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A study of the diversity and richness of the Malagasy Trichoptera.

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Abstract. The authors give a list of the genera of the malagasy fauna, with an estimate of the species richness.

Key words: Madagascar, checklist, genera, families.

The Malagasy aquatic insect fauna has often been considered as poor. This is not for biogeographical or ecological reasons. As Botosaneanu noticed in his "History of Trichopterology", this island was, until recently, a terra incognita. But in the last five years, our knowledge has increased rapidly. J. Oláh is studying the historical collection of the MNHN (Paris), he has identified more than two hundred new species (Oláh, pers. comm.). A strong increase of the biological inventory of numerous protected areas, due to the participation of non-governmental organizations, has given some recent interesting discoveries (WEAVER, 1997). Three years ago, the national centre for environnemental research (C.N.R.E.) began a programme called "Biodiversity and biotypology of the Malagasy freshwaters". During this programme, adult caddisflies were collected from more than four hundred sites, mainly in the southern half of the island. A great number of the ecological areas of the country were studied, the major exceptions being the lowland forests around Antongil bay, the Tsaratanana Mountain and the Sambirano. More than five hundred species have been collected. This allows us to publish a first list of the families and genera with an estimate of the number of species. Of course this list is incomplete, comparisons with Oláh's data indicate that numerous species remain unknown in the northern areas or at altitudes above two thousand meters, that were not included in the project.

The examination of this list indicates that the fauna is African (one noticeable missing element is the genus *Protomacronema)*. But two genera at least, (*Potamyia* and *Phylocentropus*) have an Asian origin. One specimen of a probable new genus of Odontoceridae (Atriplectididae ?) has also been collected, but this remains to be confirmed (the specimen, a female, is damaged). The endemic subfamily Paulianodiinae, represented by the unique genus *Paulianodes*, described by Ross from two specimens, is a regular inhabitant of the small torrents in the eastern primary evergreen forests (GIBON & ELOUARD, 1996). Another interesting endemic element is a new (sub?)genus of the Athripsodini, which is also common in small forest torrents. At the species level, the endemism rate is very high (more than ninety per cent). Four groups offer outstanding speciation: *Cheumatopsyche*, *Chimarra*, *Psychomyiellodes* and Athripsodini.

CALAMOCERATIDAE ULMER, 1905
Anisocentropus MCLACHLAN, 1863 (A)
DIPSEUDOPSIDAE ULMER, 1904
Dipseudopsis WALKER, 1852 (D)
ECNOMIDAE ULMER, 1903
Ecnomus MCLACHLAN, 1864 (C)
Psychomyiellodes MOSELY, 1931 (E)
GLOSSOSOMATIDAE WALLENGREN, 1891
Agapetus CURTIS, 1834 (B)
GOERIDAE ULMER, 1903
Goera STEPHENS, 1829 (B)
HELICOPSYCHIDAE ULMER, 1906
Helicopsyche VON SIEBOLD, 1856 (B)
HYALOPSYCHIDAE LESTAGE, 1925
Phylocentropus BANKS, 1907 (A)
HYDROPSYCHIDAE CURTIS, 1935
Cheumatopsyche WALLENGREN, 1891 (E)
Hydropsyche PICTET, 1834 (A)
Potamyia BANKS, 1900 (C)
Aethaloptera BRAUER, 1875 (B)
Amphipsyche MCLACHLAN, 1872 (A)
Leptonema GUÉRIN, 1843 (D)
Macrostemum KOLENATI, 1859 (D)
Polymorphanisus WALKER, 1852 (A)
HYDROPTILIDAE STEPHENS, 1836
Catoxyethira ULMER, 1912 (C)
Dhatrichia MOSELY, 1948 (B)
Hydroptila DALMAN, 1819 (C)

Orthotrichia EATON, 1873 (C)
Oxyethira EATON, 1873 (B)
LEPIDOSTOMATIDAE ULMER, 1903
Goerodes ULMER, 1907 (C)
LEPTOCERIDAE LEACH, 1815
Adicella MCLACHLAN, 1877 (B)
Athripsodes BILLBERG, 1820 (E)
Athripsodini, ind. gen. (E)
Ceraclea STEPHENS, 1829 (D)
Leptocerus LEACH, 1915 (B)
Oecetis MCLACHLAN, 1877 (E)
Parasetodes MCLACHLAN, 1880 (A)
Setodes RAMBUR, 1842 (B)
Triaenodes MCLACHLAN, 1865 (D)
ODONTOCERIDAE (ATRIPLECTIDIDAE ?) (A)
PETROTHRINCIDAE SCOTT, 1985
Gyrocarisa WEAVER, 1997 (D)
PHILOPOTAMIDAE STEPHENS, 1829
Chimarra LEACH, 1815 (F)
Paulianodes ROSS, 1956 (D)
Dolophilodes ULMER, 1909 (B)
Wormaldia MCLACHLAN, 1865 (C)
PISULIIDAE ROSS, 1967
Dyschimus BARNARD, 1934 (A)
Pisulia MARLIER, 1943 (E)
POLYCENTROPODIDAE ULMER, 1906
Paranyctiophylax TSUDA, 1942 (D)
Polycentropus CURTIS, 1835 (A)
Pseudoneureclipsis ULMER, 1913 (C)
PSYCHOMYIIDAE CURTIS, 1835
Paduniella ULMER, 1913 (B)
Tinodes CURTIS, 1834 (B)
Lype MCLACHLAN, 1878 (A)

Species richness :

(A): 1, (B): 2 to 5, (C): 6 to 10, (D): 11 to 20, (E): 21 to 50, (F): more than 50.

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