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# On some morphologically aberrant, auto-epizootic forms of *Plumularia setacea* (Linnaeus, 1758) (Cnidaria: Hydrozoa) from southern Chile

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## Abstract

Several peculiar, auto-epizootic forms of *Plumularia setacea* (Linnaeus, 1758) are described from southern Chile. They live exclusively on normal stems of the same species and are characterized by a remarkable stunting of the colonies, which possess very short cladia composed of only one hydrotheca, with one of the lateral nematothecae often absent. Single cladia arising directly from the hydrorhiza, or aberrant ramifications of the stem and/or branches, have also been observed. The morphological features of these epizootic forms are described in detail and compared with those of normal specimens of *P. setacea*. Differences with related epizootic colonies, reported from various localities around the world, are also discussed. A comparison of the mitochondrial 16S rRNA of both epizootic and normal forms showed that the former is closely-related to its normal counterpart and probably belongs to the same species.

**Key words**: *Plumularia setacea*, Cnidaria, Hydrozoa, epizootic form, Chile

## Introduction

Numerous hydroids are known to live epizootically on other hydroids. Various small species simply use larger ones as a substratum for their development, *e.g.* members of the genera *Filellum*, *Lafoea*, *Hebella*, *Anthohebella*, *Modeeria*, *Campanularia*, etc. (Bouillon *et al*. 2006). In some cases, certain epizoites seem to show a preferential selection for a hydroid of the same or closely-related species. The typical example is *Nemertesia antennina* (Linnaeus, 1758), one of the most extreme cases of auto-epizoism among hydroids (Hughes 1977), in which planula settlement occurs on existing hydrorhizal masses. Besides the auto-epizoism of normal forms, some peculiar situations have been observed in which highly-modified, dwarfed, epizootic forms occur. Several examples are cited by Millard (1973) from South Africa, but the significance of their morphological characters has been the subject of speculation only. Moreover, genetic mechanisms (if they exist) involved in the appearance of these modified forms are presently unknown.

Recently, several peculiar hydroid colonies were found to live epizootically on normally-developed cormoids of *Plumularia setacea* (Linnaeus, 1758) collected along the Pacific coast of southern Chile. Comparison of this material with species reported to have auto-epizootic forms enabled us to associate our samples unambiguously with the epizootic specimens of *P. setacea* previously described by Millard (1973, 1975). These forms are characterized by a remarkable stunting of all elements of colony, which appear significantly reduced compared to those of the normal host. Moreover, single cladia arising directly from stolon and branched stems and/or cladia have also been observed.

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