



## *Typosyllis tyrrhena* (Polychaeta, Syllidae, Syllinae), a new species from the island Elba, Tyrrhenian Sea

FRANK LICHER  
MICHAEL KUPER

Spezielle Zoologie, Fachbereich Biologie/Chemie,  
Universität Osnabrück,  
D-49069 Osnabrück (Germany)

### ABSTRACT

A new *Typosyllis* species, *T. tyrrhena* (Polychaeta, Syllidae, Syllinae), from subtidal sediments off the island Elba, Tyrrhenian Sea is illustrated and described through light-microscopical and SEM investigations. *T. tyrrhena* sp. nov. is distinguished from other *Typosyllis* species by possession of (i) only a very few compound falcigerous chaetae, (ii) dorsal cirri of chaetiger 1 that are not longer and no more numerous articulated than the dorsal cirri of the following chaetigers, and (iii) a very short proventricle with only a few muscular rings.

KEY WORDS: Polychaeta - Syllidae - Syllinae - *Typosyllis* - Mediterranean Sea - Tyrrhenian Sea - Morphology - Meiofauna.

### ACKNOWLEDGEMENTS

Thanks are going to Dr. Nechama M. Ben-Eliahu, Zoological Museum, Hebrew University of Jerusalem, Israel; Prof. Dr. Angelika Brandt, Zoologisches Museum, Universität Hamburg; Mrs. Miranda Lowe, Natural History Museum, London; Dr. Jorge Núñez, Departamento de Zoología, Universidad de La Laguna, Tenerife, Spain; Prof. Dr. Guillermo San Martín, Universidad Autónoma de Madrid, Spain, and Dr. Nomiki Simbora, National Centre for Marine Research, Institut of Oceanography, Athen-Hellenikon, Greece, for the loan of specimens. In addition, we are indebted to the Hydra-Institute in Fetovaia for kindly providing some sediment samples from a short diving course at Elba. Dipl.-Biol. Carola Bührmann and Dipl.-Biol. Monika C. Müller helped rinsing samples. Prof. Dr. Wilfried Westheide and Dr. Günter Purschke kindly reviewed the manuscript.

### INTRODUCTION

During a revision and cladistic analysis of the polychaete genus *Typosyllis* Langerhans, 1879 (Licher, 1998) and ultrastructural investigations on reproduction within the Syllidae (Kuper, in prep.), a new *Typosyllis* species was found. It was collected subtidally in mixed sand of different grain-size by students of the University of Osnabrück on a diving expedition at the island Elba, Tyrrhenian Sea in July 1997.

The name *Typosyllis* was introduced by Langerhans (1879) for those species of the subfamily Syllinae having a single pharyngeal tooth anteriorly and compound falcigerous chaetae in all chaetigers. Langerhans (1879) placed *Typosyllis*, together with three additional new subgenera - *Syllis*, *Eblersia*, and *Haplosyllis* - in the genus *Syllis* Savigny, 1812. Since Müller (1771), more than 360 descriptions of new species being positioned to this group ("*Syllis* Komplex" *sensu* Licher, 1998) have been counted, of which approximately 120 are synonyms, 67 must be interpreted as nomina dubia, nomina oblita or nomina nuda, and 70 have to be assigned to other distinct taxa of the family (Licher, 1998). The species described in the present paper, however, does not fit any of the known distinct species and has to be regarded as new to science.

*Typosyllis* is the species-richest taxon within the Syllidae and one of the species-richest taxa within the Polychaeta. In this paper, it is interpreted as a genus including species commonly placed in *Eblersia* Langerhans, 1879 (except for *E. ferrugina* Langerhans, 1881, see San Martín, 1984) or its synonym *Langerhansia* Czerniavsky, 1881; therefore, by accepting the generic view of Hartmann-Schröder (1971, 1996). *Typosyllis* species live either epibenthically (zoepibenthically or phytoepibenthically) or interstitially in coarse, fine, or slicky sediments; they are found from tropical to Arctic and Antarctic waters, and have been cited from localities all over the world.

### MATERIALS AND METHODS

Animals were extracted from small samples of coarse sand by the MgCl<sub>2</sub> method (Westheide, 1990). For light microscopical preparations, fixed specimens (stored in 4% formalin) were transferred to a mixture of alcohol and glycerine. Drawings and measurements were made by means of a LEITZ Diaplan microscope with interference contrast optics and a camera lucida (see Westheide & Purschke, 1988). For SEM investigations, 8 specimens were dehydrated via graded series of ethanol, critical point dried with CO<sub>2</sub>, coated with gold and examined with a ZEISS DSM 962.

The following abbreviations for collections are used: Natural History Museum [formerly: British Museum (Natural History)], London [BMNH]; Departamento de Zoología, Universidad de La Laguna, Tenerife, Spain [DZUL]; Zoological Museum, Hebrew University of Jerusalem, Jerusalem, Israel [HUJ]; National Centre for Marine Research, Institute of Oceanography; Athen-Hellenikon, Greece [NCMR]; Senckenberg Museum, Frankfurt [SMF]; Zoologisches Institut und Museum, Universität Hamburg [ZMH]; private collection of Prof. Dr. Guillermo San Martín, Madrid [pc-GSM]; private collection of Dr. Jorge Núñez, La Laguna [pc-JN].

## TAXONOMIC ACCOUNT

*Typosyllis* Langerhans, 1879

**Diagnosis** – Syllinae with subcylindrical body, integument smooth (rarely papillated). Prostomium with 2 fleshy, simple palps and 3 articulated antennae; paired lateral antennae positioned anterolaterally, unpaired median antenna positioned on posterior half of prostomium. Usually 4 eyes in trapezoidal arrangement, sometimes accompanied by small ocular spots positioned anteriorly. Nuchal organs slitlike, located along posterior margin of prostomium. Pharynx with single

middorsal tooth, marginally surrounded by 10 papillae. Peristomium achaetous, with 2 pairs of articulated peristomial cirri. Parapodia uniramous; notopodia each with articulated dorsal cirrus; neuropodia well developed, each with ventral cirrus, 1 to 7 aciculae, 4–28 compound and maximally 2 simple chaetae. Pygidium with 2 articulated anal cirri and unpaired median anal cirrus.

*Typosyllis tyrrbena* sp. nov.

Figs 1–4

**Material examined** – TYRRHENIAN SEA: southwest coast of island Elba: Punta di Fetovaia, wreck below the village Pomonte

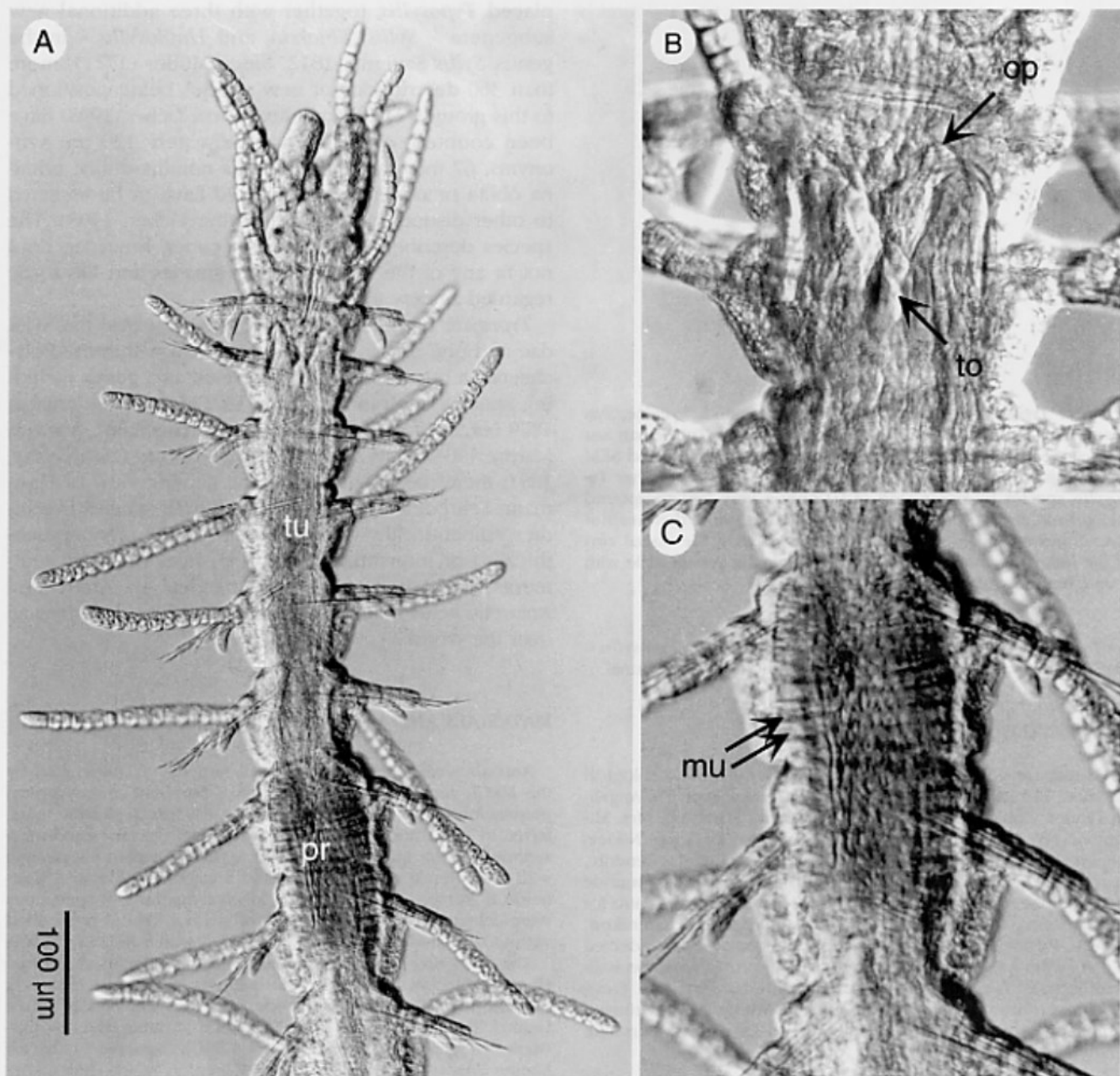


Fig. 1 - *Typosyllis tyrrbena* [SMF 8373, Holotype]. LM-micrographs. **A.** Anterior end with pharyngeal tube (tu) and proventricle (pr), ventral view. **B.** Anterior part of pharyngeal tube with marginal papillae at pharyngeal opening (op) and pharyngeal tooth (to). **C.** Proventricle showing muscle rings (mu).

