

**SIPHONOSOMA CUMANENSE AND S. EDULE (SIPUNCULA):
A REEVALUATION OF THEIR SEPARATE STATUS**

EDWARD B. CUTLER, NORMA J. CUTLER

Utica College of Syracuse University, Utica, New York 13502, U.S.A.

and

TERUAKI NISHIKAWA

Biological Laboratory, College of General Education,
Nagoya University, Nagoya 464, Japan

With Text-figure 1

Abstract

Two species of the sipunculan genus *Siphonosoma* (*S. cumanense* and *S. edule*) are determined to be conspecific. The determination rests largely on an analysis of a large series of individuals in which it is shown that as the animal increases in total size the introvert becomes proportionately shorter.

The two species *Siphonosoma cumanense* and *S. edule* have been the source of concern for a number of years. Stephen and Edmonds (1972: 47–49, 53) discuss the relationship between them and point to a similar concern of Sluiter (1886: 484). They acknowledge that the two are very close to one another and add, “Although it is possible that the two species are the same, we have hesitated to regard them as such at present.” The alleged difference lies only in the ratio of the introvert to trunk length. *S. edule* has been described with a relatively short introvert (1/8–1/14 of the trunk) while *S. cumanense* has a longer introvert (1/3–1/7). It must be remembered that these ratios have been measured on preserved specimens—preserved in a variety of fixatives and in a variety of relaxation states. When one observes living specimens in the field and the laboratory, it is obvious that the introvert is under voluntary muscular control so that its dimensions are constantly changing. To a lesser degree the same can be said for the trunk.

Stephen and Edmonds (1972: 53) also state, “What we have not been able to do is to examine a reasonably large sample of specimens from one locality which would enable one to decide whether the difference of length of the introvert are inter- or intra-specific.” In Cutler and Cutler (1979: 946–949) such an analysis was performed on a population of worms from Tulear, Malagasy Republic. The data available at that time were such that we were able to place *S. carolinense* into synonymy with *S. cumanense* (it being at the small end of the continuum with long introverts) but with respect to *S. edule* could only state: “Extrapolating from the

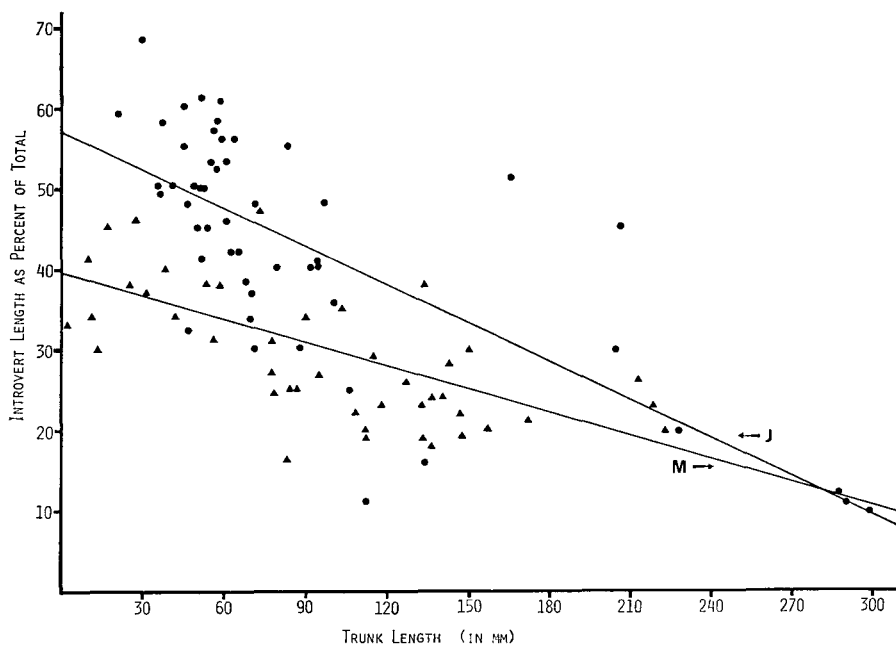


Fig. 1. *Siphonosoma cumanense* introvert length—an example of allometric growth. Circles are Japanese population, triangles are Malagasian population. The lines represent a simple linear regression ($Y=a+bx$) for each population. The Japanese worms were narcotized prior to fixation, the Malagasian worms were not; this results in different slopes: J: $a=56.7$, $b=-0.16$; M: $a=38.4$, $b=-0.13$.

data shown in fig. 1, it is possible that large *S. cumanense* (over 250 mm trunk) would have an introvert small enough to approach the 7–11% range reported for *S. edule*. The unanswered question then becomes: are *S. edule* only very large *S. cumanense* or *S. cumanense* with unusually short introverts?"

Our measurements were based on smaller worms but in recent Japanese collections, large worms are present and we have made additional measurements (Fig. 1). It is now clear to us that as these worms increase in size, the rate of growth of the introvert is slower than the trunk and that those few larger individuals, when seen in isolation from a population have erroneously been considered a distinct species. During a recent visit to the Royal Scottish Museum, Edinburgh, we measured five specimens identified by A.C. Stephen as *S. edule* from Mauritius (unpublished). The introverts of these varied in length from 23–34% of the total—well within the values shown in Fig. 1. The type material of *S. edule* cannot be located.

We hereby consider *S. cumanense* and *S. edule* to be conspecific. As *S. edule* is the older name, a strict application of the Law of Priority would require that *S. cumanense* be reduced to a junior synonym. However, because the name *S. cumanense* has been widely used by many biologists over the last 75 years (and *S. edule* only twice) we are petitioning the International Commission of Zoological Nomenclature to conserve the more widely used and familiar name, *S. cumanense*, for this taxon.

Synonymy

For that prior to 1965 see Stephen and Edmonds, 1972: 46–53.

Siphonosoma carolinense: Fischer, 1928: 138–140; Stephen & Edmonds, 1972: 44–46.

Siphonosoma cumanense: Murina, 1967: 1338; Christie & Cutler, 1974: 109; Halder, 1975: 57; Cutler, 1977: 138; Gibbs, 1978: 85; Cutler & Cutler, 1979: 946–949; Edmonds, 1980: 14–15.

Siphonosoma edule: Halder, 1975: 58.

Siphonosoma novaepommeraniae: Wesenberg-Lund, 1959: 55–58.

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