

Study on the family Anthicidae (Coleoptera) of the Mascarene Islands

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Abstract. An updated list of Anthicidae Latreille, 1819 from the Mascarene Islands is given. One new species from Réunion is described: *Anthicus (Anthicus) mascarenensis* sp. nov. An original identification key to the Anthicidae of the Mascarene Islands is presented.

Taxonomy, new species, key, distribution, faunistics, Coleoptera, Anthicidae, *Anthicus*, Mascarene Islands

INTRODUCTION

The Mascarene Islands (or Mascarenhas Archipelago) are located in the Indian Ocean east of Madagascar. The Archipelago comprises Mauritius, Réunion, Rodrigues, Cargados Carajos shoals, and also some very small atolls. The islands share a common geologic origin in the volcanism of the Réunion hotspot beneath the Mascarene Plateau (<http://www.worldwildlife.org>) and form a distinct ecoregion with a unique flora and fauna.

The previously known Anthicidae fauna of the Mascarenes is quite poor for this region as a part of biodiversity hotspot including Madagascar and other neighboring Indian Ocean islands. According to the only available account of the Coleoptera from the Mascarene Islands (GOMY 2000), there are seven species of Anthicidae representing Macratriinae and Anthicini of the Anthicinae. Gomy overlooked records in two publications (PIC 1932, UHMANN 1990) and as a consequence two taxa are missing from his list of Mascarene Anthicidae.

This paper was initiated when Mr. Jacques Poussereau sent me a little series of Anthicidae collected on Réunion. Among the common species already known from the Mascarene Archipelago, there were several new records for the region.

The updated list of Mascarene Anthicidae given here includes 12 species and subspecies of Anthicinae (Anthicini), Macratriinae, and Notoxinae, including several new records for this area. One new species is described and illustrated: *Anthicus (Anthicus) mascarenensis* sp. nov. Four species and subspecies are now only known from the Mascarene Archipelago, which form about 34% of the total ant-like flower beetle fauna of these islands (*Anthicus (A.) mascarenensis* sp. nov., *Macratria cariei cariei* Pic, 1902, *M. c. emmerezi* Pic, 1902 and *M. c. mauritiensis* Pic, 1932). Other species are shared with neighboring Madagascar (*Cyclodinus obconiceps* (Pic, 1902), *Sapintus (Sapintus) andreae* (LaFerté-Sénéctère, 1849)), others are either cosmopolitan (*Omonadus floralis* (Linnaeus, 1758), *O. formicarius formicarius* (Goeze, 1777), and *Stricticollis tobias* (Marseul, 1879)), trans-African (*H. biplagiatus* (LaFerté-Sénéctère, 1849)), or represent the Afrotropical (*Notoxus alluaudi* Pic, 1907) or Indo-Pacific (*Sapintus (S.) oceanicus* (LaFerté-Sénéctère, 1849)) faunal elements. An original identification key to the Anthicidae of the Mascarene Islands is presented.

LIST OF ANTHICIDAE OF THE MASCARENE ISLANDS,
WITH SELECTED FAUNAL INFORMATION

All taxa are listed alphabetically. Label text is reproduced exactly, with no corrections or additions; labels (if there are more than one for the same specimen) are separated by slashes (/). If not stated otherwise, all labels are printed.

In the current publication, the only new or interesting faunal records (e.g., for poorly known species) from the material of J. Poussereau are presented. New Mascarene records for common and widely distributed species are not listed.

Family ANTHICIDAE Latreille, 1819

Subfamily Anthicinae Latreille, 1819

Tribe Anthicini Latreille, 1819

Genus *Anthicus* Paykull, 1798

Subgenus *Anthicus* Paykull, 1798

***Anthicus (Anthicus) mascarenensis* sp. nov.**

(Figs. 1-3)

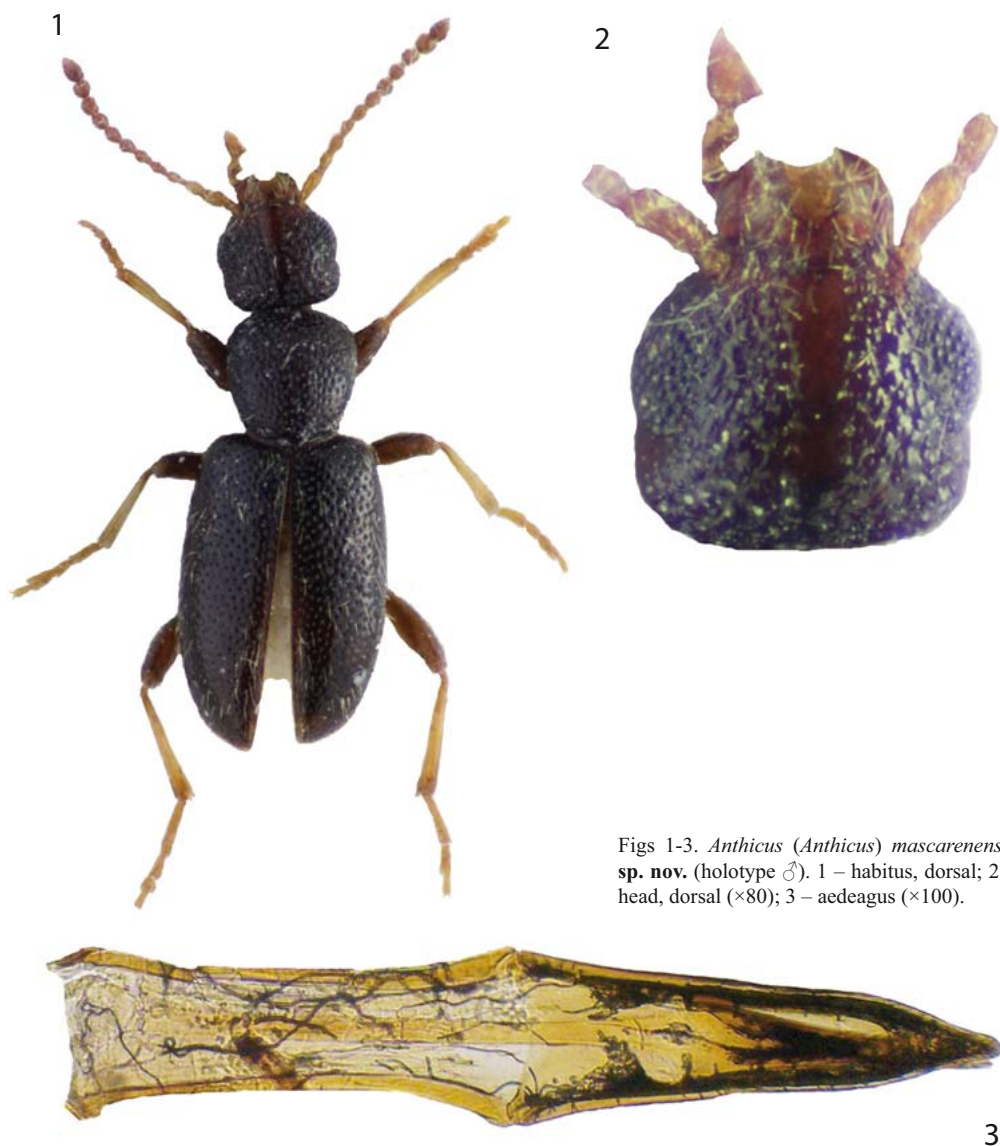
Type locality: Mascarene Islands, Réunion, St. Gilles.

Type specimen. Holotype ♂ (Museum national d'Histoire Naturelle, Paris, France): La Réunion 97 Coll: J.Poussereau / St Gilles les bains plage / crotte chien 06 06 2001.

Description. Holotype (Fig. 1). Total body length 2.38 mm, maximum width in median area of elytra 0.74 mm; head 0.51 mm long, through eyes 0.51 mm broad, pronotum 0.60 mm long, maximum width 0.55 mm, elytral length 1.27 mm long, combined width 0.74 mm.

Dorsal body dark brown, clypeus, palps and mouth parts yellowish-brown. Two basal antennomeres light yellowish-brown, other antennomeres pale brown, slightly darkened toward apex. Femora brown, tibiae and tarsi yellow to yellowish-brown. Underside black-brown, abdomen somewhat paler.

Head subquadrate, subopaque, flattened dorsally. Frontoclypeal suture distinct, almost straight. Eyes very large, roughly faceted, slightly prominent from lateral outline of head. Tempora slightly widened, temporal angles rounded. Head base straight. Surface covered by dense irregular subhexagonal granules separated by deep sulci. Granules glossy, without microsculpture. With glossy impunctate longitudinal zone arising at frontoclypeal suture, strongly narrowing posteriorly and reaching head base. Pubescence whitish, inconspicuous. Antennae short, reaching base of pronotum. Basal antennomere elongate conical, widened distally. Second antennomere cylindrical, about one-third shorter than the third antennomere.



Figs 1-3. *Anthicus (Anthicus) mascarenensis* **sp. nov.** (holotype ♂). 1 – habitus, dorsal; 2 – head, dorsal (×80); 3 – aedeagus (×100).

Antennomeres 6-11 shortened and widened, 8-10 subcircular. Penultimate antennomere slightly broader than long. Terminal antennomere twice as long as penultimate, broadly conical. Terminal maxillary palpomere short, strongly securiform.

Pronotum subopaque, trapeziform, slightly globose dorsally, with narrow anterior and posterior collars. Anterior margin subtruncate, lateral margins rounded, convergent toward narrower base. Punctures rough, dense, larger than on head; anterior margin granulose like on the head. Intervening spaces narrower than or as wide as punctures, glossy. Pubescence

whitish, inconspicuous. Scutellum very small, broadly triangular.

Elytra slightly shiny, cylindrical, dorsally very slightly globose. Epipleura narrow, complete – ending very close to apex. Humeri broadly rounded, but visible. Postbasal transverse impression not indicated. Roughly, densely confusedly punctate. Intervening space mostly narrower than punctures, glossy. Pubescence whitish, long and quite dense, subdecumbent. Sutural striae shallow but broad, reaching postbasal third of elytra. Hind wings fully developed.

Anterior half of metepisterna completely covered by dense appressed silvery setae.

Legs inconspicuous, covered by sparse setae. All tibiae widened distally, apically each with two spurs. Basal metatarsomere as long as combined length of remaining metatarsomeres. Penultimate tarsomeres distinctly bilobate. Claws small, simple.

Aedeagus as in Fig. 3.

Female unknown.

Etymology. This species is named for the Mascarene Islands.

Distribution. Mascarene Islands (Réunion). Possibly endemic.

Differential diagnosis. *Anthicus* (*Anthicus*) *mascarenensis* sp. nov. is similar to several species from tropical Africa and Madagascar. It belongs to the *A. (A.) fenestratus* Schmidt, 1842 species-group (cf. BONADONA 1962) (this is an informative species-group, because its polyphyletic origin cannot be excluded until a phylogenetic analysis is made). The most similar species, *A. (A.) pulicarius* Pic, 1902 and *A. (A.) villiersanus* Bonadonna, 1962 are uniformly yellowish to pale reddish; among them *A. (A.) pulicarius* is smaller in size (total body length 1.50-1.70 mm compared to 2.30-2.40 mm in *A. (A.) mascarenensis* sp. nov.), has temples not rounded but almost parallel (slightly widened toward base in *A. (A.) mascarenensis* sp. nov.), and intervening spaces on pronotum – granulose (glossy and mostly narrower than or equal in size to the punctures in *A. (A.) mascarenensis* sp. nov.). Tegmen of aedeagus is more elongate apically in *A. (A.) pulicarius* than in *A. (A.) mascarenensis* sp. nov. *Anthicus* (*A. villiersanus*) is 2.50 mm long, has intervening spaces on pronotum wider than punctures (mostly narrower than or as wide as punctures in *A. (A.) mascarenensis* sp. nov.), and with basal collar of pronotum being narrow and indistinct (quite broad and good visible in *A. (A.) mascarenensis* sp. nov.). Aedeagus is stronger in *A. (A.) villiersanus* than in *A. (A.) mascarenensis* sp. nov. (cf. BONADONA 1962).

Genus *Cyclodinus* Mulsant & Rey, 1866

Cyclodinus obconiceps (Pic, 1902)

Distribution. Madagascar, Mascarene Islands (Mauritius).

Note. This species was previously recorded from the Mascarene Archipelago by UHMANN (1990) as *Cyclodinus basilewskyi* (Buck, 1965), now *C. casloni* (Buck, 1965). The study of the single known Mascarene specimen of *Cyclodinus* (see UHMANN 1990 for details) confirmed the hypothesis of NARDI (2008) that this is a misidentification

and the specimen should be referred to *C. obconiceps*, which was only known from Madagascar.

Genus *Hirticollis* Marseul, 1879

***Hirticollis biplagiatus* (LaFerté-Sénectère, 1849)**

Specimens examined. La Réunion 97 Coll: J.Poussereau / Le Tampon 800m lumières 04 01 2000 (1 specimen); La Réunion 97 Coll: J.Poussereau / Le Tampon 800m lumières 10 01 2000 (1 specimen); La Réunion 97 Coll: J.Poussereau / Le Tampon 800m lumières 19 01 2000 (1 specimen); La Réunion 97 Coll: J.Poussereau / Rv st Denis lumières 02 12 2000 (1 specimen); La Réunion 97 Coll: J.Poussereau / Dme de la vallée lumières st Pierre 23 04 2001 / 100m (2 specimens); La Réunion 97 Coll: J.Poussereau / Le Tampon 800m Composteur 25 02 2002 (1 specimen); La Réunion 97 Coll: J.Poussereau / Rv souris chaude lumières 27 01 2004 (1 specimen); La Réunion 97 Coll: J.Poussereau / Manapany Ravine n2 lumières 17 01 2006 (1 specimen); La Réunion 97 Coll: J.Poussereau / Manapany Kiosque lumières 16 01 2009 (3 specimens); La Réunion 97 Coll: J.Poussereau / Le Tampon 800m Maison Doudou multipliant 24 01 2009 (1 specimen).

Distribution. Circum-African species. Mascarene Islands (Mauritius, Réunion). New record for Réunion.

Genus *Omonadus* Mulsant & Rey, 1866

***Omonadus floralis* (Linnaeus, 1758)**

Specimens examined. La Réunion 97 Coll: J.Poussereau / Le tampon 600m lumières 17 01 2000 (1 specimen); La Réunion 97 Coll: J.Poussereau / Ndam de la paix Maison lebian 1700 / fût eau 30 12 2003 (1 specimen); La Réunion 97 Coll: J.Poussereau / Mare à scories 2100m sous crotin 02 01 2009 (2 specimens).

Distribution. Very common cosmopolitan species. Mascarene Islands (Mauritius, Réunion). New record for Réunion.

***Omonadus formicarius formicarius* (Goeze, 1777)**

Distribution. Very common cosmopolitan species. Mascarene Islands (Mauritius, Réunion).

Genus *Sapintus* Casey, 1895

Subgenus *Sapintus* Casey, 1895

***Sapintus (Sapintus) andreae* (LaFerté-Sénectère, 1849)**

Specimens examined. La Réunion 97 Coll: J.Poussereau / Etang sale les bains Les sables, laisses 17 05 2003 (11 specimens).

Distribution. Madagascar, Mascarene Islands (Mauritius and Réunion).

***Sapintus (Sapintus) oceanicus* (LaFerté-Sénéctère, 1849)**

Distribution. Pacific and Indian islands, coastal areas of Asia and East Africa. Known from Mauritius and Réunion.

Genus *Stricticollis* Marseul, 1879

***Stricticollis tobias* (Marseul, 1879)**

Specimens examined. La Réunion 97 Coll: J.Poussereau / Dme de la vallée lumières st Pierre 23 04 2001/100m (3 specimens); La Réunion 97 Coll: J.Poussereau / Le Tampon 800m Composteur 25 02 2002 (1 specimen); La Réunion 97 Coll: J.Poussereau / Ravine 3 bassins Lumières 06 01 2005 (1 specimen).

Distribution. Common cosmopolitan species. Mascarene Islands (Mauritius, Réunion). New record for Réunion.

Subfamily Macratriinae LeConte, 1862

Genus *Macratria* Newman 1838

***Macratria cariei cariei* Pic, 1902**

Distribution. Endemic to the Mascarene Islands (Mauritius). Known only from the type specimen.

***Macratria cariei emmerezzi* Pic, 1902**

Distribution. Endemic to the Mascarene Islands (Mauritius). Known only from the type specimen.

Note. This taxon is probably synonym of the nominate form. Unfortunately the type material of this taxon was not available for study, and a conclusion cannot be reached.

***Macratria cariei mauritiensis* Pic, 1932**

Distribution. Endemic to the Mascarene Islands (Mauritius). Known only from the type specimen.

Note. For my opinion and according to the original description, this is possibly a separate subspecies. Unfortunately the type material was unavailable for the current study.

Subfamily Notoxinae Stephens, 1829

Genus *Notoxus* Geoffroy, 1762*Notoxus alluaudi* Pic, 1907

Specimens examined. La Réunion 97 Coll: J.Poussereau / Plaine d'affouches pk15 écorce chryptonieria 29 04 2003 (1 specimen).

Distribution. Southeastern and southern Africa. First record for the Mascarene Islands (Réunion).

IDENTIFICATION KEY TO THE ANTHICIDAE OF THE MASCARENE ISLANDS

- 1 Elytra with longitudinal sulcus near lateral margin, arising at humeral angle and reaching at least the midlength of elytra. Three apical antennomeres elongate, forming indistinct club. Mesosternum fused with mesepisterna (not possible to separate subspecies using characters presented in their descriptions).....
.....*Macratia cariei* Pic and subspecies.....2
- Elytra lacking longitudinal sulcus near lateral margin. Antennae lacking elongate club. Mesosternum and mesepisterna separate.2
- 2 Pronotum with prominent dorsoapical horn extending anteriorly and covering head. Head closely articulated with pronotum. Neck very short. Body uniformly black or dark black-brown.*Notoxus alluaudi* Pic
- Pronotum lacking dorsoapical horn, anteriorly bluntly or smoothly rounded. Head completely exposed. Neck long and exposed.3
- 3 Mesepisterna with thick fringe of setae on posterolateral margins, overlying obliquely impressed mesepimera. Impression on mesepimera densely setose. Elytra with dense layer of appressed or decumbent undersetae directed obliquely posterolaterad.4
- Mesepisterna with very short fringe of setae on posterolateral margins or not setose. Elytra lacking obliquely posterolaterad directed undersetae, with only setae and tactile setae present.5
- 4 Dorsal forebody densely punctured, but with distinct intervening spaces. These spaces microreticulate, narrower to wider than punctures, surface subopaque. Antennomeres 8-11 shortened.
.....*Sapintus* (S.) *andreae* (LaFerté-Sénéctère)
- Dorsal forebody very densely punctured, without clear intervening spaces, surface opaque. Antennomeres 8-11 elongate.....*Sapintus* (S.) *oceanicus* (LaFerté-Sénéctère)
- 5 Dorsal body with sparse and appressed, short setae. Tactile setae short and inconspicuous. Dorsal forebody with reticulate microsculpture. Elytra brownish, brown to black-brown with paler basal area.6
- Dorsal body with distinct setae or / and tactile setae. If setae short, sparse and appressed, then forebody lacking microreticulation and dorsal body colouration is different. Tactile setae longer and more distinct.....7
- 6 Pronotum with pair of small protuberances on disc near anterior margin.*Omonadus floralis* (Linnaeus)
- Pronotum without pair of small protuberances on disc near anterior margin.
.....*Omonadus f. formicarius* (Goeze)
- 7 Pronotum with lateral margins almost or fully straight. Elytra with distinct tactile setae.8
- Pronotum with lateral margins strongly constricted behind the middle. Elytra with tactile setae less obvious. ..9
- 8 Dorsal pubescence including femora and tibiae unusually long and erect.....
.....*Hirticollis biplagiatus* (LaFerté-Sénéctère)
- Dorsal pubescence inconspicuous, neither very long nor distinctly erect.*Anthicus* (A.) *mascarenensis* **sp. nov.**
- 9 Head prolonged posterior to eyes. Base of pronotum dorsally with a pair of flattened tubercles. Dorsal body reddish-brown with elytra being darker, than forebody.*Cyclodinus obconiceps* (Pic)
- Head rounded posterior to eyes. Base of pronotum not bituberculate. Forebody yellowish, orange or reddish, elytra black with pale postbasal area and round preapical spot on each elytron.

.....*Stricticollis tobias* (Marseul)

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