

DESCRIPTION OF FOUR NEW WEST AFRICAN CIXIIDAE
(HOMOPTERA, FULGOROIDEA)

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Abstract.—Four Cixiidae species from West Africa are described as new to science: *Andes africanus*, *Brixidia variabilis*, *Oliarus wazae*, and *Oliarus flavinervis*.

This paper describes four new Cixiidae captured in Liberia, Ivory Coast, Nigeria and Cameroon, and submitted to the late Dr. Synave for identification. The major part of the figures were already drawn by him, but were left unfinished after his sudden death in September 1980. The first author thanks J. P. Kramer (Systematic Entomology Laboratory, USDA) and Dr. P. Dessart (Koninklijk Belgisch Instituut voor Natuurwetenschappen) for the privilege of describing this material. The types are in the U.S. National Museum of Natural History, Washington, D.C., unless otherwise stated.

Andes africanus Van Stalle and Synave, NEW SPECIES

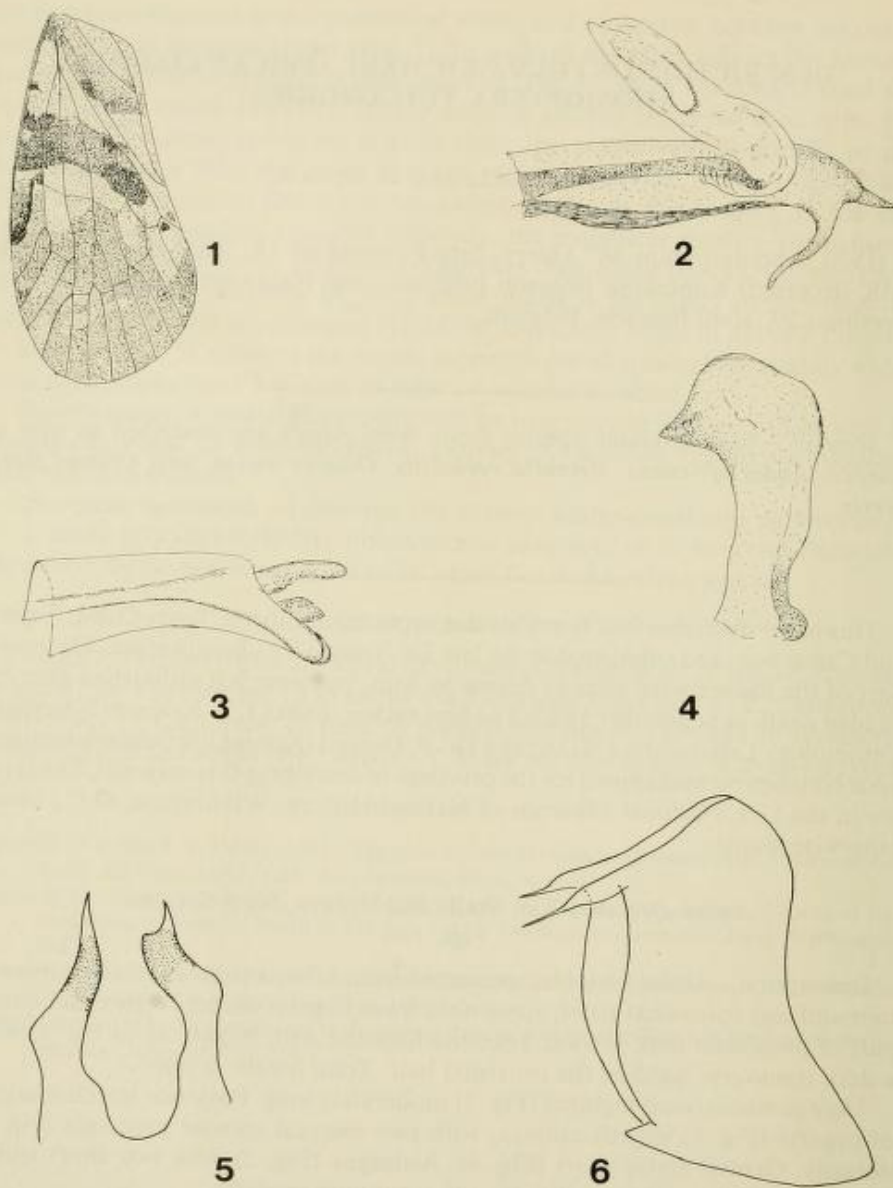
Figs. 1-6

Description.—Color variable; specimens from Liberia yellowish brown, pronotum and legs somewhat paler; specimens from Nigeria darker, vertex and dorsal part of pronotum dark brown. Tegmina fumated with brown, as in Fig. 1, with a dark transverse band in the proximal half. *Total length*: 6 mm.

Male genitalia: anal segment (Fig. 3) moderately long. Posterior lateral margins of pygofer (Fig. 6) slightly convex, with two unequal spinose processes (Fig. 5) dorsally. Genital styles short (Fig. 4). Aedeagus (Fig. 2) with two short spines apically, one directed ventrally, the other running caudally.

Diagnosis.—*Andes africanus* n. sp. is closely related to *Andes schoutedeni* Synave, 1959 and *A. bilineatus* Synave, 1960 in the color pattern of the tegmina and in the general structure of the aedeagus. However, it is well defined from these two species by the presence of two spines on the pygofer, the different shape of the genital styles, and the orientation and implantation of the aedeagal spines.

Material examined.—*Holotype* ♂: Liberia, Grand Gedeh. Co. 25 km N. Zwedru, 11-VII-1971, J. A. Gruwell. *Paratypes*: 1 ♂, 4 ♀, same locality; 1 ♂, Nigeria, W. State, Ikoga, I-1975 (Coll. KBIN).



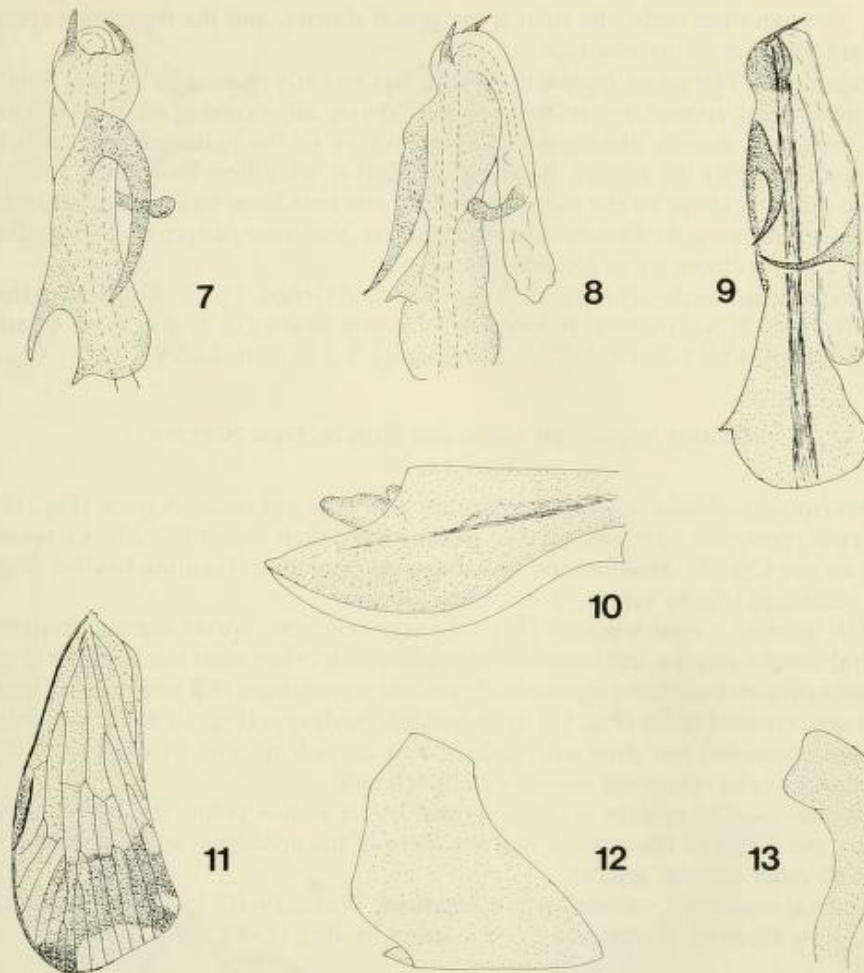
Figs. 1-6. *Andes africanus*. 1, Left tegmen. 2, Aedeagus. 3, Anal segment. 4, Genital style. 5, Processes of pygofer, dorsal view. 6, Pygofer.

***Brixidia variabilis* Van Stalle and Synave, NEW SPECIES**

Figs. 7-13

Description.—Color pale yellowish throughout. Tegmina milky hyaline, veins pale yellowish, slightly fumated with brown in distal part. Total length: 9-10 mm.

Male genitalia: anal segment (Fig. 10) and genital styles (Fig. 13) as illustrated. Lateral margins of pygofer (Fig. 12) only slightly produced distally. Aedeagus



Figs. 7-13. *Brixidia variabilis*. 7, Aedeagus, ventral view, holotype. 8, Aedeagus, dorsal view, holotype. 9, Aedeagus, dorsal view, paratype Mt. Tonkouï. 10, Anal segment. 11, Left tegmen. 12, Pygofer. 13, Genital style.

(Figs. 7, 8) with six spinose processes divided as follows: two short spines apically, a spine ventrally near base directed inwards and a small tooth-like spine just above it. Finally, two dorsal spines, one inserted along left side on one third of apex and directed cephalically, and another arising from flagellum and directed to right side. The latter is blunt in the holotype (or possibly broken off), and tapering in the paratypes from Mt. Tonkouï (Fig. 9).

Variability: while the specimens of Liberia are pale yellowish, the paratypes of Mt. Tonkouï are brown; the tegmina (Fig. 11) are fumated with brown and are dark brown in the apical area, with three paler spots along the apical and inner margin, as illustrated in Fig. 11. The aedeagus is basically the same in all males, but the aedeagus of the paratype is longer, and the two dorsal spines are otherwise shaped: in one male, the right one is shorter, and the transverse spine is tapering

(Fig. 9). In another male, the right spine is still shorter, and the transverse spine is blunt like that of the holotype.

Diagnosis.—The genus *Brixidia* Haglund was recently revised by Synave 1980. Till now, eight species are referred to this genus, all recorded on the African continent, and mainly distinguished by the shape of the male genitalia, which were illustrated by the author. *Brixidia variabilis* n. sp. differs from these species by the different shape of the pygofer, and the different form and implantation of the aedeagal spines. As already mentioned above, the color pattern of the tegmina is not a useful character to identify this species.

Material examined.—*Holotype* ♂: Liberia, Grand Gehed. Co., 25 km N. Zwedru, 11-VII-1971, J. A. Gruwell. *Paratypes*: 3 ♀, same locality; 2 ♂, 3 ♀, Ivory Coast, Mt. Tonkoui, 15/22-X-1973 (Coll. Linnavuori, 1 ♂ in Coll. KBIN).

Oliarus wazae Van Stalle and Synave, NEW SPECIES

Figs. 14–20

Description.—Frons, clypeus, pronotum and legs yellowish. Vertex (Fig. 19) ochreous, posterior part and carinae paler, longer than broad (27:20), narrower than an eye (20:27). Mesonotum and abdomen ochreous. Tegmina hyaline (Fig. 16), veins and stigma yellow. *Total length*: 7 mm.

Male genitalia: anal segment (Fig. 18) asymmetrical, dorsal margin straight, ventral margin convex, left lateroapical angle broader than right one. Pygofer (Fig. 20) subsymmetrical, with two caudal finger-like appendages, left one broader than right one. Genital styles (Fig. 17) as illustrated. Aedeagus (Fig. 14 & 15) with two spinose processes, one directed caudally and curved apically to right side, the other subcircular, recurved inwards along left side.

Diagnosis.—The species is characterized by its yellow color, the two-colored vertex, the shape of the pygofer and the form of the aedeagus, which separate it from all other *Oliarus* species.

Material examined.—*Holotype* ♂: Cameroon, Waza, 19-III-1972, filtered black light, J. A. Gruwell. *Paratypes*: 1 ♂, 1 ♀, same locality (♂ in Coll. KBIN).

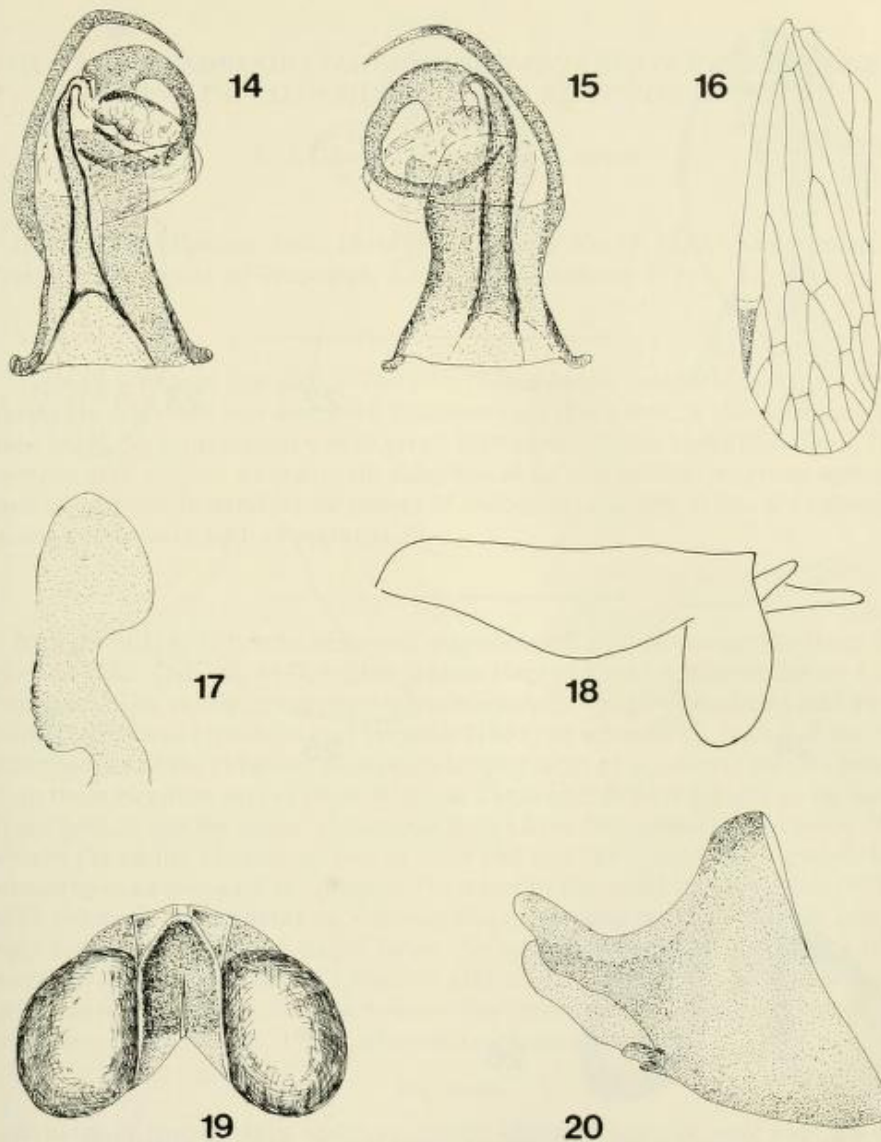
Oliarus flavinervis Van Stalle and Synave, NEW SPECIES

Figs. 21–27

Description.—Color yellowish throughout, vertex (Fig. 22) and mesonotum yellowish brown, carinae paler. Tegmina hyaline (Fig. 23), veins yellow. Vertex as long as broad, as wide as an eye. *Total length*: 5 mm.

Male genitalia: anal segment (Fig. 24) asymmetrical, left ventral margin deflexed into a large triangular lateroapical angle, right ventral margin strongly sinuated proximally, lateroapical angle almost non-existent. Pygofer (Fig. 25) asymmetrical, left lateral margin produced into a large lobe, right lateral margin caudally produced into a narrower process. Genital styles as illustrated (Fig. 27). Aedeagus (Figs. 21, 22) with six spines: a long one and two short subequal ones visible in dorsal view; a short curved process visible from both sides and two others visible in ventral view.

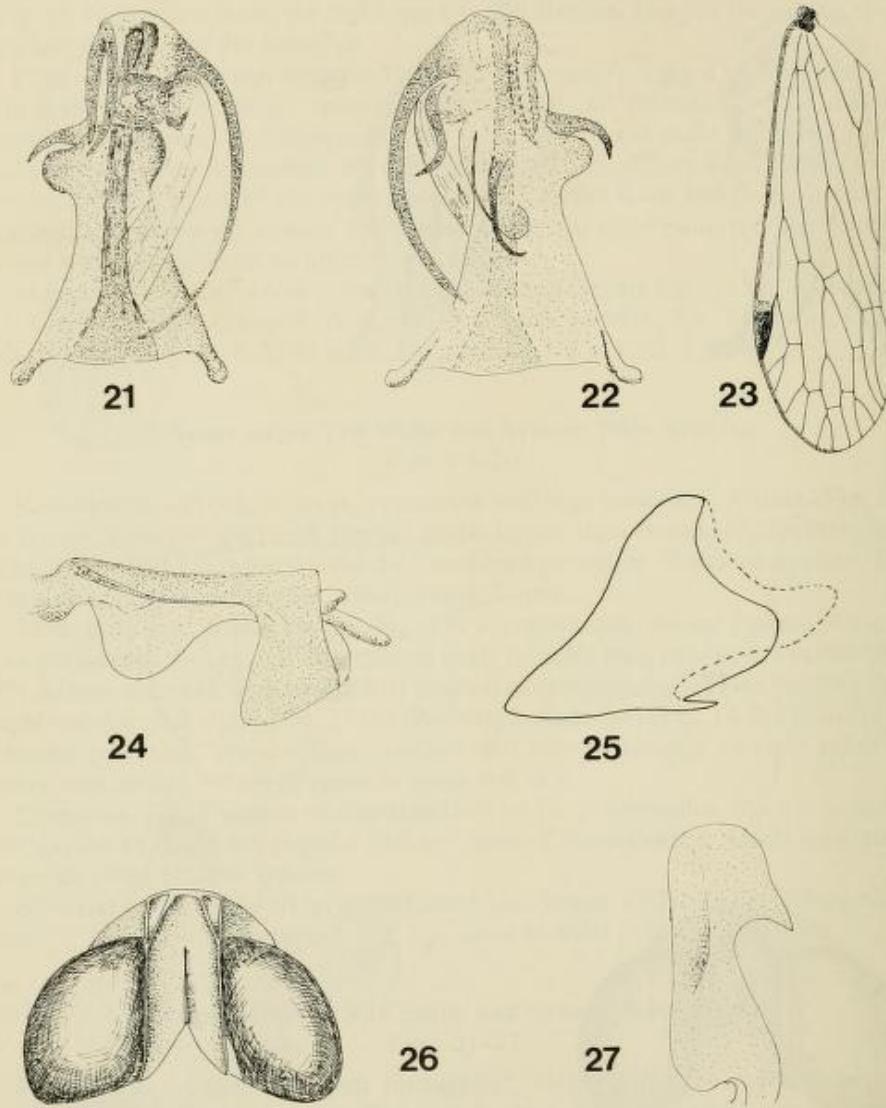
Diagnosis.—Structurally, *Oliarus flavinervis* n. sp. belongs to the group of *O.*



Figs. 14-20. *Oliarus wazae*. 14, Aedeagus, dorsal view. 15, Aedeagus, ventral view. 16, Left tegmen. 17, Genital style. 18, Anal segment. 19, Head. 20, Pygofer.

frontalis Melichar. It is easily characterized by the asymmetrical shape of the pygofer, and anal segment, and the particular shape of the aedeagus, namely the number, implantation and shape of the aedeagal spines, which easily separate this species from all known *Oliarus* species.

Material examined.—*Holotype* ♂; Cameroon, Waza, 19-III-1972, filtered black light, J. A. Gruwell. *Paratypes*: 2 ♂, same locality (1 ♂ in Coll. KBIN).



Figs. 21-27. *Oliarus flavinervis*. 21, Aedeagus, dorsal view. 22, Aedeagus, ventral view. 23, Left tegmen. 24, Anal segment. 25, Pygofer. 26, Head. 27, Genital style.

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