

Review of the subgenus *Attumbrinus*
(Coleoptera: Leiodidae: Cholevinae: *Philomessor*),
with description of *Philomessor lackneri* sp. nov.
from Morocco

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Abstract. Species of *Philomessor* Jeannel, 1936, subgenus *Attumbrinus* Jeannel, 1936 inhabiting Algeria and Morocco, namely *Philomessor (Attumbrinus) bolivari* Jeannel, 1936, *P. (A.) cloueti* (Portevin, 1907), and *P. (A.) henroti* Růžička, 1996 are reexamined and a new species *Philomessor (Attumbrinus) lackneri* sp. nov. from the High and Central Atlas (Morocco) is described. Lectotype of *P. (A.) bolivari* is designated, and *P. (A.) cloueti* and *P. (A.) bolivari* are redescribed. Current knowledge on bionomy is summarized and known distribution is mapped for each species. Key to the examined species is given.

Key words. Coleoptera, Leiodidae, Cholevinae, new species, taxonomy, faunistics, key, distributional map, Morocco, Algeria, North Africa, Palearctic Region

Introduction

The genus *Philomessor* Jeannel, 1936 currently contains six species (PERREAU 2004). It was already subdivided in the original description by JEANNEL (1936) in two subgenera: *Philomessor* s. str. and *Attumbrinus* Jeannel, 1936. In the nominotypical subgenus three species are placed: *Philomessor (Philomessor) bedelianus* Jeannel, 1936, known only from the type locality in Algeria; *P. (P.) brevicollis* (Kraatz, 1852) from southwestern Europe and Maghreb (ssp. *brevicollis* (Kraatz, 1852) from Tunisia, Algeria, Spain, France and Italy including Sicily, and ssp. *balearicus* Jeannel, 1936 from the Balearic islands) and *P. (P.) kalashiani* Iablokoff-Khnzorian, 1988, known only from the type locality in Armenia.

They are associated with the nests of the ant genus *Messor* Forel, 1890 (Hymenoptera: Formicidae). *Philomessor (P.) bedelianus* was collected in nests of *Messor barbarus* (Linnaeus, 1767) (JEANNEL 1936) and *P. (P.) brevicollis* in nests of *M. barbarus* and *M. bouvieri* Bondroit,

1918 (JEANNEL 1936, BLAS 1979, FRESNEDA et al. 2007). Biology of *P. (P.) kalashiani* Iablokoff-Khnzorian, 1988 is unknown.

The subgenus *Attumbrinus* also contains three species: *Philomessor (A.) cloueti* (Portevin, 1907), *P. (A.) bolivari* Jeannel, 1936, and *P. (A.) henroti* Růžička, 1996, which are subject of the present paper. An additional species is described below. The current knowledge of the *Attumbrinus* species is summarized along with a key and a distribution map.

Material and methods

Photographs of habitus were taken using a Canon macro photo lens MP-E 65mm on a Canon 550D body. Multiple layers of focus were combined in the Zerene Stacker 1.04 software (ZERENE SYSTEMS 2012; <http://www.zereneystems.com/cms/stacker>) for the habitus at the Faculty of Environmental Sciences, Czech University of Life Sciences Prague. SEM micrographs were taken using a Hitachi S-3700N environmental electron microscope at the Department of Paleontology, National Museum in Prague.

Body length is measured from the anterior margin of clypeus to the tips of elytra; width of the head is its maximum width across eyes; length of the elytra is the maximum length from the base of elytra to their apex.

Exact label data are cited for the type material. Authors' remarks and addenda are placed in square brackets, separate label lines are indicated by a slash (/), separate labels by double slash (//). Information in 'brackets' indicates the original spelling in the original description.

Type specimens of *Philomessor (Attumbrinus) lackneri* are labelled with red labels with the following text: 'HOLOTYPUS [or ALLOTYPUS or PARATYPUS respectively] / *Philomessor (Att.)* ♂ [or] ♀ / *lackneri* sp. n. / Jiří Vávra des. 2014'.

Female genitalia and abdominal segments were mounted in DMHF (dimethyl hydantoin formaldehyde) resin (water soluble medium) and indicated [MD] in the text. Male genitalia, genital and abdominal segments were observed dry, glued on the same label with respective specimens.

All studied material of *Philomessor* was identified or reviewed by the author. Ants of the genus *Messor* Forel, 1890 (Hymenoptera: Formicidae) were identified by Henri Cagniant (Vieille Toulouse, France), and one species of the genus *Camponotus* Mayr, 1861 (Hymenoptera: Formicidae) by Pavel Bezděčka (Muzeum Vysočiny, Jihlava, Czech Republic).

The specimens included in this study are deposited in the following collections:

JRUC	Jan Růžička collection, Praha, Czech Republic;
JVAC	Jiří Vávra collection, Ostrava, Czech Republic;
KORC	Kamil Orszulik collection, Frýdek-Místek, Czech Republic;
MNHN	Muséum National d'Histoire Naturelle, Paris, France (Azadeh Taghavian);
NMPC	Národní muzeum, Praha, Czech Republic (Jiří Hájek);
MSVC	Martin Švarc collection, Liberec, Czech Republic;
PAKC	Pavel Krásenský collection, Chomutov, Czech Republic;
PKOC	Peter Koniar collection, Praha, Czech Republic;
TLAC	Tomáš Lackner collection, Košice, Slovakia;
ZMHB	Museum für Naturkunde, Leibniz-Institut für Evolutions- und Biodiversitätsforschung [former Museum für Naturkunde der Humboldt Universität], Berlin, Germany (Johannes Frisch).

The following abbreviations are used throughout the text: a.s.l. – above the sea level, AT – allotype, env. – environs, HT – holotype, LT – lectotype, MD – mounted in dimethyl hydantoin formaldehyde (see above), PT – paratype, pers. comm. – personal communication, sv – spiculum ventrale.

Key to species of *Philomessor* (*Attumbrinus*)

Note. Setae on inner margins of meso- and metatibiae may be sometimes glued together and indistinct in badly preserved specimens.

- 1 Posterior margin of pronotum in front of posterior angles broadly and deeply emarginate, posterior angles sharp (Fig. 40). Punctuation and pubescence on elytra uniform, setae equal in length and less erect (Fig. 39). Terminal antennomere shorter than the three preceding ones combined (Fig. 21). Apical portion of aedeagus slightly narrowed, with rounded tip (Fig. 22), parameres broad and exceeding apex of aedeagus (Fig. 23), anterior part of genital segment narrow, short and subquadrate (Fig. 24). Female unknown. Body length 3.1 mm. Morocco. *P. (A.) henroti* Růžička, 1996
- Posterior margin of pronotum in front of posterior angles not emarginate, posterior angles rounded (Figs 26, 28, 54). Punctuation and pubescence on elytra of two kinds: short, dense and recumbent setae are intermixed with sparser long erect setae born on larger raised granules (Figs 33, 35, 37). The erect setae at least twice as long as the recumbent ones (Figs 34, 36, 38). Terminal antennomere either shorter (for *P. lackneri*: Figs 14, 15) or longer (for *P. cloueti*: Fig. 13, and *P. bolivari*: Figs 50, 52) than the three preceding ones combined. 2
- 2 Posterior margin of pronotum rectilinear, posterior angles subrectangular (Fig. 54). Terminal antennomere as long as or somewhat longer than the four preceding ones combined (Fig. 13). Two kinds of punctuation on elytra little different (Fig. 37), erect setae ca. twice as long as the recumbent ones (Fig. 38). Inner margin of metatibia in the terminal third distinctly setose (Fig. 53). Apical portion of aedeagus strongly tapering towards acute tip (Fig. 25), parameres narrow and not reaching the apex of aedeagus (Fig. 5), anterior part of genital segment very short and wide, rounded anterolaterally (Fig. 12). Female unknown. Body length 2.8 mm. Algeria. *P. (A.) cloueti* (Portevin, 1907)
- Posterior margin of pronotum convex, posterior angles broadly rounded (Figs 26–29). Terminal antennomere shorter than the four preceding ones combined (Figs 14, 15, 50, 52). Two kinds of the punctuation on elytra distinct (Figs 33, 35), erect setae more than three times longer than the recumbent ones (Figs 34, 36). Inner edge of metatibia either smooth (Fig. 51), or finely setose apically (Fig. 49). 3
- 3 Pronotum distinctly narrower than maximum width of elytra combined (Figs 28, 29), inner margins of metatibiae smooth (Fig. 51). Terminal antennomere longer than three preceding ones combined (Figs 50, 52). Male: metatibiae curved (Figs 28, 51), aedeagus in dorsal view regularly thickened and only in apical portion narrowed into short protuberance (Fig. 3), in lateral view feebly S-shaped, parameres reaching the tip of aedeagus (Fig. 4), outer margin of sternum VIII with small median excision (Fig. 8), anterior part

- of genital segment short and wide, rounded anterolaterally (Fig. 11). Female: protarsi simple, not dilated (Figs 29, 47), tergum X oval, slightly longer than wide (Fig. 19), sternum VIII transverse with short triangular spiculum ventrale (Fig. 18). Body length 3.4–4.5 mm. Morocco. *P. (A.) bolivari* Jeannel, 1936
- Pronotum as wide as (Fig. 26) or slightly narrower (Fig. 27) than maximum width of elytra combined, inner margins of metatibiae finely and densely pubescent in apical portion (Fig. 49). Terminal antennomere shorter than or almost as long as three preceding ones combined (Figs 14, 15). Male: metatibiae straight (Figs 26, 49), aedeagus in dorsal view narrowed in basal portion, widest in the middle and then in apical portion narrowed into long and sharp protuberance (Fig. 1), in lateral view regularly arcuate (Fig. 2), parameres not reaching the tip of aedeagus (Fig. 1), outer margin of sternum VIII broadly and deeply emarginate (Fig. 6), anterior part of genital segment wide, extremely elongated, trifid anterolaterally (Figs 9, 10). Female: three basal protarsomeres dilated (Figs 27, 43), tergum X three times longer than wide (Fig. 17), sternum VIII narrower with long spiculum ventrale (Fig. 20). Body length 3.0–3.4 mm. Morocco.
 *P. (A.) lackneri* sp. nov.

Taxonomy

Philomessor (Attumbrinus) lackneri sp. nov.

(Figs 1, 2, 6, 14–17, 20, 26, 27, 33, 34, 41–45, 49, 55, 57, 59)

Type locality. Morocco, High Atlas Mts., Oukaïmeden, 2357 m a.s.l., 31°13.822'N, 07°49.264'W.

Type material. HOLOTYPE: ♂ (NMPC), 'MOROCCO 20.V.2011 / OUKAÏMEDEN ENV. (2357m) / N31°13,822'W07°49,264' / Peter Koniar & Martin Švarc lgt. [white label, printed]'. ALLOTYPE: ♀ [MD] (JVAC), 'MOROCCO 20.V.2011 / OUKAÏMEDEN ENV. (2237m) / N31°14,236'W07°49,055' / Peter Koniar & Martin Švarc lgt. [white label, printed]'. PARATYPES: 1 ♀ (MNHN), 'MAROC 19 3. 6 8 [19.iii.1968] / I T O [Ito near Azrou] / H. COIFFAIT [white label, printed]'; 2 ♂♂ (TLAC, JVAC), 'Maroc centr. / Moyen Atlas / Ifrane env. [Tizi-n-Tretten near Ifrane, 33°27'N, 5°02'W, 1900 m a.s.l.] 17-21.6.1998 / T. Lackner lgt. [white label, printed]'; 1 ♀ (NMPC), 'MOROCCO 21.V.2009 / OUKAÏMEDEN ENV. (2245m) / N31°14,257'W07°49,066' / Peter Koniar & Martin Švarc lgt. [white label, printed]'; 1 ♂ (JRUC), 'MOROCCO, Toubkal National / Park, Oukaïmeden, on road / 2028, 1 870 m a.s.l., 14.V.2010 / 0613390E- 3457303N / Di Giulio, Maurizi, Bravi leg. [white label, printed]'; 4 ♂♂ 2 ♀♀ (1 ♂ 1 ♀ in PKOC; 2 ♂♂, 1 ♀ [MD] in MSVC; 1 ♂ in JVAC), same data as allotype.

Description. Male. Body length 3.0–3.4 mm (holotype 3.0 mm). Body slender (Fig. 26). Winged. Head dark brown to black brown, pronotum dark brown. Elytra, legs and maxillary palpi light brown. Antennae brown, two basal antennomeres and the tip of the terminal one lighter. Pubescence light and of two kinds: entire body covered with short, dense and recumbent setae, somewhat longer on head and pronotum than on elytra; on elytra the short setae intermixed with long erect setae, which are, especially on disc, more than three times longer than the recumbent ones (Fig. 34).

Head transverse, 1.2 times wider than long. Surface shiny, finely punctate, punctures separated by more than their diameter. Interspaces with very fine microsculpture. Eyes developed, feebly prominent.

Antennae (Fig. 14) long and slender, 2.4–2.5 (holotype 2.5) times longer than pronotum. Three terminal antennomeres dorsoventrally flattened.

Pronotum transverse, 2.4–2.5 (holotype 2.5) times wider than long and 1.6–1.7 (holotype 1.6) times wider than head. Disc with pair of shallow lateral impressions at its midlength, further paired impressions sometimes situated closer to median axis and base (also in holotype). Punctuation of pronotum granular, very fine and dense, punctures separated by less than one diameter, at places contiguous. Microsculpture of interspaces very fine, but distinct.

Scutellum distinct, triangular, in middle finely and densely granulate.

Elytra oblong, feebly convex, 1.6–1.7 (holotype 1.6) times longer than wide, 2.8–2.9 (holotype 2.9) times longer than pronotum, their maximum combined width equal to or slightly wider than the width of pronotum. Tips of elytra separately rounded, almost rectangular. Punctuation of elytra (Fig. 33) granular and of two kinds. Fine granular punctures occurring all over surface of elytra, somewhat coarser and sparser than on pronotum and separated by more than one diameter, are intermixed with distinctly raised and larger granules bearing long erect setae. Microsculpture between punctures absent and elytra therefore appear more shiny than pronotum.

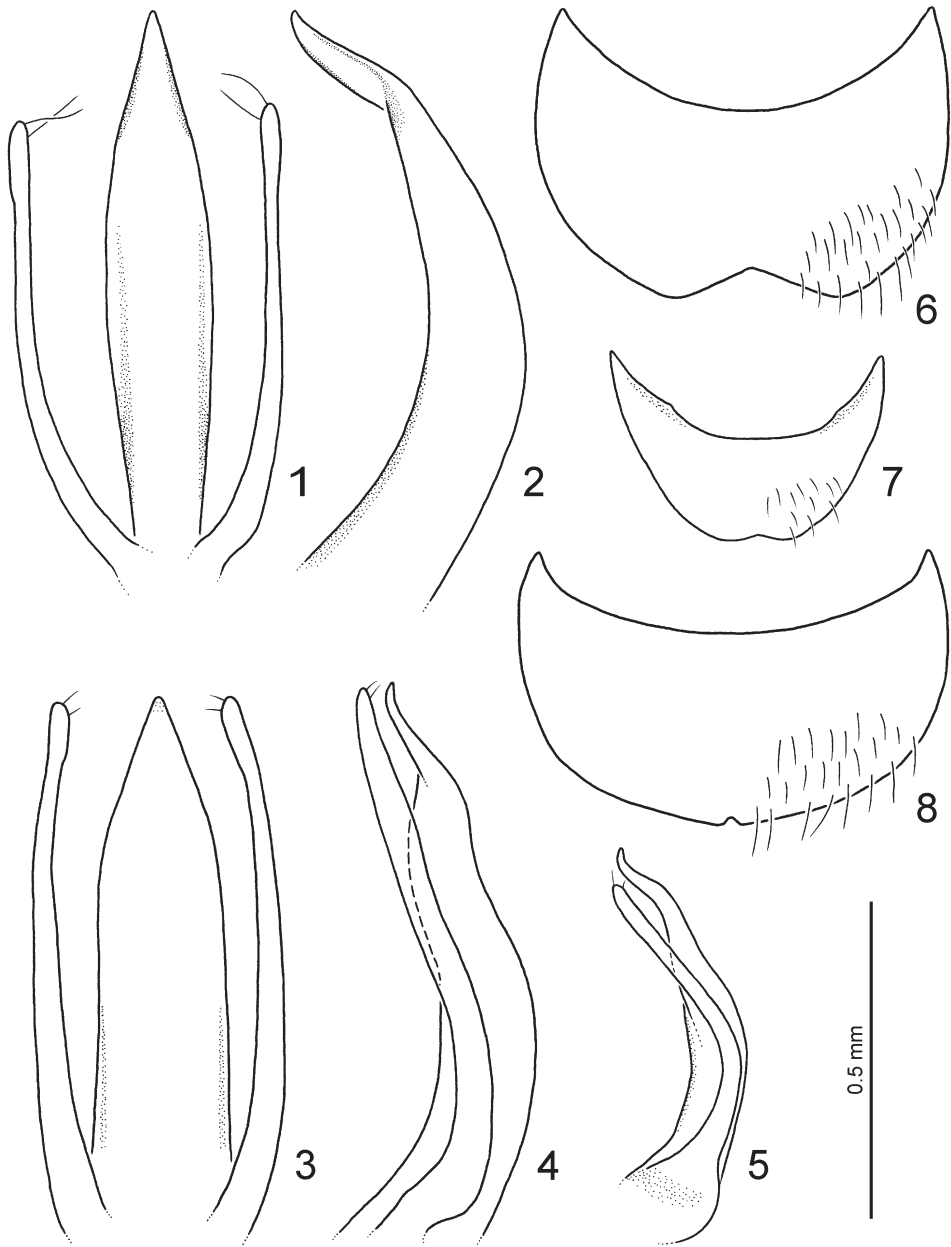
Three basal protarsomeres (Fig. 41) dilated, becoming gradually narrower distad. Apical margins of tarsomeres simply emarginate. First tarsomere wider than apical margin of protibia and almost twice as wide as the second. Protibia (Fig. 42) feebly outcurved. Mesotarsus long and narrow, as long as mesotibia. Mesotibia (Fig. 44) feebly curved, its inner margin except for basal portion with fine, dense and erect setae. Metatarsus long and narrow, as long as metatibia. Metatibia (Fig. 49) straight, its inner margin only in apical portion with fine, dense and erect setae.

Abdominal terga without impressions. Outer margin of sternum VIII broadly emarginate in middle (Fig. 6). Genital segment oval, anterior part wide, extremely elongated, trifid anterolaterally and strongly sclerotized (Figs 9, 10). Aedeagus in dorsal view narrowed in basal portion, widest in middle and in apical portion tapering into long acute point (Fig. 1), in lateral view regularly arcuate with feebly S-shaped apical portion (Fig. 2), parameres narrow, equally broad all along their length with two long setae at apex, distinctly not reaching tip of aedeagus (Fig. 1).

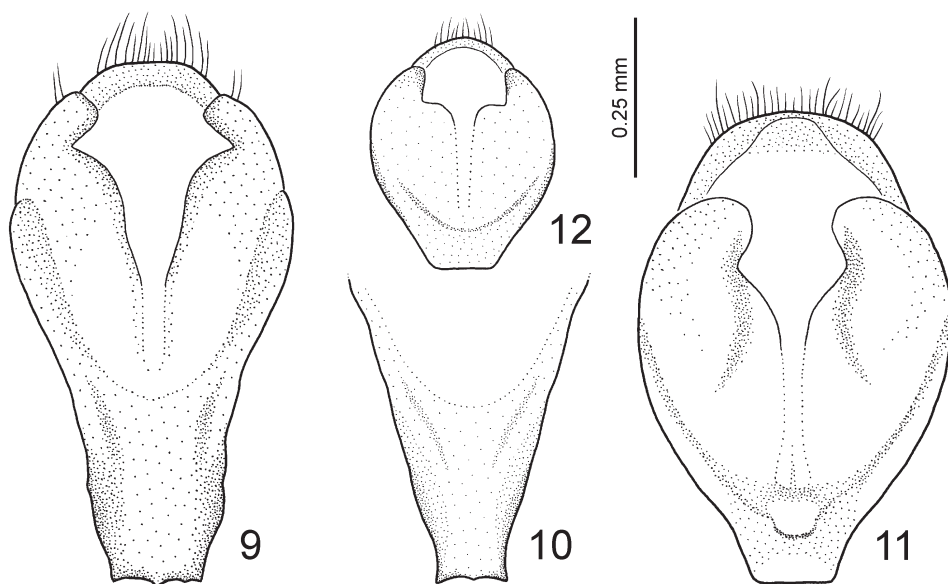
Female. Body length 2.9–3.3 mm (allotype 3.0 mm). Body slender (Fig. 27). Colouration as in males (allotype and 2 paratypes), or head and pronotum black brown and elytra brown (1 paratype). Antennae (Fig. 15) shorter than in male, 2.4–2.5 (allotype 2.5) times longer than pronotum. Pronotum transverse, 1.8–1.9 (allotype 1.9) times wider than long. Elytra 1.6–1.7 (allotype 1.6) times longer than their combined width, 3.0–3.1 (allotype 3.1) times longer than pronotum and their maximum combined width equal to or slightly wider than pronotum.

Three basal protarsomeres (Fig. 43) dilated, but narrower than in males, gradually narrowed distad. First tarsomere slightly narrower than apical margin of protibia and only a little wider than the second. Apical margins of the first and second protarsomere (Fig. 45) with distinct median tooth.

Sternum VIII (Fig. 20) as wide as long, on inner margin with long and tapering spiculum ventrale, outer margin rounded with long setae. Terga IX and X (Fig. 17) feebly sclerotized, only apex of tergum X and lateral margins of tergum IX more sclerotized. Tergum X long and narrow, dilated in apical portion, apex rounded with long setae. Stylus (Fig. 16) long and narrow, with long setae.



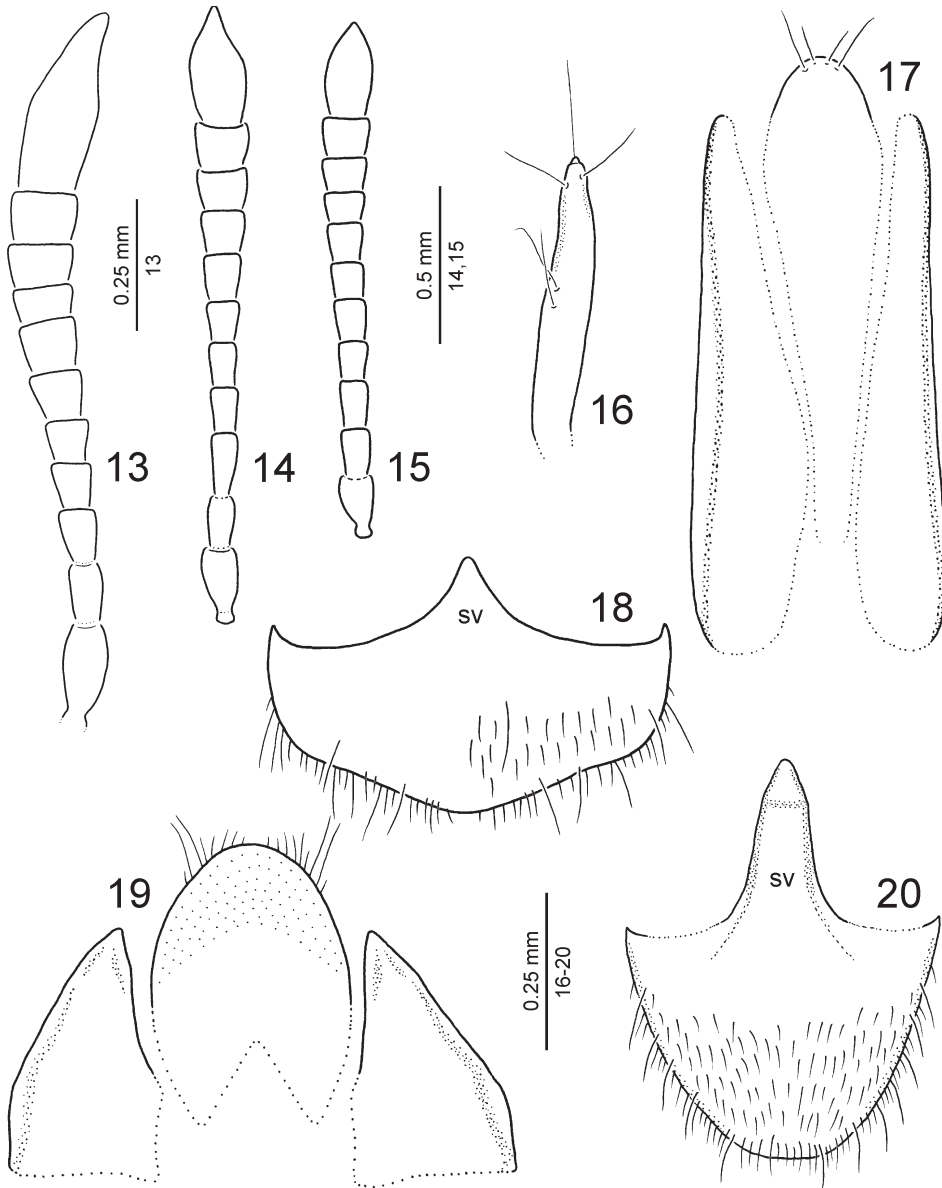
Figs 1–8. 1, 3 – aedeagus in dorsal view; 2, 4, 5 – aedeagus in lateral view; 6–8 – sternum VIII in ventral view, males. 1, 2, 6 – *Philomessor (Attumbrinus) lackneri* sp. nov. (HT); 3, 4, 8 – *P. (A.) bolivari* Jeannel, 1936 (3, 8 – LT; 4 – Tizi-n-Tretten near Ifrane, Morocco); 5, 7 – *P. (A.) cloueti* (Portevin, 1907) (5 – HT; 7 – Kairous, Algeria).



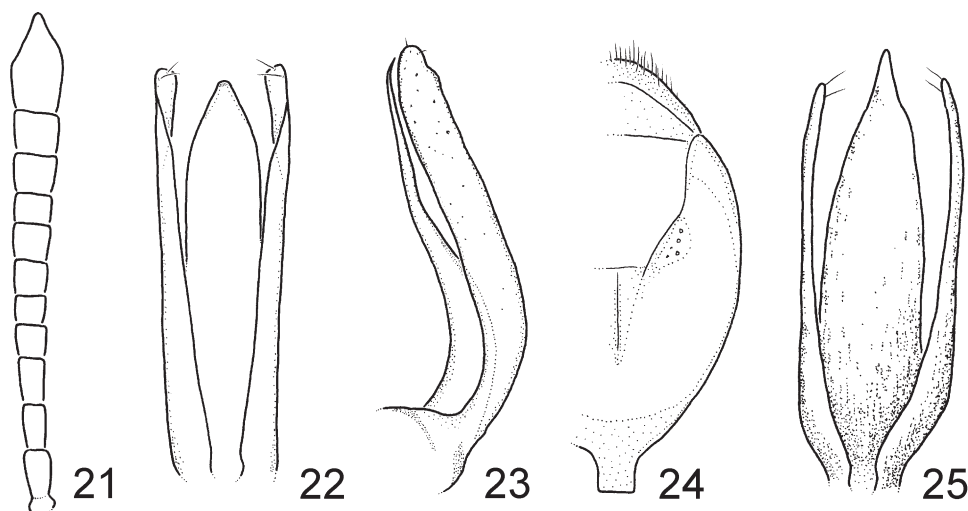
Figs 9–12. Genital segments in ventral view, males. 9, 10 – *Philomessor (Attumbrinus) lackneri* sp. nov. (9 – PT, Tizi-n-Tretten near Ifrane, Morocco; 10 – HT); 11 – *P. (A.) bolivari* Jeannel, 1936 (HT); 12 – *P. (A.) cloueti* (Portevin, 1907) (Kairous, Algeria).

Geographic variability. Populations from Tizi-n-Tretten near Ifrane and Oukaïmeden somewhat differ in the size and the shape of the pronotum. Specimens from Tizi-n-Tretten are in average larger, their pronota are more convex, less narrowed anteriorly and posterior margin more emarginate at posterior angles than in the specimens from Oukaïmeden. With respect to coincident habitual proportions and further morphological characters given above I consider both populations conspecific and the mentioned differences to be local variation.

Differential diagnosis. *Philomessor lackneri* sp. nov. is placed in the subgenus *Attumbrinus* Jeannel, 1936 because of the long and erect pubescence of elytra (Fig. 34) and fine, dense and long pubescence of mesotibiae (Fig. 44). It differs from *Philomessor (Attumbrinus) henroti* Růžička, 1996 first of all in the shape of pronotum, which is not deeply emarginate at the base besides posterior angles (Figs 26, 27 vs. 32, 40), different pubescence and double punctation of elytra (Figs 33, 34 vs. 39) and also in narrow body and different shape of aedeagus. From *P. (A.) cloueti* (Portevin, 1907) it differs especially in the shape of the posterior margin of pronotum, which is straight in *P. (A.) cloueti* (Fig. 54), but convex in *P. (A.) lackneri* sp. nov. (Figs 26, 27); pronotum is as wide as elytra at humeri in *P. (A.) cloueti* (Fig. 30), but distinctly wider in *P. (A.) lackneri* sp. nov. (Figs 26, 27); both species further differ also in the length of terminal antennomeres (Figs 14, 15 vs. 13), more outstanding difference between the two kinds of punctation and longer setae on elytra in *P. (A.) lackneri* sp. nov. (Figs 33, 34 vs. 37, 38), and in the shape of the male genital segment (Figs 9, 10 vs. 12).



Figs 13–20. 13, 14 – antenna, males; 15 – antenna, female; 16 – stylum in dorsal view, female; 17, 19 – terga IX and X in dorsal view, females; 18, 20 – sternum VIII in ventral view, females, sv – spiculum ventrale. 13 – *Philomessor (Attumbrinus) cloueti* (Portevin, 1907) (HT); 14–17, 20 – *P. (A.) lackneri* sp. nov. (14 – PT, Tizi-n-Tretten near Ifrane, Morocco; 15, 16, 20 – AT; 17 – PT, Oukaïmeden, Morocco); 18, 19 – *P. (A.) bolivari* Jeannel, 1936 (Oukaïmeden, Morocco).



Figs 21–25. 21 – antenna, male; 22 – aedeagus in dorsal view; 23 – aedeagus in lateral view; 24 – genital segment in ventral view, male; 25 – aedeagus in dorsolateral view. 21–24 – *Philomessor (Attumbrinus) henroti* Růžička, 1996 (HT); 25 – *P. (A.) cloueti* (Portevin, 1907) (HT). Figs 21–24 modified from RŮŽIČKA (1996), Fig. 25 modified from JEANNEL (1936); not to scale.

Philomessor (Attumbrinus) lackneri sp. nov. is most similar to *P. (A.) bolivari* Jeannel, 1936, from which it differs in the narrower shape of body (Figs 26, 27 vs. 28, 29) and the pubescence of metatibiae (Figs 49 vs. 51), in males in its straight metatibiae (Figs 26 vs. 28), the shape of aedeagus and the length of parameres (Figs 1 vs. 3), the shape of genital segment (Figs 9, 10 vs. 11) and the emargination of the outer margin of the sternum VIII (Figs 6 vs. 8); in females in dilated protarsi (Figs 43 vs. 47), in the shape of terga IX and X (Figs 17 vs. 19), and in the shape of spiculum ventrale on the sternum VIII (Figs 20 vs. 18). Diagnostic key to all four species of the subgenus *Attumbrinus* is given above.

Etymology. Dedicated to the renowned specialist on the family Histeridae and one of the collectors of the new species, Tomáš Lackner (Košice, Slovakia).

Collecting circumstances. All specimens of the new species were collected in the ant nest of the genus *Messor* Forel, 1890 (Hymenoptera: Formicidae). The specimens from Oukaïmeden, collected by Peter Koniar and Martin Švarc were found in the nests of *Messor Abdelazizi* Santschi, 1921 on pastures (Figs 55, 57) at altitude 1870–2357 m a.s.l. Specimens from Tizi-n-Tretten near Ifrane were found in the nest of *Messor* sp. under a big stone on a pasture at the forest border at 1900 m a.s.l. Detailed data on the collection of the single female from the locality Ito are unknown.

Philomessor (Attumbrinus) lackneri sp. nov. seems to be sympatric and syntopic with *P. (A.) bolivari* Jeannel, 1936; both species were found together in the same ant nests on two localities (Oukaïmeden and Tizi-n-Tretten near Ifrane) (see Fig. 59).

Distribution. Morocco: Oukaïmeden in the High Atlas Mts.; Ito near Azrou, Tizi-n-Tretten near Ifrane, both localities in the Middle Atlas Mts. (Fig. 59).

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

(Figs 3, 4, 8, 11, 18, 19, 28, 29, 31, 35, 36, 46, 47, 50–52, 55–59)

Philomessor (Attumbrinus) Bolivari Jeannel, 1936: 425.*Philomessor Bolivari*: KOCHER (1958): 67 (annotated catalogue).*Philomessor (Attumbrinus) bolivari*: RŮŽIČKA (1996): 626 (taxonomy); PERREAU (2000): 109 (catalogue); PERREAU (2004): 147 (catalogue).**Type locality.** ‘Rif. Imasinen, Beni Seddat’ [Morocco, Rif Atlas Mts., Taza-Al Hoceima-Taounate Region, Beni Seddat env., Immassine].**Type material examined.** LECTOTYPE (Fig. 31): ♂ (MNHN, here designated), ‘[label with adult specimen of *Messor* sp.] // Imasinen / Beni Seddat, Rif / VI – 1930 EXP. C. BOLIVAR [printed] // TYPE [red label, printed] // MUSEUM PARIS / COLL. GÉNÉRALE [printed] // C. Bolivar [blue label, handwritten by Jeannel] // PHILOMESSOR (ATTUMBRINUS) / BOLIVARI Jeannel, 1936 / HOLOTYPE / J. Růžička des. 1995 [white label, handwritten by Růžička] // LECTOTYPUS ♂ / *Philomessor (Attumbr.) / bolivari* Jeannel, 1936 / Jiří Vávra des. 2014 [red label, printed]’; PARALECTOTYPES: 1 ♀ (MNHN), ‘Imasinen / Beni Seddat, Rif / VI – 1930 EXP. C. BOLIVAR [printed] // MUSEUM PARIS [printed] / coll. / générale [handwritten] // TYPE [red label, printed] // PHILOMESSOR (ATTUMBRINUS) / BOLIVARI Jeannel, 1936 / J. Růžička det. 1995 [white label, handwritten by Růžička] // PARALECTOTYPUS ♀ / *Philomessor (Attumbr.) / bolivari* Jeannel, 1936 / Jiří Vávra des. 2014 [red label, printed]’; 1 ♀ (MNHN), ‘Imasinen / Beni Seddat, Rif / VI – 1930 EXP. C. BOLIVAR [printed] // C. Bolivar [blue label, handwritten by Jeannel] // TYPE [red label, printed] // PARALECTOTYPUS ♀ / *Philomessor (Attumbr.) / bolivari* Jeannel, 1936 / Jiří Vávra des. 2014 [red label, printed]’.**Additional material examined.** MOROCCO: ‘Hoher Atlas, Umg. Oukajmeden’, 11.v.1988, 1 ♀, Fölscher leg. (JRUC); ‘Maroc centr., Moyen Atlas, Ifrane env. [Tizi-n-Tretten near Ifrane, 33°27’N, 5°02’W, 1900 m a.s.l.]’, 17.–21.vi.1998, 1 ♂ 1 ♀, T. Lackner leg. (1 ♂ in TLAC, 1 ♀ in JVAC); ‘Haut Atlas, SE Asni, Oukaimeden, meadow, 2500 m, No. 11, 31°12’56N, 07°50’22W’, 28.xii.2002, 1 ♀, Wunderle [leg.] (ZMHB); Oukaimeden env., 31°14.257’N, 07°49.066’W, 2245 m a.s.l., 21.v.2009, 1 ♂ 3 ♀♀, Peter Koniar & Martin Švarc leg. (MSVC, PKOC, 1 ♀ [MD] in JVAC); same locality, 31°14.254’N, 07°49.065’W, 2239 m a.s.l., 23.v.2009, 3 ♂♂ 7 ♀♀, Peter Koniar & Martin Švarc leg. (MSVC, PKOC); same locality, 31°14.255’N, 07°49.069’W, 2245 m a.s.l., 23.v.2009, 3 ♂♂ 7 ♀♀, Peter Koniar & Martin Švarc leg. (MSVC, PKOC); same locality, 31°14.259’N, 07°49.052’W, 2260 m a.s.l., 23.v.2009, 5 ♂♂ 10 ♀♀, Peter Koniar & Martin Švarc leg. (MSVC, PKOC, 1 ♂ in JVAC); same locality, 31°14.236’N, 07°49.055’W, 2257 m a.s.l., 19.v.2011, 2 ♀♀, V. Zieris leg. (JRUC); same locality, 31°14.236’N, 07°49.055’W, 2237 m a.s.l., 20.v.2011, 2 ♂♂ 14 ♀♀, Peter Koniar & Martin Švarc leg. (MSVC, PKOC, 2 ♀♀ in JVAC); same locality, 31°14.255’N, 07°49.069’W, 2245 m a.s.l., 20.v.2011, 9 ♂♂ 4 ♀♀, Peter Koniar & Martin Švarc leg. (MSVC, PKOC, 2 ♂♂ in JVAC); same locality, 31°14.259’N, 07°49.052’W, 2260 m a.s.l., 20.v.2011, 9 ♂♂, 4 ♀♀, Peter Koniar & Martin Švarc leg. (MSVC, PKOC); same locality, 31°14.268’N, 07°49.031’W, 2238 m a.s.l., 20.iv.2012, 14 ♂♂, 1 ♀, Peter Koniar & Martin Švarc leg. (MSVC, PKOC); same locality, 31°13.833’N, 07°49.320’W, 2360 m a.s.l., 20.iv.2012, 1 ♂, Pavel Krásenský leg. (PAKC); ‘NE of Oukaimeden’, 31°14.28’N, 07°49.09’W, 2200–2300 m a.s.l., 21.v.2013, 10 ♂♂ 2 ♀♀, Kamil Orszulik leg. (JVAC, KORC); ‘Toubkal National Park, Oukaimeden, 0611972E-3455507N, on road no. 2028’, 2374 m a.s.l., 12.v.2010, 1 ♂ 1 ♀, Di Giulio, Maurizi & Bravi leg. (JRUC); Michliffen env., 33°24.721’N, 05°06.397’W, 1899 m a.s.l., 27.v.2011, 2 ♀♀, Martin Švarc & Peter Koniar leg. (MSVC, PKOC).**Notes.** JEANNEL (1936) described this species from three specimens (1 male, 2 females). In the original description he mentioned only the male as type, but in the examined material from Muséum National d’Histoire Naturelle, Paris (MNHN) all three specimens bear a red label ‘Type’. Therefore I consider the entire series to be syntypes and designate the male as lectotype, because the male possesses important morphological features for recognition of the species.

RŮŽIČKA (1996: Figs 6–9) supplemented the original description with the characters of both, male and female, genitalia including figures: dorsal view of the apical portion of aedeagus, the shape of the male genital segment and the shapes of the female sternum VIII and terga IX and X. I bring the photo of the lectotype (Fig. 31), habitus (Figs 28, 29), and the shape of



Figs 26–29. 26, 28 – general habitus, males; 27, 29 – general habitus, females. 26, 27 – *Philomessor* (*Attumbrinus*) *lackneri* sp. nov. (27 – HT, 29 – AT); 28, 29 – *P. (A.) bolivari* Jeannel, 1936 (Oukaïmeden, Morocco).



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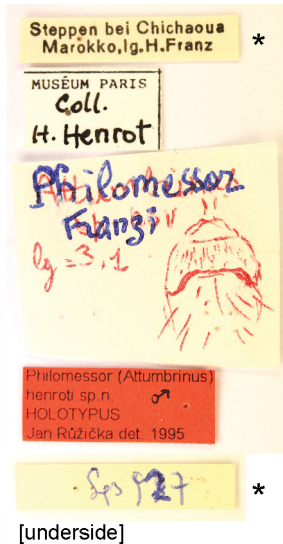
[underside]



31



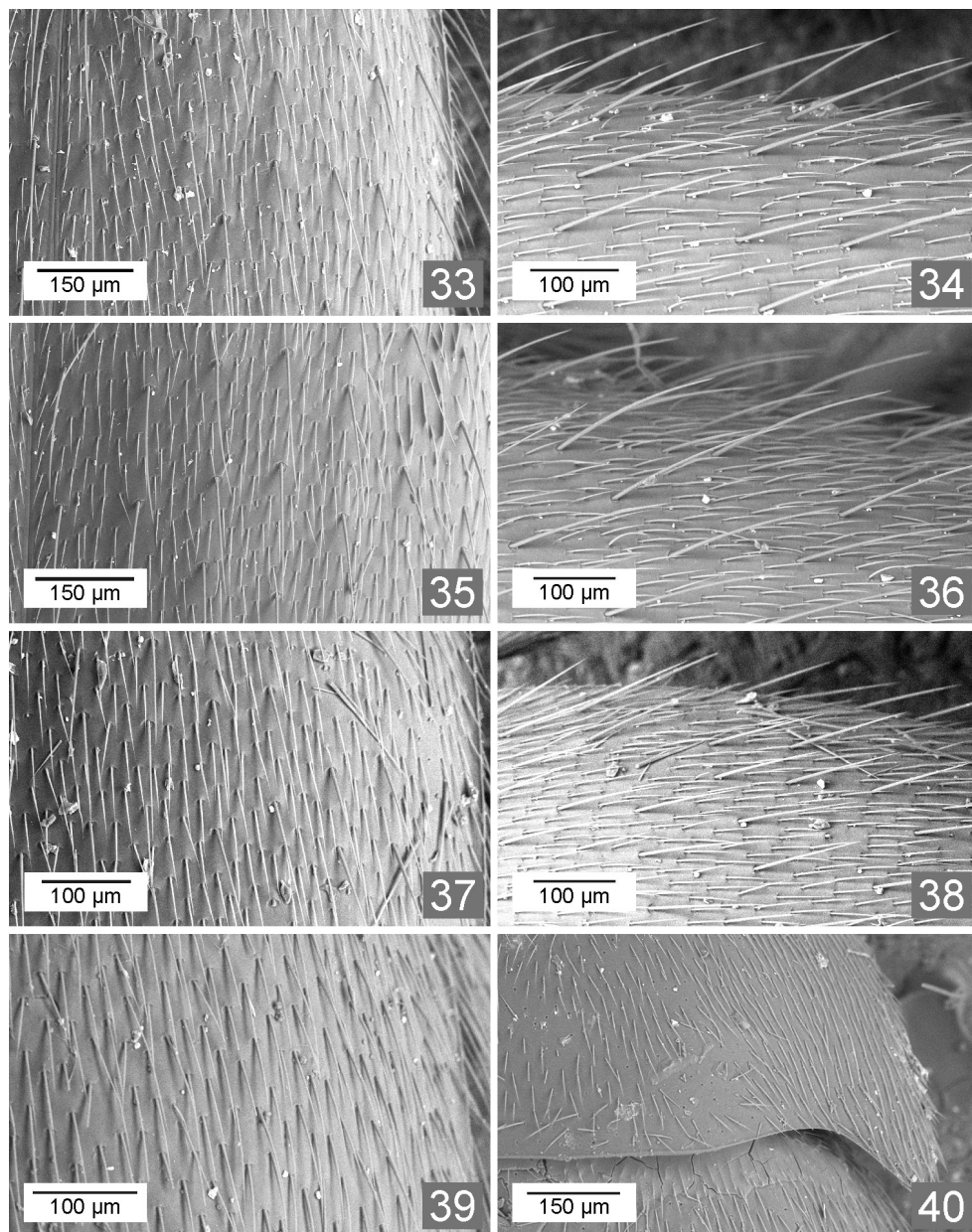
32



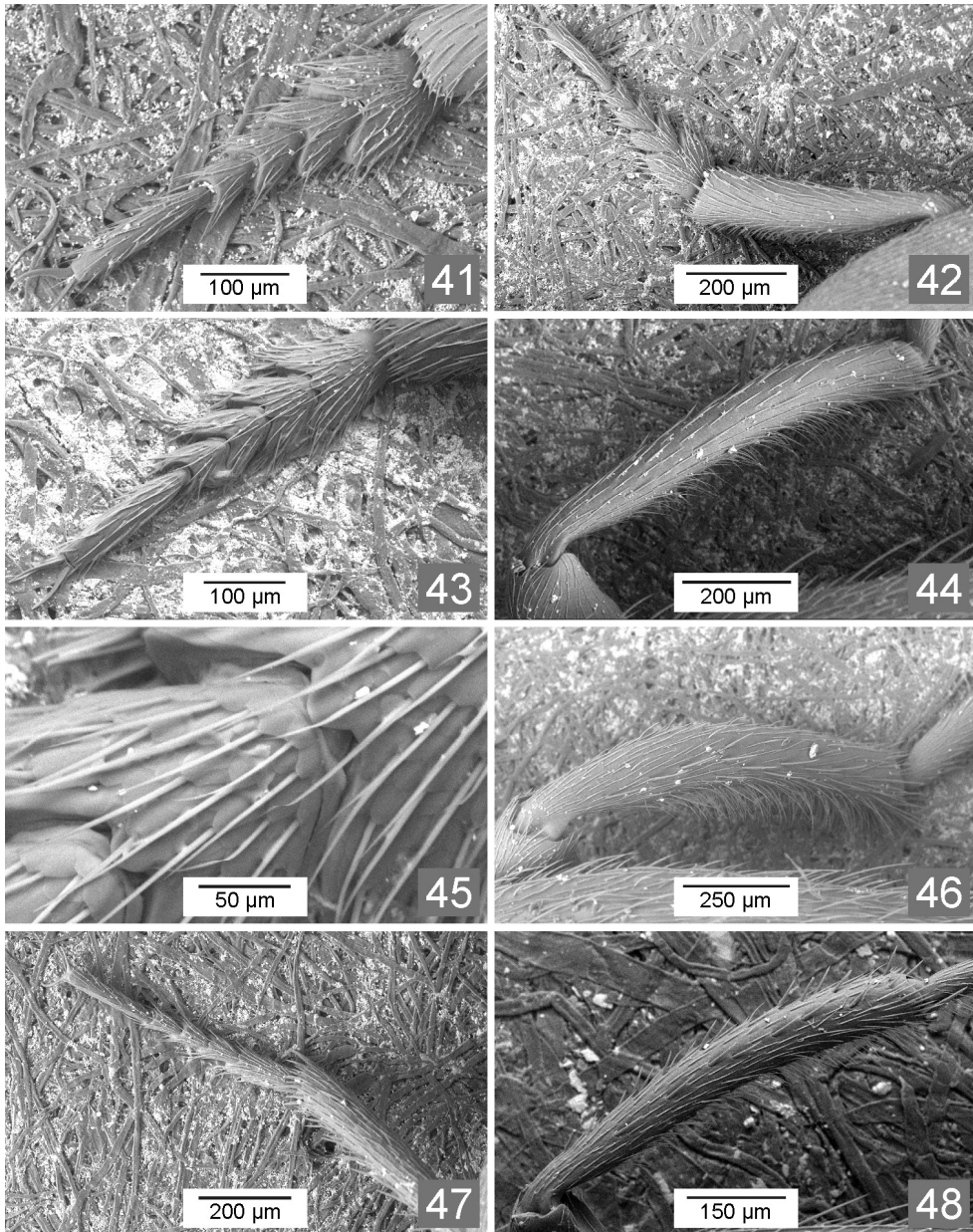
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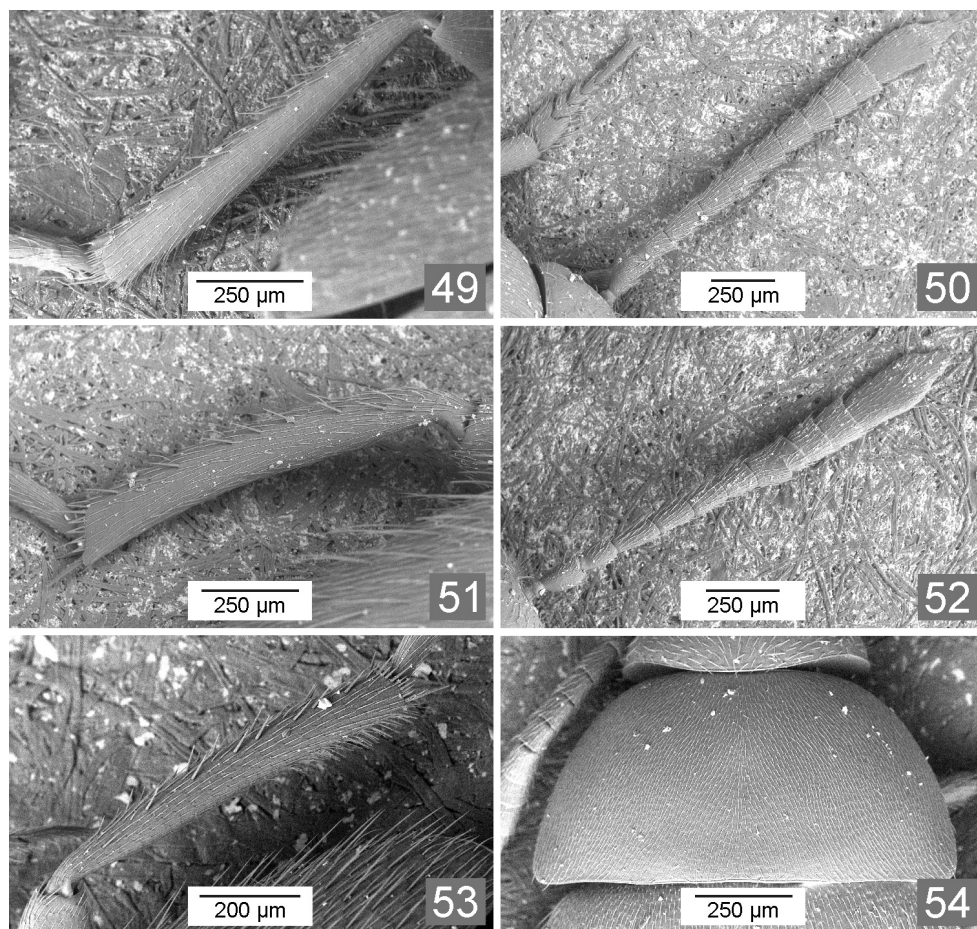
Figs 30–32. General habitus of types with original labels, males. 30 – *Philomessor (Attumbrinus) cloueti* (Portevin, 1907), holotype; 31 – *P. (A.) bolivari* Jeannel, 1936, lectotype; 32 – *P. (A.) henroti* Růžička, 1996, holotype. An asterisk ‘*’ denotes upper and under side of the same label.



Figs 33–40. 33, 35, 37, 39 – punctation of elytron in dorsal view, males; 34, 36, 38 – pubescence of elytron in lateral view, males; 40 – posterior margin of pronotum in posterolateral view, male. 33, 34 – *Philomessor (Attumbrinus) lackneri* sp. nov. (PT, Oukaïmeden, Morocco); 35, 36 – *P. (A.) bolivari* Jeannel, 1936 (Oukaïmeden, Morocco); 37, 38 – *P. (A.) cloueti* (Portevin, 1907) (Kairous, Algeria); 39, 40 – *P. (A.) henroti* Růžička, 1996 (HT).



Figs 41–48. 41 – protarsus, male; 42 – protibia in dorsolateral view, male; 43, 47 – protarsus, females; 44, 46, 48 – mesotibia in lateral view, males; 45 – detail of basal protarsomeres, female. 41–45 – *Philomessor (Attumbrinus) lackneri* sp. nov. (41, 42, 44 – PT, Oukaïmeden, Morocco; 43, 45 – AT); 46, 47 – *P. (A.) bolivari* Jeannel, 1936 (Oukaïmeden, Morocco); 48 – *P. (A.) cloueti* (Portevin, 1907) (Kairous, Algeria).



Figs 49–54. 49, 51, 53 – metatibia in lateral view, males; 50 – antenna, male; 52 – antenna, female; 54 – pronotum, male. 49 – *Philomessor (Attumbrinus) lackneri* sp. nov. (PT, Oukaïmeden, Morocco); 50–52 – *P. (A.) bolivari* Jeannel, 1936 (Oukaïmeden, Morocco); 53–54 – *P. (A.) cloueti* (Portevin, 1907) (Kairous, Algeria).

antennae in both sexes (Figs 50, 52) as well as the punctation and pubescence of elytra (Figs 35, 36). Figured are also the pubescence and the shape of the male meso- and metatibiae (Figs 46, 51), the shape of the sternum VIII (Fig. 8) as well as the dorsal and lateral view of aedeagus in male (Figs 3, 4), and the shape of the female protarsus (Fig. 47). Precise are also the drawings of the shape of the male genital segment (Fig. 11) and the shapes of the female sternum VIII and terga IX and X (Figs 18, 19), figured already by RŮŽIČKA (1996).

Biology. JEANNEL (1936) reported this species from the nest of *Messor barbarus* ssp. *striaticeps* (André, 1883) (= *Messor striaticeps* (André, 1883), according to BERNARD (1955)) (Hymenoptera: Formicidae). The specimens from Tizi-n-Tretten near Ifrane were collected together with *Philomessor (Attumbrinus) lackneri* sp. nov. in the nest of *Messor* sp. under a

big stone at the periphery of a forest near a pasture at the altitude 1900 m a.s.l. The specimens from Oukaïmeden (ca. 2200–2500 m a.s.l., Figs 55, 58) and Michliffen (1900 m a.s.l., Fig. 56), collected by Peter Koniar, Pavel Krásenský, Martin Švarc and Vladimír Zieris were found in the nests of *Messor abdelazizi* Santschi, 1921 (Fig. 57) on pastures. In the locality Oukaïmeden the species was found sometimes also together with *P. (A.) lackneri* sp. nov.

Distribution. Morocco: ‘Imasinen, Beni Seddat’; Tizi-n-Tretten near Ifrane; Michliffen; Oukaïmeden (Fig. 59).

***Philomessor (Attumbrinus) cloueti* (Portevin, 1907)**

(Figs 5, 7, 12, 13, 30, 37, 38, 48, 53, 54, 59)

Catopomorphus (Attaephilus) Cloueti Portevin, 1907: 67.

Catopomorphus (Attaephilus) Cloueti: HATCH (1928): 187 (catalogue).

Philomessor (Attumbrinus) Cloueti: JEANNEL (1936): 309 (monograph).

Philomessor (Attumbrinus) cloueti: PERREAU (2000): 109 (catalogue); PERREAU (2004): 147 (catalogue).

Type locality. ‘du Medjez-Amar: Mahouna 1400^m’ [Algeria, Atlas Mts., Guelma Province, Mahouna near Medjez-Amar, 1400 m a.s.l.].

Type material examined. HOLOTYPE (Fig. 30): ♂ (MNHN), ‘[label with adult specimen of worker of *Camponotus (Myrmentoma)* cf. *spissinodis* Forel, 1909] // Mahouna 1400 [m] [handwritten] / L. CLOUET DES PESRUCHES / à MEDJEZ-AMAR / Algérie [all printed] / 9/5.[18]98 [underside of the label, handwritten] // cloueti [handwritten] / [illegible text, handwritten] // TYPE [red label, printed] // MUSEUM PARIS / COLL. GÉNÉRALE [printed] // Messor / barbarus L [handwritten] // cloueti [handwritten]’.

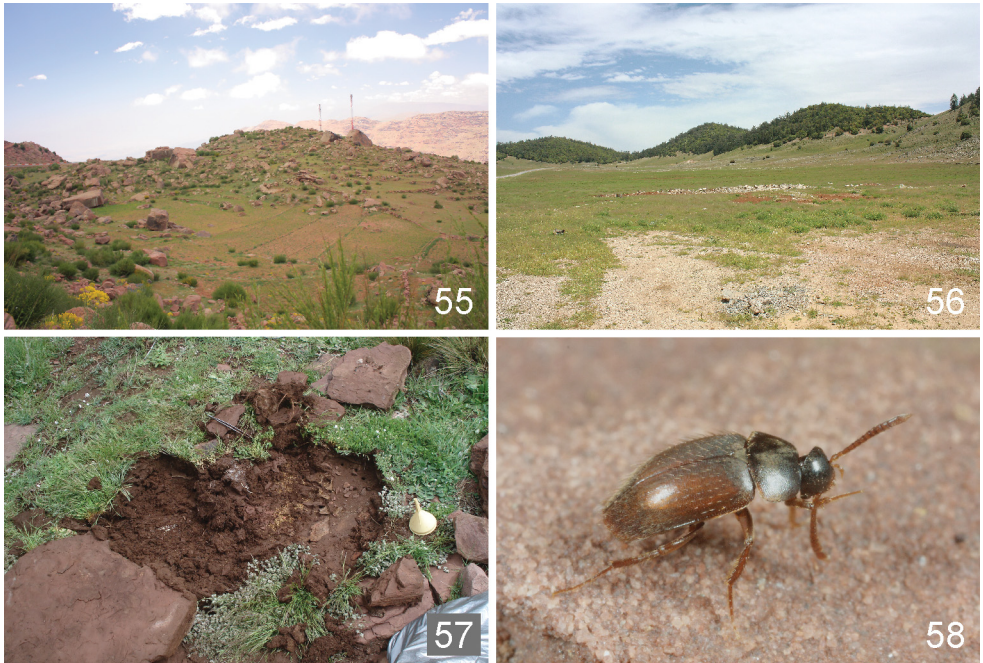
Additional material examined. ALGERIA: ‘O. Kairous, Mouzaïa [= Kairous wadi, Mouzaïa Mts.], v.1932, Peyerimhoff [leg.]’, 1 ♂ (MNHN).

Notes. *Philomessor (Attumbrinus) cloueti* (Portevin, 1907) is known only in males; female remains undescribed. It was described by PORTEVIN (1907) after one male from the Mahouna Mountains in northern Algeria. JEANNEL (1936) published a further record from ‘O. Kairous, Mouzaïa’ and subjoined that according to Peyerimhoff more specimens were collected in this locality. It is possible that there may have been some females among them, nevertheless JEANNEL (1936) mentioned no morphological female characters in the taxonomic part of his paper.

RŮŽIČKA (1996) published his key to the species of the subgenus *Attumbrinus*, in which he erroneously gives *P. (A.) cloueti* as missing the pubescence on mesotibiae. He studied the morphological characters only on the holotype (J. Růžička, Praha, pers. comm.), where the setae are glued together because of dirt and hence indistinct. In the specimen from Mouzaïa the pubescence on the inner margin of mesotibiae is clearly visible (Fig. 48).

JEANNEL (1936: Figs 685–688) supplemented the original description by PORTEVIN (1907) with drawings of the habitus, antenna, metatibia with tarsus and dorsal view of aedeagus. In the present paper further morphological characters are presented, like the lateral view of aedeagus (Fig. 5), the shape of the sternum VIII (Fig. 7), and the shape of genital segment (Fig. 12). Figures of the habitus of the type specimen (Fig. 30), antenna (Fig. 13), shape of pronotum (Fig. 54), punctation and pubescence of elytra (Figs 37, 38), as well as the shape and pubescence of meso- and metatibiae (Figs 48, 53) are given, too.

Biology. According to JEANNEL (1936) *P. (A.) cloueti* is a myrmecophilous species associated with *Messor barbarus* (Linnaeus, 1767) (Hymenoptera: Formicidae). The same taxon name is written also on the label beneath the holotype, but on another label (Fig. 30) a worker of



Figs 55–58. 55 – habitat of *Philomessor (Attumbrinus) lackneri* sp. nov. and *P. (A.) bolivari* Jeannel, 1936 (Oukaïmeden, Morocco, 22.v.2009); 56 – habitat of *P. (A.) bolivari* (Mischlifien, Morocco, 27.v.2011); 57 – nest of *Messor abdelazizi* Santschi, 1921, under a stone on a pasture (Oukaïmeden, Morocco, 20.v.2011); 58 – male of *P. (A.) bolivari* in the nest of *Messor abdelazizi* (Oukaïmeden, Morocco, 20.v.2011). Photographs by P. Koniar and M. Švarc.

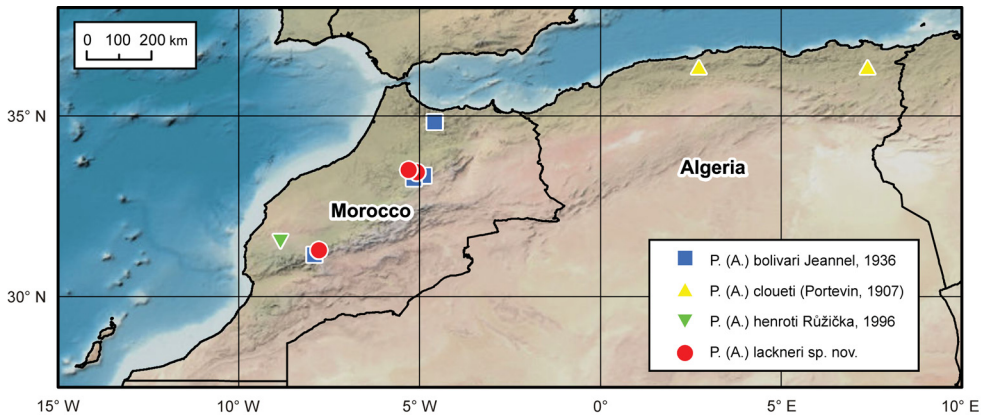


Fig. 59. Distribution of *Philomessor (Attumbrinus)* Jeannel, 1936 in the northwest of Africa.

Camponotus (*Myrmentoma*) cf. *spissinodis* Forel, 1909 is mounted. Because this ant species is attached to the holotype of *P. (A.) cloueti*, we can presume that the holotype was collected by Clouet des Pesruches just in the nest of this ant, with which it is really associated. The holotype was collected at the altitude 1400 m a.s.l. (see data on the type label).

Distribution. Algeria: Mahouna near Medjez-Amar, Kairous in Mouzaïa Mts. (Fig. 59).

Philomessor (*Attumbrinus*) *henroti* Růžička, 1996

(Figs 32, 39, 40, 59)

Philomessor henroti Růžička, 1996: 624.

Type locality. ‘Steppen bei Chichaoua, Marokko’ [Morocco, Marrakesh-Tensift-El Haouz Region, Chichaoua].

Type material examined. HOLOTYPE (Fig. 32): ♂ (MNHN), ‘Steppen bei Chichaoua / Marokko, lg. H. Franz [printed] / Sp 927 [underside of the label, handwritten] // MUSEUM PARIS [printed] / coll. / H. Henrot [handwritten by Henrot] // Philomessor / Franzi [handwritten over habitus sketch in red ink and text *Attumbrinus* sp. nov. – all probably by Henrot’s manuscriptum] // *Philomessor* (*Attumbrinus*) / *henroti* sp. n. ♂ / HOLOTYPUS / Jan Růžička det. 1995 [red label, printed]’.

Notes. This species is known only from the type specimen, described and figured by RŮŽIČKA (1996). Photographs of the whole habitus (Fig. 32), posterior pronotal corners (Fig. 40) and the pubescence of elytra (Fig. 39) are supplemented here.

Biology. Unknown. According to the personal communication of the collector Herbert Franz (Mödling, Austria) RŮŽIČKA (1996) wrote that the type specimen was collected west of Chichaoua on 13.iv.1963 under a stone in the steppe and supposed that, like all his congeners, it is also a myrmecophilous species.

Distribution. Morocco: Chichaoua (Fig. 59).

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