



## **Bomolochid copepods (Crustacea: Copepoda: Bomolochidae) parasitizing immigrant and native barracuda (Actinopterygii: Sphyraenidae) caught off the Egyptian Mediterranean coast**

HODA H. EL-RASHIDY<sup>1</sup> & GEOFFREY A. BOXSHALL<sup>2,3</sup>

<sup>1</sup>Department of Oceanography, Faculty of Science, Alexandria University, Moharram Bey, Alexandria, Egypt.

<sup>2</sup>Department of Life Sciences, The Natural History Museum, Cromwell Road, London SW7 5BD, UK.

<sup>3</sup>Corresponding author (Email: G.Boxshall@nhm.ac.uk)

### **Abstract**

Two species of parasitic copepods (Family Bomolochidae) are reported from two species of barracudas (Family Sphyraenidae) caught in Mediterranean waters off Alexandria, Egypt. *Nothobomolochus denticulatus* (Bassett-Smith, 1898) is recorded on yellowstripe barracuda, *Sphyraena chrysotaenia* Klunzinger, which is an immigrant from the Red Sea that has become established in the Mediterranean. This is a new geographical record of *N. denticulatus* from the Mediterranean and the female of *N. denticulatus* is redescribed in detail. *Bomolochus unicirrus* Brian, 1902 is recorded on European barracuda, *Sphyraena sphyraena* (L.), a fish native to the Mediterranean, and slight differences between this material and material from the Atlantic, off Mauritania, are noted.

**Key words:** Parasitic Copepoda, invasive species, fish hosts, Red Sea immigrants, Mediterranean Sea

### **Introduction**

*Nothobomolochus* Vervoort, 1962 is the largest of the 17 genera currently accepted as members of the family Bomolochidae Sumpff, 1871. It contains 33 species (Ho & Lin 2005; El-Rashidy & Boxshall 2010) but was represented in the Mediterranean by only four species: *N. cornutus* (Claus, 1864), *N. scomberesocis* (Krøyer, 1864), *N. fradei* Marques, 1965, and *N. neomediterraneus* El-Rashidy & Boxshall, 2011 (see Raibaut *et al.* 1998; El-Rashidy & Boxshall 2009, 2010, 2011). Here we report the discovery of a fifth species of the genus, *N. denticulatus* (Bassett-Smith, 1898), in the Mediterranean. Only the first two of these five species were reported from native Mediterranean fishes, whereas the last three have all been found on Red Sea immigrant hosts.

In their list of valid species of the genus *Bomolochus* von Nordmann, 1832, Ho and Lin (2009) accepted 20 species as valid, transferred two other species to the genus *Acanthocolax* Vervoort, 1969, and classified a further ten poorly described species as *species inquirenda*. In their analysis of copepods parasitic on fishes in the Mediterranean, Raibaut *et al.* (1998) listed six species of *Bomolochus*, however only three of these are valid species of the genus: *B. bellones* Burmeister, 1833, *B. soleae* Claus, 1864, and *B. unicirrus* Brian, 1902. The other three species were all nomina nuda originally listed by Richiardi (1880): *B. muraenae*, *B. minimus*, and *B. oblongus*. One of these three nomina nuda, *Bomolochus muraenae* was made available by Brian (1906) and Wilson (1911) subsequently made *B. muraenae* Brian, 1906 the type species of his new genus *Phagus* Wilson, 1911. *Bomolochus unicirrus* was found on *Sphyraena sphyraena* (L.) in the present study and has