Limnebius aguilerai sp. nov. from south Morocco (Coleoptera: Hydraenidae)

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Introduction

The Limnebius nitidus group, as defined by JACH (1993), so far includes 17 species with a rather similar external morphology: 1.2–1.7 mm long, dark in colour, apex of the elytra usually more or less acuminate in both sexes, and male ventrite VI without modifications. The group was further subdivided in four subgroups, one of them, the L. nitidus subgroup, with seven known species: L. gerhardii Heyden, L. hilaris Balfour-Browne, L. irmelae JACH, L. mahour Balfour-Browne, L. montanus Balfour-Browne, L. nitidus (Marsham), and L. nitifurus D’Orchymont. All these species share a similar aedeagal structure, with a long main piece, without lateral appendages or complex structural modifications; one paramere (left) also long, well separated from the main piece and with two well defined rows of setae; and a long, sinuous appendix emerging from the base of the main piece, with a superficial resemblance to a paramere (the pseudoparamere sensu JACH, 1993).

In a survey of the aquatic Coleoptera of the Moroccan Atlas a new species close to Limnebius mahour was collected in several localities on the south side of the Haute Atlas and the Anti Atlas. The re-examination by Dr. M. Jách (Naturhistorisches Museum, Wien) of some specimens of theLimnebius nitidus subgroup collected by G. Wewalka in 1983 in another locality in the south side of the Haute Atlas led to the discovery of an additional male of the same species.

Acronym


Limnebius aguilerai sp. nov.

Type locality: Small stream tributary of the reservoir of Ouarzazate, between Skoura and Ouarzazate (30° 58' 75'' N, 6° 46' 19'' W, 1,000 m a.s.l.), Morocco.


Diagnosis: 1.55–1.70 mm long, 0.85–0.88 mm wide. External morphology typical of the group, apparently not distinguishable from L. mahour.

Aedeagus (Fig. 1): Main piece short, robust, wide, flat and compact, not twisted. Abruptly narrowed towards the middle. Distal part membranous, also flat, only clearly visible in dorsal view. Pseudoparamere very long, with longitudinal striae, with a very distinct round preapical protuberance, and the apex enlarged. Left paramere very short, wide, with the ventral margin only slightly sinuated in lateral view.

Differential diagnosis: Limnebius aguilerai is most closely related to L. mahour, from which can be distinguished by the structure of the aedeagus, in particular the pseudoparamere and the main piece. We were not able to differentiate females of the two species. Limnebius irmelae from N Tunisia is another closely related species. It also has a long and slender pseudoparamere, dilated and truncated at the apex, but the structure of the main piece (longer and more
parallel-sided) and the position of the left paramere (with a more distal insertion) clearly separates it from \textit{L. maurus} and \textit{L. aguilerae} (see JACH, 1993 Fig. 45).

**Distribution:** The species has so far been found in five localities in Morocco (Fig. 2): the type locality (Ouarzazate); a site 15 km N of Tazenakht and a small stream near Asfazimer (1,700 m a.s.l.), both in the Jbel Siroua; and in two sites in the oued `Äıt-Baha, one in Tioulit (1,150 m a.s.l.) and another in `Äıt-Iftene (1,350 m a.s.l.). The first three localities are in the mountain system that connects the SW of the Haute Atlas with the Anti Atlas, the two last ones being in the NW side of the Anti Atlas.

\textit{Limnebius maurus}, \textit{L. irmelae} and \textit{L. aguilerae} seem to be allopatric, \textit{L. maurus} having the most extensive distribution (the Iberian Peninsula –with the exception of the NE– and northern Morocco, VALLADAES \& MONTES, 1991, JACH, 1993), and \textit{L. irmelae} and \textit{L. aguilerae} occupying vicariant areas in the east (\textit{L. irmelae}) and the south-west of its range (\textit{L. aguilerae}). It is however still not possible to delimit the distribution of the north African Hydraenidae (and members of other families of aquatic Coleoptera) with any reliability.

**Etymology:** Named after our friend Pedro Aguilera.

**Ecology:** The type locality was a pool in a stream with about \(5 \times 40\) m in area, with a dense belt of reed and submerged macrophytes and algae (Characeae and \textit{Chladophora} spp). The site was deep (more than \(1\) m), with turbid and somewhat eutrophic water, pH of 7.3 and a conductivity of 2,040 \(\mu\)S.

The locality in Asfazimer was a shallow stream, also with turbid waters, submerged macrophytes and filamentous algae, with a slow current, pH of 8.4 and conductivity of 390 \(\mu\)S.

The locality in the oued `Äıt-Baha in Tioulit was a well vegetated pool, with an area of \(4 \times 15\) m, surrounded by reed and some trees, with submersed macrophytes and filamentous algae, with a pH of 9.4 and a conductivity of 464 \(\mu\)S.

The second locality of the oued `Äıt-Baha, `Äıt-Iftene, was a residual pool in the head of the river, with an approximate diameter of 10 m and more than 1 m deep, without reeds but with filamentous algae. The substratum was gravel, and the water was clear, with a pH of 8.1 and a conductivity of 815 \(\mu\)S.

Common features of the four sites were the slow current and the well developed aquatic submersed vegetation, in particular filamentous algae.

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**References**


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