

# ZOOTAXA

2104

**Revision of the genus *Harmothoe* Kinberg, 1856  
(Polychaeta: Polynoidae) in the Northeast Atlantic**

RUTH BARNICH & DIETER FIEGE



Magnolia Press  
Auckland, New Zealand

Ruth Barnich & Dieter Fiege

**Revision of the genus *Harmothoe* Kinberg, 1856 (Polychaeta: Polynoidae) in the Northeast Atlantic**  
(*Zootaxa* 2104)

76 pp.; 30 cm.

11 May 2009

ISBN 978-1-86977-367-0 (paperback)

ISBN 978-1-86977-368-7 (Online edition)

FIRST PUBLISHED IN 2009 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: [zootaxa@mapress.com](mailto:zootaxa@mapress.com)

<http://www.mapress.com/zootaxa/>

© 2009 Magnolia Press

All rights reserved.

No part of this publication may be reproduced, stored, transmitted or disseminated, in any form, or by any means, without prior written permission from the publisher, to whom all requests to reproduce copyright material should be directed in writing.

This authorization does not extend to any other kind of copying, by any means, in any form, and for any purpose other than private research use.

ISSN 1175-5326 (Print edition)

ISSN 1175-5334 (Online edition)



## Revision of the genus *Harmothoe* Kinberg, 1856 (Polychaeta: Polynoidae) in the Northeast Atlantic

RUTH BARNICH<sup>1</sup> & DIETER FIEGE<sup>2</sup>

Senckenberg, Forschungsinstitut und Naturmuseum Frankfurt, Sektion Marine Evertibraten II, Senckenberganlage 25, D-60325 Frankfurt, Germany. E-mail: <sup>1</sup>ruth.barnich@senckenberg.de; <sup>2</sup>dieter.fiege@senckenberg.de

### Table of contents

Abstract .....	4
Introduction .....	4
Material and methods .....	6
Systematic part .....	6
<i>Harmothoe</i> Kinberg, 1856.....	6
Key to the Northeast Atlantic species of <i>Harmothoe</i> , <i>Acanthicolepis</i> and <i>Leucia</i> .....	7
<i>Harmothoe abyssicola</i> Bidentkap, 1894 .....	9
<i>Harmothoe aequispina</i> (Langerhans, 1884) <b>n. comb.</b> .....	15
<i>Harmothoe anoculata</i> Hartmann-Schröder, 1975 .....	18
<i>Harmothoe antilopes</i> McIntosh, 1876 .....	18
<i>Harmothoe areolata</i> (Grube, 1860) .....	20
<i>Harmothoe aspera</i> (Hansen, 1879) .....	21
<i>Harmothoe bellani</i> Barnich & Fiege, 2000 .....	24
<i>Harmothoe benthaliana</i> McIntosh, 1885 .....	26
<i>Harmothoe clavigera</i> (M. Sars, 1863) <b>n. comb.</b> .....	28
<i>Harmothoe evei</i> Kirkegaard, 1980 .....	30
<i>Harmothoe extenuata</i> (Grube, 1840) .....	32
<i>Harmothoe fernandi</i> <b>n. sp.</b> .....	34
<i>Harmothoe fragilis</i> Moore, 1910 .....	37
<i>Harmothoe fraserthomsoni</i> McIntosh, 1897 .....	39
<i>Harmothoe gilchristi</i> Day, 1960 .....	41
<i>Harmothoe glabra</i> (Malmgren, 1866) .....	41
<i>Harmothoe imbricata</i> (Linnaeus, 1767) .....	45
<i>Harmothoe impar</i> (Johnston, 1839) .....	48
<i>Harmothoe ingolfiana</i> Ditlevsen, 1917 .....	51
<i>Harmothoe longisetis</i> (Grube, 1863) .....	51
<i>Harmothoe mariannae</i> <b>n. sp.</b> .....	54
<i>Harmothoe ocularum</i> (Storm, 1879) .....	56
<i>Harmothoe pokoui</i> Intès & Le Loeuff, 1975 .....	58
<i>Harmothoe rarispina</i> (M. Sars, 1861) .....	58
<i>Harmothoe serrata</i> Day, 1963 .....	62
<i>Harmothoe spinifera</i> (Ehlers, 1864) .....	62
<i>Harmothoe vesiculosa</i> Ditlevsen, 1917 .....	66
<i>Harmothoe viridis</i> Loshamn, 1981 .....	66
Acknowledgements .....	72
Literature cited .....	73

## Abstract

The type material and original descriptions of 126 nominal species from the Northeast Atlantic originally described as belonging to *Harmothoe* Kinberg, 1856 or later referred to this genus were examined. Of these species, only 28 are considered to be valid, i.e. less than 25 %, the others being either junior synonyms, indeterminable, invalid, or referred to other genera. The valid species are described and figured, including two new species, *H. fernandi* n. sp. and *H. mariannae* n. sp. For *H. extenuata* (Grube, 1840), *H. imbricata* (Linnaeus, 1767), and *H. impar* (Johnston, 1839), neotypes are designated, since their type material is lost and their original descriptions are insufficient. *Harmothoe aequespina* (Langerhans, 1884) and *H. clavigera* (M. Sars, 1863) represent new combinations. An illustrated identification key to all valid *Harmothoe* species of the region is given.

**Key words:** Taxonomy, new species, neotypes, identification key

## Introduction

Following the revision of species similar to *Harmothoe spinosa* Kinberg, 1856, the type species of the genus *Harmothoe* (see Barnich *et al.* 2006), we focus here on *Harmothoe* species from the Northeast Atlantic. Numerous early authors of the 19<sup>th</sup> century, Kinberg, Malmgren, M. and G.O. Sars, McIntosh, Grube, and Quatrefages, among others, worked mainly on the fauna of northern European coasts and described a number of species which are important for the worldwide revision of the genus *Harmothoe*.

In the literature, the taxonomy of *Harmothoe* and other polynoid genera is rather confused, since neither the respective generic nor specific identification characters have been critically evaluated. In the systematic section we discuss in detail the distinction of *Harmothoe* from other polynoid genera occurring in the area. Apart from the number of elytra, especially the presence or absence of cephalic peaks, the insertion of the lateral antennae, and the various types of chaetae are essential to distinguish between the genera (see Table 1).

As to the species, the main differentiating characters are: (1) eyes: presence or absence, and if present, the position of the anterior pair of eyes (anteroventral beneath cephalic peaks or dorsolateral at widest part of prostomium) and (2) elytra: distribution and shape of papillae and micro- and macrotubercles (only microtubercles of more or less same size present, or microtubercles getting larger towards posterior margin, or micro- and macrotubercles present); since these characters tend to disappear in posterior (oval) elytra, kidney-shaped elytra from the anterior part of the body should be evaluated if possible (Note: Tubercles are here referred to as macrotubercles, when they are distinctly larger than the closest microtubercles).

Additional helpful characters may be: (3) length and shape of neuropodial supra-acicular process (short and stout, or typically digitiform, or very long digitiform); (4) size of the cephalic peaks (minute, distinct, prominent), but not orientation of cephalic peaks, since this may depend on the fixation (inflated or contracted prostomium); and (5) chaetal characters, like rows of spines distinct or reduced and shape and position of secondary tooth in neurochaetae (slender or stout, close to main tooth, distinctly set off from main tooth). The latter character might be difficult to evaluate, since tips of neurochaetae might be abraded.

However, the number of bidentate neurochaetae per parapodium is a poor quality character, since it varies depending on age and size of specimens. Neither is colour a useful character, since it tends to be washed out in preserved material and it may depend on the habitat, which can be easily observed in the littoral species *Harmothoe imbricata* (Linnaeus, 1767). However, some species may present a rather striking colour in life, e.g. in *H. ocularum* (Storm, 1879) elytra are white and in *H. viridis* Loshamn, 1981 they are green.

For this study we identified more than 280 non-type specimens and checked the available types and original descriptions of 126 nominal species. Of these we consider 28 as valid *Harmothoe* species, the others being either junior synonyms, or indeterminable, respectively invalid (see Table 2) or belonging to other genera (see Table 3). An illustrated identification key to the valid *Harmothoe* species is presented below, including some easily confused species of *Acanthicolepis* Norman in McIntosh, 1900 and *Leucia* Malmgren, 1867. All 28 species are described, figured, and discussed in detail, including two new species, i.e. *Harmothoe*