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## ***Petalophthalmus papilloculatus* sp. nov. (Crustacea: Mysida: Petalophthalmidae), a new bathyal suprabenthic mysid from the Galicia Bank (NE Atlantic Ocean)**

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### **Abstract**

A new species of the genus *Petalophthalmus* (Crustacea: Mysida: Petalophthalmidae) is described, based on specimens collected from the Galicia Bank (northeastern Atlantic Ocean). This species can be distinguished from the other species of the genus *Petalophthalmus* by the presence of an ocular papilla on its eyes. *P. papilloculatus* sp. nov. is morphologically close to the cosmopolitan species *P. armiger* Willemoes-Suhm, 1875, but can be easily distinguished by the presence of an ocular papilla, the longer antennal scales bearing an apical lobe, the unique chitinous ridge on the molar process, the outwards lengthening of the three cuspidate setae on the outer margin of the uropodal exopod and the armature of the telson. This new species lives on fine and very fine sandy bottoms at the bank flanks, between 1536 and 1809 m depths. Probably related to the special biogeographic characteristics of seamounts, the morphological affinity between the new species and *P. armiger* supports the hypothesis on a common ancestry and recent divergence between both deep sea mysids. An identification key to world species of *Petalophthalmus* is provided.

**Key words:** Mysida, Petalophthalmidae, taxonomy, new species, deep sea, NE Atlantic Ocean

### **Introduction**

The genus *Petalophthalmus* Willemoes-Suhm, 1875 presently contains five species (Anderson 2010): *P. armiger* Willemoes-Suhm, 1875; *P. oculus* Illig, 1906; *P. caribbeanus* Tattersall, 1968; *P. macrops* Tchindonova and Vereschchaka, 1991 and *P. liui* Wang, 1998.

Based on male specimens of *P. armiger* (type species), the initial diagnosis of the genus has been successively amended by Sars (1885), Faxon (1893, 1895), Tattersall (1951), Tattersall and Tattersall (1951) and Tattersall (1968). In the synopsis of the genus made by Tattersall (1968), three species of *Petalophthalmus* were included: *P. armiger*, *P. oculus* and *P. caribbeanus*. Panampunnayil (1982) revised the definition of *Petalophthalmus* for the reception of *P. australis*, based on the shape of the rostrum, antennal scale, mandibular palp, maxilla and telson. With the description of *P. macrops* and the posterior transfer of *P. australis* to the new genus *Pseudopetalophthalmus* Bravo and Murano, 1997, the diagnosis of the genus *Petalophthalmus* was amended by Bravo and Murano (1997). The most recent species, *P. liui*, was described by Wang (1998). Finally, the morphological differences between *Petalophthalmus* and the closely related genera *Pseudopetalophthalmus* and *Parapetalophthalmus* Murano and Bravo, 1998 were summarized by Bravo and Murano (1997) and Murano and Bravo (1998), respectively.

The genus *Petalophthalmus* is widely distributed throughout the world oceans (Müller, 1993): *P. armiger* is reported from the Atlantic, Indian and Pacific Oceans and the subantarctic part of the Southern Ocean (Tattersall 1939, 1951; Tattersall and Tattersall 1951; Pillai 1965; Kathman *et al.* 1986; Escobar Briones and Soto 1991; Casanova 1993; Ledoyer 1995; San Vicente 2010); *P. oculus* from the northwestern Arabian Sea, western Indian

species never constitute abundant populations in deep-sea ecosystems. As pointed out by Tattersall and Tattersall (1951), it seems that juveniles of *P. armiger* inhabit lesser depths than mature specimens. From the 14 specimens of *P. papillooculatus* **sp. nov.** recorded during the INDEMARES survey, only two were classified as juveniles. These young specimens were sampled with the suprabenthic sled and shared the same bathymetrical distribution as adults.

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