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An annotated checklist of Acanthocephala from Australian fish

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Abstract

Thirty one genera, comprising 58 named species, 15 undetermined species and nine species known only as cystacanths from paratenic fish hosts were found infesting 144 marine, estuarine and freshwater species of fish from Australian and Australian Antarctic waters. Host habitats are given and the distribution and records of the acanthocephalans are given. A key to these parasites at the generic level is provided.

Key words: Acanthocephala, biodiversity, checklist, freshwater and marine fishes, key, Indo Pacific, Australia, Antarctic

Introduction

The earliest records of acanthocephalans from Australian hosts are of *Echinorhynchus* spp., listed from localities in New South Wales by Johnston (1909, 1910). Subsequently, a species of *Echinorhynchus* was recorded, by Nicoll (1914), from Queensland, then *E. trutta*, *E. gadi* and *E. clavula* also from Queensland by Southwell and Macfie (1925). Southwell and Macfie (1925) were the first to report *Serrasentis sagittifer* as *S. socialis* and *Neoechinorhynchus magnus*, now a species inquirendum, from Queensland hosts. Johnston, together with Deland in 1929 compiled the first checklist of the Australian Acanthocephala, listing the above records. The identity of most of these echinorhynchs has since been re-evaluated as acanthocephalan taxonomy has been refined. Johnston together with Deland, also writing as Best, and then with Edmonds published a series of papers on the Australian representatives of the group between 1929 and 1953. Edmonds continued working on the Acanthocephala until 1992, including collaborations with Schmidt (1989) and Smales (1992). A small number of other workers, as recorded below, have also studied Australian representatives of the group but the major contributions to our present understanding have been those of Best (Deland), Edmonds and Johnston.

Since the checklist on the Acanthocephala of Australian hosts prepared by Edmonds (1989) was published, a considerable amount of new material has been collected. New species have been described, new records published and an updated list of species from birds and mammals has been prepared (Smales, 2003). The aim of the present paper is to provide an updated and comprehensive list of the species of Acanthocephala occurring in fish hosts from Australia and Australian territorial waters including the sub-Antarctic islands and Antarctic waters presented as parasite-host and host-parasite lists with a key to the generic level.

Where possible the acanthocephalan specimens listed have been examined by the authors to confirm identifications. We have attempted to include information from all published reports and have added original data from our own research and records of material held in museum collections. Where juvenile forms have been reported only from paratenic fish hosts, the data and citations given are only for those hosts.

Classification usually follows that of Amin (1987, 2013) and is based on four classes (as confirmed by Garcia-Varela et al. 2002), only two of which, the Eoacanthocephala and Palaeacanthocephala represented by three orders, the Echinorhynchida, Neoechinorhynchida and Polymorphida have been found in the fish hosts presented in this list. The exceptions to Amin's (2013) classification are the genera *Gorgorhynchoides* and *Sclerocollum*. For the former we follow Smales (2012a, 2014a) who concluded that the proboscis shape (clavate) proboscis armature (more than 20 rows of progressively smaller hooks) and trunk shape (bulbous swelling of the anterior trunk) was consistent with placement within the Isthmosacanthidae. For the latter we follow Hassanine (2006) supported by