

***Philonthus hapalemur* sp. nov.**
and redescription of *P. plasoni* from Madagascar
(Coleoptera: Staphylinidae: Philonthina)

Lubomír HROMÁDKA¹⁾ & Jiří JANÁK²⁾

¹⁾ Anny Letenské 7, CZ-120 00 Praha 2, Czech Republic, e-mail: hromadka@seznam.cz

²⁾ Rtyně nad Bílinou 4, CZ-417 62 Czech Republic, e-mail: jiri.janak@heineken.com

Abstract. *Philonthus* (s. str.) *hapalemur* sp. nov. is described from Madagascar and compared with similar species. *Philonthus plasoni* Bernhauer, 1902 is redescribed and placed in the subgenus *Piezarthrus* Lecoq, 1998. Male genitalia of both species and other relevant morphological characters are illustrated.

Key words. Coleoptera, Staphylinidae, Philonthina, *Philonthus*, taxonomy, new species, redescription, Madagascar

Introduction

The genus *Philonthus* Stephens, 1829 currently contains more than 1,250 species occurring in all zoogeographical regions (except the polar areas). The genus is represented in Madagascar only by about 30 species, while more than 330 species are known from Africa south of the Sahara.

During a revision of the Afrotropical *Philonthus*, which has been the main scope of the first author's studies for the past 20 years, the type specimens of all the species described/recorded from Madagascar, except those described/redescribed and illustrated recently by LECOQ (1990, 1996, 1997, 1998), have been examined by us.

Only six species groups of *Philonthus* (s. str.), including the Madagascan species, have been hitherto revised: the *P. discoideus* group (SMETANA 1995), the *P. rufus* group (LECOQ 1997, JANÁK & LECOQ 2005), the *P. turbidus* group (HROMÁDKA 2008), the *P. caffer* group (HROMÁDKA 2009), the *P. quisquiliarius* group (HROMÁDKA 2010a) and the *P. bicoloripennis* group (HROMÁDKA 2010b). The subgenus *Piezarthrus* Lecoq, 1998, endemic to the Madagascan region, contains seven species from Madagascar and one species from the Comoros (LECOQ 1998).

While examining an extensive amount of Madagascan *Philonthus* material deposited in various museums, as well as in the private collection of the second author, we found one new species which is described in this paper. The redescription of *Philonthus plasoni* Bernhauer, 1902 along with comments on its subgeneric placement is also included.

Material and methods

Specimens included in this study are deposited in the following institutions and private collections:

BMNH	Natural History Museum, London, United Kingdom (Max Barclay, Roger Booth);
CAS	California Academy of Science, San Francisco, USA (David Kavanaugh);
FMNH	Field Museum of Natural History, Chicago, USA (James Boone, Margaret Thayer);
IRSNB	Institut Royal des Sciences naturelles de Belgique, Bruxelles, Belgium (Yvonnice Gérard);
JJRC	Jiří Janák private collection, Rtně nad Bílinou, Czech Republic;
LHPC	Lubomír Hromádka private collection, Praha, Czech Republic.

A double slash (//) is used to divide separate labels attached to specimens. All measurements were taken with the abdomen stretched. All measurements mentioned in the descriptions are in mm.

Abbreviations: l = length, w = width.

Taxonomy

Philonthus (Philonthus) hapalemur sp. nov.

(Figs. 1–9)

Type locality. Madagascar, Montagne d'Ambre, Antsahampano.

Type material. HOLOTYPE: ♂, 'MADAGASCAR 1075m, Antsiranana, Antsahampano Montagne d'Ambre, Malaise Trap, 15-19.xii.2004, 12.53°S 49.17°E, D.C. Lees BMNH (E) 2004-46 // *Philonthus hapalemur* sp. n. Hromádka & Janák det. 2008// [red oblong printed label]' (BMNH). PARATYPES: 2♂♂, same label data as holotype (BMNH, LHPC); 1♂ 'Madagascar Est, 1100-1200m, Massiv Ambondrombe, J. Janák + P. Moravec lgt. // Ikoka env. 10.3.1996, plantations, crête Amboasa, camp 1' (JJRC); 1♂ 'Madagascar, Antsiranana prov., Ambohitra 30.11.-2.12.1996, Ivo Jeniš leg.' (JJRC); 1♂ 'Madagascar Goudot // hospes var. verisim. // I.Sc.N.B.17.479, Coll. et det. A. Fauvel' (IRSNB); 1♂ 'Madagascar: Province d'Antananarivo, botanic garden near the entrance to Andasibe National Park, 18-29 June 2001 // 18° 55.58' S, 48° 24.47' E, collector: R. Harin'Hala, California Acad. of Sciences, malaise trap-tropical forest, elev 1025 m, MA-01-08B-06 // CASENT 8040721' (CAS); 1♀, same label data, but 'CASENT 8039050' (CAS); 1♂ 'Madagascar: Province d'Antananarivo, botanic garden near the entrance to Andasibe National Park, 30 April-14 May 2001 // 18° 55.58' S, 48° 24.47' E, collector: R. Harin'Hala, California Acad. of Sciences, malaise trap-tropical forest, elev 1025 m, MA-01-08B-02 // CASENT 8026460' (CAS); 1♂ 'Madagascar: Province d'Antananarivo, botanic garden near the entrance to Andasibe National Park, 31 July-15 Aug 2001 // 18° 55.58' S, 48° 24.47' E, collector: R. Harin'Hala, California Acad. of Sciences, malaise trap-tropical forest, elev 1025 m, MA-01-08B-09 // CASENT 8026596' (CAS); 1♂ 'Madagascar: Province Diego-Suarez, dry forest 7 km N of Joffreville, 360 m, 7-27 April 2001 // 12° 20' S, 49° 15' E, R. Harin'Hala collector, malaise trap, MA-01-07-10 // CASENT 8026054' (CAS); 5♂♂ same label data, but 'CASENT 8026063' / 'CASENT 8026065' / 'CASENT 8026068' / 'CASENT 8026077' / 'CASENT 8026081' (CAS, JJRC); 1♀ 'Madagascar: Province Diego-Suarez, Sakalava Beach, dwarf littoral forest, 10 m, 20-28 July 2001 // 12° 15' 46" S, 49°23'51"E, R. Harin'Hala collector, malaise trap - across sandy trail, MA-01-04B-15 // CASENT 8038518' (CAS), 1♀ same label data, but 'CASENT 8038502' (CAS); 1♂ 'Madagascar: Toliara Prov., Parc Nat. d'Andohahela, Forêt d'Ambohivory, 1.7 km 61° ENE Tsimelaha, 36.1 km 308° NW Tolagnaro, 16-20 I 2002 // 24° 55' 48" S, 46° 38' 44" E, coll. Fisher, Griswold et al., California Acad. of Sciences, at light - in tropical dry forest, elev 300, code: BLF4919 // CASENT 8031890' (CAS).

Description. Body length 7.8-8.3 mm, length of fore body (to end of elytra) 3.5–3.9 mm. Body entirely black, elytra with slight bronze sheen, clypeus narrowly yellowish brown along anterior margin and around antennal sockets, maxillary and labial palpi dark brown, palpomere 1 lighter, antennae black, base of antennomere 2 yellowish brown, legs black, femora of anterior legs brown.

Head distinctly transverse, wider than long (w/l ratio $1.35/1.00 = 1.35$), slightly narrowed posteriad. Eyes large and slightly convex, distinctly longer than temples (eye length/temple length ratio $0.60/0.25 = 2.40$). Area between eyes with 4 coarse punctures, medial interocular punctures slightly shifted to the front, distance between medial punctures five times distance between medial and lateral puncture. Temporal area with several variably large punctures. Surface with very fine and dense microsculpture consisting of mostly transverse waves.

Antennae very long, exceeding the posterior margin of pronotum by the length of combined antennomeres 10–11 when reclined. Antennomere 1 almost as long as antennomeres 2–3 combined, distinctly longer than antennomere 11. Relative length of antennomeres: 1 = 0.48; 2 = 0.25; 3 = 0.30; 4–7 = 0.20; 8–10 = 0.18; 11 = 0.30.

Pronotum longer than wide (l/w ratio $1.55/1.40 = 1.11$), bulging, parallel-sided, lateral margins in anterior fourth slightly sinuate. Posterior angles strongly rounded. Each dorsal row with 5 coarse, equidistant punctures, punctures 5 distant from the posterior margin about the length of antennomere 1. Each sublateral row with 2 coarse punctures, punctures 1 on the same level as punctures 3 in dorsal row. Lateral margins with several bristles of variable length. Microsculpture similar to that on head.

Scutellum very densely and coarsely punctate, punctures somewhat larger than eye facets, distance between punctures smaller than their diameter.

Elytra wider than long (w/l ratio $2.15/1.95 = 1.10$), slightly widened posteriad. Punctuation sparser and coarser than that on scutellum. Surface without microsculpture. Setation greyish.

Abdomen wide, distinctly narrowed from fifth visible tergite towards apex. Elevated area between two basal lines on first three visible tergites coarsely and densely punctate.

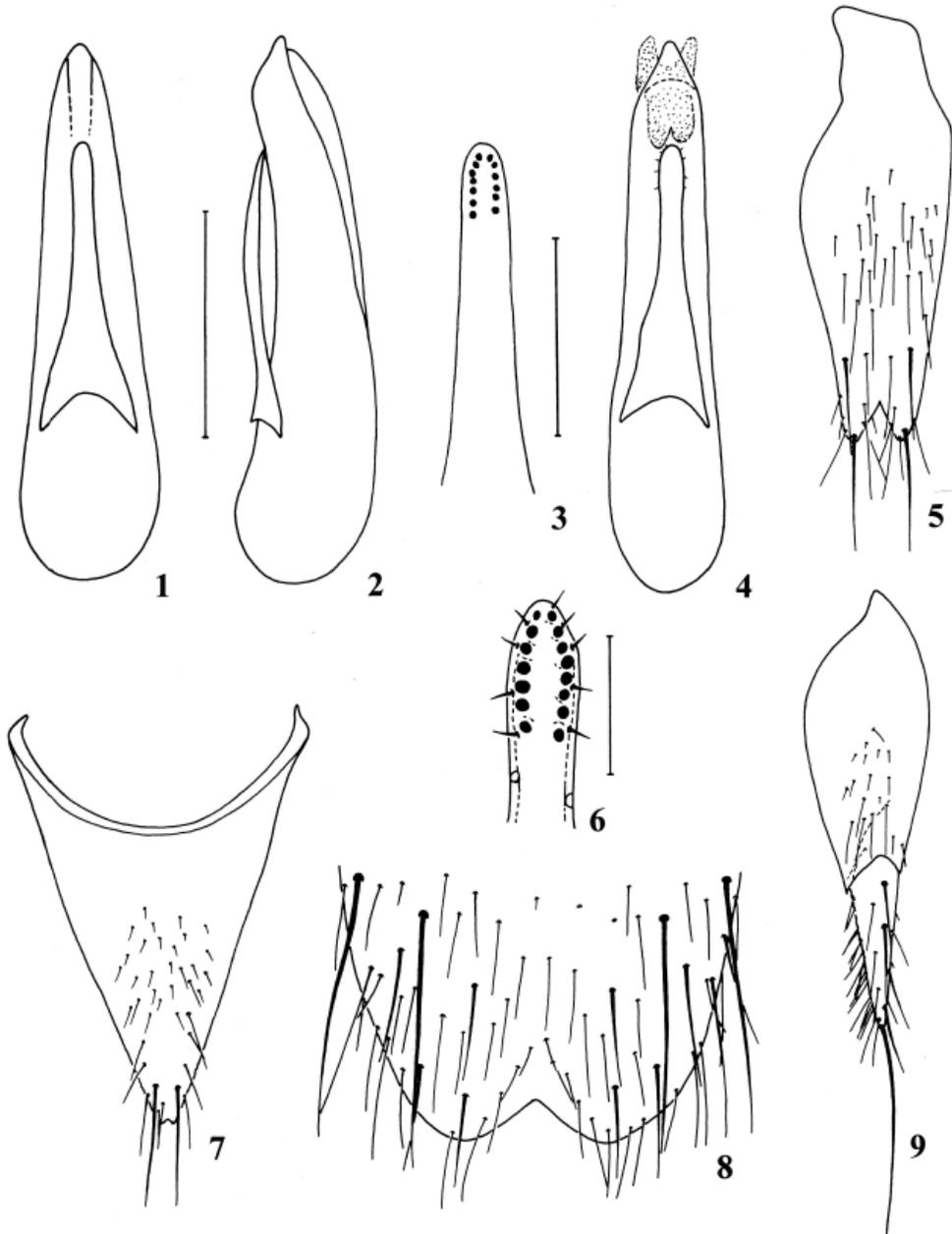
Legs. Metatibia as long as metatarsus, meso- and metatibiae with several long bristles on external side. Metatarsomere 1 as long as metatarsomere 5, relative length on metatarsomeres: 1 = 0.30; 2–4 = 0.18; 5 = 0.30.

Abdomen. Punctuation of basal portion of all tergites similar to that on elytra, gradually sparser towards posterior margin of each tergite. Surface without microsculpture. Setation similar to that on head.

Male. Protarsomeres 1–3 slightly dilated and sub-bilobed, each covered with modified pale setae ventrally, protarsomere 4 slightly narrower than preceding ones. Sternite VIII as in Fig. 8, sternite IX as in Fig. 5. Aedeagus (Figs. 1, 2, 4): Median lobe with sides subparallel or slightly narrowed apicad, in apical quarter distinctly flattened from both sides and ending in subacute apex, paramere long, apical part with about 15 sensory peg setae and about 10 short fine setae (Figs. 3, 6).

Female. Protarsomeres 1–3 less dilated than those of male, each covered with modified pale setae ventrally. Tergite X minutely notched apically (Fig. 7), genital segment with gonocoxites as in Fig. 9.

Differential diagnosis. Based on external characters and morphology of the genitalia, it is not possible to assign *P. hapalemur* sp. nov. to any species groups hitherto defined. It differs from all Afrotropical and Madagascan species in the shape of aedeagus that has the median lobe with subparallel sides and paramere slightly resembling that of *P. jocquei* Lecoq, 1996 described from the Comoros. However, *P. hapalemur* sp. nov. differs from the latter species in



Figs. 1–9. *Philonthus hapalemur* sp. nov. 1 – aedeagus, ventral view, 2 – aedeagus, lateral view, 3, 6 – apex of paramere with sensory peg setae, ventral view, 4 – aedeagus, ventral view, transmitted light, 5 – male sternite IX, 7 – female tergite X, 8 – apical portion of male sternite VIII, 9 – gonocoxite of female genital segment. 1–3, 5: holotype, 4, 6–9: paratype. Scales: 0.5 mm (1 = 2, 4, 5, 7–9), 0.25 mm (3) and 0.1 mm (6).

the parallel-sided pronotum and in the narrow apical part of the median lobe that is distinctly longer (compare with LECOQ 1996: Figs. 56, 58).

Etymology. The name of this species, a noun in apposition, is a Latin generic name of the Malagasy Gray Gentle Lemur *Haplemur griseus* (Link, 1795).

Distribution. Madagascar.

***Philonthus (Piezarthrus) plasoni* Bernhauer, 1902**

(Figs 10–13)

Philonthus plasoni Bernhauer, 1902: 166

Type locality. Madagascar, Fort Dauphin.

Type material. SYNTYPE: ♂, 'Port Daupin [= Fort Dauphin], Madagaskar, von Dr Plason' (FMNH).

Description. Body length 8.1–8.3 mm, length of fore body (to the apex of the elytra) 4.7–5.0 mm. Head and pronotum black with golden iridescence, clypeus narrowly yellowish brown along anterior margin and antennal sockets, elytra and abdomen blackish brown, maxillary and labial palpi yellowish brown, mandibles brown yellowish, antenna black with antennomeres 1, 2 and 11 lighter, brownish, base of antennomere 2 lighter, femora and tarsi brown yellowish, tibiae darker.

Head transverse, wider than long (w/l ratio $1.36/1.64 = 1.21$), sides parallel just behind eyes and than slightly narrowing posteriad. Eyes slightly convex, shorter than temples (eye length/temple length ratio $0.44/0.60 = 0.73$). Area between eyes with 4 coarse punctures, distance between medial punctures three times larger than distance between medial and lateral puncture. Posterior angles slightly rounded with one puncture bearing long black seta. One coarse puncture situated near posterior margin of eyes. Temporal area almost impunctate. Surface with very fine, dense microsculpture consisting of transverse waves.

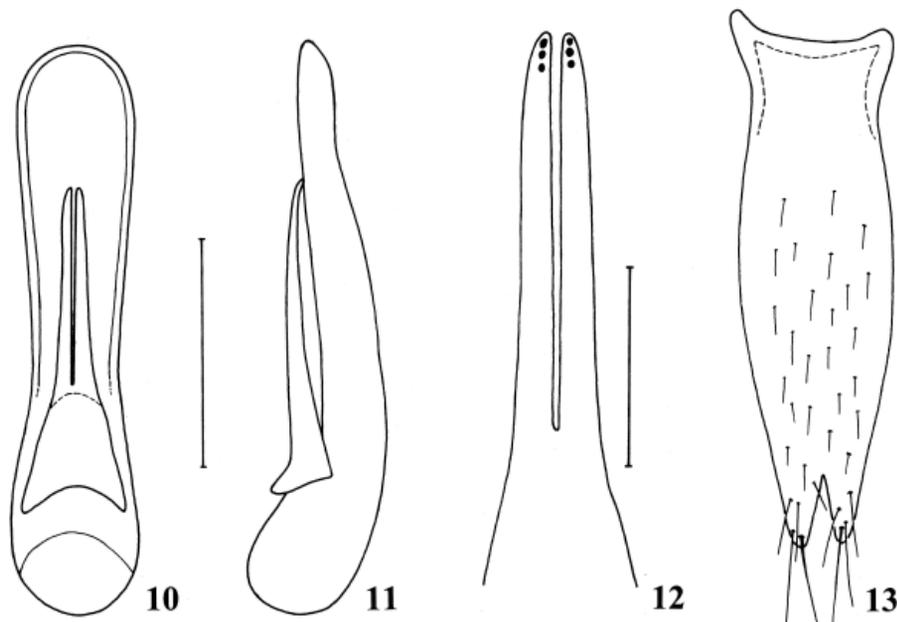
Antennae slender, moderately long, reaching to posterior third of pronotum when reclined. Relative length of antennomeres: 1 = 0.40; 2 = 0.24; 3 = 0.28; 4 = 0.20; 5 = 0.18; 6 = 0.16; 7 = 0.14; 8–10 = 0.12; 11 = 0.26.

Pronotum wider than long (w/l ratio $1.60/1.52 = 1.05$), anterior angles almost rectangular with short black setae, lateral margins with several setae of variable length. Each dorsal row with 5 coarse punctures, punctures 2, 3, 4 equidistant, distance between punctures 1–2 and 4–5 slightly larger. Each sublateral row with 2 finer punctures, punctures 1 on the same level as punctures 3 in dorsal row. Microsculpture similar to that on head.

Scutellum finely, moderately sparsely punctate, punctures somewhat larger than eye facets, average distance between punctures as large as their diameter.

Elytra wider than long ($w/l = 1.96/1.84 = 1.07$), narrowest at midlength, very slightly widened anteriad and posteriad. Punctuation sparser and coarser than that on scutellum. Punctures slightly larger than eye facets, separated on average by about one puncture diameter, on some places by one and half puncture diameter. Surface without microsculpture. Setation brownish yellow.

Abdomen wide, slightly narrowed from fifth visible tergite towards apex. Punctuation at base of each segment coarser and denser than on elytra, becoming finer and sparser towards posterior margin of each tergite, surface without microsculpture, setation similar to that on elytra.



Figs 10-13. *Philonthus plasoni* Bernhauer, 1902. 10 – aedeagus, ventral view, 11 – aedeagus, lateral view, 12 – apex of paramere with sensory peg setae, ventral view, 13 – male sternite IX. Scales: 0.5 mm (10, 11, 13) and 0.25 mm (12).

Legs. Tarsi *Piezarthrus*-like, with meso- and metatarsomeres distinctly flattened and dilated, relative length on metatarsomeres: 1 = 0.28; 2 = 0.16; 3-4 = 0.14; 5 = 0.32.

Male. Protarsomeres 1–3 dilated, each covered with modified pale setae ventrally, protarsomere 4 much narrower than the preceding ones. Sternite VIII slightly emarginated posteriorly, sternite IX as in Fig. 13. Aedeagus (Figs. 10–12) with median lobe distinctly, evenly widened anteriorly, with broadly rounded apex; paramere long, distinctly bent towards median lobe, separated in two lobes, apical part of each lobe with about 3 sensory peg setae (Fig. 12).

Female. Unknown to the authors.

Distribution. Madagascar: Fort Dauphin.

Discussion. LECOQ (1998) defined the subgenus *Piezarthrus* Lecoq, 1998 as follows: ‘The basic common character of these species is flattening and enlargement of meso- and metatarsi’. *Philonthus plasoni* shares this character as well, therefore it is transferred to that subgenus. Eight species were placed in this subgenus – seven from Madagascar and one from the Comoros. The dorsal row of the pronotum consists of 4 (*P. pollux* Fauvel, 1905) or 5 large punctures (remaining species). For most of the species of this subgenus the hitherto available material is very poor – only 1–2 specimens for most species. *Philonthus plasoni* is similar to *P. humbloti* Lecoq, 1998 described from the Comoros in the body length and the relative length of eyes, but it differs from the latter in the very widely rounded apex of the median lobe of the aedeagus and parallel lobes of the paramere.

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