



Bucephalids (Digenea: Bucephalidae) from marine fishes off the south-western coast of Java, Indonesia, including the description of two new species of *Rhipidocotyle* and comments on the marine fish digenean fauna of Indonesia

RODNEY A BRAY¹ & HARRY W PALM²

¹Department of Zoology, Natural History Museum, Cromwell Road, London SW7 5BD, UK. E-mail: rab@nhm.ac.uk

²Heinrich-Heine-University Düsseldorf, Institute for Zoomorphology, Cell Biology, and Parasitology, Universitätsstrasse 1, 40225 Düsseldorf, Germany. E-mail: hpalm@gmx.net

Abstract

Two new bucephalids are described from marine fishes from off the southern coast of Java, Indonesia. *Rhipidocotyle danai* n. sp. from the gempylid *Thyrsitoides marleyi* and *R. jayai* n. sp. from the sciaenid *Johnius macropterus*. Neither has previously been reported as host of members of the genus *Rhipidocotyle*. They can be distinguished from other species within the genus by a suite of characters, including the body shape, rhynchus length, pre-vitelline, pre-uterine, pre-mouth and post-testicular distances, cirrus-sac reach and egg length. *Proisorhynchus platycephali* is reported from the platycephalid *Sunagocia otaitensis*. This identification is based on the distinctly separated testes and the position of Mehlis' gland directly posterior to the anterior testis. To aid identification within these species-rich trematode genera, we have devised an illustrated metrical key that indicates the most similar described species. Nine distinct metrical features were recorded or calculated for all known marine species within *Rhipidocotyle* (51 known species) and *Proisorhynchus* (64 known species) and utilised in species identification. With about 75 identified fish trematode species, only a fraction of the expected species diversity has been recorded from Indonesia, strongly suggesting the need for greater effort for fish parasitological research in the region.

Key words: Digenea; Bucephalidae; *Rhipidocotyle*; *Rhipidocotyle danai* n. sp.; *Rhipidocotyle jayai* n. sp.; *Proisorhynchus*; *Proisorhynchus platycephali*; Java; Indonesia; *Thyrsitoides*; *Johnius*; *Sunagocia*

Introduction

The Indonesian archipelago, at the centre of the Indo-Pacific region, can be considered the centre of aquatic biodiversity, resulting from the extensive coral reefs surrounding most of the more than 17,000 islands. The world's highest biodiversity of corals and fish has been reported from the waters off Indonesia, providing a high number of ecological niches that can be utilized by aquatic parasites. With at least 3,373 marine fish species (Froese & Pauly 2009) and an average of about 3.1 metazoan fish parasites within each studied fish species (Palm & Klimpel 2007; Palm *et al.* 1999), we expect more than 10,000 metazoan parasites in Indonesian waters.

Since the early description of a tetraphyllidean cestode from Java by Lönnberg (1893), only a small fraction of the Indonesian helminth fish parasite fauna has been explored. The size of this fauna is indicated by the collection, mainly from off the southern Java coast in a period of four years, of 54, i.e. 21 %, of the then known worldwide diversity of 254 trypanorhynch cestode species (Palm 2004). Palm *et al.* (2008) reported 34 different fish species infected with the larval ascaridoid nematodes of the genus *Anisakis* Dujardin, and Kuchta *et al.* (2009) reported 4 species of bothriocephalidean tapeworms from Indonesia. Yamaguti (1953a) described 29 of the 31 then recorded species of monogeneans, giving a first insight into the diversity of these