

New *Harpalus* (Coleoptera: Carabidae) species from the Reunion

Oldřich HOVORKA

Institute of Organic Chemistry and Biochemistry, AS CR,
Flemingovo náměstí 2, CZ-166 10 Praha 6, Czech Republic
e-mail: hovorka@uochb.cas.cz

Taxonomy, new species, Coleoptera, Carabidae, Harpalini, *Harpalus*, Reunion

Abstract. *Harpalus pecinai* sp. n. from Reunion is described, figured, and compared with closely related species *Harpalus brunnipes* Dejean, 1829 and with species *Harpalus rivalsi* Jeannel, 1948. It belongs to the *Harpalus brunnipes* species group (sensu Jeannel 1948). The key to determination of *Harpalus* - species from Reunion is given.

INTRODUCTION

Two species of the genus *Harpalus* Latreille, 1802 are known from Reunion so far. The first species described from this island is *Harpalus brunnipes* Dejean, 1829. It was for the long period the only member of the genus known from Reunion (Coquerel 1866; Alluaud 1916 etc.). Jeannel (1948) described in his monumental work about Madagascan carabid beetles the second species - *Harpalus rivalsi*. Both species seemed to be endemic on Reunion; the record of *H. brunnipes* from Mauritius is considered by Vinson (1954) as doubtful. No other *Harpalus* species are mentioned in literature about carabid fauna of the Mascarene Islands (Basilewsky 1951; Jeannel & Rivalier 1957; Vinson 1967). Additional new species of the genus *Harpalus* closely related to *H. brunnipes* is described below.

KEY TO THE *HARPALUS* SPECIES FROM REUNION

- 1 (2) Tarsomeres dorsally bare; elytra with strong isodiametric microsculpture in both sexes, elytral intervals flat; metepisternite elongated, strongly narrowed posteriad; winged species; head relatively smaller, narrower; aedeagus without apical plate, it's apex long and narrow *rivalsi* Jeannel, 1948
- 2 (1) Tarsomeres dorsally setose; elytral intervals convex, without distinct microsculpture in male and with indistinct transverse microsculpture in female; metepisternite only slightly longer than wide, not markedly narrowed; micropterous species; head relatively large; aedeagus with apical plate, it's apex short
- 3 (4) Inner sac of aedeagus with field of sclerotised spines; apex of aedeagus in dorsal view almost straight; elytral striae impunctate *pecinai* sp. n.
- 4 (3) Inner sac of aedeagus without field of sclerotised spines; apex of aedeagus in dorsal view curved at left side; elytral striae punctate *brunnipes* Dejean, 1829

DESCRIPTION

Harpalus pecinai sp. n.

(Figs 1-3)

Type material. Holotype (♂) labelled: “Marquesas, Reunion, Maida, 1200-2800 m [a.s.l.], leg. J. Pecina, ix. 1997”. Holotype specimen provided with label: “HOLOTYPE, *Harpalus pecinai* sp. nov., det. O. Hovorka, 2006”. Holotype deposited in the author’s collection.

Description. Habitus – the new species is very similar (and apparently related) to *Harpalus brunripes*. Total length (from anterior margin of labrum to elytral apex) is 8.6 mm. Both dorsal and ventral sides brown, lateral margins of pronotum, elytral margins and first elytral interval rufous. Whole antennae, palpi, tarsal segments and tibiae yellow, femora yellow-red. Microsculpture - dorsal surface with slightly transverse reticulation on head and pronotum, without distinct elytral microsculpture. Ventral surface dull through distinct isodiametric microsculpture,

Head smooth, with moderately convex eyes. Anterior margin of labrum with 6 setiferous punctures. Both labial and maxillar palpomeres with sparse, relatively long setae. Antennae long, surpassing posterior margin of pronotum. Mentum with simple median tooth.

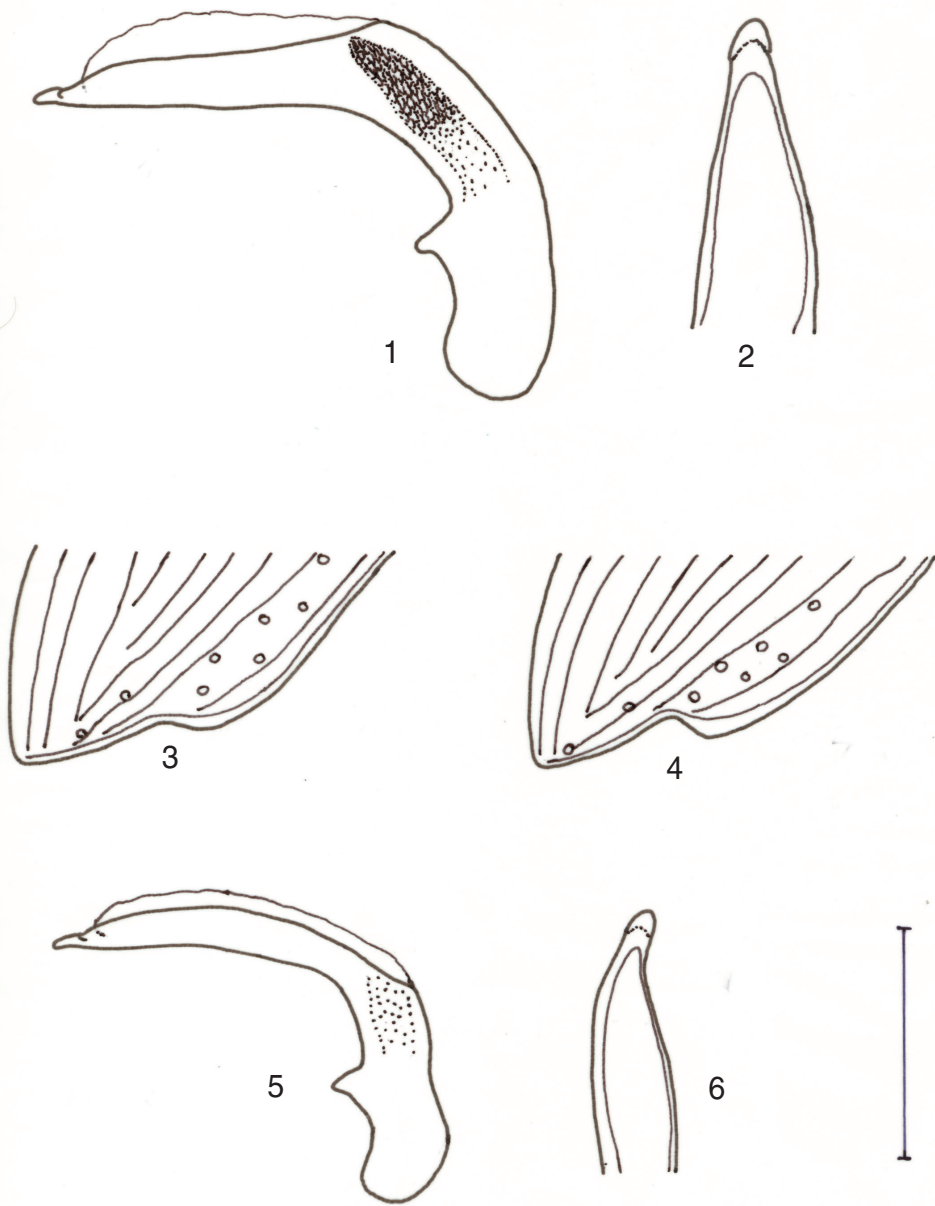
Pronotum 1.3 times wider than head across eyes, widest at anterior third, transverse, nearly 1.4 times wider than long. Anterior margin of pronotum slightly emarginate. Lateral margins posteriorly almost straight, hind angles obtuse. Basal margin slightly, but distinctly bordered. Basal impressions very flat, indistinct. Lateral setiferous puncture at anterior third, near the widest point. Prosternal process unbordered, without setae. Episterna of pro- and mesothorax impunctate. Episternum of metathorax slightly longer than wide, its outer margin 1.15 times longer than anterior margin, impunctate.

Elytrae elongate, oval, 1.57 times longer than wide. Humeral angle obtuse, humeral tooth absent. Elytral striae deep, impunctate. Elytral intervals convex, third interval in the middle of length with setiferous puncture, adjoining second elytral stria. Scutellar pore present, scutellar stria short. Seventh elytral stria with two preapical setiferous punctures. Series umbilicata with 18 setiferous punctures. Nighth interval markedly dilated towards apex. Preapical emargination of lateral elytral margin slight (Fig. 3). Micropterous, rudiment of hind wing exactly 1.0 mm long. Abdominal ventrites 3-5 with one pair of posterior setiferous punctures. Abdominal ventrite 3 punctured anteriorly to each setiferous puncture, other ventrites unpunctured. Male with two setiferous punctures apically at last visible abdominal ventrite.

All tarsomeres on dorsal side sparsely, but distinctly setose.

Aedeagus large, 2.3 mm long. Median lobus with apical plate. Apex of median lobe elongate, in dorsal view almost straight (Fig. 2), not distinctly curved at left side. Internal sac of median lobe with posterior field of sclerotized spines (Fig. 1).

Differential diagnosis. *Harpalus pecinai* sp. n. belongs to the *H. brunripes* species-group (sensu Jeannel 1948), in which species are characterized by elongate body form, large head, parallel elytra and always reduced hind wings. The group was formed hitherto by three species; two of



Figs 1-6. Figs 1-3: *Harpalus pecinai* sp. n., Figs 4-6: *H. brunnipes* Dejean, 1829. 1,5- median lobe of aedeagus, lateral view; 2,6- apical part of aedeagal median lobe, dorsal view; 3,4- apical part of right elytron, latero-posterior view. Scale bar 1.0 mm.

them are known from Madagascar (*H. sinuatipennis* Jeannel, 1948 and *H. imerinae* Jeannel, 1948), third species is *H. brunnipes* Dejean, 1829 from Reunion. *H. pecinai* sp. n. differs from all those species by apex of median lobus straight in dorsal view; in other species is median lobus curved at left side (as on Fig 6). *H. brunnipes*, the only sympatric species from the group, differs moreover from *H. pecinai* sp. n. by the absence of the field of sclerotized spines in the internal sac of median lobe, by aedeagus shorter (only 1.8-1.9 mm long) and by always stronger preapical elytral emargination (Fig. 4). Other differences are in color (*H. brunnipes* is dark brown to brown-black, often with slight metallic lustre), in presence of delicate punctures in elytral striae of *H. brunnipes* and in body length - studied males of *H. brunnipes* (N=6) varies in total length from 7.2 to 8.4 mm. *Harpalus rivalsi* Jeannel, 1948 is not closely related to *brunnipes*-group species. It is winged species with oval, convex elytra, flat elytral intervals and in both sexes distinct isodiametric microsculpture, convex lateral margins of pronotum, long episternum of metathorax, and dorsally glabrous tarsomeres. Median lobe of aedeagus is straight in dorsal view with apex long and simple, without apical plate.

Distribution. The only known specimen of *H. pecinai* sp. n. was found in northwestern part of Reunion in the region between Petit France and Piton Maito together with numerous specimens of *H. brunnipes*.

Name derivation. The specific name is derived from the name of the collector, my brother-in-law Jan Pecina, who always collected an interesting material of carabids during his trips.

ACKNOWLEDGMENTS. I am obliged to T. Deuve (Museum National d'Histoire Naturelle, Paris) for the loan of type specimens of *H. brunnipes*.

REFERENCES

- ALLUAUD C. 1916: Coléoptères des îles Mascareignes et Séchelles. Missions scientifiques de MM. Ch. Alluaud (1892, 1893 et 1897) et P. Carié (1910-1913). Cicindelidae et Carabidae. *Annales de la Société Entomologique de France* 85: 37-90.
- BASILEWSKY P. 1951: Révision générale des Harpalinae d'Afrique et de Madagascar (Coleoptera, Carabidae). II. *Annales du Musée du Congo Belge (Sér. 8), Sciences Zoologiques* 9: 1-333.
- COQUEREL C. 1866: Faune de Bourbon (Ile de la Réunion). Coléoptères. *Annales de la Société Entomologique de France* 6: 293-340.
- DEJEAN P. F. M. A. 1829: *Species général des Coléoptères de la collection de M. le Comte Dejean. Tome quatrième*. Paris: Méquignon-Marvis, vii + 520 pp.
- JEANNEL R. 1948: Coléoptères Carabiques de la Région malgache. *Faune de l'Empire Français* 10: 373-765.
- JEANNEL R. 1953: Les Carabiques de la Reunion et le peuplement des Mascareignes. *Le Naturaliste Malgache* 5: 43-62.
- JEANNEL R. & RIVALIER E. 1957: Coléoptères Carabiques. *Mémoires de l'Institut Scientifique de Madagascar, Série E* 8: 119-129.
- VINSON J. 1954: The Carabid fauna of the Mascarene Islands: data on endemism, affinities, wing atrophy and ecology. *The Mauritius Institute Bulletin* 3: 266-278.
- VINSON J. 1967: Liste chorologique des Coléoptères des Mascareignes. *The Mauritius Institute Bulletin* 4: 299-372.