Fernando Pederzani & Norbert Reintjes

**LACCOPHILUS COMOENSIS N. SP. FROM IVORY COAST**
(Insecta Coleoptera Dytiscidae)

**Abstract**

*Laccophilus comoensis* new species from northern Ivory Coast is described and outlined. It belongs to the *vermiculosus* group. The four male specimens of the type series were sampled during dry season from both temporary and permanent waters of the Guinea savannah in Comoé National Park. The holotype is deposited in the Natural History Museum of Vienna. The new species is easily identified by the structure of aedeagus.

Key words: Dytiscidae, *Laccophilus*, Comoé National Park, Ivory Coast, West Africa.

**Introduction**

The following species description is based on material that was collected during studies on the faunistics and ecology of water beetles in Comoé National Park, Ivory Coast, conducted by the second author. The study area is situated in the Guinea savannah and characterised by a highly seasonal climate. Therefore, the majority of water bodies are temporary and dry out during the pronounced dry season. A more detailed description of the region is given in Reintjes & Linsenmair (2001). The specimens were collected with a dipnet, from the margins (within 1 m) of different waters.

**Laccophilus comoensis** n. sp. (Fig. 1)

**Type material.** Comoé National Park, Ivory Coast. Holotype ♂: Comoé river

Body large and not very convex, narrowed behind. Length: 4.46 to 4.59 mm; width: 2.48 to 2.54 mm.

Head testaceous with a double darker spot behind; in one paratype (code TB1A) also clypeus darkened at the middle. Finely, doubly reticulated, with the small reticulation more impressed. Antennae yellow; palpi reddish.

Pronotum testaceous with a transverse brownish band at the anterior border and a narrow brownish margin at the middle of base joining two black spots laterally. Very finely, irregularly doubly reticulated and finely and sparsely punctured.

Elytra testaceous with a black pattern of flexuous irregular lines and vermiculations, disappearing anteriorly beside the black suture but leaving traces of three twinned lines at the base, and much reduced behind, leaving lighter apical and sub-apical spots. The vermiculations are occasionally confluent at the middle to form a wavy transverse dark band. Reticulation double and weakly impressed. Small meshes of the elytral network hardly visible on the basal third. Large meshes distinct only on the anterior half and occasionally incomplete; elytral surface with punctures at many points where large meshes meet, detectable also on the posterior half, where large meshes disappear; serial punctures large and rather irregularly arranged.

Ventral side yellow with metacoxae and metacoxal process darkened, without a coxal file. Elytral epipleura brownish. Legs ferrugineous; metatibial spines bifid at the apex.

Male with fore and mid tarsi laterally compressed and provided with small suckers. Last visible sternite slightly asymmetric, with a sub-basal ridge or tubercle at the middle of the left side; hind border emarginate at the sides, pointed in the middle (Fig. 5). Aedeagus very distinctive: median lobe with a post-basal process on the dorsal-left side, obtuse pre-apical tooth (or lamellar process) at the right side, projecting pre-apical ridge at the ventral side, and apical indentation (Fig. 2 a, b, c); right paramer fairly irregular in shape (Fig. 3); the apical seta usually inserted at the apex is not detectable; left paramer as in fig. 4.

Female unknown. The type material was collected in association with several specimens of closely related species. The identification of females should be based on two characters that presumably distinguish the n. sp. from the others: large size and weak elytral reticulation with small punctures at the intersection of meshes. Unfortunately no specimen was found showing those characters. Unless a reliable specimen or a population of pure L. comoensis is found, the identification of females is debatable.
**Derivatio nominis.** From Comoé National Park, Ivory Coast.

**Habitat.** Habitat info is given with reference to the sample code reported in the label of each specimen.

**Holotype.**

CB6A - Bank of Comoé river. Maximal depth within 10 m from sampling site: 150 cm; rocks and little mud; pH 8.1; conductivity 64 μS; dense stock of *Polygonum sp.* (Polygonaceae). Other Dytiscidae (including other *Laccophilus sp.*), Noteridae, Hydraenidae, Pleidae, Corixidae (Micronectinae), Belostomatidae, Veliidae, Zygoptera and fish present.

**Paratypes.**

TB1A - Shallow pond surrounded by open savannah, approx. 50 m from the margin of dense gallery forest accompanying the river Iringou; diameter of pond approx. 20 m, maximal depth 60 cm; muddy soil; pH 8.3; conductivity 26 μS; submerse

![Laccophilus comoensis n. sp.: habitus (last abdominal segments removed).](image)

Fig. 1 - *Laccophilus comoensis* n. sp.: habitus (last abdominal segments removed). (Photo by Gabriele Fiumi).
vegetation: *Dopatrium cf. junceum* (Scrophulariaceae). Other Dytiscidae (including other *Laccophilus sp.*), Noteridae, Hydrophilidae, Gyrinidae, Notonectidae, Pleidae, Corixidae (Micronectinae), Zygoptera and fish present.

HB2A - Pond B in Reintjes & Linsenmair (2001). At the date of sampling, estimated surface approx. 750 m², maximal depth 55 cm; muddy soil; pH 6.7; conductivity 59 μS; dense submerse vegetation (Cyperaceae) at the margins. Other Dytiscidae (including other *Laccophilus sp.*), Noteridae, Hydrophilidae, Haliplidae, Hydraenidae, Notonectidae, Pleidae, Corixidae (Micronectinae), Belostomatidae, Veliidae, Anisoptera and Zygoptera present.

AB1A - Pond A in Reintjes & Linsenmair (2001). Surface approx. 6 m², maximal depth 15 cm; muddy soil; pH 6.8; conductivity 180 μS; no submerse vegetation. Other Dytiscidae (including other *Laccophilus sp.*), Noteridae, Hydrophilidae, Notonectidae, Anisoptera, Zygoptera, tadpoles and fish present.

**Systematic position.** Although *L. comoensis* n. sp. is obscurely reticulated and the double reticulation is detectable only at the middle of elytra, it undoubtedly belongs to the *vermiculosus* group of African *Laccophilus* (Guignot, 1959b), grouping species with irregular meshes on pronotum, a double reticulation on elytra, a dorsal pattern of irregular wavy black lines and lacking well-delimited testaceous markings.

The new species is distinguishable by its large size, weakly impressed elytral reticulation, distinct micro-punctures on pronotum and elytra, and particularly by the structure of the aedeagus.

It shares the pale colour of head and pronotum and the black elytral pattern of several species, such as *remex, flaveolus, pampinatus, nodieri*, etc.

It is the single African species of the *vermiculosus* group with a postbasal process at the dorsal side of penis; that process is only found in a few species of Guignot’s *variegatus* group.

The *vermiculosus* group now comprises 23 taxa in the Afrotropical and Malagasy regions, including two subspecies of *L. adspersus* Boheman. The species of this group are listed below, with literature references for taxa not included in Guignot’s key. The following list includes also four taxa synonymized after the publication of Guignot (1959b).

*adspersus* Boheman, 1848  *°*  
*adspersus nigeriensis* Omer-Cooper (*Omer-Cooper, 1970*)  
*adspersus sudanensis* Omer-Cooper (*Omer-Cooper, 1970*)  
*burgeoni* Gschwendtner, 1930  *°*  
*comoensis* n. sp.  
*concisus* Guignot, 1953  *°*  
*cyclopis* Sharp, 1882  *°*  
*epinephes* Guignot (*Guignot, 1955*)
Figs. 2-5 - *Laccophilus comoensis* n. sp., male paratype: 2. Penis (a, b, c: three views); 3. Right paramere; 4. Left paramere; 5. Last two visible abdominal segments.
espanyoli Hernando (HERNANDO, 1990)
evanescens Régimbart, 1895 ♀ *
flaveolus Régimbart, 1906 ♀ *
irroratus Aubé, 1838 ♀
livens Régimbart, 1895
= adspersus Boheman (OMER-COOPER, 1970)
mediocris Guignot, 1952 ♀
modestus Régimbart, 1895 ♀ *
nodieri Régimbart, 1895 ♀
olsoufii Guignot, 1937 ♀
pallescens Régimbart, 1903 ♀ *
pampinatus Guignot, 1940 ♀
praeiteritus Omer-Cooper (OMER-COOPER, 1957)
= concisus Guignot (OMER-COOPER, 1965)
remex Guignot, 1952 ♀ *
saegeri Guignot (GUIGNOT, 1958)
simulator Omer-Cooper (OMER-COOPER, 1958)
turbatus Guignot (GUIGNOT, 1958)
= ? concisus Guignot (OMER-COOPER, 1965)
turneri Omer-Cooper (OMER-COOPER, 1957)
= remex Guignot (OMER-COOPER, 1958)
vermiculosus Gerstaecker, 1867 ♀ *
vitshumbi Guignot (GUIGNOT, 1959a)

♀ Key in GUIGNOT (1959b)
* Key in OMER-COOPER (1965)

Acknowledgements

The second author was supported by a scholarship from the Deutscher Akademischer Austauschdienst (DAAD). Permission to conduct research in the Ivory Coast was kindly granted by the ‘Ministère de l’Agriculture et des Ressources Animales’ and the ‘Ministère de la Recherche Scientifique de Côte d’Ivoire’, Abidjan. Gabriele Fiumi (Forlì) took the photograph of the new species.

References


Authors’ addresses:

Fernando Pederzani
via Landoni, 35 I-48100 Ravenna
e-mail: pederzani@linknet.it

Norbert Reintjes
Department of Animal Ecology & Tropical Biology,
Theodor-Boveri-Institute of Biosciences,
Am Hubland, D-97074 Würzburg, Germany
e-mail: reintjes@biozentrum.uni-wuerzburg.de