

First record of *Harmothoe mariannae* Barnich & Fiege, 2009 (Polychaeta: Polynoidae) in the Mediterranean Sea, France

François Charles^{1*}, Jean-Marc Guarini² and Sandrine Fanfard²

¹ CNRS, UMR 8222, Laboratoire d'Ecogéochimie des Environnements Benthiques, F-66650, Banyuls/mer, France.

² Sorbonne Universités, UPMC Univ Paris 06, UMR 8222, LECOB, Observatoire océanologique, F-66650, Banyuls/mer, France.

* Corresponding author. E-mail: charles@obs-banyuls.fr

ABSTRACT: The scale worm *Harmothoe mariannae* Barnich & Fiege, 2009 is recorded for the first time in the Mediterranean Sea. This is also the first record of the species since its description in the Northeast Atlantic. The geographical distribution of *H. mariannae* is considerably enlarged to the Mediterranean Sea which now has 18 *Harmothoe* species.

DOI: 10.15560/10.3.607

Amongst the Polynoidae family, the genus *Harmothoe* Kinberg, 1856 is represented today by twenty eight valid European species (Barnich and Fiege 2009). In 2009, Fiege and Barnich (2009) added to the list published in their earlier comprehensive review of scale worms known to occur in the Mediterranean Sea (Barnich and Fiege 2003) a seventeenth *Harmothoe* species, *H. vesiculosa* Ditlevsen, 1917, formerly recorded in the Atlantic, only. These authors suggested that due to confusion within *Harmothoe* species, some species present in one of the two European marine provinces (Atlantic and Mediterranean), may not yet have been recorded in the other province, although their presence is highly probable (Barnich and Fiege 2009). This is what we found for *H. mariannae*.

The *H. mariannae* diagnosis presents all the distinguishing characters of the *Harmothoe* genus, i.e., 15 pairs of elytra; cephalic peaks; lateral antennae inserted ventrally to median antenna; parapodia with supra acicular process; stout notochaetae with blunt tips and stout neurochaetae with bi- and unidentate tips. Within the genus, *H. mariannae* is characterized by an anterior pair of eyes in dorsolateral position at the widest part of the prostomium and elytra with macro- and microtubercles (Figure 1), globose macrotubercles; an elytral margin bearing distinct papillae, long at the outer lateral margin and becoming thinner and shorter towards the posterior margin (Barnich 2011).

H. mariannae has recently been described from holotype and paratype collected in the Northeast Atlantic (Figure 2) between 252 and 280 m depth (Barnich and Fiege 2009). So far, this description was also the only record dealing with the geographical distribution of this new species (Figure 2). We report here the first record of *H. mariannae* in the Mediterranean Sea. The species was observed in the westernmost part of the French Mediterranean coast at 27 m depth in the Bay of Banyuls-sur-Mer (42°29'18" N, 03°08'42" E) (Figure 2). A total of 59 individuals including

juveniles were found on several occasions during 2012 and 2013. Worms were collected among dead tree leaves on muddy sands by scuba diving. This new record extends the geographic distribution of *H. mariannae* from the Northeast Atlantic to the Mediterranean western basin and suggests that this species occurs over a rather large depth range. According to Barnich and Fiege (2009), *H. mariannae* can be confused with *H. vesiculosa* and *H. multisetosa* which does not occur in European marine species lists. Young individuals can also be confused with *H. fragilis*. Identification of the Mediterranean specimens was confirmed by Dr Ruth Barnich (Thomson Ecology, UK). Voucher specimens of the Mediterranean *H. mariannae* have been preserved in ethanol 70% and deposited in the collection of the Laboratoire Arago (Université Pierre et Marie Curie Paris 6, Banyuls-sur-Mer, France). The catalogue number of these vouchers is F4b/Metacom2_M1C3.



FIGURE 1. *Harmothoe mariannae*. Dorsal view of an elytra with macro- and microtubercles; macrotubercles are globose and distributed along the posterior margin; elytral margin bears distinct papillae, thick and long at the outer lateral margin becoming thinner and shorter towards the posterior margin.

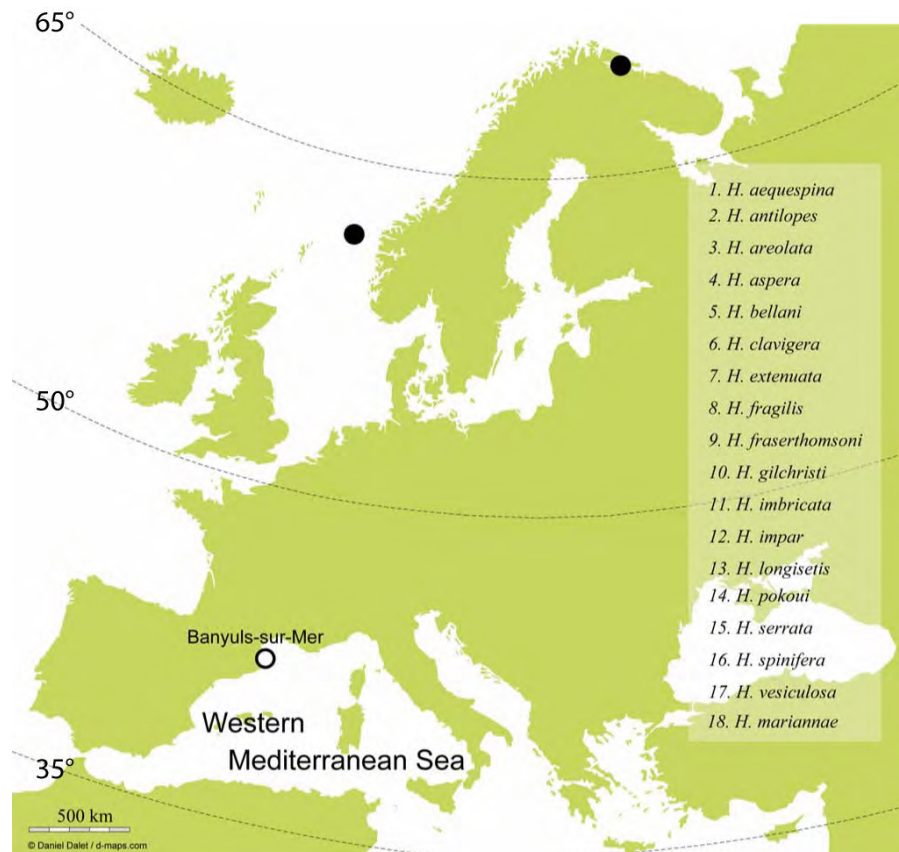


FIGURE 2. Geographical distribution of *H. mariannae* Barnich & Fiege, 2009, (●) existing records; (○) new record; together with the updated list of Harmothoe species known to occur in the Mediterranean Sea.

ACKNOWLEDGMENTS: We would like to thank Céline Labrune, curator of the natural history collection of the Laboratoire Arago, and Jean-Michel Amouroux who gave us the opportunity to meet Dr Ruth Barnich at the occasion of the 4th annual workshop of the French network of marine stations and observatories (RESOMAR). This work is a part of the PhD thesis of Sandrine Fanfard sponsored by the French Ministère de l'Enseignement Supérieur et de la Recherche.

LITERATURE CITED

Barnich, R. 2011. *Identification of scale worms in British and Irish waters*. NMBAQC 2010 taxonomic workshop, Dove Marine Laboratory Accessible at <http://www.nmbaqcs.org/scheme-components/invertebrates/literature-and-taxonomic-keys.aspx>. Captured on February 2011.

Barnich, R. and D. Fiege. 2003. The Aphroditoidae (Annelida: Polychaeta) of the Mediterranean Sea. *Abhandlungen des senckenbergischen naturforschenden Gesellschaft Frankfurt am Main* 559: 1–167.

Barnich, R. and D. Fiege. 2009. Revision of the genus *Harmothoe* Kinberg, 1856 (Polycheta: Polynoidae) in the Northeast Atlantic. *Zootaxa* 2104: 1–76.

Fiege, D. and R. Barnich. 2009. Polynoidae (Annelida: Polychaeta) associated with cold water coral-reefs of the northeast Atlantic and the Mediterranean Sea. *Zoosymposia* 2: 149–164.

RECEIVED: September 2013

ACCEPTED: January 2014

PUBLISHED ONLINE: July 2014

EDITORIAL RESPONSIBILITY: Vinicius Queiroz