

SERPULIDAE (POLYCHAETA) FROM AUSTRALIA

By BARBARA DEW

(Figs. 1-21)

Manuscript Received 30.9.58

INTRODUCTION

This study was part of the marine fouling programme (Allen and Wood, 1950) of the C.S.I.R.O. Marine Laboratory, Cronulla, New South Wales, Australia. This paper reviews most of the known Australian species, except the Spirorbidae, includes a key to the genera, gives full descriptions of the species and adds to the knowledge of Serpulid distribution.

MATERIALS AND METHODS

The material was collected from panels exposed at marine fouling stations on the coasts of Queensland and New South Wales and at Rabaul, New Britain; from wharf piles and under rocks on the coasts of all States of Australia (Fig. 1), and from the Solomon Islands.

The distribution of each species is given. It indicates the localities from which the material examined in this investigation was collected and also the distribution given by previous authors.

The worm tubes were carefully removed from the substratum and, where possible, fresh material was immediately examined. To preserve specimens, the worms were narcotized with menthol or magnesium chloride, or were allowed to become moribund in stagnant sea water. The extended worms and their tubes were then preserved in 70 per cent. alcohol. The setae and uncini were dissected out and cleaned in Gaiter's Medium (gum Arabic 50g, chloral hydrate 100g, glycerine 40ml, distilled water 100ml).

TAXONOMY

Family Serpulidae

Body divided into thorax, usually three to seven segments, bearing dorsal capillary setae and ventral uncigerous tori, and the abdomen, bearing ventral capillary setae and dorsal uncigerous tori (Fig. 2); first thoracic segment with collar; thoracic membrane present; branchiae forming a funnel around the mouth and composed of two spiral lobes or semi-circles bearing a number of filaments with two rows of barbules; operculum usually present; tube calcareous and usually attached.

KEY TO GENERA

- | | | |
|----|--|-----------|
| 1. | Body symmetrical | 2 |
| | Body asymmetrical, calcareous tube spirally coiled | SPIRORBIS |
| 2. | (1) Operculum present | 3 |
| | No operculum, or an operculum on a branchial filament | 13 |
| 3. | (2) Collar setae present | 4 |
| | No collar setae | 11 |
| 4. | (3) Collar setae with two conical processes at the base of the blade | 5 |
| | Collar setae without processes | 6 |
| 5. | (4) Operculum a simple funnel | SERPULA |
| | Operculum a funnel with a crown of spines | HYDROIDES |
| 6. | (4) Operculum stalk smooth | 7 |
| | Operculum stalk winged | 8 |