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Three new species of *Molosoma* SAY, 1831 from French Guiana, and a new generic synonymy (Coleoptera: Staphylinidae: Osoriinae)

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Abstract

Three new species of *Molosoma* SAY, 1831 (Coleoptera: Staphylinidae: Osoriinae) are described from French Guiana: *M. iridescens* sp.n., *M. nasutum* sp.n., and *M. orousseti* sp.n. *Osoriellus* FAGEL, 1959 is synonymized with *Molosoma* SAY, 1831.

Key words: Coleoptera, Staphylinidae, Osoriinae, *Molosoma*, synonymy, new species, Neotropics, French Guiana.

Introduction

After I had published my review on the Neotropical species of the genus *Osoriellus* FAGEL, 1959 (IRMLER 2014), Lee Herman drew my attention to an article by SAY (1831) in which *Oxytelus latipes* GRAVENHORST, 1806 was designated as type species of the genus *Molosoma* SAY, 1831, which results in a new synonymy.

Furthermore, new material collected in French Guiana was sent by Jean Orousset. Among this material three new species of *Molosoma* have been found which are described herein.

Material and Methods

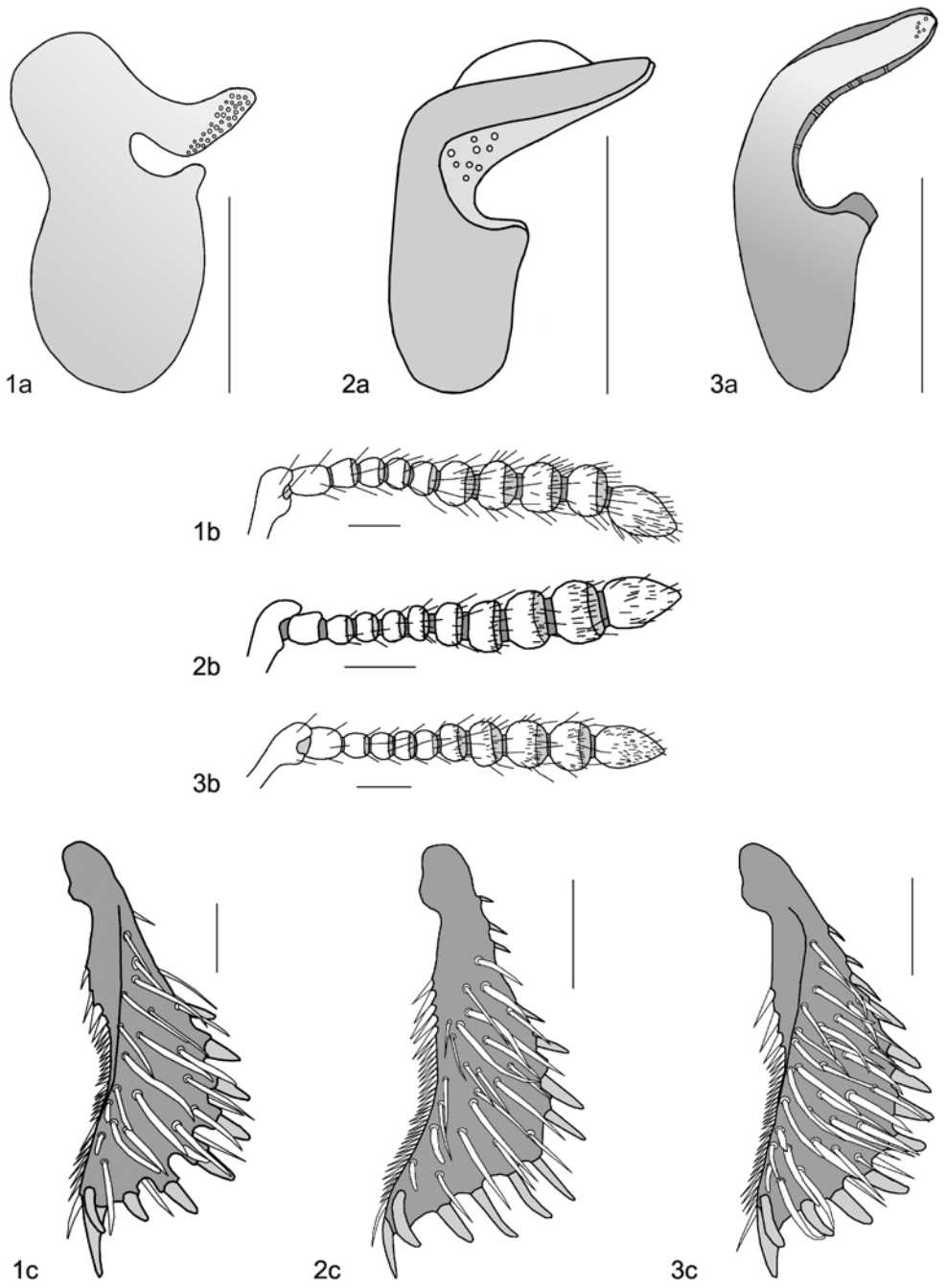
The species studied are deposited in the Muséum national d'histoire naturelle, Paris, France (MNHN) and in my own collection (UIC).

For the photographs of the species, a Makroskop M 420 (Wild Herbrugg) was used in combination with a digital camera (Leica EC3). CombineZ5 (HADLEY 2006) was used to optimise depth of focus. Length was measured in the middle of tagmata: head from clypeus to posterior edge, pronotum from anterior to posterior edge along midline, elytra from anterior edge at shoulders to posterior edge; width at the widest part of tagmata (head width includes eyes). In the measurement of total length, the abdominal inter-segmental space is subtracted.

The measurements of the protibia are defined in IRMLER (2014); WLR = width/length ratio of the penultimate apical digit of the protibia.

Nomenclatural change

ERICHSON (1840) transferred *Molosoma latipes*, the type species of *Molosoma*, to the genus *Osorius* GUÉRIN-MÉNEVILLE, 1829. In his work on African Osoriinae, FAGEL (1959) erected the new genus *Osoriellus* (type species: *Osorius linearis* BERNHAUER, 1915) for a number of small African Osoriini, but did not compare these species with the type species of *Molosoma*. IRMLER (2014) transferred *Oxytelus latipes* to *Osoriellus*. Thus, *Molosoma* SAY, 1831 has nomenclatural priority, and *Osoriellus* FAGEL, 1959 must be regarded as a new junior subjective synonym of the former.



Figs. 1–3: 1) *Molosoma nasutum*, 2) *M. iridescens*, 3) *M. orousseti*, a) aedeagus, b) antenna, c) protibia. Scale bars: 0.1 mm.

Description of species

Molosoma nasutum sp.n.

TYPE MATERIAL: **Holotype** ♂: French Guiana: Matoury, 52°20'W 4°51'N, 8.VIII.1982, leg. J. Orousset (MNHN). **Paratype** ♀, same data as holotype (UIC).

DESCRIPTION (Figs. 1a–c, 4a): Length: 4.4 mm. Colouration: Black; legs and antennae brown. Head: 0.47 mm long, 0.96 mm wide; eyes slightly prominent; temples as long as eyes; sides in front of eyes continuously convergent to front edge of clypeus; front edge smoothly emarginate in slight concave curve; irregularly punctate; setiferous punctures on clypeus sparser than on vertex; post-ocular space still more densely punctate; on clypeus, interstices between punctures approximately as wide as diameter of punctures; on vertex; interstices maximum half as wide as diameter of punctures; on post-ocular space, punctures coriaceous and partly striate; ground of punctures with net-like microsculpture; interstices without microsculpture; surface shiny. Antennae slightly longer than head; clavate; second antennomere oblong; third conical; distinctly shorter than second; fourth and fifth antennomeres as wide as third, but quadrate; quadrate sixth antennomere slightly wider; quadrate seventh to eleventh antennomeres much wider and with long bristles at apex; among longer bristles pubescent; antennomeres 1–6 with few bristles. Pronotum: 0.86 mm long, 0.96 mm wide; widest shortly behind anterior angles; continuously narrowed to posterior angles; anterior and posterior angles shortly rounded; in dorsal aspect, lateral margin visible throughout its total length, except at anterior angles; posterior edge with thick margin, anterior edge very finely margined; setiferous punctation moderately sparse, but distinct; adjacent to impunctate midline with irregular longitudinal line of 10–12 punctures; divergent in posterior half; on average, interstices between punctures 1–2 times as wide as diameter of punctures; between setiferous punctures with extremely fine micro-punctation; without microsculpture; surface shiny. Elytra: 1.03 mm long, 0.96 mm wide; parallel; posterior angles rectangular; shoulders slightly rounded; surface with deep coriaceous ground-sculpture; setiferous punctures among ground sculpture nearly invisible; much finer than on pronotum. Abdomen densely setiferous. Protibia: 0.49 mm long, 0.15 mm wide; with seven spines on outer edge; apical spines on moderately long digits; WLR 1.0; in posterior aspect, comb at inner emargination totally visible; posterior face sparsely covered by long yellow setae. Aedeagus thick; apical lobe sinuate with thick, obtusely rounded apex giving a nose-like shape; apex with numerous sensilla.

DIAGNOSIS: Concerning the shape and structure of the protibia with a WLR of 1.0, *M. nasutum* has to be placed in the "remaining species group" (sensu IRMLER 2014). This species can be easily identified by the unique shape of the aedeagus. Furthermore, the setiferous punctation of the head with net-like microsculpture on the ground of the punctures and absence of microsculpture on the interstices is a differentiating character. A similar combination of head punctation and microsculpture is found in *M. lescheni* (IRMLER, 2014) and *M. trinitate* (BLACKWELDER, 1943). In contrast to *M. nasutum*, microsculpture is found only in punctures of the vertex. In addition, the pronotal punctation is much denser in *M. trinitate* than in *M. nasutum*.

ETYMOLOGY: The specific name refers to the conspicuous shape of the aedeagus.

Molosoma iridescens sp.n.

TYPE MATERIAL: **Holotype** ♂: French Guiana: Rota de Cacao, VIII.1982, leg. J. Orousset (MNHN). **Paratype** ♀, same data as holotype (UIC).

DESCRIPTION (Figs. 2a–c, 4b): Length: 2.9 mm. Colouration: Light reddish to brown; head brown; pronotum and anterior half of elytra light reddish; abdominal segments III–VI and VIII reddish; segment VII light brown; legs light brown; antennae still lighter brown with penultimate

antennomeres slightly darker. Head 0.38 mm long, 0.57 mm wide; eyes large and prominent; temples short; one third as long as eyes; clypeus nearly semicircular; setiferous punctation dense and deep; on average, interstices between punctures approximately half as wide as diameter of punctures; yellow setae at least as long as two interstices between punctures; pointing to medial point of anterior margin; moderately wide midline impunctate; total surface including punctures with fine and narrow meshed microsculpture; with iridescent shine. Antennae slightly longer than head; second antennomere globular; third conical; not longer than second; following antennomeres much wider than long; at least one third wider than long; increasing in width; seventh to eleventh antennomere pubescent; all antennomeres with apical setae. Pronotum 0.58 mm long, 0.60 mm wide; widest closely behind anterior angles; sides narrowed to posterior angles in smooth curve; posterior angles smoothly rounded; lateral margin fine throughout its total length; in dorsal aspect, visible in posterior half; setiferous punctation deep and dense; setae as long as on head; pointing transversely toward medial anterior margin; on average, interstices between punctures half as wide as diameter of punctures; moderately wide midline impunctate; with fine and dense microsculpture covering also surface of punctures; with iridescent shine. Elytra 0.68 mm long, 0.59 mm wide; sides approximately parallel; posterior angles smoothly rounded; shoulders rectangular; setiferous punctation dense and moderately deep; setae slightly shorter than on head and pronotum; pointing transversely to inner posterior margin; ground sculpture coriaceous; surface matt. Abdomen with dense setiferous punctation; microsculpture fine and dense covering also surface of punctures; matt with iridescent shine. Protibia 0.29 mm long, 0.12 mm wide; nearly semicircular; with 14 spines at outer edge; WLR 3.0; in posterior aspect, inner emargination with comb visible through its total length; posterior face densely covered with long yellow setae; setae as long as total width. Aedeagus with nearly rectangular angle between basal and apical lobe; apical lobe convergent to smoothly rounded apex; at base of triangular apical lobe several sensilla.

DIAGNOSIS: Concerning the protibia, the species has to be placed in the *Molosoma* s.str. group (sensu IRMLER 2014), because the spines at the outer edge of the protibia are not inserting on digits. Moreover, the clypeus is straight, without teeth or prominences. Among the species of similar size, *M. iridescens* can be easily identified by the iridescent shine of head, pronotum and abdomen. Regarding the large eyes and the colouration, *M. iridescens* resembles *M. luteum* (IRMLER, 2014), but the surface of the latter is polished and without microsculpture.

ETYMOLOGY: The species name refers to the iridescent shine of the fore-body.

Molosoma orousseti sp.n.

TYPE MATERIAL: **Holotype** ♂: French Guiana: Saül, 53°12'W 3°37'N, Collina, Boeuf Mort, 26.VIII.1981, leg. G. Perroult (MNHN).

DESCRIPTION (Figs. 3a–c, 4c): Length: 3.8 mm. Colouration: Black, legs and antennae light brown. Head 0.52 mm long, 0.81 mm wide; eyes prominent; temples short; half as long as eyes; clypeus trapezoidal; anterior margin straight; setiferous punctation irregular; wide midline and area at base of antennae impunctate; clypeus less densely punctate than vertex; on average, interstices between punctures as wide as diameter of punctures; supraocular area on vertex densely punctate; on average, interstices between punctures less than half as wide as diameter of punctures; yellow setae long; as long as two interstices between punctures; net-like microsculpture distinct; surface matt. Antennae slightly longer than head; second antennomere thicker than third; oval; third antennomere conical; nearly as wide as long; following antennomeres wider than long and increasing in width; tenth antennomere nearly twice as wide as fourth; sixth to eleventh antennomere pubescent; all antennomeres with long yellow apical setae. Pronotum 0.78 mm long, 0.84 mm wide; widest shortly behind anterior angles; posteriad convergent; posterior angles distinctly angled; obtuse, but nearly rectangular; lateral margin fine;

slightly wider near posterior angles; in dorsal aspect, visible in posterior two thirds; setiferous punctation coarse; partly coriaceous; impunctate midline divergent to posterior margin; close to posterior margin twice as wide as close to anterior margin; curved line of punctures adjacent to impunctate midline deep and coriaceous; lateral disc with dense punctation; in posterior half between deeply punctured line and lateral punctation with impunctate area; on remaining area, interstices between punctures half as wide as diameter of punctures or even smaller; microsculpture weak; irregular; in anterior half deeper than in posterior half; in posterior half, wide parts without microsculpture; polished; surface of punctures with distinctly deeper microsculpture than outside punctures. Elytra 0.97 mm long, 0.88 mm wide; sides parallel; shoulders and posterior angles rectangular; setiferous punctation dense; less deep than on pronotum; on average, interstices between punctures as wide as diameter of punctures; yellow setae as long as interstices between punctures; pointing transversely to posterior middle; ground sculpture coriaceous; surface matt. Abdomen with dense setiferous punctation. Protibia 0.41 mm long, 0.14 mm wide; with 10 spines on outer edge; WLR 5.0; in posterior aspect, inner emargination with comb visible in its total length; posterior face covered with long yellow setae; setae slightly shorter than total width. Aedeagus evenly curved between basal and apical lobe; apex obtusely rounded; few sensilla at apex and at base of inner edge of apical lobe.

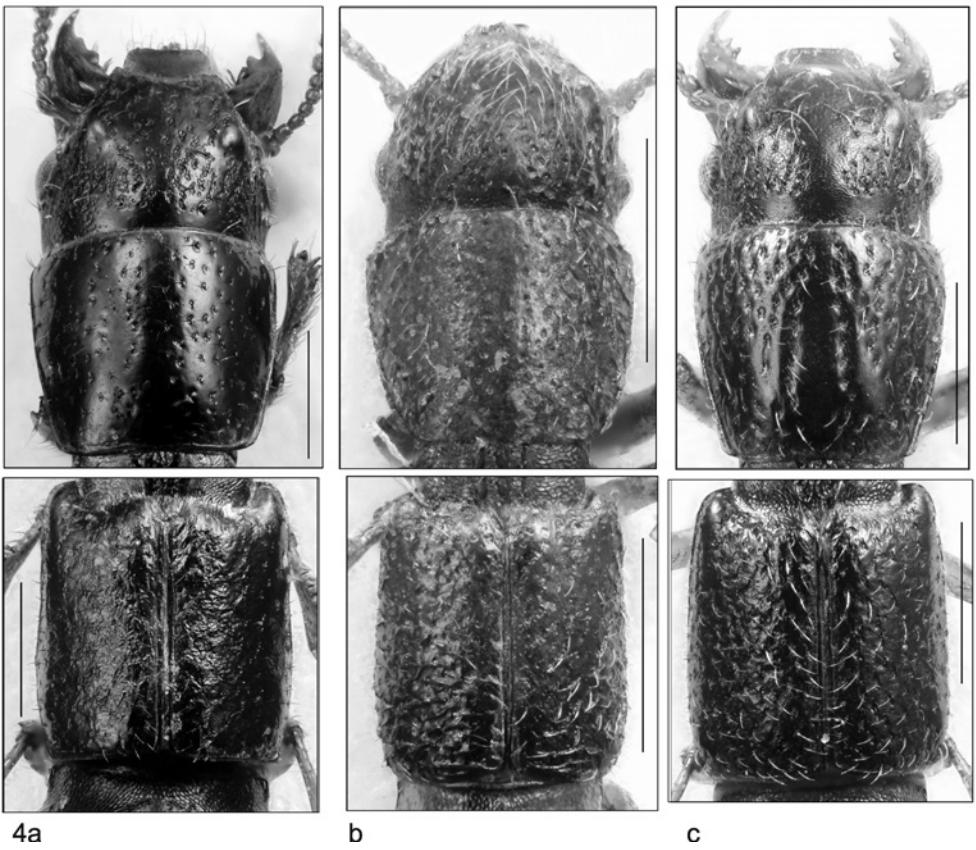


Fig. 4: Head, pronotum and elytra of a) *Molosoma nasutum*, b) *M. iridescens*, c) *M. orousseti*. Scale bars: 0.5 mm.

DIAGNOSIS: This species has to be placed in the *Molosoma* s.str. group (sensu IRMLER 2014), because the protibial spines are inserting directly on the outer edge and the clypeus has no teeth or prominence. Regarding the large eyes and the total length, *M. orousseti* resembles *M. grossopunctatum* (IRMLER, 2014). Additionally, the deep, partly coriaceous punctation is also found in *M. grossopunctatum*. It differs from the latter in the slightly larger total length and, in particular, in the more slender pronotum (in *M. grossopunctatum* 1.3 times as wide as long, in *M. orousseti* nearly quadrate). Furthermore, the sides of the pronotum of *M. orousseti* are strongly convergent from anterior to posterior angles; the sides of the pronotum of *M. grossopunctatum* are curved in front of the posterior angles; thus, the posterior angles are more obtuse and not nearly rectangular as in *M. orousseti*.

ETYMOLOGY: The epithet honours Jean Orousset who sent me specimens for my studies on the Neotropical Osoriinae.

Additions to the key to the species of the genus *Molosoma*

The three new species can be added to the key to species and species groups (IRMLER 2014) as follows.

<u>*Molosoma* s.str. group</u> [originally <u>*Osoriellus* s.str. group</u>]

2a Head, pronotum and elytra with dense microsculpture; surface with iridescent shine…… ..... *M. iridescens* sp.n.

– Head, pronotum and elytra without or with weak microsculpture; surface polished or at least shiny 2

11 Eyes distinctly prominent, nearly semi-circular; row of punctures adjacent to midline partly depressed 11a

– Eyes not or only slightly prominent; row of punctures adjacent to midline not partly depressed... 12

11a Pronotum nearly quadrate; sides distinctly convergent to posterior angles..... *M. orousseti* sp.n.

– Pronotum wider than long; sides smoothly rounded to posterior angles…….. ..... *M. grossopunctatum* (IRMLER, 2014)

<u>Remaining species group</u>

14 Punctures of head with deep microsculpture, which is partly extending to interstices; lateral margin at posterior angles of pronotum narrow..... *M. nasutum* sp.n.

– Punctures of head without microsculpture or microsculpture restricted to punctures; lateral margin at posterior angles of pronotum slightly widened 14a

14a Light brown; surface of pronotum polished and shiny; lateral margin of pronotum at posterior angles slightly widened ..... *M. lescheni* (IRMLER, 2014)

– Dark brown, anterior half of elytra slightly reddish; surface of pronotum with weak microsculpture, moderately shiny; lateral margin of pronotum at posterior angles narrow……. ..... *M. infuscatum* (IRMLER, 2014)

Discussion

Including the three new species the genus *Molosoma* comprises 108 species in the Neotropical Region. Only the genus *Holotrochus* ERICHSON, 1839 has a similarly high number of members in the Neotropical Region with 96 species. Many species of *Molosoma* seem to have a restricted distribution, which can be inferred from the low number of collecting localities per species, and

therefore many more new species can be expected. It can also be expected that many more new species will be detected in *Molosoma* than in any other of the Neotropical osoriine genera.

The species of the genus show a high variability in body size. They are usually found on decaying wood and logs, and it can be supposed that they use different tree species, states of wood decay, size of dead logs, twigs and trunks as well as different kinds of trunk exposition, which might be responsible for the high species diversity. Although all species are able to fly, the ecological restriction might be also responsible for the small distribution areas.

Acknowledgements

I am thankful to Lee Herman (American Museum of Natural History, New York, USA), who drew my attention to the fact, that *Osoriellus* has to be synonymized with *Molosoma*. Jean Orousset kindly sent me unidentified specimens of Neotropical Osoriinae.

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