

Communication

## ***Eufistulana* Eames, 1851 and *Fistulana* Bruguière, 1789: nomenclatural remarks and fixation of *Gastrochaena mumia* Spengler, 1783, as type species to maintain current usage (Bivalvia: Gastrochaenoidea: Gastrochaenidae)**

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### Abstract

The genus-group name *Eufistulana* Eames, 1951, is in current and prevailing usage for a group of gastrochaenid bivalves. *Eufistulana* Eames, 1951, was proposed as a replacement name for the preoccupied *Fistulana* Bruguière, 1789, with *Teredo clava* Gmelin, 1791, as the type species. *Teredo clava* Gmelin, 1791, is a teredinid and is the type species of the genus *Uperotus* Guettard, 1770. It is clear that the original type species, *Teredo clava* Gmelin, 1791, was misidentified. In order to preserve the current and prevailing usage of *Eufistulana* Eames, 1951, for a genus of gastrochaenid bivalves, its type species is fixed as *Gastrochaena mumia* Spengler, 1783 under Article 70.3.2 of the *International Code of Zoological Nomenclature*.

<http://zoobank.org/urn:lsid:zoobank.org:pub:8E77A69E-4F24-4F88-A02B-E4761F5F080F>

### Introduction

The genus-group name *Eufistulana* Eames, 1951, is in current and prevailing usage for a group of gastrochaenid bivalves found throughout the Indo-West Pacific (Huber, 2010: 279, 673). The taxonomic concept of *Eufistulana* Eames, 1951, is based on what is currently the most well-known species included in the genus, *Gastrochaena mumia* Spengler, 1783 (e.g., Savazzi, 1982: 278; Morton, 1983: 382–402; Carter *et al.*, 2008: 105; Huber, 2010: 279, 673; Morton *et al.*, 2011: 787, 801, 802). The aim of this paper is to clarify the identity and other issues connected with the type species of the genus-group name *Eufistulana* Eames, 1951, so that this name may be used correctly in future research.

*Eufistulana* Eames, 1951, was proposed as a replacement name for the preoccupied *Fistulana* Bruguière, 1789. Although Eames (1951) designated *Gastrochaena mumia* Spengler, 1783, as the type species of *Eufistulana*, this designation is not valid as *Eufistulana* was proposed as a replacement name for *Fistulana* Bruguière, 1789, and the type species of both genus-group names is *Teredo clava* Gmelin, 1791. *Teredo clava*

Gmelin, 1791, is a teredinid and is the type species of the genus *Uperotus* Guettard, 1770 (see below). It is clear that when first including *Teredo clava* Gmelin, 1791, in *Fistulana* Bruguière, 1789, Cuvier (1797: 432) and Lamarck (1799: 90) misidentified it with a species of gastrochaenid bivalve.

In order to preserve the current and prevailing usage of *Eufistulana* Eames, 1951, for a genus of gastrochaenid bivalves, its type species is fixed as *Gastrochaena mumia* Spengler, 1783 under Article 70.3.2 of the *International Code of Zoological Nomenclature* (hereafter the Code; ICZN, 1999: 74).

### ***Fistulana* Bruguière, 1789: type species and non-validity due to homonymy**

Bruguière (1789: xii) proposed the genus-group name *Fistulana* for a group of bivalves and diagnosed it as follows: “Genre 5. Fistulane. — *Fistulana*. Coquille tubule, fusiforme, contenant deux valves dans sa cavité, une des extrémités perforée”. No species were included with this genus-group by Bruguière (1789: xii).

The earliest author to include a nominal species was Cuvier (1797: 432) who stated “La fistulane. Brug. (*Teredo clava*. Lin.)”. Although only the vernacular “La fistulane” was used, the attribution to “Brug.” (i.e., Bruguière) makes it clear that Cuvier (1797: 432) was referring to *Fistulana* Bruguière, 1789.

Even if the inclusion of *Teredo clava* Gmelin, 1791, in *Fistulana* Bruguière, 1789, by Cuvier (1797: 432) is considered to be invalid because Cuvier did not use the

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Latinised name *Fistulana*, a subsequent work by Lamarck (1799: 90) unambiguously carried out the same action by stating: "Fistulane. *Fistulana*. ... *Teredo clava*. Gmel. syst. nat. 4. p. 3748".

Whether as a result of the action of Cuvier (1797: 432) or Lamarck (1799: 90), the type species of *Fistulana* Bruguière, 1789, is *Teredo clava* Gmelin, 1791, by subsequent monotypy (Article 69.3 of the Code; ICZN, 1999: 73).

*Teredo clava* Gmelin, 1791, is currently considered to be a species of teredinid bivalve (see Turner, 1966: 94; Voight, 2015: 5) and is the type species of the genus *Uperotus* Guettard, 1770, by subsequent designation by Stoliczka (1871: xv). The concept of "*Teredo clava*" as used by Cuvier (1797: 432) and Lamarck (1799: 90) therefore corresponds to a gastrochaenid bivalve, and is clearly a misidentification (see also Turner, 1966: 94; Voight, 2015: 5).

The genus-group name *Fistulana* Bruguière, 1789, is a junior homonym of *Fistulana* Müller, 1766, which was proposed for a group of cnidarians. *Fistulana* Bruguière, 1789, therefore cannot be used for the taxon under discussion.

Although recognising this homonymy, subsequent authors (e.g., Tryon, 1862: 471, 472; Iredale, 1915: 296, 297; Prashad, 1932: 315) did not consider the generic concept of *Fistulana* Bruguière, 1789, to be valid and thus did not propose any replacement names for the preoccupied genus-group name *Fistulana* Bruguière, 1789.

Stephenson (1941: 242–244) was also aware of this homonymy, but considered H. Adams & A. Adams (1856: 334, 335) to have designated *Gastrochaena mumia* Spengler, 1783, as the type species of *Gastrochaena* Spengler, 1783. As Stephenson (1941: 242–244) considered *Gastrochaena* Spengler, 1783, to be the valid genus for *Gastrochaena mumia* Spengler, 1783, he saw no need to propose a replacement name for *Fistulana* Bruguière, 1789. The designation by Children (1822: 83) of *Gastrochaena cuneiformis* Spengler, 1783, as the type species of *Gastrochaena* Spengler, 1783, is the oldest (and therefore valid) designation.

### ***Eufistulana* Eames, 1951: history, status and change of type species to *Gastrochaena mumia* Spengler, 1783**

Eames (1951: 445, 446) was the first author to be aware of both the homonymy of *Fistulana* Bruguière, 1789, as well as the earliest designation by Children (1822: 83) of *Gastrochaena cuneiformis* Spengler, 1783, as the type species of *Gastrochaena* Spengler, 1783. Eames (1951: 445, 446) also considered *Fistulana* Bruguière, 1789, to be a valid genus of gastrochaenid bivalves and proposed the replacement name "*Eufistulana* n. nom."

Although *Gastrochaena mumia* Spengler, 1783, is often cited as the type species of *Eufistulana* Eames, 1951,

(e.g., Morton, 1983: 382), the designation by Eames (1951: 445) of *Gastrochaena mumia* Spengler, 1783, as the type of *Eufistulana* Eames, 1951, is not a valid action as *Eufistulana* Eames, 1951, was explicitly proposed as a replacement name for *Fistulana* Bruguière, 1789, and both genus-group names have *Teredo clava* Gmelin, 1791, as the type species (Article 67.8 of the Code; ICZN, 1999: 68).

Due to the misidentification of *Teredo clava* Gmelin, 1791, as a species of gastrochaenid bivalve by Cuvier (1797: 432) and Lamarck (1799: 90), *Eufistulana* Eames, 1951, and *Fistulana* Bruguière, 1789, would become junior objective synonyms of *Uperotus* Guettard, 1770, as *Teredo clava* Gmelin, 1791, is also the type species of *Uperotus* Guettard, 1770 (as discussed above). *Eufistulana* Eames, 1951, would no longer be available as a name for a genus of gastrochaenid bivalves.

To maintain current and prevailing usage of *Eufistulana* Eames, 1951, for a genus of gastrochaenid bivalves, we apply Article 70.3.2 of the Code (ICZN, 1999: 74) and herein fix *Gastrochaena mumia* Spengler, 1783 (over the original, and misidentified, type species *Teredo clava* Gmelin, 1791, as discussed above), as the type species of *Fistulana* Bruguière, 1789. By this action, the type species of the replacement name *Eufistulana* Eames, 1951, also becomes *Gastrochaena mumia* Spengler, 1783 (Article 67.8 of the Code; ICZN, 1999: 68).

The fixation of *Gastrochaena mumia* Spengler, 1783, as the type species of *Eufistulana* Eames, 1951, best serves taxonomic and nomenclatural stability, and will ensure that the genus *Eufistulana* Eames, 1951, can continue to be used in its current and prevailing sense (e.g., Savazzi, 1982: 278; Morton, 1983: 382–402; Carter *et al.*, 2008: 105; Huber, 2010: 279, 673; Morton *et al.*, 2011: 787, 801, 802).

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