

*With compliments,  
Terry A. Wheeler*

5 October 1989  
PROC. ENTOMOL. SOC. WASH.  
91(4), 1989, pp. 611-614

**APTILOTUS MARTINI, A NEW SPECIES OF THE APTILOTUS BECKERI  
GROUP (DIPTERA: SPHAEROCERIDAE) FROM  
CAVES IN THE CANARY ISLANDS**

TERRY A. WHEELER AND S. A. MARSHALL

Department of Environmental Biology, University of Guelph, Guelph, Ontario, Canada  
N1G 2W1.

**Abstract.** — *Aptilotus martini* n.sp., a brachypterous sphaerocerid with strongly reduced eyes, is described from caves on La Palma, Canary Islands. The taxonomic status of the *A. beckeri* group within the genus *Aptilotus* is briefly discussed.

**Key Words:** Sphaeroceridae, *Aptilotus*, *Aptilotus martini*, taxonomy

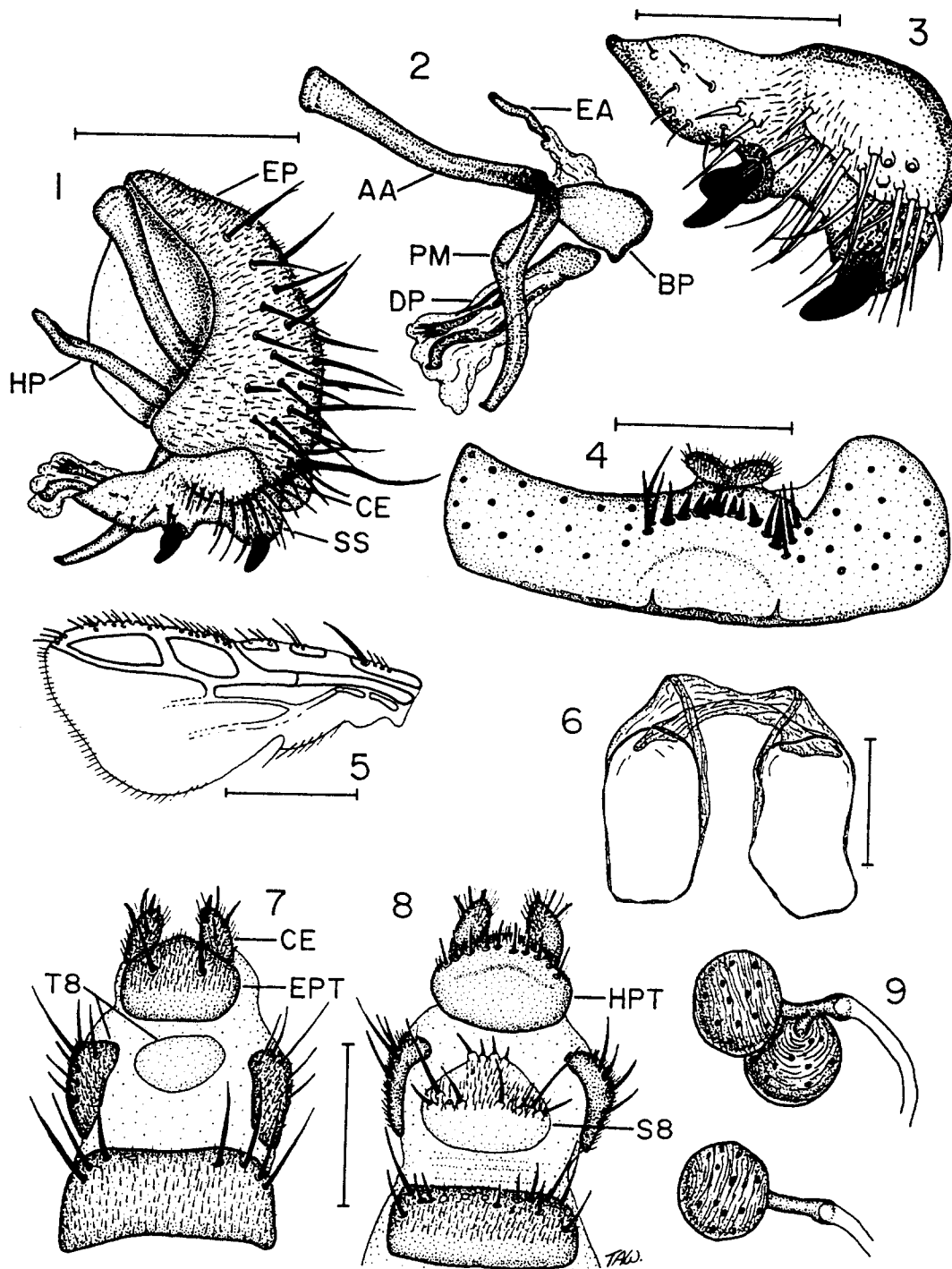
The sphaerocerid genus *Aptilotus* Mik compnses 18 species of apterous, brachypterous, and macropterous flies. widely distributed in the Holarctic region. Six species from the Canary Islands constitute the *Aptilotus beckeri* species group (see Papp and Roháfek 1981, Roháfek and Papp 1983— as *Paralimosina beckeri* group). This paper provides a descnption of a new cave-inhabiting species of the *Aptilotus beckeri* group and summanzes the taxonomic history of the group.

***Aptilotus martini* Wheeler and hlarshall,  
NEW SPECIES  
(FIGS. 1-9)**

**Description.** — Body length 2.1-3.3 mm. Color dark brown. pruinose: trochanters, distal ends of tibia, and tarsomeres light brown. Interfrontal bnstles in three pairs, middle pair much longer and cruciate, antenor pair shortest. Face carinate. Arista as long as thorax, with long pubescence. Eyes with indistinct margins, facets flattened, pruinose. Eye height 1.0-1.2 times genal height. Katepistemum with posterodorsal bnstle strong. Two pairs of postsutural dorsocentral bristles, posterior pair longer. Pre-sutural acrostichal setulae in ten rows. Scu-

tellum 1.5 times wider than long, apical scutellar bnstles 1.5-2 times scutellar length. Mid tibia with one long and one short anterodorsal and one posterodorsal bristle in basal third, one anterodorsal, one dorsal, and one posterodorsal bnstle in distal third, one apicoventral bristle. Wing reduced, extending only to posterior margin of second abdominal tergite, wing rmembrane light brown. Costa ending at junction with R4+5. R4+5 straight, with R2+3 diverging at close to 90° angle. M, CuA1, and r-m present. dm-cu absent. Halter without knob, reduced to small yellow stub.

**Male abdomen.** — Preabdomen heavily sclerotized; densely setose except sternite 1 and anterior half of syntergite 1+2. Sternite 5 (Fig. 4) with bifid, strongly deflexed posteromedial tab. Tab lightly sclerotized with darker, roughly X-shaped region. Single transverse row of 8-10 stout spines anterior to tab, with group of 3-5 longer bristles at each end of row. Lateral regions of sternite with scattered long setae. Synsternite 6+7 simple, dextral lobe narrow, extending over posteromedial tab of stemite 5. Sternite 8 free, not fused with synsternite or epan-drium. Epan-drium uniformly setose, bristles longer along posterior margin (Fig. 1).



Figs. 1-9. *Atilotus martini* new species. 1. Male genitalia (left lateral view); CE, cercus; EP, epandrium; HP, hypandrium; SS, surstylus; scale bar = 0.2 mm. 2. Aedeagal complex (left lateral view); AA, aedeagal apodeme; BP, basiphallus; DP, distiphallus; EA, ejaculatory apodeme; PM, paramere; same scale as Fig. 1. 3. Surstylus (left lateral view); scale bar = 0.1 mm. 4. Male fifth sternite (ventral view); scale bar = 0.2 mm. 5. Wing (dorsal view); scale bar = 0.2 mm. 6. Female spectacles-shaped sclerite; scale bar = 0.1 mm. 7. Female terminalia (dorsal view); CE, cercus; EPT, epiproct; T8, tergite 8; scale bar = 0.3 mm. 8. Female terminalia (ventral view); HPT, hypoproct; S8, sternite 8; same scale as Fig. 7. 9. Spermathecae.

Cercus ca 5 br  
epandri  
meral s  
arms na  
row dar  
a setose  
anterior  
two larg  
spur-lik  
tapered  
carinate  
like bas  
nous, la  
to a dist  
sclerite.  
nules, a  
small sp  
sinuate,

Femal  
veloped,  
tergite 1  
on anter  
densely s  
7 short, v  
and stern  
tergite 8  
pans seti  
anterior  
tose on p  
margin w  
Hypopro  
terior ma  
setulose t  
7). Cerci  
cal and  
vaginal  
sclerite)  
(Fig. 6).  
distinct  
pans of c

Types  
LANDS.  
24.viii.19  
NARY I  
Diablo. 2  
9): Cueva  
Martin

Cercus simple, fused with epandrium, with ca 5 bnstles, basal bristle longer than any epandrial bnstle. Stemite 10 (interparameral sclerite) small but well sclerotized, arms narrow, medial part visible as a narrow dark strip between cerci. Surstylus with a setose posterolateral outer part and a long, anteriorly dark-pointed inner pan bearing two large, flattened spur-like setae: anterior spur-like seta with a broad basal lobe and tapered apex (Fig. 3). Basiphallus simple, carinate. Distiphallus with a narrow collar-like base, expanding to a broad, membranous, laterally spinulose part then tapering to a distal part with a large, Y-shaped dorsal sclerite, lateral lobes bearing long flat spinules, and distal ventral part covered with small spinules. Paramere simple, slightly sinuate, truncate (Fig. 2).

Female abdomen.—Sternite 1 well-developed, bare except posterior margin; syntergite 1+2 similar in size to tergite 3, bare on anterior half; tergites and stemites 2–5 densely setose. Tergites and sternites 6 and 7 short, with only posterior bristles. Tergite and stemite 8 paler than preceding sclentes; tergite 8 tripartite, median part bare: lateral parts setulose and setose except along bare anterior margin. Stemite 8 setulose and setose on posterior half only, posteromedial margin with a row of 4 tuberculate bristles. Hypoproct setose and setulose along posterior margin only (Fig. 8). Epiproct broad, setulose except along anterior margin (Fig. 7). Cerci short, blunt, with short, stout apical and preapical dorsal bristles. Internal vaginal sclerotization (Spectacles-shaped sclente) hyaline, with large, narrow rings (Fig. 6). Spermathecae dark, spherical, with distinct darker outpocketings; sclerotized parts of ducts short (Fig. 9).

Types.—Holotype (♂): CANARY ISLANDS. La Palma: Cueva El Diablo, 24.viii.1986. J. L. Martin. Paratypes: CANARY ISLANDS. La Palma: Cueva El Diablo, 23.viii.1986. J. L. Martin (5 ♂, 14 ♀); Cueva del Rincon, 33.viii.1986. J. L. Martin (22 ♂, 12 ♀); Cueva Arrebolos,

28.viii.1986, J. L. Martin (1 ♂, 1 ♀); Cueva Todoque, 18.viii.1986, J. L. Martin (5 ♂, 1 ♀); Cueva Franceses, 2.ix.1986, J. L. Martin (2 ♀).

Holotype deposited in the Biosystematics Research Centre, Ottawa, Canada. Paratypes deposited in the Biosystematics Research Centre, the University of Guelph collection, the British Museum (Natural History), the Museo Insular de Ciencias Naturales de Tenerife, and the Departamento de Zoología de la Universidad de La Laguna (Tenerife, Canary Is.).

Etymology.—This species is named for Jose L. Martin, who collected the type series.

Comments.—*Aptilotus martini* is easily distinguished from all other species in the *beckeri* group by its flattened eyes, with indistinct margins. Other distinguishing characters include the shape and degree of sclerotization of the posteromedial tab of the male fifth stemite, and the shape of the male surstyli and parameres.

#### DISCUSSION

Papp and Roháček (1981) described four brachypterous species of Canary Islands sphaerocerids closely related to the macropterous species *Limosina beckeri* Duda. These four species, along with *L. beckeri*, were tentatively assigned by the authors to the genus *Paralimosina* Papp as *P. aptera*, *P. beckeri*, *P. franzi*, *P. gomerensis*, and *P. pilifemorata*. Roháček (1983), recognizing that the *P. beckeri* group is morphologically distinct from other *Paralimosina* species, erected the subgenus *Paralimosina (Canarisina)* for the above five species. Almost simultaneously, Marshall (1983) noted that the *P. beckeri* group shared a number of synapomorphies with the apterous European species *Aptilotus paradoxus* Mik, and transferred the five members of the *beckeri* group to the genus *Aptilotus*.

An additional species of the *P. beckeri* group, *P. avolans*, was described by Rohá-

ček and Papp (1983), who suggested that *P. avolans* is most closely related to *beckeri*. Subsequently, these authors transferred *P. avolans* to *Aptilotus* and considered the subgenus *Canarisina* a junior synonym of *Aptilotus* (Roháček and Papp 1988). For the present, pending a complete revision of *Aptilotus*, we prefer to treat the *beckeri* group as a species group, without subgeneric status.

#### ACKNOWLEDGMENTS

We would like to thank Dr. Pedro Oromi and Jose L. Martin, Universidad de la Laguna, Tenerife, Canary Islands, who provided us with the type series of *A. martini*.

#### LITERATURE CITED

- Marshall, S. A. 1983. A revision of the genus *Aptilotus* Mik in North America (Diptera, Sphaeroceridae). *Can. J. Zool.* 61: 1910-1924.
- Papp, L. and J. Roháček. 1981. New species of the *Paralirnosina beckeri*-group from the Canary Is. (Diptera: Sphaeroceridae). *Folia Entomol. Hung.* 42: 143-154.
- Roháček, J. 1983. A monograph and re-classification of the previous genus *Limosina* Macquart (Diptera, Sphaeroceridae) of Europe. Part II. *Beitr. Entomol. Berlin* 33: 3-195.
- Roháček, J., and L. Papp. 1983. Another new species of the *Paralirnosina beckeri*-group from the Canary Islands (Diptera: Sphaeroceridae). *Folia Entomol. Hung.* 44: 147-152.
- . 1988. A review of the genus *Paralimosina* L. Papp (Diptera, Sphaeroceridae), with descriptions of ten new species. *Annls. Hist.-Nat. Mus. Natn. Hung.* 80: 105-143.