



Morphology and chaetotaxy of the larval stages of *Andogyrus seriatopunctatus* Régimbart (Coleoptera: Adephaga: Gyrinidae)

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Abstract

The larval stages of *Andogyrus seriatopunctatus* Régimbart are described and illustrated, including morphometric and chaetotaxic characters. A larval ground pattern for the chaetotaxic characters is presented; it is based on first instar larvae of *A. seriatopunctatus*. Unidentified larvae of *Dineutus* MacLeay and a third instar larva of *Gyrinus argentinus* Steinheil were also inspected. For chaetotaxic homologization comparisons with other adephagan families were performed, mainly with Carabidae and Dytiscidae. The ground pattern is considered provisional due to the lack of previous studies in this family. Larvae of *A. seriatopunctatus* are briefly compared to those of *A. buqueti* (Aubé). Notes on the biology of *A. seriatopunctatus* are also included.

Key words: *Andogyrus*, Coleoptera, Adephaga, Gyrinidae, larva, chaetotaxy, Argentina, Neotropics

Introduction

When compared to the immature stages of other water beetle families (*e.g.*, Dytiscidae or Hydrophilidae), those of the family Gyrinidae are poorly known. Many genera have undescribed larvae, and several of the available descriptions are not detailed enough to allow in–depth comparisons, especially of chaetotaxic characters. In South America there are four gyrinid genera: *Andogyrus* Ochs, *Enhydrus* Laporte, *Gyretes* Brullé, and *Gyrinus* Geoffroy. The first two genera are included in the tribe Enhydrini; the remaining two genera belong to the tribes Orectochilini and Gyrinini respectively. Of these four genera only the larval stages of *Enhydrus* remain unknown; available larval descriptions of the remaining three genera, for the Neotropical Region, are summarized in Table 1. Of these descriptions, the only one including chaetotaxic information is that by Arndt *et al.* (1993), the remaining descriptions only deal with general morphological characters and are of little use for detailed comparative studies.

The genus *Andogyrus* Ochs includes 20 species (Beutel & Roughley 2005); it is endemic to South America and restricted to the Andean region. Brinck (1977) revised this genus and provided a cladistic analysis of it, recognizing several species groups. Two of the species groups are restricted to the Patagonian region, the *A. seriatopunctatus* and *A. ellipticus* groups (both monotypic) (Brinck 1977; Archangelsky 2004). The egg, larvae, and pupa of *A. seriatopunctatus* Régimbart were described by Bachmann (1961, 1966), and even though the morphological descriptions are detailed, they lack chaetotaxic information. Larvae of a second species of this genus, *A. buqueti* (Aubé), were described by Arndt *et al.* (1993); these descriptions are detailed and also include some chaetotaxic information.

The aim of this paper is to re–describe and illustrate in detail the larval stages of *Andogyrus seriatopunc-*