



## Nomenclatural status of Pyuridae and Bolteniidae (Tunicata, Ascidiacea) with comments on several included genera

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### Abstract

Detailed discussion of the nomenclatural history of the *PYURIDAE*, *BOLTENIIDAE* and related families is provided. It is shown that the valid nomen for the family currently known as *PYURIDAE* is *BOLTENIIDAE*. The generic nomen "*Claudenus* Kott, 1998" is not available and *Claudenus* is re-established here as intentionally new nomen (*Claudenus* Sanamyan & Sanamyan **gen. nov.**) The generic nomen *Cratostigma* is not available but no replacement nomen is suggested because we suppose that this genus may be congeneric with *Bolteniopsis*. The generic nomen *Eupera* Michaelsen, 1904 is invalid being a junior homonym, but a new replacement nomen is not suggested because it is synonymized here with *Culeolus*.

### Key words

*CYNTHIIDAE*, *HALOCYNTHIIDAE*, *TETHYIDAE*, *Claudenus*, *Cratostigma*, *Eupera*, *Halocynthia*.

### Introduction

The family *PYURIDAE* Hartmeyer, 1908 (**ASCIDIACEA**) is accepted and treated as valid by all current experts in ascidian taxonomy. It comprises 16 genera and about 250 species. However, even a brief overview of family-rank nomina in **ASCIDIACEA** shows that *PYURIDAE* has several older synonyms and its usage as valid nomen contradicts the rules of current *International Code of Zoological Nomenclature* (Anonymous 1999; referred to below as ‘the Code’).

Unfortunately, the nomenclatural questions were largely ignored (sometimes deliberately) by ascidian experts in the past. The most negative consequences on nomenclature of **ASCIDIACEA** appeared in the work of Hartmeyer (1915: 255) *Ascidiarum nomina conservanda*. In this work, Hartmeyer (1915: 255) published a list of nomina he wished to be conserved for being ‘well-known’, often along with their senior synonyms and stating that he prefers to use a junior synonym, e.g.: “Wir wollen den Gattungsnamen *Distaplia* vor einem nomenklatorisch korrekten Ersatz durch *Holozoa* und den Artnamen *magnilarva* vor einem Ersatz durch *pileata* schützen, weil *Distaplia magnilarva* ein

auch über Fachkreise hinaus allgemein bekannter Name ist.” [“We want to protect the generic name *Distaplia* from the nomenclaturally correct replacement by *Holozoa* and the species name *magnilarva* from being replaced by *pileata*, because *Distaplia magnilarva* is a name that is well known.”]. Unfortunately, many (but not all) ascidian experts followed him. In particular, Van Name (1945: 3) wrote that the “acceptance of many *nomina conservanda* in the nomenclature of the ascidians is unavoidable, for any satisfactory application of the law of priority is in many cases impossible”. Only Huntsman (1922: 211) was opposed to such an ignorance of the rules of zoological nomenclature and stated that “uniformity and stability [...] will be achieved only by a strict adherence to the rules unless and until they are changed or abrogated in special instances by such general consent as approval by an international congress. For these reasons we do not propose to adopt the arbitrary list of *Ascidiarum nomina conservanda* prepared by Hartmeyer”. He tried to use nomenclaturally valid nomina but most ascidian experts did not follow him.

The cases where widely used nomina of ascidian genera and families are invalid due to various nomenclatural issues are not rare and all such cases must be revealed and corrected, since the usage of the nomina of all taxa must be *Code*-compliant. In certain cases, the *Code* allows to validate and save currently accepted invalid nomina, e.g. by using the Article 23.9.1 (note that this requires some actions and cannot be done ‘automatically’). In other cases, the matter may be referred to the International Commission on Zoological Nomenclature (referred below as ‘the Commission’) for a ruling under the plenary power—as did Kott (1995) to save *Eudistoma* Caullery, 1909 and Sanamyan & Sheiko (2020) to save *Molgula* Forbes in Forbes & Hanley 1848. However, there are several cases where widely accepted nomina cannot (or, for some reason, should not) be saved. The family *PYURIDAE* represents such a case: it is invalid being a junior synonym of several older family-group nomina, cannot be saved without applying to the Commission and must be replaced by the older nomen *BOLTENIIDAE*. We do not think that applying to the Commission would be beneficial in this case: *Boltenia* Savigny, 1816 is a very well known genus, its close relationship with *Pyura* is absolutely evident for every person who studies ascidian taxonomy and replacing *PYURIDAE* with *BOLTENIIDAE* should not cause any confusion. In our opinion, application to the Commission (to act against the Principle of Priority in favour of the ‘Principle of Usage’) may be necessary only in very few cases in ascidian nomenclature, e.g. in the case of *Molgula* which is threatened by really forgotten nomina, so that an application to save it has been submitted to the Commission (see Sanamyan & Sheiko 2020). In most other cases, strictly applying the Principle of Priority seems to be much more preferable and correct in a historical perspective.

During the preparation of the present paper, we received an opinion that replacing accepted names will only generate confusion and “if we were to dig into this we should change way too many things”. This is not so. The havoc in ascidian nomenclature was created a while ago by several authors who used exactly the same argumentation—e.g. by Hartmeyer (1915) and authors who followed him, including Van Name (1945), who discussed this subject in the introduction of his monograph and deliberately decided not to follow the Principle of Priority in certain cases. This resulted not only in the establishment of invalid names in the literature on ascidian taxonomy, but also in such sad consequences as, for example, loss of the oldest and valid (at that time) ascidian nomen *Tethyum* Gunnerus, 1765, borrowed from the name used even over two thousand years ago by Aristotle, precisely for ascidian species. *Tethyum* was suppressed in favour of a sponge nomen (which was junior) just because ascidian taxonomists were never interested in nomenclature (see remarks under *Halocynthia* Verrill, 1879 for details of this story). Obviously, “stability by itself is not a scientific aim” (see section “Comments on the concept of ‘stability’” in Dubois *et al.* 2021) and, in our opinion, a better way to achieve long-term (rather than ephemeral) stability is to bring ascidian nomenclature in a *Code*-compliant format. The earlier we do this work, the less drastic consequence we will have in the future.

Below we describe taxonomic histories of five related family-group nomina arranged in chronological order, then nomenclatural consequences are discussed where we show that the nomen *BOLTENIIDAE* Herdman, 1882 must be used as valid instead of *PYURIDAE*, and finally nomenclatural remarks on several genera belonging to this family are given.

### ***CYNTHIIDAE* Lacaze-Duthiers, 1879**

(permanently invalid, as its type genus *Cynthia* Savigny, 1816 is a junior homonym)

This family was established by Lacaze-Duthiers (1879) for the genus *Cynthia* Savigny, 1816. Subsequently it was used to unite solitary ascidians currently included in the *STYELIDAE* Herdman, 1882 and *PYURIDAE*. For example, Traustedt (1883) recognized four genera of *CYNTHIIDAE*: *Cynthia*, *Microcosmus* Heller, 1877, *Styela* Fleming, 1822 and *Polycarpa* Heller, 1877 (the former two genera are in the *PYURIDAE*, the last two in the *STYELIDAE* now). The type genus of *CYNTHIIDAE*, *Cynthia* Savigny, 1816, is a junior homonym of *Cynthia* Fabricius in Illiger, 1807 (**INSECTA, LEPIDOPTERA**) and therefore *CYNTHIIDAE* is permanently invalid (Article 39: “The name of a family-group taxon is invalid if the name of its type genus is a junior homonym”).

### ***BOLTENIINAE* Herdman, 1882**

(valid, type genus *Boltenia* Savigny, 1816)

Herdman (1882: 53) subdivided the *CYNTHIIDAE* in two subfamilies, *CYNTHIINAE* and *BOLTENIINAE* (originally spelled as *CYNTHINÆ* and *BOLTENINÆ*). *CYNTHIINAE* comprised two genera with “body sessile or almost so”, *Microcosmus* and *Cynthia*, while in *BOLTENIINAE* he included two genera with the “body borne on the end of a long stalk”, *Boltenia* Savigny, 1816 and *Culeolus* Herdman, 1882. Sluiter (1895) raised the *BOLTENIINAE* (spelled as *BOLTENIDAE*) to the family level. After 1899 this nomen was used as valid by Metcalf (1900) and Monniot (1965). The latter author used *BOLTENIINAE* as a taxon at subfamilial rank within *PYURIDAE*, but in more recent literature it was not used and no subfamilies are currently recognized within the *PYURIDAE*.

### ***HALOCYNTHIIDAE* Hartmeyer, 1903**

(invalid, junior synonym of *BOLTENIIDAE*, type genus *Halocynthia* Verrill, 1879)

This family nomen was established by Hartmeyer (1903: 94) to replace *CYNTHIIDAE*: “Den Familiennamen Cynthiidae ersetze ich durch den Namen Halocynthiidae, entsprechend dem an Stelle von *Cynthia* gebrauchten Gattungsnamen *Halocynthia*” [“I replace the family name *CYNTHIIDAE* with the name *HALOCYNTHIIDAE*, corresponding to the generic name *Halocynthia* used instead of *Cynthia*”]. This replacement was unjustified under both the then active and the current editions of the *Code* (Anonymous 1905, 1999), because it was necessary to use the existing available subfamily nomen (*BOLTENIINAE*) and raise it to family level, rather than to establish a new family nomen based on *Halocynthia* (Article 39). Nevertheless, the family nomen *HALOCYNTHIIDAE* Hartmeyer, 1903 was introduced and is available.

**TETHYIDAE Hartmeyer, 1908**

(permanently invalid, as the type genus *Tethyum* Gunnerus, 1765 was suppressed by the Commission)

This family was established by Hartmeyer (1908) simultaneously with the family *PYURIDAE*. Hartmeyer (1908) treated the genus *Tethyum* Gunnerus, 1765 as a synonym of *Styela* (a genus currently belonging to the *STYELIDAE*). He indicated two species (simultaneously) as a ‘Typus’ for *Tethyum* Gunnerus, 1765: *T. rusticum* Linnaeus, 1767 and *T. quadridentatum* Linnaeus, 1767 (both species are currently in *Styela*). Doing so he violated the rules of zoological nomenclature: a genus cannot have two type species and none of these species was originally included in *Tethyum*. Therefore, this designation is invalid. A few years later, when Huntsman (1912) validly designated *Tethyum papillosum* Gunnerus, 1765 (currently in *Halocynthia*) as the type species of *Tethyum*, the family *TETHYIDAE* Hartmeyer, 1908 became a synonym of *HALOCYNTHIIDAE* and *PYURIDAE*, and Huntsman (1912) used it as a valid family nomen stating “Halocynthiidae and Pyuridae are to be replaced by Tethyidae”. According to the current *Code* (Article 40.1), a family nomen must not be replaced in this case, but before 1961 it was possible (Article 40.2). In 1981, the family nomen “*TETHYIDAE* Huntsman, 1912” was placed on the *Official Index of Rejected and Invalid Family-Group Names* (Opinion 1182, Anonymous 1981). It is hard to understand why this non-existing family nomen, but not *TETHYIDAE* Hartmeyer, 1908, was rejected by Commission, but at any rate, after a suppression of its type genus (*Tethyum* Gunnerus, 1765), the family nomen *TETHYIDAE* Hartmeyer, 1908 cannot be used and is permanently invalid (Article 39).

**PYURIDAE Hartmeyer, 1908**

(invalid, junior synonym of *BOLTENIIDAE* and *HALOCYNTHIIDAE*, type genus *Pyura* Molina, 1782)

Hartmeyer (1908: 7) violated the Principle of Priority when establishing the family *PYURIDAE* and including in it, as synonyms, the older nomina *CYNTHIIDAE* Lacaze-Duthiers, 1879 and *HALOCYNTHIIDAE* Hartmeyer, 1903. The reasons why he decided to replace his own family *HALOCYNTHIIDAE* with *PYURIDAE* are hard to understand. Perhaps he thought that the family nomen based on the oldest generic nomen in the group (*Pyura* Molina, 1782) was more suitable than *HALOCYNTHIIDAE*. Such an opinion was possibly based on a tradition introduced by the so-called ‘Strickland Code’ (Strickland *et al.* 1842: 15), which has a recommendation to base family nomina on the “name of the earliest known, or most typically characterized genus”, but Hartmeyer’s (1908) action contradicted the then active rules of nomenclature (Anonymous 1905) and the following versions of the *Code* (Anonymous 1964, 1999). Similarly, it is hard to explain why the obviously invalid nomen *PYURIDAE* received such a wide use by subsequent authors until now.

Monniot (1965) stated that the nomen *PYURIDAE* was invalid for another reason: according to him it was based on a *nomen oblitum* (Article 23-b, Anonymous 1964), but Monniot suggested that *PYURIDAE* should be saved on the basis of Article 40-a and 23-b-III (Anonymous 1964). His opinion may not be correct, as *Pyura* Molina, 1782 was considered valid when Hartmeyer (1908) used it to establish *PYURIDAE* and the articles he referred to may be not relevant, but this is not important because in 1981 *Pyura* Molina, 1782 and *PYURIDAE* Hartmeyer, 1908 were placed on the *Official Lists* of generic and family-group names in zoology (Opinion 1182, Anonymous 1981) and thus are clearly available now. It is necessary to note that placing *PYURIDAE* on the *Official List* makes this nomen available (Article 80.6.1), but this does not give it a precedence over older nomina (Article 80.6.4).

## Nomenclatural consequences

The type genera of five family-group nomina mentioned above currently belong to the same family, in which no subfamilies are currently recognized. Therefore all these family-group nomina are synonyms. Moreover, three of these nomina, *CYNTHIIDAE*, *HALOCYNTHIIDAE* and *TETHYIDAE*, are objective synonyms because their type genera, *Cynthia*, *Halocynthia* and *Tethyum* share the same type species (*Tethyum papillosum*, current nomen *Halocynthia papillosa*). Two of these family nomina, *CYNTHIIDAE* and *TETHYIDAE*, are permanently invalid according to Article 39, but three other family-group nomina, *BOLTENINAE*, *HALOCYNTHIIDAE* and *PYURIDAE*, are available and may be potentially valid. Among them, *BOLTENINAE* is the oldest nomen. Thus the valid nomen for the family currently known as *PYURIDAE* is *BOLTENIIDAE*. We find it quite fair that the nomen *BOLTENIIDAE* Herdman, 1882, having priority and having been validly established, be used as the valid family nomen instead of *PYURIDAE*, a nomen established for unclear reasons.

## Nomenclatural remarks on some generic nomina in the *BOLTENIIDAE*

### *Halocynthia* Verrill, 1879

(valid, type species *Tethyum papillosum* Gunnerus, 1765)

#### Authorship

Kott (1985: 341) in her monograph on Australian **ASCIDIACEA** indicated ‘Verrill and Rathbun, 1879’ as authors of the genus nomen *Halocynthia*. In her catalogue of Australian **TUNICATA** (Kott 1998), she listed authors of *Halocynthia* as ‘Verrill and Rathbun, 1879’ on page 176 and as ‘Verrill, 1879’ on page 178. The generic nomen *Halocynthia* appeared in both publications. However, the actual date of publication of the work of Verrill & Rathbun is 1880, not 1879. It was published in volume 2 of the *Proceedings of the United States National Museum*. The title page of this volume has a record ‘Government Printing Office. 1880’. Exact dates of publications of the papers composing this volume are indicated by stamps at the bottom of each sixteenth page (the articles were published in signatures as soon as enough matter to fill sixteen pages had been obtained). The date of publication of the paper of Verrill & Rathbun is indicated as “Jan. 20, 1880”. Therefore, the paper of Verrill (1879) has priority over the paper of Verrill & Rathbun (1880) and Verrill (1879) is the author of *Halocynthia*.

#### Type species

Verrill (1879: 147) explicitly established *Halocynthia* as a replacement nomen for *Cynthia* Savigny, 1816 (preoccupied by *Cynthia* Fabricius in Illiger, 1807, **INSECTA, LEPIDOPTERA**): “The name *Cynthia* having been preoccupied and [...], I propose to substitute *Halocynthia* for the typical section of Savigny’s genus”. Therefore, *Halocynthia* has the same type species as *Cynthia*: “If an author publishes a new genus-group name expressly as a new replacement name [...], both the prior nominal taxon and its replacement have the same type species” (Article 67.8). Originally Savigny (1816) included 14 species in his genus *Cynthia* and the type species was not fixed. Fleming (1822) divided *Cynthia* into several genera and listed only one species, *Cynthia momus* Savigny, 1816 (current nomen *Herdmania momus*), under the generic nomen *Cynthia*. This action could not be considered as a designation of the type species because he did not explicitly designate it as type as he did in the

same work for some other genera (a similar case in the work of Fleming 1822 is discussed by Dubois & Bour 2010). Heller (1877: 242) explicitly designated “*Cynthia papillosa* L.” (the correct original nomen of which is *Tethyum papillosum* Gunnerus, 1765) as ‘Typus’ for *Cynthia*. *Cynthia papillosa* was among the originally included species of this nominal genus and therefore this designation is valid (Article 67.2). Subsequently, Apstein (1915) and Hartmeyer (1915) published lists entitled *Nomina conservanda* and *Ascidiarum nomina conservanda* where they suggested to ‘conserve’ *Tethyum papillosum* Gunnerus, 1765 as the type species of *Halocynthia*. The Commission stated that it “has no power to adopt *en bloc* Apstein’s list of proposed *Nomina Conservanda*” (Opinion 74, Anonymous 1922: 32) but it was not necessary because *Tethyum papillosum* is the type species of *Cynthia* and, in consequence, of *Halocynthia* (Article 67.10).

### Validity

Huntsman (1912) invalidated the nomen *Halocynthia* by the following action. He designated *Tethyum papillosum* Gunnerus, 1765 (the type species of *Halocynthia*, see above) as the type species of *Tethyum* and wrote: “In my opinion, the valid type of the genus *Tethyum* Bohadsch is the *Ascidia papillosum* of Linne”. Although he wrongly attributed the generic nomen *Tethyum* to Bohadsch (the work of Bohadsch 1761 was not binominal and was suppressed by Opinion 185, Anonymous 1944, and the authorship of *Tethyum* was transferred to Gunnerus 1765) and incorrectly ascribed it to Linnaeus, his action is a valid fixation of type species for *Tethyum* under Article 67.7. As a result of this action, after the work of Huntsman (1912) the generic nomen *Tethyum* became a senior synonym of *Halocynthia* and its usage as a valid nomen instead of *Halocynthia* (and *Cynthia*) was correct. Only Huntsman himself and Redikorzev (1916, 1941, etc.) followed this usage. Most other authors preferred to ignore the rules of zoological nomenclature and continued to use the more familiar to them but preoccupied nomen *Cynthia* or invalid (at that time) nomen *Halocynthia*. The latter nomen therefore became firmly established in the literature. Latter it has been found that *Tethyum* Gunnerus, 1765 has junior homonyms in sponges and mollusks. This fact by itself was not able to affect the validity of the ascidian genus nomen *Tethyum*, because it has priority. However, after a consultation with two ascidian experts (Claude Monniot and Robin Millar), a proposal was submitted to the Commission by its Secretary (given in the volume as R. V. Melville) to suppress the ascidian generic nomen *Tethyum* Gunnerus, 1765 (see Anonymous 1978: 249). The main reason for this decision was stated as follows: “in fact *Tethyum* seems not to have been used as a valid name since Huntsman’s work”. This statement was completely incorrect (*Tethyum* was used, see references above), nevertheless a few years later the generic nomen *Tethyum* Gunnerus, 1765 was suppressed by the Commission (Opinion 1182, Anonymous 1981) in favour of its junior homonym *Tethya* Lamark, 1815 (**PORIFERA**). This is how ascidian taxonomists have lost the oldest and valid at that time ascidian nomen *Tethyum*, which is derived from an unavailable name used even over two thousand years ago by Aristotle for ascidian species (see MacLeay 1825: 530). After suppression of *Tethyum* Gunnerus, 1765, *Halocynthia* Verrill 1879 became a valid nomen.

In conclusion, the generic nomen *Halocynthia* was considered invalid between 1912 and 1981 but since 1981 it is considered valid. Its type species is *Tethyum papillosum* Gunnerus, 1765 by subsequent designation of Heller (1877) under *Cynthia*. Note that *Halocynthia* was considered as valid when Hartmeyer (1903) established the family *HALOCYNTHIIDAE*, so that the availability of the latter nomen is not affected by the circumstances described above.

**"*Claudenus* Kott, 1998"**

(unavailable, having been proposed as a *nomen novum* for an unavailable name)

The generic nomen "*Claudenus* Kott, 1998" is not available. Kott (1998: 177) proposed this nomen as a "nom. nov. for *Ctenicella* Kott, 1972" and stated that the latter was a "junior homonym of *Ctenicella* Lacaze-Duthiers, 1877" (the correct date of which is 1879). This statement is not correct. To be available, every new nomen published after 1931 must be accompanied by a description or definition (Article 13.1.1), or by a bibliographic reference to a work where such a description or definition exists (Article 13.1.2), or be proposed as a *nomen novum* for an available nomen (Article 13.1.3). "*Ctenicella*" as used by Kott (1972) is just an incorrect genus allocation of her new species, thus devoid of nomenclaturally independent status. In other words, Kott (1972) never established a new generic nomen in that paper and "*Ctenicella*" in Kott (1972) is not available. "*Claudenus* Kott, 1998" cannot be made available as a *nomen novum* because it was proposed to replace an unavailable nomen. Article 13.1.1 is also not applicable because Kott (1998) provided no description or definition of the genus *Claudenus*. Finally, Article 13.1.2, which allows availability through a bibliographic reference to a previously published description, is also not applicable, because no description or definition of the genus "*Ctenicella* Kott, 1972" exists in the work of Kott (1972) referenced by Kott (1998). Kott (1972) gave only a description of a new species she named *Ctenicella antipoda* Kott, 1972, and provided comments on a genus *Ctenicella* Lacaze-Duthiers, 1879, but not on a new genus-group taxon.

The generic nomen *Claudenus* is re-established here as intentionally new (Article 16.1), with a type species fixation (Article 16.2) and a formal definition required by Article 13.1.1, with respect and agreement with the intention of Kott (1998), who wished to name this taxonomic genus with this name but unfortunately failed to do it correctly. It takes the authorship and date of the present paper:

***Claudenus* Sanamyan & Sanamyan gen. nov.**

**Type species:** *Ctenicella antipoda* Kott, 1972 (holotype: South Australian Museum, reg. no. E877).

**Comment:** This genus is characterized by its branched tentacles, its dorsal lamina in languets, its undivided gonads, one on each side, and its absence of renal sac. It is most closely related to *Herdmania* Lahille, 1888 from which it is distinguished by the position of its gonad above the gut loop and the absence of calcareous spicules. Being unavailable, "*Claudenus* Kott, 1998" cannot enter into homonymy of *Claudenus* Sanamyan et Sanamyan **gen. nov.**

**"*Cratostigma* Monniot & Monniot, 1961"**

(unavailable, as no type species was fixed in the original publication)

The generic nomen "*Cratostigma*" is not available. It was established by Monniot & Monniot (1961: 276) for *Caesira singularis* Van Name, 1912 and *Heterostigma gravellophila* Pérès, 1955. These two species were included in *Cratostigma* in the original publication in the following way: "Ce genre nouveau comprend les deux espèces suivantes: *C. singularis* (Van Name) 1912 (= *Caesira singularis* Van Name 1912); une gonade de chaque côté. *C. gravellophila* (Pérès) 1955 (= *H. gravellophila* Pérès 1955) une seule gonade du côté droit.". Since more than one species were included, the type species cannot be fixed by monotypy (Article 68.3). Other ways to fix the type species, described in Article 68 (68.2, 68.3 and 68.5), are also not applicable. According to Article 13.3, to be available,

every new genus-group nomen published after 1930 must be accompanied by the fixation of a type species in the original publication in accordance with Article 68. Thus, since the type species has not been fixed in the original publication, the generic nomen "*Cratostigma*" is not available and cannot be used. If the genus really differs from *Bolteniopsis* Harant, 1927 (this is not evident from the existing descriptions and will be discussed in another work), then a new generic nomen will be required for former "*Cratostigma*" species.

### ***Eupera* Michaelsen, 1904**

(invalid, junior homonym)

The generic nomen *Eupera* Michaelsen, 1904 is a junior homonym of *Eupera* Bourguignat, 1854 (BIVALVIA). Kott (1985) treated this monotypic genus as valid, but she apparently overlooked the fact that the type and the sole species assigned to this genus, *Eupera chuni* Michaelsen, 1904, has a branchial sac as in *Culeolus*, without stigmata (she reported straight stigmata for this genus in her key to genera). Michaelsen (1904) stated that the tentacles in his specimen were simple, a character very unusual for *Culeolus*, but the whole of his description left no doubt that he studied a specimen of *Culeolus*. *Eupera chuni* Michaelsen, 1904 is transferred in the present paper to *Culeolus*, its valid nomen being *Culeolus chuni* (Michaelsen, 1904). Therefore a substitute nomen for *Eupera* Michaelsen, 1904 is not required. However, if this species was recorded again and confirmed to really have simple tentacles different from those of *Culeolus*, then it should be removed from *Culeolus* and a new replacement nomen be required for *Eupera* Michaelsen, 1904.

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