

**Description of *Philomessor (Attumbrinus) henroti* sp. n. from Morocco
and notes on *P. (A.) bolivari* (Coleoptera: Leiodidae: Cholevinae)**

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Abstract. *Philomessor (Attumbrinus) henroti* sp. n. from Morocco is described and illustrated. The description of *P. (A.) bolivari* Jeannel, 1936 is completed and male and female genitalia are also illustrated. A key for the three species in the subgenus *Attumbrinus* Jeannel, 1936 is provided.

INTRODUCTION

Small carrion beetles are mostly general scavengers, associated with carcasses, decaying plant material, dung, and fungi (Peck, 1990; Lawrence & Britton, 1994). However, some groups have more restricted bionomics and are adapted to a more constant trophic source and/or microclimatic conditions: some species are inhabitants of burrows and nests of mammals and birds (Jeannel, 1936; Yablokov-Khnzoryan, 1964; Peck, 1973), cave-dwelling (Jeannel, 1936; Peck, 1973, 1984; Guéorguiev, 1977; Gnaspini, 1991, 1993), and an important part is more or less obligately myrmecophilous (Jeannel, 1936; Yablokov-Khnzoryan, 1964; Peck, 1976; Blas, 1979; Franc, 1992).

The genus *Philomessor* Jeannel, 1936 presently contains 5 species. The majority of species is myrmecophilous, the western Mediterranean species are associated with nests of the ant species *Messor barbarus* L. and *M. bouvieri* Bondroit (Jeannel, 1936; Blas, 1979).

This genus was erected for four species from the western Mediterranean area by Jeannel (1936), and is divided into two subgenera. The nominotypical subgenus contains the type species *P. (P.) brevicollis* (Kraatz, 1852), known from France, Spain, Balearic Isles, Italy, Algeria and Tunisia; *P. (P.) bedelianus* Jeannel, 1936, from Algeria; and *P. (P.) kalashiani* Yablokov-Khnzoryan, 1988, from Armenia.

The subgenus *Attumbrinus* Jeannel, 1936 contains the type species *Catopomorphus cloueti* Portevin, 1907, from Algeria, and *P. (A.) bolivari* Jeannel, 1936, from Morocco, which was described without appropriate illustrations and without description of genitalia.

Another species, previously placed in *Philomessor*, *P. lindbergi* Yablokov-Khnzoryan, 1962 from Caucasus, Georgia, was transferred by Yablokov-Khnzoryan (1975) to the genus *Nargus* C.G. Thomson, 1867.

Recently, among undetermined materials of Leiodidae: Cholevinae in the collection of H. Henrot in the Muséum National d'Histoire Naturelle, Paris (MNHN) I found one specimen of *Philomessor (Attumbrinus)* from Morocco which belongs to an undescribed species. In the present paper I provide the description of the new species, description of male

and female genitalia of *P. (A.) bolivari* and a key for the three species of the subgenus *Attumbrinus*.

Based on the material studied, the subgenus *Philomessor (Attumbrinus)* can be redefined by the following combination of characters: Antenna with at least the three last segments dorsoventrally flattened. Pronotum with short, dense and recumbent pubescence. Elytral pubescence at least from posterior third and along lateral margins long and erect. Meso- and/or metatibia with inner setal fringe.

Philomessor (Attumbrinus) henroti sp. n.

Description

MALE. Body rounded (Fig. 1), length 3.2 mm, width 2.7 mm, wings fully developed.

Head 1.1 times as wide as long. Surface with transverse microsculpture, interposed between fine and sparsely distributed punctures, with semierect pubescence.

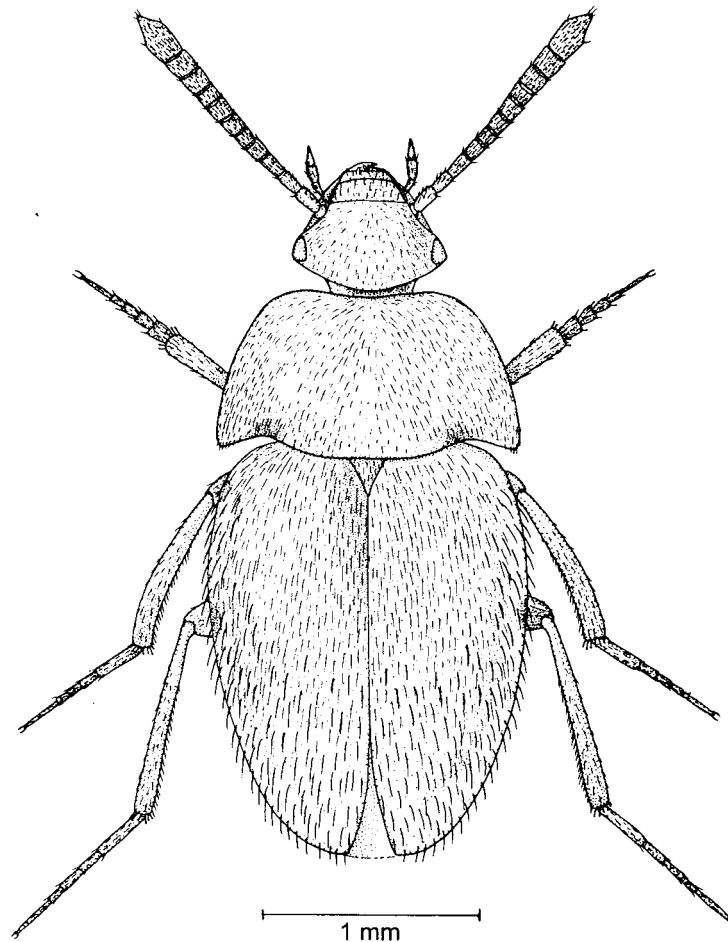


Fig. 1. *Philomessor (Attumbrinus) henroti* sp. n., holotype male, habitus dorsally.

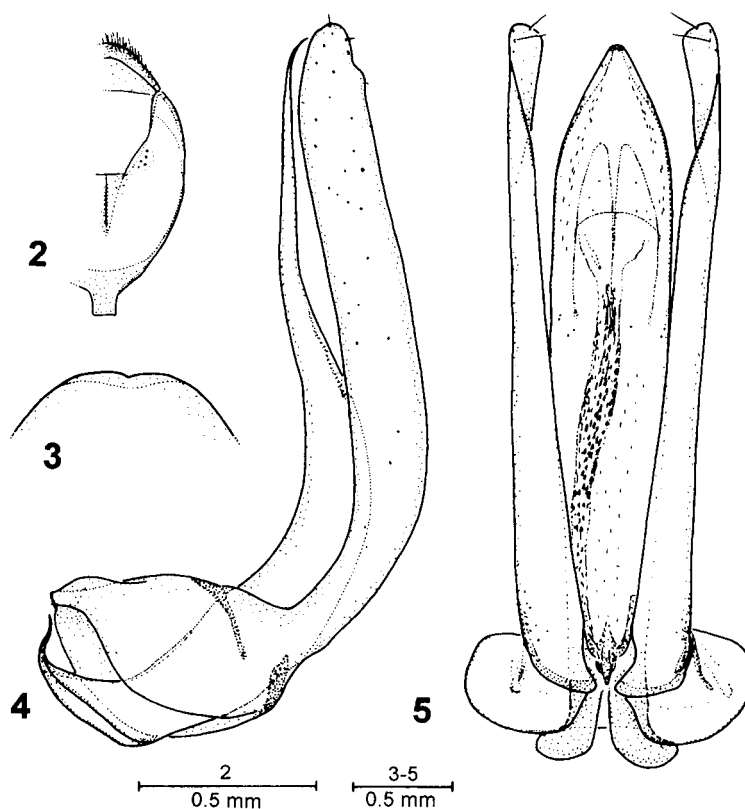
Antenna (Fig. 1): last three segments dorsoventrally flattened. Proportions of antennal segments in μm , with 12.5 μm precision (I to XI, length $\times$ maximum width): 350 $\times$ 150, 175 $\times$ 125, 200 $\times$ 125, 175 $\times$ 150, 162.5 $\times$ 162.5, 150 $\times$ 187.5, 175 $\times$ 225, 150 $\times$ 225, 175 $\times$ 225, 200 $\times$ 237.5, 500 $\times$ 275. Antenna 1.8 times as long as pronotal length.

Pronotum (Fig. 1) 1.87 times as wide as long, widest at base, 1.84 times as wide as head. Hind angles produced posteriorly, posterior margin of pronotum heavily excavated laterally, surface before excavation finely impressed. Pronotal surface with distinct transverse microsculpture, finely punctate. Pubescence short, dense and recumbent.

Elytra together oval, 1.3 times as long as wide, 2.6 times as long as pronotum and 1.07 times as wide as pronotum. Anterior part medially with longitudinal impression (Fig. 1). Each elytron apically rounded. Elytral surface lustrous, without microsculpture; more densely and coarsely punctated than pronotum. Discal pubescence similar to that of pronotum; hairs on posterior third and lateral margins longer and more erect (Fig. 1).

Protibia gradually expanded towards apex, 5.1 times as long as wide and 0.8 times as long as protarsus. Protarsus slightly expanded.

Mesotibia slightly curved, 7.5 times as long as wide, 1.2 times as long as mesotarsus. Last two thirds of inner margin with dense, fine, erect pubescence (Fig. 1). Mesotarsus



Figs 2–5. *Philomessor (Attumbrinus) henroti* sp. n., holotype male. 2 – male genital segment ventrally; 3 – male sternum VIII ventrally; 4 – aedeagus laterally; 5 – aedeagus dorsally.

laterally flattened. Basal segment wider than the rest of mesotarsus, elongate, 0.42 times as long as total mesotarsal length.

Metatibia straight, 9.7 times as long as wide, 1.3 times as long as metatarsus, inner pubescence as that of mesotibia. Metatarsus long and slender.

Posterior margin of sternum VIII with medial notch (Fig. 3). Genital segment flat, with elongate and truncated anterior projection (Fig. 2).

Aedeagus strongly flattened dorsoventrally and sigmoid, narrowing towards apex, in lateral view. Apex rounded and moderately elongate in dorsal view (Figs 4, 5). Paramere robust, slightly longer than aedeagus, cross-section elliptical, with dorsal oblique carina subapically, apex flattened laterally, obliquely truncated in dorsal view; with two inner setae (Figs 4, 5).

FEMALE. Unknown.

MATERIAL EXAMINED: Holotype male (MNHN, coll. H. Henrot), labelled "Steppen bei Chichaoua / Marokko, lg. H. Franz [printed] / Sp 927 // Muséum Paris / coll. / H. Henrot // *Attumbrinus* / sp. nov. [Henrot's MS] // *Philomessor* (*Attumbrinus*) / *henroti* sp. n. / HOLOTYPE / Jan Růžička det. 1995".

NAME DERIVATION: The new species is named after the late H. Henrot, who first recognised its status.

BIONOMICS. According to H. Franz (pers. comm.), the specimen was taken on 13.iv.1963 under a stone on steppe, west of Chichaoua. The environs were marl soil with hornstone and gypsum, covered with sporadic xerophilous and halobiont vegetation. Thus, maybe the members of the genus are not strictly myrmecophilous; maybe the specimen was hiding under the rock during the day while searching for an ant colony.

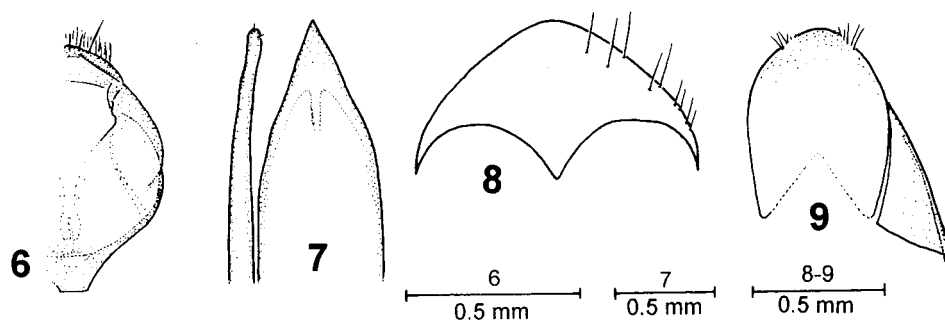
DIAGNOSIS. Species easily recognised by the excavated pronotum and robust parameres of aedeagus.

Philomessor (*Attumbrinus*) *bolivari* Jeannel, 1936

Philomessor (*Attumbrinus*) *bolivari* Jeannel, 1936: 425; Kocher, 1958: 67.

The external features of this species were described in detail by Jeannel (1936: 425–426). Some additional notes on the abdomen, male and female genitalia (not included in the original description) are presented here:

MALE. Sternum VIII regularly rounded. Genital segment oval, with short wide anterior truncate projection (Fig. 6). Aedeagus slightly flattened dorsoventrally, with short pointed apex. Paramere slender, nearly reaching apex of aedeagus (Fig. 7).



Figs 6–9. *Philomessor* (*Attumbrinus*) *bolivari* Jeannel. 6 – male genital segment ventrally; 7 – apex of aedeagus dorsally; 8 – female sternum VIII ventrally; 9 – female tergum IX and X dorsally.

FEMALE. Sternum VIII with long setae at posterior margin (Fig. 8); spiculum ventrale flat, triangular in shape. Tergum X widely notched anteriorly, more sclerotized only posteriorly. Lateral-posterior margin with a paired group of longer setae (Fig. 9).

MATERIAL EXAMINED: 1 ♂ (Holotype, MNHN) labelled "Imasinen / Beni Seddat, Rif / vi - 1930 EXP. C. BOLIVAR // Muséum Paris / coll. / générale // TYPE [red label] // Bolivar [blue label, Jeannel's MS] // Philomessor (Attumbrinus) / bolivari Jeannel, 1936 / Holotype / Jan Růžicka des. 1995". 1 ♀ with same data (MNHN); this specimen was not included in the type series by Jeannel (1936).

Key for the species of *Philomessor* (*Attumbrinus*)

The following key is based on personal observation of the type specimens of all three species (deposited in MNHN).

- 1 Pronotum widely excavated lateroposteriorly (Fig. 1). Elytra 2.6 times as long as pronotum. Aedeagus distinctly flattened dorsoventrally (Fig. 4). Paramere robust, elliptical in cross-section, with subapical dorsal carina (Fig. 5). Both mesotibia and metatibia with inner setal fringe, metatibia straight in males. Body length 3.2 mm. Western Morocco *P. (A.) henroti* sp. n.
- Pronotum regularly rounded posteriorly. Elytra 2.85–2.95 times as long as pronotum. Aedeagus only moderately flattened dorsoventrally. Paramere slender, cross-section round 2
- 2 Mesotibia without setal fringe. Metatibia with inner fringe, straight in males. Aedeagus tip elongate, paramere shorter than aedeagus (Fig. 688 in Jeannel, 1936). Body length 2.8 mm. Algeria *P. (A.) cloueti* Portevin
- Mesotibia with inner dense setal fringe. Metatibia without setal fringe, curved in males. Aedeagus tip wider, paramere nearly as long as aedeagus (Fig. 7). Body length 3.5–4.0 mm. Northern Morocco *P. (A.) bolivari* Jeannel

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REFERENCES

- BLAS M. 1979: Sobre los Catopidae mirmecófilos de la Península Ibérica (Col. Catopidae). *Publ. Dept. Zool.* **4**: 39–46.
- FRANC V. 1992: Myrmecophilous beetles of Slovakia with special reference to their endangerment and perspectives for protection. *Acta Univ. Carol. (Biol.)* **36**: 299–324.
- GNASPINI P. 1991: Brazilian Cholevidae (Coleoptera), with emphasis on cavernicolous species. I. Genus *Dissochaetus*. *G. Ital. Entomol.* **5**: 325–340.
- GNASPINI P. 1993: Brazilian Cholevidae (Coleoptera), with emphasis on cavernicolous species. II. Subgenus *Iutururuca* nov., subgenus of *Adelopsis*. *Ann. Soc. Entomol. Fr. (N. S.)* **29**: 77–87.
- GUEORGUIEV V.B. 1977: *La Faune Troglobie Terrestre de la Péninsule Balkanique: Origine, Formation et Zoogéographie*. Academie Bulgare des Sciences, Sofia, 182 pp.
- JEANNEL R. 1936: Monographie des Catopidae (Insectes Coléoptères). *Mém. Mus. Natn. Hist. Nat. (N. S.)* **1**: 1–433.
- KOCHER L. 1958: Catalogue commenté des Coléoptères du Maroc. Fasc. II. Hydrocanthares, Palpicornes, Brachyélytres. *Trav. Inst. Sci. Chérifien Maroc (Zool.)* **14**: 1–246.
- LAWRENCE J.F. & BRITTON E.B. 1994: *Australian Beetles*. Melbourne University Press, Carlton, 192 pp.
- PECK S.B. 1973: A systematic revision and the evolutionary biology of the Ptomaphagus (Adelops) beetles of North America (Coleoptera: Leiodidae; Catopinae), with emphasis on cave-inhabiting species. *Bull. Mus. Comp. Zool.* **145**: 29–162.

- PECK S.B. 1976: The myrmecophilous beetle genus *Echinocoleus* in the southwestern United States (Leiodidae; Catopinae). *Psyche* **83**: 51–62.
- PECK S.B. 1984: The distribution and evolution of cavernicolous Ptomaphagus beetles in the southeastern United States (Coleoptera; Leiodidae; Cholevinae) with new species and records. *Can. J. Zool.* **62**: 730–740.
- PECK S.B. 1990: Insecta: Coleoptera; Silphidae and the Associated Families Agyrtidae and Leiodidae. In Dindal D.L. (ed.): *Soil Biology Guide*. J. Wiley, New York, Toronto, Chichester, Brisbane & Singapore, pp. 1113–1136.
- YABLOKOV-KHNZORYAN S.M. 1964: (Phloeophilous, nidicolous and myrmecophilous beetles in Armenian SSR.) *Zool. Sborn. Akad. Nauk Armyan. SSR* **13**: 187–212 (in Russian, Armenian abstr.).
- YABLOKOV-KHNZORYAN S.M. 1975: Notes sur les Catopidae (Coleoptères, Catopidae). *Nouv. Rev. Entomol.* **5**: 251–260.

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