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An annotated checklist of the aquatic Adephaga (Coleoptera) of Egypt III. Noteridae, Haliplidae and Gyrinidae

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Abstract

Data from previous literature were used to compile a checklist of the Egyptian fauna of families Noteridae, Haliplidae and Gyrinidae. A total of 17 species are cited for Egypt, distributed among 8 genera *Neohydrocoptus* Satô, 1972, *Canthydrus* Sharp, 1882 and *Synchortus* Sharp, 1880 (Noteridae); *Haliplus* Latreille, 1802 (Haliplidae); *Dineutus* MacLeay, 1825, *Gyrinus* Geoffroy, 1762, *Orectochilus* Dejean, 1833 and *Orectogyrus* Régimbart, 1884 (Gyrinidae). The checklist provides information for each recorded species on the type localities, type specimens, descriptors, distribution and previous published records. The checklist presented here provides a summary that can serve as the basis for future progress in the knowledge of these coleopteran families in Egypt.

Key words: Checklist, Coleoptera, Adephaga, Noteridae, Haliplidae, Gyrinidae, Egypt

Introduction

Coleoptera represent the world's most speciose animal order and represent one of the largest orders of "aquatic" animals (Jäch & Balke 2008). Recent molecular phylogenetic studies define two major groups: (i) the Suborders Myxophaga and Archostemata, and (ii) the Suborders Adephaga and Polyphaga (McKenna & Farrell 2009). Three of the previous suborders have aquatic representatives: Myxophaga, Adephaga and Polyphaga (Jäch & Balke 2008).

The suborder Adephaga includes ca. 30,000 described species distributes among 11 families worldwide. Eight of the 11 extant families of Adephaga are regarded as predominantly aquatic (Gyrinidae, Haliplidae, Meruidae, Noteridae, Amphizoidae, Aspidytidae, Hygrobiidae and Dytiscidae) (Jäch & Balke 2008).

The family Noteridae Thomson, 1860 (Burrowing Water Beetles) is widely distributed with about 258 species and 16 genera described so far (Nilsson 2011). Adults and larvae are strictly aquatic. They are commonly found in standing and slow-flowing waters. They thrive among the aquatic vegetation or in the soft bottom (Jäch 1998; Kriska 2013). The family Haliplidae Aubé, 1836 (Crawling Water Beetles) is widely distributed throughout the world with about 204 described species in 5 genera (Vondel 2005a). Larvae and adults of all species are truly aquatic. They live mainly in standing water; some species prefer lotic habitats (Jäch 1998; Jäch & Balke 2008). Finally, the family Gyrinidae Latreille, 1810 (Whirligig Beetles) is cosmopolitan in distribution with about 750 described species in 14 genera (Jäch & Balke 2008; Gustafson & Miller 2013). Adults and larvae of all species are strictly aquatic. They are found in running water and in standing water (Jäch 1998).

The study of African beetles has received considerable attention from several taxonomists, and there is a long history of research on the water beetles of Egypt. However, descriptions, taxonomic notes and distribution of most Egyptian species are found scattered in the old literature which are often available only with considerable difficulty. Complementing the recent studies of Salah & Régil (2014a,b) and Salah *et al.* (2014) on the aquatic

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