



## Notes on chydorid endemism in continental Africa: *Matralona* gen. n., a monotypic Alonine from the Fouta Djallon Plateau (Guinea, West Africa) (Crustacea: Cladocera: Anomopoda)

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### Abstract

A study of the morphology of *Alona simonei* Dumont, 1981, here emended to *Alona simoneae*, from the ancient Fouta Djallon Plateau in Guinea (West Africa) reveals unique limb structures. We allocate this species to the monotypic *Matralona* gen. n. and consider it a relict of an *Alona*-like clade. *Matralona* gen. n. is another example of divergence in limb morphology among externally similar Aloninae. Separation of this monotypic genus is based on more than autapomorphies alone and we include arguments for significant isolation from the ancestral stock. Within the Aloninae, *Matralona* gen. n. shows closest affinities with the Australasian genus *Armatalona* Sinev, 2004. Both taxa may share a common ancestor. *Matralona* gen. n. is one of the most peculiar African Chydoridae with no close relatives on the continent. We discuss a few areas of endemism in Chydoridae that begin to emerge on continental Africa.

**Key words:** Fouta Djallon Plateau, West Africa, *Matralona* gen. n., *Alona simonei*, Aloninae, Cladocera, endemism, systematics

### Introduction

*Alona* Baird, 1843 used to be the largest lump genus of the Aloninae, but is currently dismantled into smaller, natural entities (Van Damme & Dumont 2008a). Recent works have focused on delineating and separating such groups, based on morphology (Van Damme & Dumont 2008a,b). *Alona simonei* Dumont, 1981 was originally described from the Fouta Djallon in Guinea (Dumont 1981). The latter is an ancient plateau in West Africa, part of the Central Atlantic Magmatic Province, which geologically connects the Guinean Highlands (Africa) to Guyana (South America). Its formation dates back to the break-up of Pangaea in the Mesozoic, at the Triassic-Jurassic boundary (Deckart *et al.* 2005). The plateau was uplifted during the Miocene and has remained geologically stable since (Deckart *et al.* 2005). It ranges between 700–1500m in altitude, resulting in a temperate climate. Due to this ancient origin and long isolation, the Fouta Djallon plateau has an insular character in the region. It has become an area of endemism and refuge for aquatic fauna in West Africa retaining pre-Pleistocene relicts or paleo-endemics, with unique species restricted to the individual river systems; one-quarter of its fish fauna is endemic (Daget 1962, Lévêque 1997). For protection of its fauna, the Fouta Djallon is regarded by the World Wildlife Fund as separate Freshwater Ecoregion of the World (Thieme 2008) and contains the Massif du Ziama Biosphere Reserve (Stuart *et al.* 1990). Strongly isolated, it can be seen as an ancient African inselberg, similar to the South American tepuis and Australian granite outcrops. Such environments are biological hotspots, harbouring unique communities and high endemism, but remain relatively poorly investigated for Cladocera.

Here, we redescribe a peculiar endemic from the Fouta Djallon, *Alona simonei* Dumont, 1981, a small-sized alonine. Affinities of *A. simonei* remained hitherto unclear. Dumont (1981) suggested similarities with