

**CIXIIDAE OF THE AFRICAN CONTINENT:
PRESENT KNOWLEDGE AND PROBLEMS**

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ABSTRACT

A revision of the African taxa of Cixiidae was started in 1982. 66 % of the presently known species are redescribed. For the moment 364 species referred to 21 genera are known. A synopsis is given of all genera with their present status and number of species.

Among the 19 Fulgoroidea families currently recognised in the Afrotropical region the family Cixiidae is one of the richest. The family has a world wide distribution, and species vary in body size between 3 and 15 mm. The nymphs live in a subterranean situation and feed on rootlets of various plants, while the adults feed and live on the exposed parts. Although in some regions Cixiids are suspected to be involved in the transmission of plant diseases (Kramer, 1983) or have been found feeding on palms (Wilson, 1987; Howard et al., 1983), no African species has ever been reported as being involved in diseases attacking economically important plants.

A first complete compilation of the taxa occurring on the African continent was given in the world catalogue of Metcalf (1936). He listed 60 names described between 1850 and 1930 by Stål, Walker, Melichar, Distant, Kirkaldy, Jacobi, Muir, Hesse and Lallemand. Species descriptions were often short and restricted to external characters; in most cases illustrations were poor or lacking. The study of the African Cixiidae was given a second impetus after 1950 with the work

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of Dr H. Synave (Belgium), Dr R. G. Fennah (United Kingdom), and Dr R. Linnavuori (Finland). Emphasis was given on the structure of the male genitalia, which proved to provide the most reliable characters for species recognition. A number of "older" species were redescribed by these authors in addition to many new species, resulting in about 220 described species in 1980 for the African continent south of the Sahara.

In 1982 we started a revision of all taxa of Cixiidae described from the African continent. The advantage of such a project is the fact that a family could be studied in a geographical well-isolated unit with a fauna which, at the specific level, shows minor or no resemblances with other areas. Also the fact that most of the type material is deposited in Belgian museums and in the British Museum (Natural History) is an important practical factor in selecting this family for study.

Table 1 gives a summary of the status of all genera known at present from Africa. Studies of the tribe Pentastirini, and the genera Borysthenes and Mnemosyne have presently been published (Van Stalle 1984 & 1986) resulting in the redescription of 66 % of the presently known species. The genera Achaemenes, Cixius and Caffrocixius are being finished and seven further genera await examination. In all 364 species are described, referred to 21 genera. Although several synonyms have been discovered, the study of African collections has resulted in a 50 % increase in species. From unpublished results it is expected that the number of species will exceed 400 and that some more genera will be described in the near future.

One of the main problems for the identification of African Cixiidae is the lack of uniform illustrations. Each author has adopted his own style, and drawings of homologous structures are often made from a different angle, making identification of closely related species difficult or impossible. In addition to this, the identity of certain older species has been wrongly interpreted in literature. Therefore each species redescription is accompanied by illustrations of the male genitalia, made in the same style and drawn from the same point of view. All type material was located and examined and where possible the drawings are based on the genitalia of the holotype or lectotype. If only females were available in the type series, a male compared to the type and collected at the same locality or in the same

Table 1 - list of Cixiid genera known from the Afrotropical continent in IX.1987, with number of species and present status; the number between parentheses refers to unpublished species.

	number of species IX.1987	recently revised + not revised - being revised (+)
<u>Oliarus</u> Stål	133	+
<u>Noriaus</u> Van Stalle	34	+
<u>Pentastiridius</u> Kirschbaum	16	+
<u>Lalobidius</u> Van Stalle	3	+
<u>Peartolus</u> Van Stalle	3	+
<u>Dorialus</u> Van Stalle	1	+
<u>Pseudoliarus</u> Haupt	1	+
<u>Narravertus</u> Van Stalle	1	+
<u>Kibofascius</u> Van Stalle	1	+
<u>Afroreptalus</u> Van Stalle	2	+
<u>Mnemosyne</u> Stål	6	+
<u>Achaemenes</u> Stål	26	(+)
<u>Eucarpia</u> Walker	4	-
<u>Caffrocixius</u> Fennah	2(+4)	(+)
<u>Cixius</u> Latreille	13(+13)	(+)
(= <u>Issomimus</u> Jacobi)	-	(+)
<u>Andes</u> Stål	49	-
<u>Brixia</u> Stål	30	-
<u>Brixidia</u> Haglund	11	-
<u>Duilius</u> Stål	1	-
(= ? <u>Hemitropis</u> Fieber)	1	-
<u>Myndus</u> Stål	23	-
<u>Borysthenes</u> Stål	3	+

total number: 364(+17)

redefinition of the genera and facilitate the recognition of species groups. Characters of taxonomic importance such as proportion and structure of the vertex, wing venation and granulation, chaetotaxy of the legs and the structure of the external female genitalia (pregenital plate, shape and proportions of the valvulae and female anal segment) proved to be very useful. Although some characters related to the hind legs and female genitalia were already used in some groups by Dr Emeljanov (Leningrad) and Dr Fennah, they were never studied consistently for African species.

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