thirds yellow in remainder. *Head:* Antenna boldly serrate (Fig. 31). *Thorax:* Pronotum transverse (90:72), subapical depression well defined at sides; elytra 2.1 x longer than wide, suboval, strongly deflected at sides, epipleuron flat, asetiferous punctations very small and profusely distributed to elytral apex. *Abdomen:* Tegmen as in Figure 57.

**Variation.** One of the paratypes has a yellow streak along the humeral and sutural margins.

**Natural history.** The available specimens were collected in June and July, one by black light.

**Distribution.** Known only from Honduras.

**Etymology.** The specific epithet *turnbowi* honors Robert H. Turnbow for his vast contributions in field entomology.



***Perilypus violaceus***, new species

Figures 32, 58, 89.

**Type Material. Holotype:** Male. PANAMA: Veraguas Pr., Alto de Piedra above Santa Fe, el. 850 m, 10 Apr'93, H. Stockwell. Second label: Weston Opitz Collection (FSCA). **Paratypes:** Two specimens. Panamá: Veraguas: 8 km W Santa Fe, Cerro Tute, 08°30'N 81°6'W, 915 m, 24-VII-1999 (TAMU, 1, WOPC, 1).

**Diagnosis.** Specimens of *P. violaceus* are most similar to those of *P. orophus*, but *P. violaceus* specimens differ by lacking the yellow line along the epipleural margin.

**Description.** *Size:* Length 5.5 mm; width 1.8 mm. *Integument:* Cranium yellow; antenna black; pronotum mostly yellow, arch with black central spot; elytral disc black, with a violaceous tinge; legs yellow; abdomen brown. *Head:* Antenna moderately serrate (Fig. 32). *Thorax:* Pronotum quadrate (44:44), subapical depression well defined; elytra 2.5 x longer than wide, epipleuron flat, asetiferous punctations distributed to elytral apex. *Abdomen:* Tegmen as in Figure 58.

**Variation.** A female paratype has the cranium mostly black and the pronotal disc shows a black centrally located vitta.

**Natural history.** The available specimens were collected during April and July, at an altitude that ranges from 850 to 915 m.

**Distribution.** Known only from Panamá.

**Etymology.** The trivial name, *violaceus* (= like violet) is a Latin adjective, referring to violaceous hue of the elytral disc.

***Perilypus yasuniensis***, new species

Figures 33, 59, 90.

**Type Material. Holotype:** Male. ECUADOR: Napo Rio Yasuni Site No. 2 15-22 September 1977, Joseph J. Anderson. Second label: USNM 2018603 (USNM). **Paratypes:** None.

**Diagnosis.** *Perilypus yasuniensis* is most similar to *P. buga* Ekis and will key to that species in Ekis (1977), but *P. yasuniensis* differs by showing a convex epipleural fold.

**Description.** *Size:* Length 6.5 mm; width 1.5 mm. *Integument:* Cranium mostly black, lower frons and cranial venter yellow; antenna black; pronotum mostly black, upper angles yellow; elytral disc black, epipleural margin yellow; femora mostly yellow, infuscated distally; tibiae brown; abdomen brown. *Head:* Antenna moderately serrate (Fig. 33). *Thorax:* Pronotum quadrate (40:40), subapical depression well defined; elytra 2.5 x longer than wide, epipleuron convex, asetiferous punctations distributed to elytral apex. *Abdomen:* Tegmen as in Figure 59.

**Variation.** None.

**Natural history.** The available specimen was collected in September.

**Distribution:** Known only from Panamá.

**Etymology.** The trivial name, *yasuniensis*, is derived from the name of the type locality and the Latin suffix *-ensis* (= place for).



### Acknowledgments

I thank John Dorshorst, John M. Leavengood, and Paul E. Skelley for their review of the manuscript.

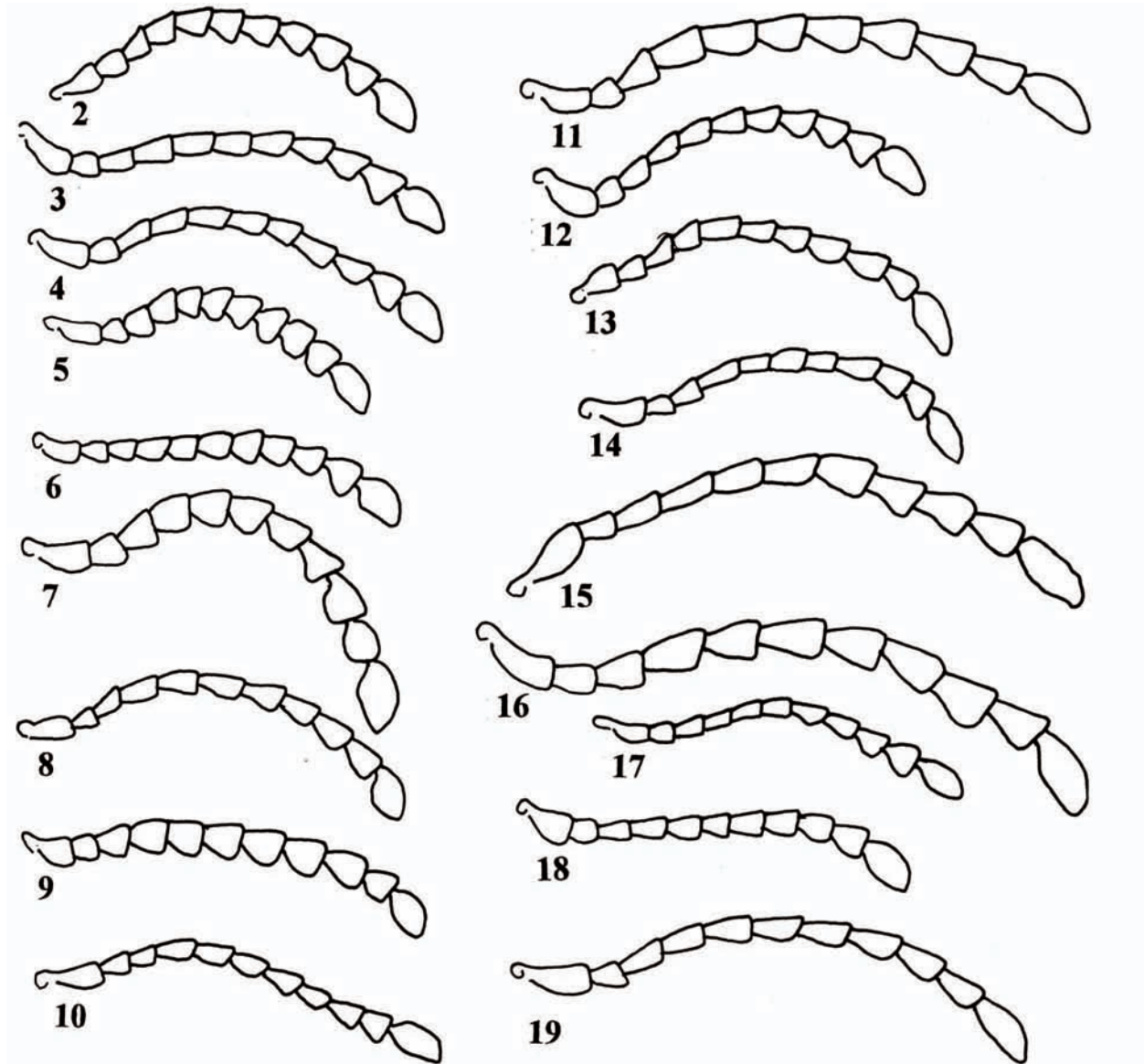
### Literature Cited

- Arnett, Jr., R. H., G. A. Samuelson, and G. M. Nishida. 1993.** The insect and spider collections of the world. Flora and fauna handbook no. 11, 2<sup>nd</sup> ed. Sandhill Crane Press; Gainesville, Florida. 306 p.
- Ekis, G. 1977.** Classification, phylogeny, and zoogeography of the genus *Perilypus* (Coleoptera: Cleridae). Smithsonian Contribution to Zoology 227: 1-138.
- Dobzhansky, T. 1937** Genetics and the origin of species. Columbia University Press; New York, NY. xviii + 446 p.
- Mayr, E. 1963.** Animal species and evolution. Harvard University Press; Cambridge. xvi + 797 p.
- Standfuss, M. 1896.** Handbuch der paläarktischen Gross-Schmetterlinge für Forscher und Sammler: Gustav Fischer; Jena. 392 p.

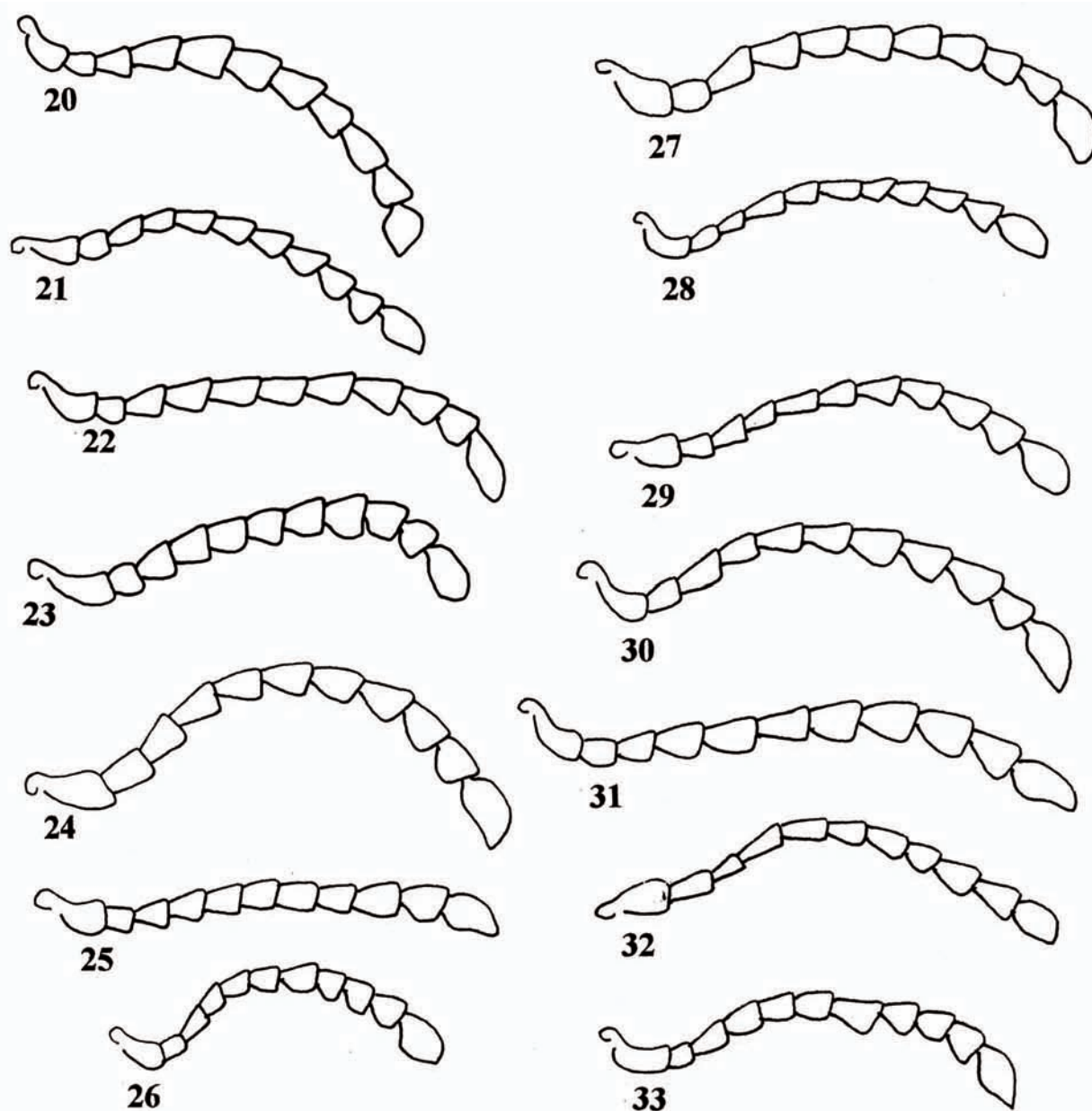
Received February 5, 2013; Accepted May 8, 2013.



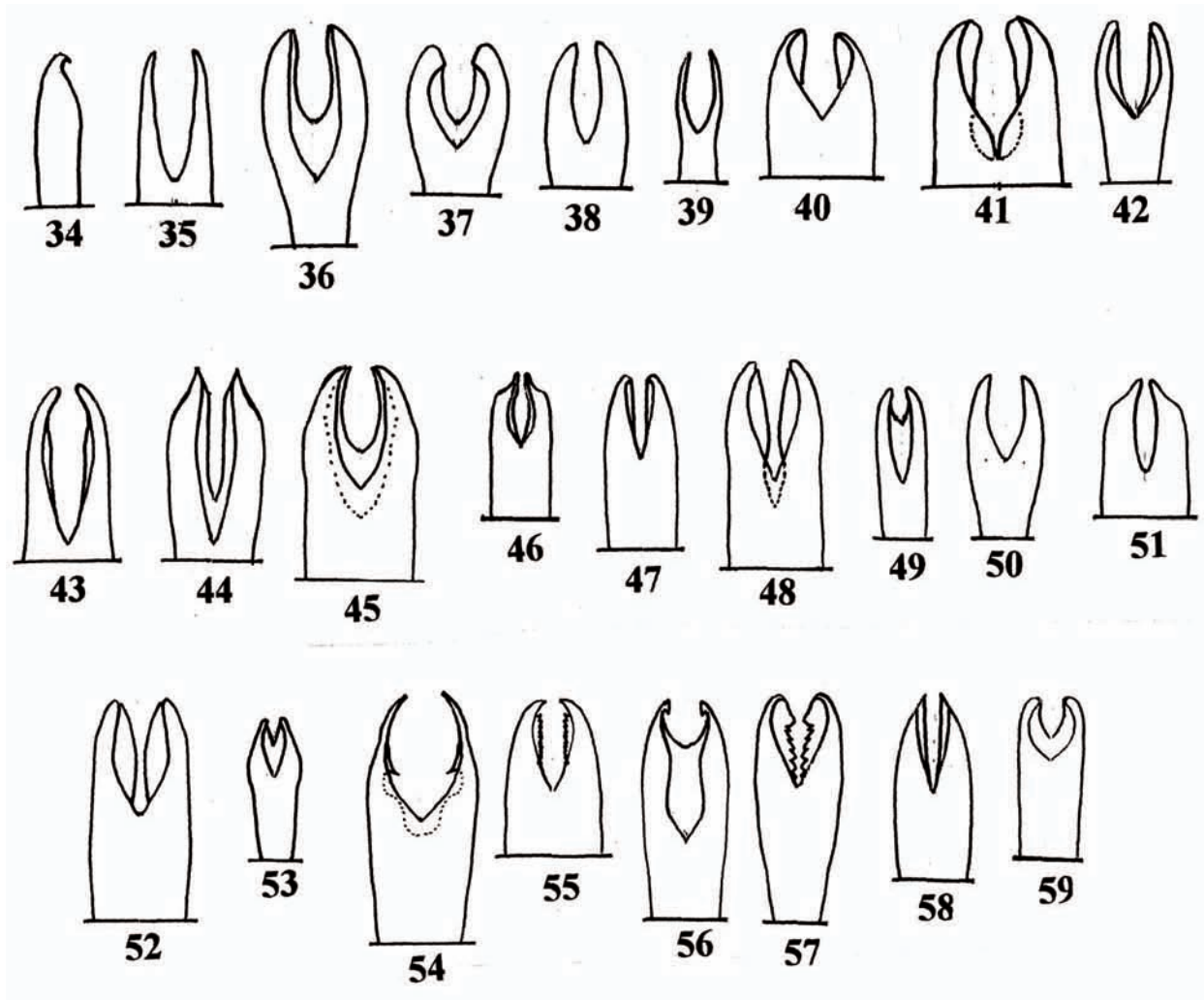
**Figure 1.** Habitus of *Perilypus galenae*.



**Figures 2-19.** Antennae. 2) *Perilypus ancorus*. 3) *P. angustatus*. 4) *P. aquilus*. 5) *P. arenaceus*. 6) *P. caligneus*. 7) *P. cartagoensis*. 8) *P. collatus*. 9) *P. comosus*. 10) *P. concisus*. 11) *P. copanensis*. 12) *P. copiosus*. 13) *P. diutius*. 14) *P. divaricatus*. 15) *P. elimatus*. 16) *P. flavoapicalis*. 17) *P. galenae*. 18) *P. hamus*. 19) *P. hornito*.



**Figures 20-33.** Antennae 20) *Perilypus infissus*. 21) *P. iodus*. 22) *P. lateralis*. 23) *P. latissimus*. 24) *P. licinus*. 25) *P. limbus*. 26) *P. miculus*. 27) *P. odous*. 28) *P. orophus*. 29) *P. patulus*. 30) *P. punctus*. 31) *P. turnbowi*. 32) *P. violaceus*. 33) *P. yasuniensis*.



**Figures 34-59.** Tegmina. 34) *Perilypus ancorus*. 35) *P. angustatus*. 36) *P. aquilus*. 37) *P. caligneus*. 38) *P. cartagoensis*. 39) *P. collatus*. 40) *P. concisus*. 41) *P. copanensis*. 42) *P. copiosus*. 43) *P. diutius*. 44) *P. divaricatus*. 45) *P. flavoapicalis*. 46) *P. galenae*. 47) *P. hamus*. 48) *P. hornito*. 49) *P. infissus*. 50) *P. iodus*. 51) *P. lateralis*. 52) *P. licinus*. 53) *P. miculus*. 54) *P. odous*. 55) *P. orophus*. 56) *P. patulus*. 57) *P. turnbowi*. 58) *P. violaceus*. 59) *P. yasuniensis*.





**Figures 60-65.** Habitus. **60)** *Perilypus ancorus*. **61)** *P. angustatus*. **62)** *P. aquilus*. **63)** *P. arenaceus*. **64)** *P. caligneus*. **65)** *P. cartagoensis*.



**Figures 66-71.** Habitus. **66)** *P. collatus*. **67)** *P. comosus*. **68)** *P. concisus*. **69)** *P. copanensis*. **70)** *P. copiosus*. **71)** *P. diutius*.



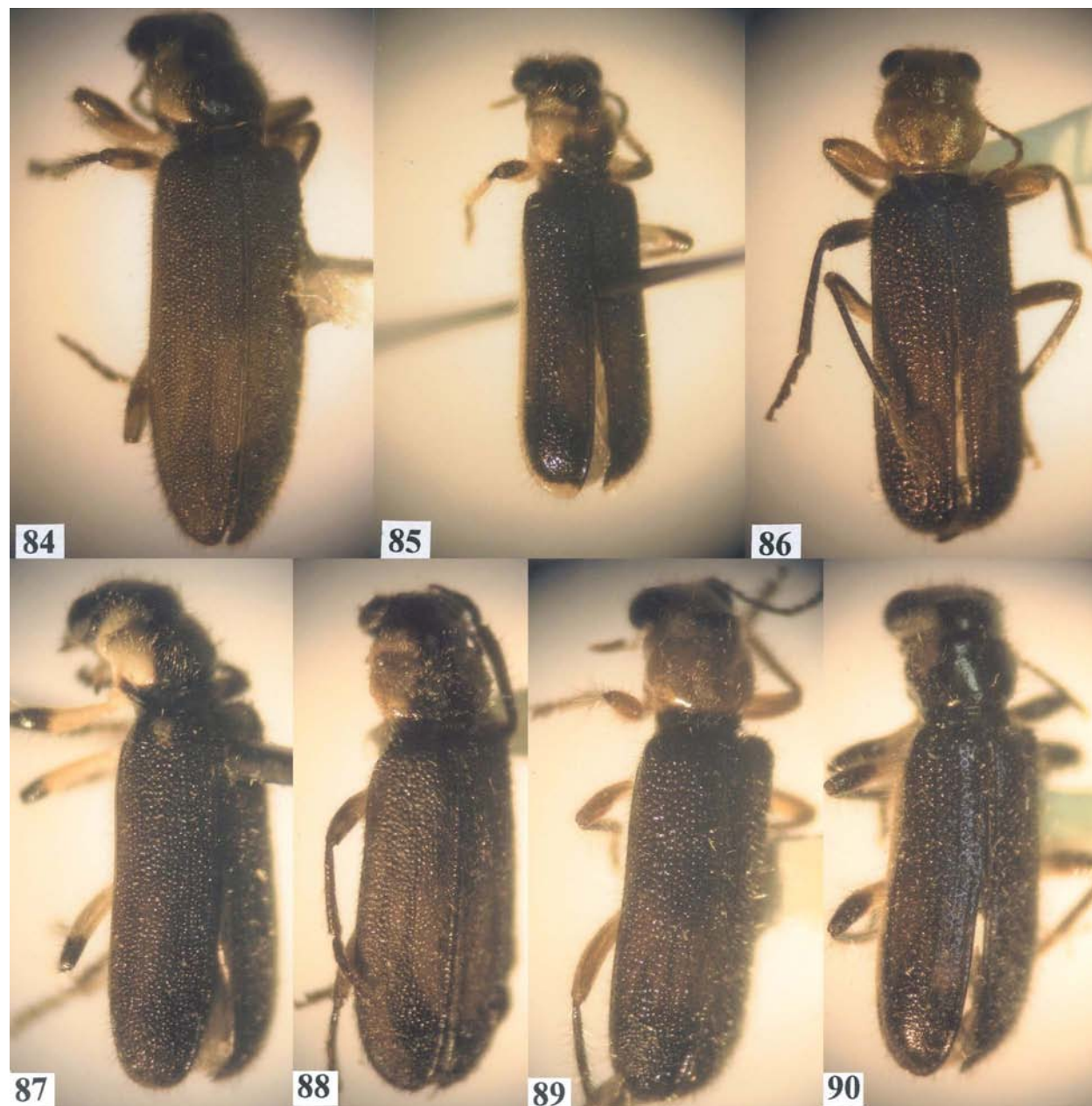


**Figures 72-77.** Habitus. 72) *P. divaricatus*. 73) *P. elimatus*. 74) *P. flavoapicalis*. 75) *P. hamus*. 76) *P. hornito*. 77) *P. infissus*.





**Figures 78-83.** Habitus. 78) *P. iodus*. 79) *P. lateralis*. 80) *P. latissimus*. 81) *P. licinus*. 82) *P. limbus*. 83) *P. miculus*.



**Figures 84-90.** Habitus. 84) *P. odous*. 85) *P. orophus*. 86) *P. patulus*. 87) *P. punctus*. 88) *P. turnbowi*. 89) *P. violaceus*. 90) *P. yasuniensis*.