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NEOTROPICAL PHILEURINI AND A NEW
PHILEURINE FROM BURMA
(COLEOPTERA: SCARABAEIDAE:
DYNASTINAE)

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NEW SPECIES AND DISTRIBUTIONS OF NEOTROPICAL
PHILEURINI AND A NEW PHILEURINE FROM BURMA
(COLEOPTERA: SCARABAEIDAE: DYNASTINAE)

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ABSTRACT

Seven new species are described: *Amblyoproctus boondocksius* (Brazil), *Eophileurus tetraspermexitus* (Burma), *Hemiphileurus insularis* (Brazil), *H. jamesonae* (Panama), *Palaeophileurus brasiliensis* (Brazil), *P. marcusoni* (Brazil), and *Phileurus youngi* (Panama). New distribution records are given for *Amblyoproctus piliger* (Perty), *A. torulosus* Kolbe, *Archophileurus elatus* Prell, *Goniophileurus femoratus* Burmeister, *Hemiphileurus punctatostriatus* Prell, *Phileurus valgus* (Olivier), and *Planophileurus planicollis* (Chevrolat).

RESUMO

Sete novas espécies de Phileurini (Scarabaeidae: Dynastinae) são descritas. Estas são: *Amblyoproctus boondocksius* (Brasil), *Eophileurus tetraspermexitus* (Burma), *Hemiphileurus insularis* (Brasil), *H. jamesonae* (Panama), *Palaeophileurus brasiliensis* (Brasil), *P. marcusoni* (Brasil), e *Phileurus youngi* (Panama). Foram encontradas novas localidades se distribuição para as espécies *Amblyoproctus piliger* (Perty), *A. torulosus* Kolbe, *Archophileurus elatus* Prell, *Goniophileurus femoratus* Burmeister, *Hemiphileurus punctatostriatus* Prell, *Phileurus valgus* (Olivier), and *Planophileurus planicollis* (Chevrolat).

My field work conducted over the past several years has yielded numerous new species of Scarabaeidae. This paper describes the new distribution records and species of Phileurini that I have encountered either by personal collecting or by scanning museum collections. These should be considered additions to the synoptic treatment of the Dynastinae of the world by Endrödi (1977, 1978, 1985).

Reference to how the new taxa described herein fit within an existing key is made where appropriate, but otherwise the paramereres of the male genitalia are diagnostic in all cases. In the subfamily Dynastinae, fortunately, the paramereres are nearly always unique to a single species, and this usually enables rapid and reliable identification.

Amblyoproctus boondocksius Ratcliffe, new species
(Figs. 10, 11, 16)

TYPE MATERIAL. Holotype labeled (handwritten) "Maloca [next word illegible but probably Tirjói], R [Rio] Parú de Oeste, Pará [BRAZIL], I-III-1961." The collector's name (presumably) is written on the back of the label and is illegible; it resembles Fr. [Friar ?] Protásio Sauler. Holotype deposited in the University of Nebraska State Museum.

HOLOTYPE. Male. Length 12.7 mm; width across humeri 6.0 mm. Color reddish brown. *Head*: Vertex with large, transverse punctures. Frons strongly concave between

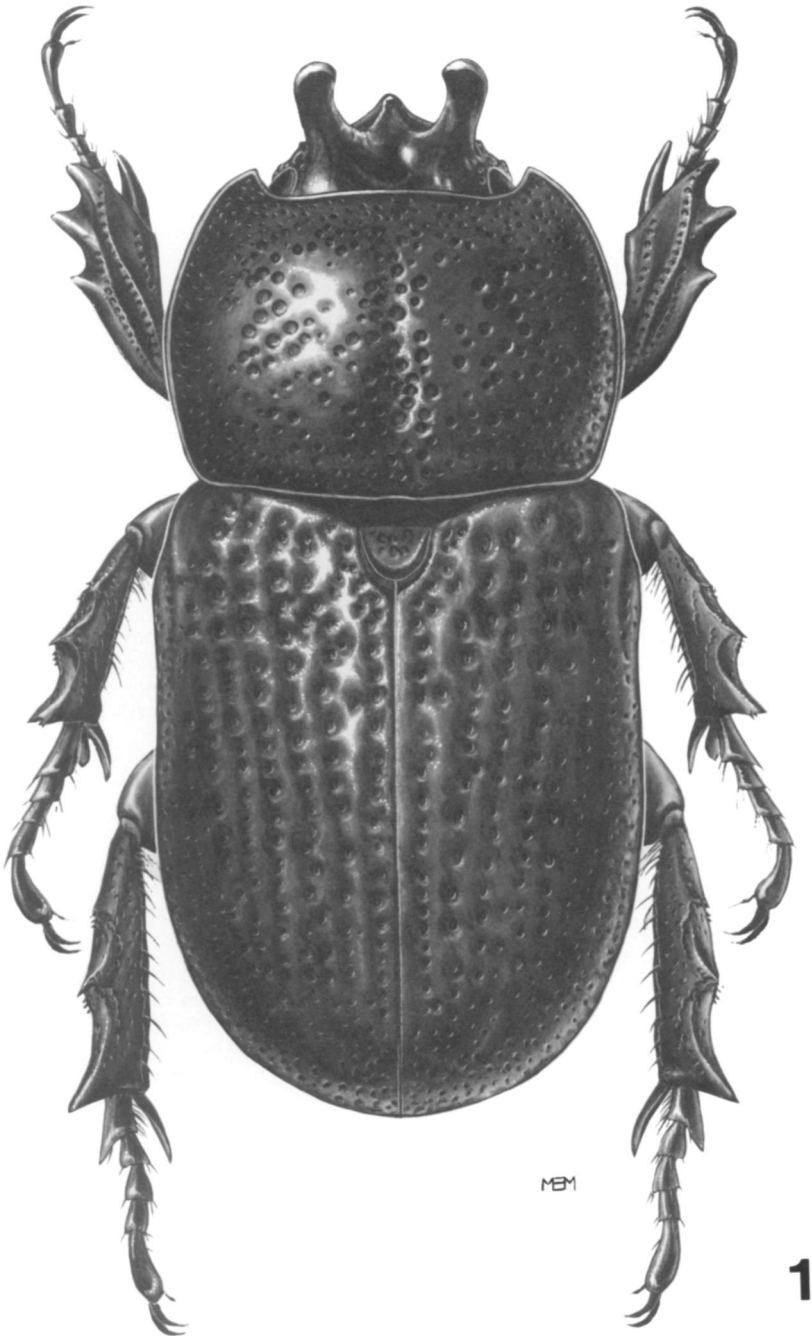


Fig. 1. Habitus of *Hemiphileurus jamesonae* Ratcliffe.

tubercles, surface indistinctly rugopunctate. A strong tubercle present anteromesad of each eye. Frontoclypeal suture distinct. Clypeus short, sides constricted at about middle, apex obtusely acuminate, weakly reflexed; surface with sparse, large, shallow punctures. Interocular width equals 4.0 transverse eye diameters. Mandible externally arcuate, lacking teeth. Antenna 10-segmented, club a little shorter than all other segments combined. *Pronotum*: Surface densely, confluent punctate except only moderately, densely punctate in narrow, longitudinal band on either side of median furrow; punctures moderate to large, deep, setigerous; setae short, stout, blunt, tawny in color. Disc with wide, longitudinal furrow extending from base to just behind apical margin. A small, shiny, very low umbone present between furrow and apical margin. Base lacking marginal bead. Anterior angles acute, posterior angles rounded. *Elytra*: Surface densely punctate; punctures large, ocellate, shallow, in indistinct rows. Intervals between punctures with small, setigerous punctures; setae short, stout, blunt, tawny in color; 2 intervals on disc raised above others and more shining. *Pygidium*: Convex in lateral view, shining. Surface densely, though indistinctly, punctate; punctures moderate in size, very shallow, setigerous; setae minute, tawny in color. *Legs*: Foretibia tridentate. Apex of posterior tibia with upper angle produced and giving rise to 3 small teeth. *Venter*: Sternal process long, apex truncate and posteriorly acuminate. Last abdominal sternite with narrow band of dense punctures on posterior margin. *Parameres* (Figs. 10, 11): Apical region expanded, sublanceolate.

REMARKS. *Amblyoproctus boondocksius* will loosely key to *A. amazonicus* Endrödi in Endrödi (1985). The principal differences separating these two species are the length of the elytral setae (long in *A. amazonicus*), distinctiveness of clypeal carinae (absent in *A. boondocksius*), and form of the parameres. The parameres in *A. boondocksius* are not truncated at the base as in *A. amazonicus*, and there is a distinct lateral tooth in *A. boondocksius* that is not present in *A. amazonicus*.

The area from which the specimen was collected is near the Surinam border and is characterized as savanna parkland bordering dense tropical forest (Doi *et al.* 1975). The specimen was collected at the onset of the rainy season in March.

ETYMOLOGY. The holotype was collected at the extreme upper reaches of the Rio Parú de Oeste about 460 km north of Oriximina where the river empties into the Rio Amazon. Over the course of this distance there are 28 waterfalls to be traversed and very few settlements. The specific epithet is taken from the Tagalog (Philippines) word "bundok" (meaning mountain) and its transformed American version, "boondocks," meaning a jungle or remote area; in reference to the remote type locality.

Amblyoproctus piliger (Perty)

Amblyoproctus piliger has been recorded from Peru, Ecuador, French Guiana, and the state of Pará in Brazil (Endrödi 1977, 1985). The following are a NEW COUNTRY RECORD and a NEW BRAZILIAN STATE RECORD respectively: **Colombia**: Amazonas, Leticia, II-23 to III-1-1974, B. C. Ratcliffe; one female in my collection. **Brazil**: Amazonas, Reserva Campinas, 60 km N. Manaus, I-18-1978, B. C. Ratcliffe; one male and two females in my collection.

Amblyoproctus torulosus Kolbe

This species occurs in Venezuela and Colombia. The following is a NEW COUNTRY RECORD. **Brazil**: Amapá, Rio Cassiporé, IX-11-1961, J. and B. Bechyne; one female in my collection.

Archophileurus elatus Prell

This phileurine is known from southern Brazil (Santa Catarina) and Colombia (Endrödi 1977, 1985). The following constitutes a NEW COUNTRY RECORD: **Paraguay:** Itapuá, Villa Encarnacion, XI-7-1907, C. Schrottky; one male in the University of Nebraska State Museum.

Eophileurus tetraspermexitus Ratcliffe, new species

(Figs. 12, 13)

TYPE MATERIAL. Holotype, labeled "N. BURMA, N. Fish." Type deposited in the University of Nebraska State Museum.

HOLOTYPE. Male. Length 26.5 mm; width across humeri 11.2 mm. Color black. *Head:* Surface shining, sparsely punctate, punctures small. Frons depressed between eyes. Clypeus with erect, short horn in center; clypeal apex obtusely acuminate, weakly reflexed. Interocular width equals 3.5 transverse eye diameters. Mandible weakly sinuate on outer edge, apex triangular. Antenna 10-segmented, club a little longer than segments 2-7. *Pronotum:* Surface with dense micropunctures throughout; sides moderately densely rugopunctate, punctures moderate to large, many transverse; disc with small punctures moderate in density. A transversely oval fovea present in anterior third. All margins beaded except obsolete on anterior margin in front of fovea. Anterior angles acutely rounded, posterior angles obtusely angulate. *Elytra:* Surface next to suture moderately, densely punctate, punctures of 3 discrete sizes: minute, small, and moderately large; punctures mixed, not in distinct rows, larger punctures open behind and ocellate. Lateral half of disc and sides variably rugose, obliterating many punctures. Subapical umbones prominent. *Pygidium:* In lateral view disc nearly flat, apex strongly convex. Surface rugopunctate, rugae not well developed; punctures moderately dense, moderate in size, ocellate. *Legs:* Foretibia quadridentate, basal tooth very small. Posterior tibia with upper angle on lateral edge broadly truncate, apex scalloped with 6 small teeth. *Venter:* Prosternal process long; in lateral view, constricted on posterior face between base and middle. Last abdominal sternite sparsely punctate, punctures small but becoming a little denser and larger laterally. *Parameres* (Figs. 12, 13): In caudal view, widest below middle; small teeth present laterally at widest point and before apex; central orifice complex, in form of cross.

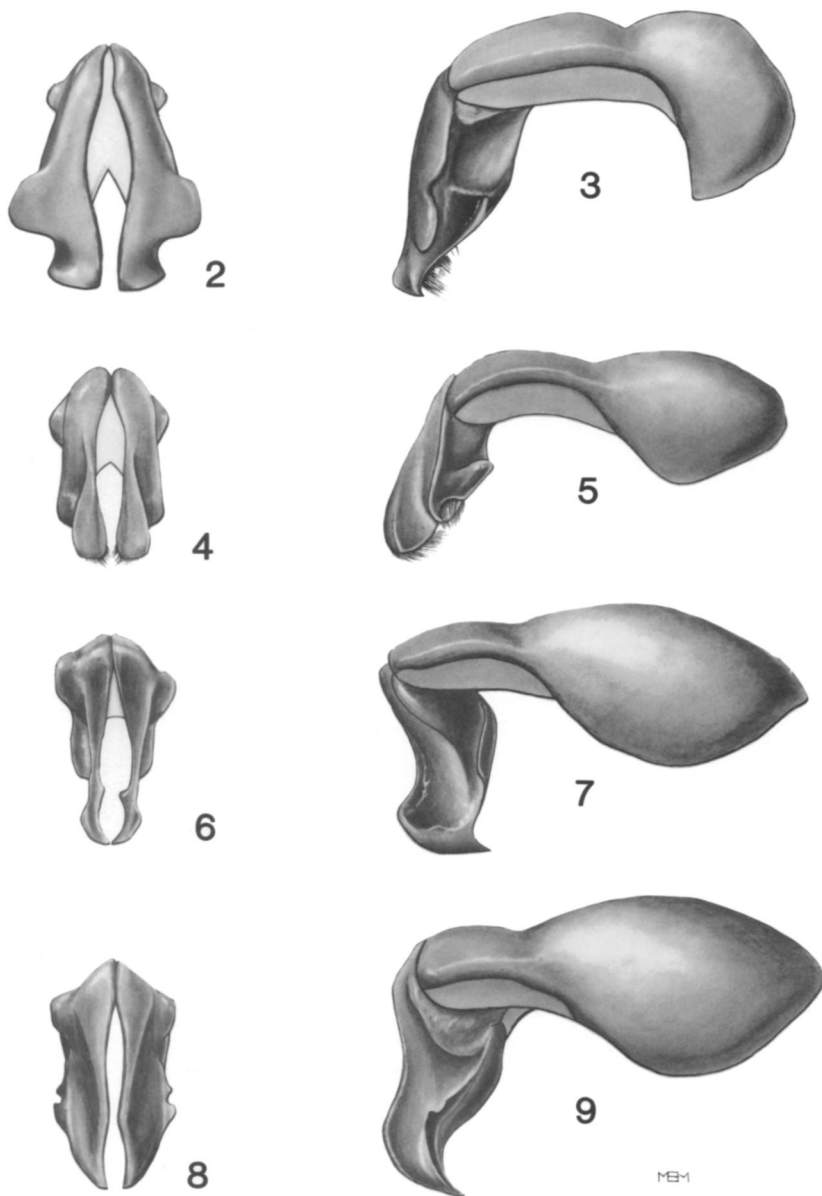
REMARKS. The parameres of the male genitalia are diagnostic for this species. They are complex in structure but form a very distinctive cruciform orifice that will easily distinguish this species from all others in the genus. Moreover, this specimen has quadridentate foretibiae whereas all other *Eophileurus* supposedly have tridentate foretibiae (Endrödi 1985; Prell 1913).

Unfortunately, this specimen has very little data associated with it. Consequently, we do not know where it came from other than northern Burma. At least 10 species of *Eophileurus* occur to the west in India (and three of those in eastern India). Several more species are also found to the east in Thailand. The entire Indo-malayan region is rich in species of *Eophileurus*. It is not surprising that additional new species are found here given the fact that many areas have entomologically unexplored habitats.

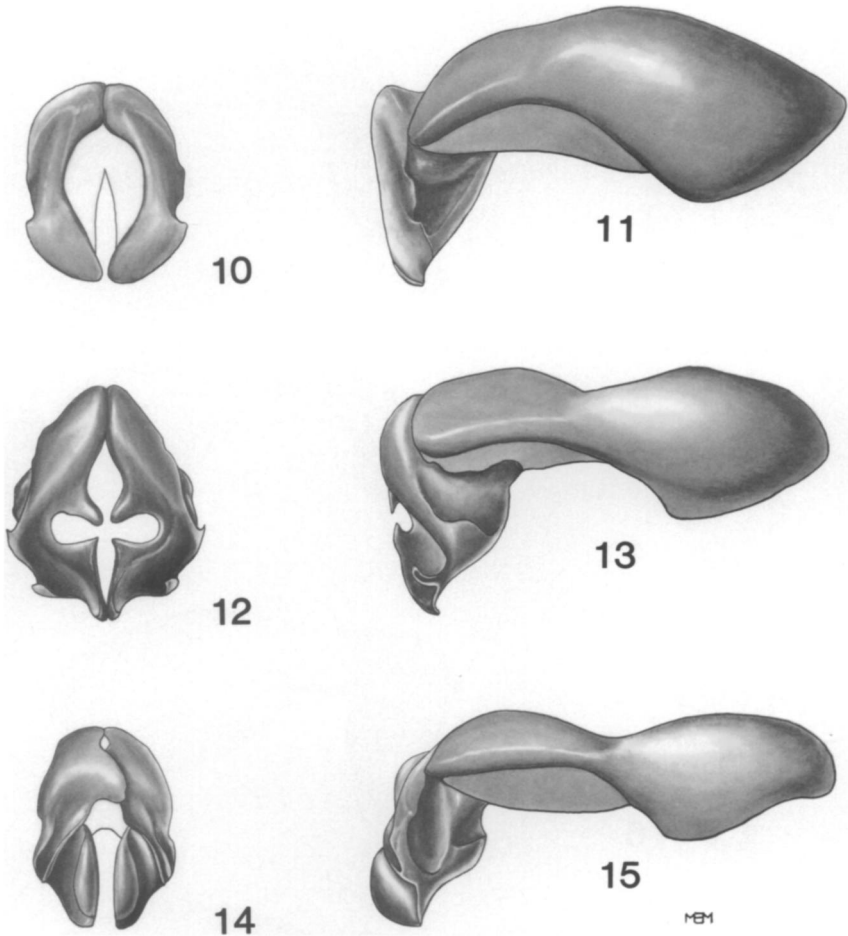
ETYMOLOGY. The name is loosely descriptive in that it refers to the cross-shaped orifice of the parameres from whence the aedeagus everts during copulation; it is a play on words inasmuch as there are not really four exits for the sperm.

Goniophileurus femoratus Burmeister

The monotypic genus *Goniophileurus* is known from Costa Rica, Venezuela, Ecuador, and the Brazilian state of Goias (Endrödi 1977, 1985). The following



Figs. 2-9. Parameres of male genitalia, caudal view (left), lateral view (right). 2-3, *Hemiphilerus insularis* Ratcliffe. 4-5, *H. jamesonae* Ratcliffe. 6-7, *Palaeophileurus marcusoni* Ratcliffe. 8-9, *P. brasiliensis* Ratcliffe.



Figs. 10–15. Parameres of male genitalia, caudal view (left), lateral view (right). 10–11, *Amblyproctos boondocksius* Ratcliffe. 12–13, *Eophileurus tetraspermexitus* Ratcliffe. 14–15, *Phileurus youngi* Ratcliffe.

is a NEW STATE RECORD for Brazil: **Brazil:** Amazonas, Codajás, XII-1963; one female specimen in the collection of the author.

Hemiphileurus insularis Ratcliffe, new species

(Figs. 2, 3, 16)

TYPE MATERIAL. Holotype labeled "BRASIL: Amazonas, Ilha Curari nr. Manaus, VII-5-1978." Allotype with same data. Types deposited in the University of Nebraska State Museum.

HOLOTYPE. Male. Length 21.4 mm; width across humeri 9.3 mm. Color black. *Head:* Vertex and posterior part of frons concave forming deep hollow; surface with sparse, small punctures. Frons anteriorly with transversely oval punctures; punctures ocellate,

moderate in size and density. Clypeus sharply triangular, apex strongly reflexed, surface mostly smooth. A small, erect horn present anteromedially of each eye; horn conical, slightly recurved posteriorly. Interocular width equals 6.0 transverse eye diameters. Mandibles arcuate, externally untoothed. Antenna 10-segmented, club subequal to length of stem. *Pronotum*: Surface densely punctate; punctures umbilicate, deep, moderate to large mixed. Disc with longitudinal, shallow furrow extending from base anteriorly to just past middle. All margins of pronotum with marginal line. Anterior angles acute, posterior angles obtuse. *Elytra*: Surface with 6 furrowed, punctate striae between suture and humerus and 6 punctate striae between humerus and lateral margin; punctures umbilicate, most weakly ocellate, deep, size moderate to large. Intervals slightly convex, surface with sparse micropunctures; intervals 2 and 4 a little wider and higher than rest. *Pygidium*: Strongly convex in lateral view. Surface densely punctate, especially at base; punctures moderately large, umbilicate, setigerous; setae minute, erect, pale. *Legs*: Foretibia tridentate. Hind tibia with upper angle prolonged into sharp, triangular spine; apex below spine with 6 small teeth on right leg, 7 on left leg. *Venter*: Prosternal process with posterior and ventral faces forming a right angle in lateral view; posterior face not emarginate. Last abdominal sternite moderately densely punctate basally, sparsely punctate apically, punctures moderate in size. *Parameres* (Figs. 2, 3): Narrow at base, abruptly expanded just below middle into large, rounded lobe; apex angulate externally.

ALLOTYPE. Female. Length 22.0 mm; width across humeri 9.2 mm. As holotype except in the following respects. *Head*: Vertex and frons lacking deep hollow, instead surface flat, rugopunctate. Two small tubercles present on top of head instead of 2 erect horns. Interocular width equals 7.0 transverse eye diameters. *Pygidium*: In lateral view base slightly, transversely impressed, apex weakly convex. *Venter*: Prosternal process a little more acutely angled in lateral view.

REMARKS. This species will key best to *H. dejeani* (Bates) in Endrödi (1985). Unlike *H. dejeani*, however, the prosternal process is not emarginate behind nor is the last sternite densely punctate in the female. Moreover, the parameres of the male genitalia are significantly different from those of *H. dejeani*.

This new species was collected from the island of Curari near the south bank of the Amazon River south of Manaus. The island consists of disturbed lowland forests.

ETYMOLOGY. From the Latin *insularis* meaning "of an island" in reference to the island type locality.

Hemiphileurus jamesonae Ratcliffe, **new species**
(Figs. 1, 4, 5, 17)

TYPE MATERIAL. Holotype labeled "PANAMA: Chiriqui, Cerro Punta, VI-2-3-1986, B.C. Ratcliffe & party." One paratype with same data as holotype. Additional paratype labeled "Casa Tilley, Cerro Punta, 5,300', Panama, IV-25-1961, C.E. Yunker." Holotype deposited in the University of Nebraska State Museum. Paratypes deposited in the Henry F. Howden Collection, Ottawa, and in the B. C. Ratcliffe Collection, Lincoln.

HOLOTYPE. Male. Length 20.4 mm; width across humeri 9.0 mm. Color black. *Head*: Vertex and posterior part of frons with deep hollow, surface with a few punctures. Frons anteriorly smooth. Clypeus triangular, apex acuminate and reflexed, surface smooth. An erect, conical horn present anteromedially of each eye; horn recurved posteriorly, as long as width of head. Interocular width equals 7.0 transverse eye diameters. Mandibles arcuate, lacking teeth externally. Antenna 10-segmented, club subequal to stem in length. *Pronotum*: Surface densely punctate except a little less so at base and more so (many punctures confluent) in anterior third; punctures moderate to large in size, deep. Disc with longitudinal furrow extending from base to subapical declivity, furrow narrow, shallow. All pronotal edges with marginal line. Anterior angles acute, posterior angles obtuse. *Elytra*: Surface with 6 distinct, furrowed, punctate striae between suture and

humerus; sixth row lacking at base; 6 additional punctate striae between humerus and lateral margin; punctures ocellate-umbilicate, deep, moderate to large. Intervals slightly convex, surface with sparse micropunctures (more so on sides). *Pygidium*: Convex in lateral view, base with a feeble, transverse depression. Surface densely punctate, punctures moderate in size. *Legs*: Foretibia tridentate. Posterior tibia with upper angle prolonged into sharp spine; apex below spine with several small teeth. *Venter*: Prosternal process low, conical, base flared posteriorly. Last abdominal sternite with narrow band of dense punctures at base and a few sparse punctures on disc. *Parameres* (Figs. 4, 5): In caudal view, sharply constricted before apex, apices in form of rounded lobes. In lateral view, large median lobe and apex densely setose beneath.

VARIATION. Males (2 paratypes): Length 19.4–21.7 mm; width across humeri 8.0–9.5 mm. As holotype except in the following respects. *Head*: Horns range from small to large. *Elytra*: Some punctures at base of first and second striae reduced or absent. *Pygidium*: Punctures with minute, pale setae.

REMARKS. *Hemiphileurus jamesonae* does not key in Endrodi (1985). The parameres of the male are distinctive and cannot be confused with those of any other species.

The two 1986 specimens were collected from dead tree trunks (one standing, the other fallen) on a deforested slope above the Fernandez farm near the Elton cabin just above the town of Cerro Punta. The elevation is about 6,500 ft.

ETYMOLOGY. I am pleased to name this species in honor of my friend and student, Mary Liz Jameson, who helped collect the 1986 specimens.

Hemiphileurus punctatostriatu Prell

Hemiphileurus punctatostriatu is known from Belize and Panama (Endrödi 1978, 1985). The following is a NEW COUNTRY RECORD: **Mexico**: Veracruz state, VI-16, R. Hanover; one male specimen in my collection.

Palaeophileurus brasiliensis Ratcliffe, new species

(Figs. 8, 9, 16)

TYPE MATERIAL. Holotype labeled "Km 26, Estr. AM-01, R. [Reserva] Ducke, Mn. [Manaus], Am. [Amazonas], Br. [BRAZIL], 04-VI-76, Dellome." Allotype labeled "BRASIL: Amazonas, Reserva Campinas, 18-I-1978, B.C. Ratcliffe." Single paratype with same data as allotype. Holotype and allotype deposited in the University of Nebraska State Museum. Paratype deposited in the B. C. Ratcliffe collection.

HOLOTYPE. Male. Length 21.4 mm; width across humeri 10.6 mm. Color piceous. *Head*: Frons with surface depressed between eyes, irregularly punctate; punctures large and small mixed, large punctures sparse, small punctures moderate in density. Frontoclypeal line distinct, a very weak elevation (almost a tubercle) on either side of midline. Clypeus obtusely acuminate, apex reflexed; surface with sparse, small punctures. Interocular width equals 3.5 transverse eye diameters. Mandible arcuate, without teeth externally. Antenna 10-segmented, club subequal to segments 2–7. *Pronotum*: Surface minutely shagreened, punctate; minute punctures generally distributed, mixed with larger punctures; large punctures moderately dense, weakly ocellate-umbilicate, becoming very large and transverse on center of disc and smaller and sparser anteromedially. Base without marginal bead. Anterior angles acute, posterior angles obtusely angulate (not rounded). *Elytra*: Surface distinctly, densely shagreened, with 6 loosely formed rows of punctures between suture and humerus, rows not impressed; punctures moderate in size, shallow, some ocellate. Intervals with only a few shallow, small punctures. Sides with rows of punctures obsolete, punctures smaller. *Pygidium*: Convex in lateral view. Surface shagreened, densely punctate; punctures large, deep, weakly ocellate, setigerous; setae



Fig. 16. Distribution map for *Amblyoproctus boondocksius* Ratcliffe, *Hemiphileurus insularis* Ratcliffe, *Palaeophileurus brasiliensis* Ratcliffe, and *P. marcusoni* Ratcliffe.

minute, pale. *Legs*: Foretibia tridentate. Hind tibia with upper angle of apex produced into a triangular tooth, remainder of apex lacking teeth or spines. *Venter*: Prosternal process long, apex bluntly trilobed, posterior lobe below plane of anterior lobes. Last abdominal sternite moderately densely punctate throughout. *Parameres* (Figs. 8, 9): Elongate, each side with 2 teeth, apices narrowly rounded and recurved posteriorly. In caudal view, median edge of each paramere thickened.

ALLOTYPE. Female. Length 22.5 mm; width across humeri 11.3 mm. As holotype except in the following respects. *Head*: Interocular width 3.2 transverse eye diameters.

Pygidium: Nearly flat in lateral view. Surface with punctation much denser, nearly confluent. *Venter*: Last abdominal sternite densely punctate throughout.

VARIATION. Single male paratype. Length 21.4 mm; width across humeri 10.6 mm. Not significantly different from holotype.

REMARKS. *Palaeophileurus* was, until the description of the two new species named herein, a monotypic genus with *P. sclateri* (Bates) occurring in Colombia, Guyana, and French Guiana. The description of these new species of *Palaeophileurus* now extends the range of the genus to Amazonian Brazil. The specimens collected by me were taken at black light in primary forest.

This species is externally similar to *P. sclateri* but differs significantly in the form of the male genitalia.

ETYMOLOGY. This species is named after the country from which it was collected using the Brazilian spelling of Brasil.

Palaeophileurus marcusoni Ratcliffe, **new species**

(Figs. 6, 7, 16)

TYPE MATERIAL. Holotype labeled "BRAZIL, Belem, Para, Utinga [Forest Reserve], III-27-28-1970, JM & BA Campbell." Type (No. 19,712) deposited in the Canadian National Collection of Insects, Ottawa.

HOLOTYPE. Male. Length 23.5 mm; width across humeri 11.9 mm. Color nearly black. *Head*: Frons with surface slightly depressed between eyes, irregularly punctate; punctures sparse, mostly moderate in size. Frontoclypeal line a weakly elevated, rugose ridge with a small tubercle either side of midline. Clypeus with apex acuminate, reflexed; surface smooth, shining. Interocular width equals 3.5 transverse eye diameters. Mandible arcuate externally, without teeth. Antenna 10-segmented, club subequal in length to segments 2-7. *Pronotum*: Surface minutely shagreened, punctate; punctures dense on sides and base, moderate in density on disc; punctures on sides and base large, those on disc very large, transverse; punctures small and sparse anteromedially. Base not margined. Anterior angles acute, posterior angles obtusely angulate. *Elytra*: Surface densely, distinctly shagreened, with 6 rows of punctures between suture and humerus, rows not impressed or furrowed; punctures moderate in size, shallow, weakly ocellate. Intervals with occasional small punctures. Sides with rows obsolete and punctures smaller. *Pygidium*: Convex in lateral view. Surface shagreened, densely punctate; punctures large, deep, weakly ocellate, setigerous; setae minute, pale. *Legs*: Foretibia tridentate. Posterior tibia with upper angle of apex extended into triangular spine, remainder of apex lacking teeth or spines. *Venter*: Prosternal process long, apex bluntly bilobed with weak third lobe posteriorly below plane of two anterior lobes. Last abdominal sternite moderately densely punctate throughout. *Parameres* (Figs. 6, 7): In caudal view, shaft relatively narrow, expanded into small tooth before apex on median edge, apex expanded laterally. In lateral view, parameres resemble head of dodo bird (*Raphus cucullatus*).

REMARKS. All three species in the genus are strikingly similar to one another externally. The male genitalia are, however, diagnostic and will easily separate the species.

ETYMOLOGY. I am pleased to name this species in honor of Mark Marcuson, Scientific Illustrator at the University of Nebraska State Museum. Mark has provided me with outstanding habitus illustrations, as in this paper, of various scarabs over the past few years. I feel that he has made a real contribution to the study of Coleoptera by using his artistic talents.

Phileurus valgus (Olivier)

This species is widely known from the southern United States to Argentina and from Cuba, Jamaica, Puerto Rico, Guadeloupe, St. Vincent, Grenada, and Barbados in the Antilles (Blackwelder 1944; Endrödi 1977, 1978, 1985). Mis-

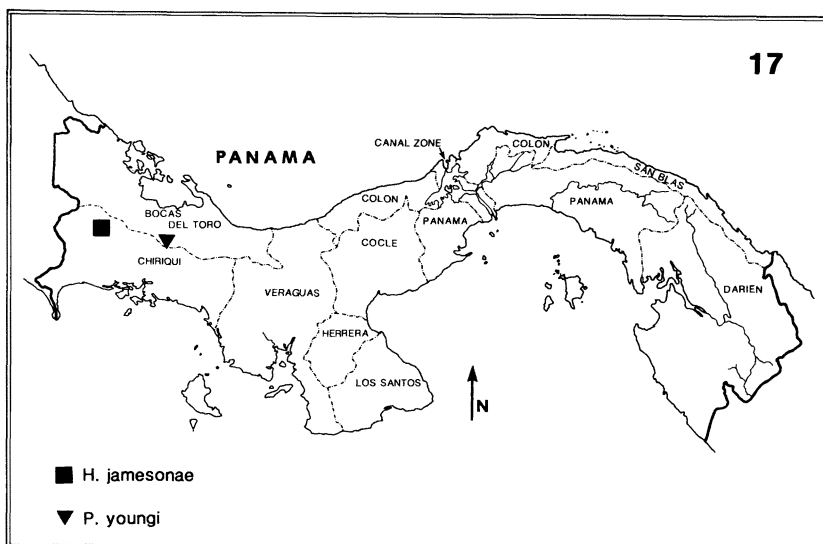


Fig. 17. Distribution map for *Hemiphileurus jamesonae* Ratcliffe and *Phileurus youngi* Ratcliffe.

kimen and Bond (1970) did not record *Phileurus valgus* from St. Croix in the Virgin Islands. It is here recorded from St. Croix for the first time as follows: **St. Croix**, 1.5 mi N. Frederikstead, IV-10-28-1981, D. F. Keaveny; one male in the collection of Michael A. Ivie, Montana State University.

Phileurus youngi Ratcliffe, new species
(Figs. 14, 15, 17)

TYPE MATERIAL. Holotype labeled "PANAMA: Bocas d. Toro, 2 mi N. of divide on Hwy to Chiriqui Grande, VI-1-1986, at MV light, primary cloud forest ca. 1700 ft elev., R.M. Young collector." Type deposited at the University of Nebraska State Museum.

HOLOTYPE. Male. Length 26.2 mm; width across humeri 10.9 mm. Color black. *Head:* Frons with deep hollow, surface within hollow transversely rugopunctate. Clypeus triangular, apex pointed and reflexed; surface posteriorly transversely rugose, anteriorly with minute punctures only. A short conical horn present in front of each eye near lateral margin of clypeus; horn blunt, slightly recurved posteriorly. Interocular width equals 4.0 transverse eye diameters. Mandible externally arcuate, untoothed. Antenna 10-segmented, club a little shorter than stem. *Pronotum:* Surface sparsely punctate at base and on disc either side of midline, becoming moderately punctate on sides and densely punctate to rugopunctate anteriorly in front of tubercle; punctures small either side of median furrow and small to moderate and large mixed elsewhere. Disc with longitudinal furrow extending from near base to subapical tubercle then slightly expanded into fovea; furrow moderately deep, parallel-sided, surface with moderate to large punctures within. Subapical tubercle present. Margins of pronotum with marginal bead. Anterior angles acute, posterior angles obtuse. *Elytra:* Surface shagreened, with 6 furrowed, punctate striae between suture and humerus, 6 additional striae on sides; punctures ocellate-umbilicate, moderately large, deep. Intervals distinctly convex, sparsely punctate, punctures small. *Pygidium:* Strongly convex in lateral view, based transversely impressed. Surface with

disc and apex sparsely punctate, remainder moderately punctate; punctures small and moderately large mixed, setigerous; setae pale, minute. *Legs*: Foretibia tridentate, all teeth simply acuminate. Hind tibia with apex prolonged into stout spine on upper angle; triangular projection below that midway to articulated spurs; several small teeth present between upper spine and triangular projection. *Parameres* (Figs. 14, 15): Asymmetrical at base, apical half longitudinally grooved and cariniform in caudal view.

REMARKS. *Phileurus youngi* keys only to couplet 16 in Endrödi (1985) where the vagueness of the key then causes confusion. In any event, the parameres of this species are distinctive and resemble those of no other species of *Phileurus* except, superficially, those of *P. verus* Endrödi. In addition, *P. youngi* does not have a distinct clypeal carina, whereas *P. verus* does.

This specimen was taken at lights in primary rainforest at approximately 500 meters elevation. A pullout on the side of the new paved road across the continental divide to Chiriqui Grande afforded a place to set up lights next to truly magnificent, though otherwise inaccessible, forest.

ETYMOLOGY. This species is named in honor of a friend and colleague, Dr. Ronald M. Young, who collected the specimen during a joint field trip to Central America. Dr. Young's research is adding substantially to our knowledge of the Scarabaeidae.

Planophileurus planicollis (Chevrolat)

Phileurini have not been previously known to occur in the Bahama Islands. *Planophileurus planicollis* is here recorded and constitutes a **NEW COUNTRY RECORD: Bahamas: Andros Island, Forfar Field Station, VII-1-1981, J. W. Peacock; one female in my collection (courtesy of Michael A. Ivie).**

Recent collecting in the Bahamas seems to be revealing an increasing number of Dynastinae there, mostly with Cuban affinities. Ratcliffe (1982) reported the occurrence of the Cuban *Strategus ajax* (Olivier) from Great Exuma Island, and I now have additional records of *S. ajax* and *S. talpa* (Fabricius) from the Bahamas. *Planophileurus planicollis* was known only from Cuba (Endrödi 1978, 1985), but it is now recognized that, like *Strategus*, it is probably established in the Bahamas. Ocean currents and storm tracks from Cuba (the dispersal paradigm) or former land connections with Cuba during periods of lower ocean levels (the vicariance approach) explain the occurrence of these beetles in the Bahamas.

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SCIENTIFIC NOTE

SOME NOTES ON WINTER COLLECTING OF COLEOPTERA

Many coleopterists typically do much of their collecting during summer months, when warm, balmy weather is most conducive to being in the outdoor environment. Certainly, this is when most if not all of us have started, whether in graduate school or earlier.

During my years in graduate school, however, I found it impossible to collect in the immediate vicinity of the University of Washington during the summer months because I was in northern Alaska virtually every summer. But the winters in Seattle were generally so mild (and comparable to the summers of the Beaufort Sea coast!) that I wound up collecting locally mostly during autumn, winter, and early spring, between September and May.

Species active at that time are rather a small proportion of the total fauna, but several surprises occurred. For instance, I found both the carabids *Scaphinotus marginatus* Fischer and *S. angusticollis* Mann. to be relatively abundant inside half-rotten logs and stumps. *Scaphinotus marginatus*, however, tends to be most common in horizontal logs or those reposing at only a slight incline, whereas *S. angusticollis* is much more common in stumps and logs inclined at angles exceeding about 30° from the horizontal, often in congregations of 25 or more individuals.

Carrion-baited pitfall traps in the winter primarily yielded the silphid species *Necrophilus hydrophiloides* Mann., whereas traps in the same locations during late spring and summer yielded mostly specimens of *Nicrophorus defodiens* Mann.

Experimentation in sampling moss, leaf litter, duff, and other detrital accumulations provided a number of interesting specimens as well as additional surprises. Chrysomelids, scolytids, coccinellids, and other small taxa in families not normally associated with litter habitats turn up with surprising regularity. Aquatic and hygrophilous taxa also seem to abandon their more normal habitats. Hydrophilids and smaller dytiscids commonly are found in leaf litter and moss from slopes above water bodies such as ponds, bogs, and streams, as are normally hygrophilous carabids such as *Agonum*, *Bembidion*, and occasionally *Dyschirius* and *Nebria*. *Elaphrus parviceps* Van Dyke and *Blethisa*