

# INVALIDITY OF THE NOMINAL SPECIES *SEPIETTA PETERSII* (STEENSTRUP 1887) AND NOMENCLATURAL REVISION OF THE GENUS *SEPIETTA* NAEF 1912 (CEPHALOPODA: SEPIOLIDAE)

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*Abstract* In the last quarter of a century, two different specific names have been used in the scientific literature to indicate the same sepioline species, that is *Sepietta obscura* Naef 1916 and *Sepietta petersi* (Steenstrup 1887). The original description of the latter binomen was reviewed, as well as other relevant literature, and *S. petersii* was shown to be an invalid nominal species according to the rules of the International Code of Zoological Nomenclature. The nomenclatural revision of the genus *Sepietta* and the species contained in it was also carried out.

*Key words* Cephalopoda, Sepiolidae, Nomenclature, Species validity

## INTRODUCTION

The Atlanto-Mediterranean genus *Sepietta* (Cephalopoda: Sepiolidae: Sepiolinae) was erected by Naef (1912) – type species *Sepioloa oweniana* d’Orbigny 1841, by monotypy – based on the lack of light organs in the mantle cavity. A few years later, Naef (1916) described the new species *Sepietta obscura* Naef 1916 and *Sepietta neglecta* Naef 1916. Eventually Naef (1923) published the first part, *Systematik*, of his excellent monograph *Die Cephalopoden* in which he fully re-described, with a comparative approach, the genus *Sepietta* and its three species. These species are well defined and doubtless distinguishable from one another (Table 1) (Fig. 1).

The work published by Naef (1923) was universally accepted and soon became the most important reference for modern Mediterranean (and world-wide) teuthology. Hence all *Sepietta* specimens ever since collected in the Mediterranean and the East Atlantic were ascribed to one of the three species reported by Naef (1923) (e.g. Rudolph, 1932; Bello & Motolese, 1983); see also the Mediterranean cephalopod reviews and lists (Torchio, 1968; Mangold-Wirz, 1963; Bello, 1986; Mangold & Boletzky, 1987; Mangold & Boletzky, 1988); note that the latter paper, though issued in 1988, was prepared and submitted for publication in 1986 (Boletzky, pers. comm.).

In 1987 Nesis’ *Cephalopods of the world*, the English translation with additions and correc-

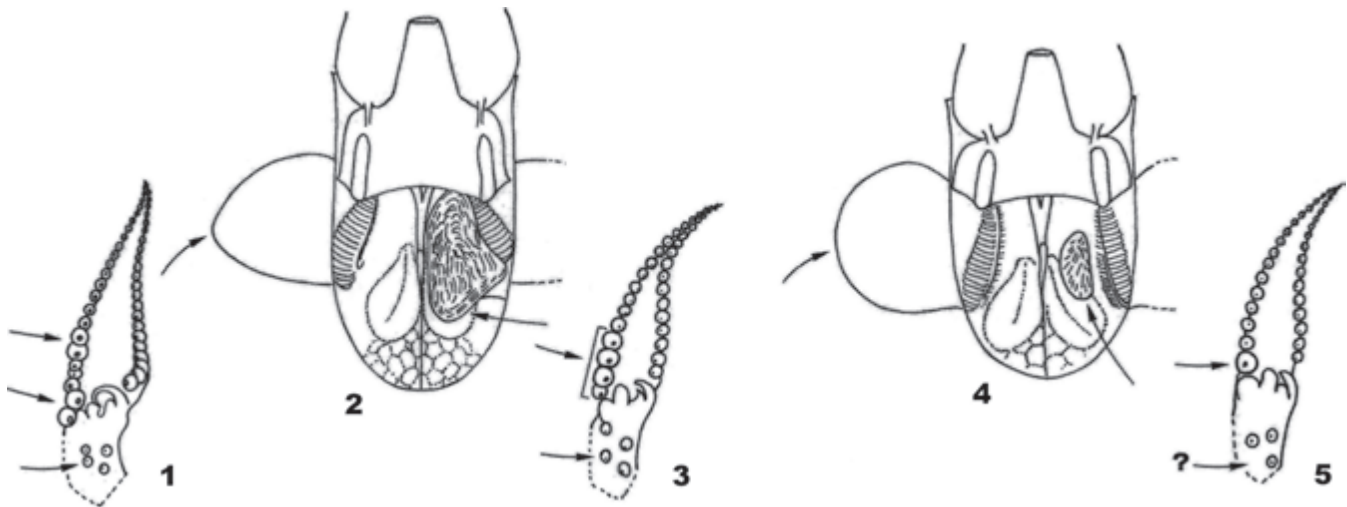
tions of the Russian edition from 1982, was published. This handbook soon became an important reference work. Nesis (1987) ascribed to the genus *Sepietta* the species *S. petersi* (Steenstrup 1887), *S. oweniana* (d’Orbigny 1839) and *S. neglecta* Naef 1916; he considered *S. obscura* Naef 1916 a junior synonym of *S. petersi*. Incidentally, Nesis (1987) used the diagnostic characters given by Naef (1923) to tell apart these three species.

In fact, the vast majority of European teuthologists disregarded Nesis’ (1987) views about the genus *Sepietta* and went on using the binomen *S. obscura* to indicate the *Sepietta* species other than *S. oweniana* and *S. neglecta* (e.g. Orsi Relini & Bertuletti, 1989; Bello, 1990; Guerra, 1992; Katağan, Salman & Benli, 1993; Sartor & Belcari, 1995; Pereira, 1996; Jereb, Mazzola & Di Stefano, 1997; Salman, Katağan & Benli, 2002; Bello, 2003 and 2008; Sanchez, 2009; Vafidis, Kallianiotis, Chartosia & Koukouras 2009).

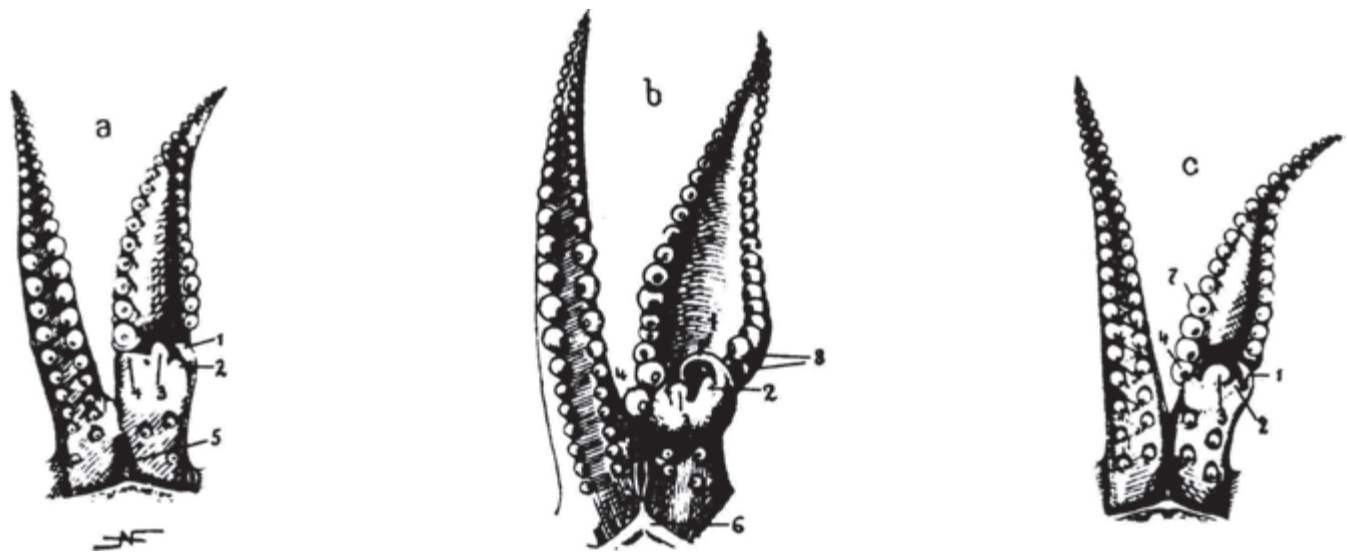
On the contrary, Sweeney & Roper (1998) and Sweeney (2001), in their worldwide cephalopod lists, followed Nesis’ (1987) views and reported *Sepietta petersi* (Steenstrup 1887) instead of *Sepietta obscura* Naef 1916. Moreover, in the *Tree of Life Web Project*, Sweeney & Young (2002) wrote “*Sepietta obscura* Naef, 1916; Current systematic status – *Sepietta petersi* (Steenstrup, 1887) [fide Nesis (1987:127)]” and “*Sepioloa petersii* Steenstrup, 1887:58; Current systematic status – Valid species; *Sepietta petersi* [fide Nesis (1987:127)]” (square brackets are original). In another page of the same *Tree of Life*, Vecchione & Young (2003) recorded

**Table 1** Concise diagnostic characters of the *Sepietta* species; after Naef (1923) and Bello (1995).

Species	Number of sucker rows on tentacle club	Number of suckers on hectocotylus base (males)	Bursa copulatrix size (females)
<i>Sepietta oweniana</i>	32	4	large
<i>Sepietta neglecta</i>	16	4	moderate – large
<i>Sepietta obscura</i>	12	3	small



**Figure 1** Hectocotylus and female mantle cavity of the species of *Sepietta*. 1, 3 and 5: hectocotyli of *S. oweniana*, *S. neglecta* and *S. obscura*, respectively (the arrows point at the enlarged suckers in the inner row of the distal part and the four-suckered basal part; the question mark points at the missing sucker in *S. obscura*). 2: female mantle cavity of both *S. oweniana* and *S. neglecta*; 4: mantle cavity of female *S. obscura* (in both drawings, the arrows point at the fin margin and the bursa copulatrix). After Bello (1995) modified.



**Figure 2** Hectocotyli of the *Sepietta* species; from left to right, *S. obscura*, *S. oweniana* and *S. neglecta*. After Naef (1923: fig. 378).

in the genus *Sepietta* the species *S. neglecta*, *S. oweniana* and *S. petersi*; they also reproduced, slightly modified, Naef's (1923) figure no. 378 (= Fig. 2 herein) which compares the first arm pairs of the species of *Sepietta*, namely *S. obscura*,

*S. oweniana* and *S. neglecta* according to Naef's text, but in the caption they reported *S. petersi* instead of *S. obscura*. It is clear that these authors too consider *S. obscura* Naef 1916 a junior synonym of *S. petersii* Steenstrup 1887.

Reid & Jereb (2005: 182) again brought up the issue of *Sepietta petersi* (Steenstrup 1887), about which they wrote: “Doubtful species, that has been considered the senior name for *S. obscura* Naef 1916. A detailed redescription of all anatomical features of this purported species is needed to solve the problem.”

To the best of the present author’s knowledge, the only papers that in recent times have used the binomen *Sepiola petersi* (Steenstrup 1887) – apart from Nesis’ (1987) handbook and some review lists – are Nesis (2003) and Salman (2009).

The purpose of this note is to re-examine the *Sepietta obscura* – *petersi* issue in order to establish which one is the correct name to indicate the *Sepietta* species other than *S. oweniana* and *S. neglecta*.

#### STEENSTRUP’S *SEPIOLA PETERSII*

Steenstrup communicated at the 18 May 1883 meeting of the Royal Danish Academy of Sciences his 6<sup>th</sup> *Nota Teuthologica* titled “Species generis *Sepiolæ* Maris Mediterranei”, which was later published in the Academy Proceedings (Steenstrup, 1887). In this paper Steenstrup extensively discussed the issue of the occurrence of two forms of ink sac in the genus *Sepiola*, “one simple, elongated pear-shaped, the other short and broad and apparently three-lobed, since laterally it ended in two, fairly large, hollow, ear-shaped, dilatations” (Steenstrup, 1887: 177–178). Steenstrup, moreover, noted that the external walls of the lateral dilatations regularly pulsated; indeed, as is well known today, those lateral expansions are light organs (Naef, 1923). Contrary to the opinion of Peters (1842) – the first scientist to observe two forms of ink sac in “*Sepiola rondeletii*” – the Danish scientist correctly established that the two ink sac forms pertained to different species; hence, he realized that the specific name *Sepiola rondeletii* was a collective name. Steenstrup (1887) recalled the statement by Peters (1842) “zwei verschiedene Species, wo nicht zwei verschiedene Gattungen” and suggested that the striking difference in the shape of the ink sac might be indicative of a subgeneric, if not a fully generic, difference. Naef (1912) based the erection of his new genus *Sepietta* on the lack of visceral light organs, which gives the ink sac of *Sepietta* its pear shape.

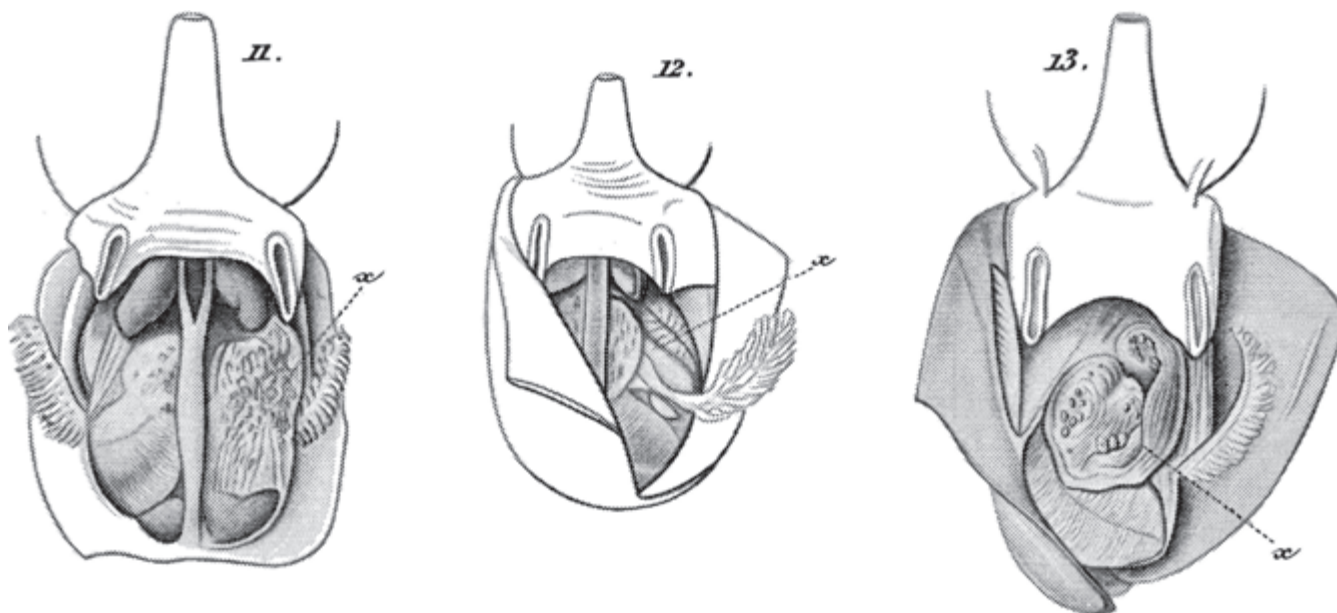
Steenstrup (1887: 184) reported three *Sepiola* species from the Mediterranean Sea, namely “*S. Rondeletii* Leach, *Sep. Oweniana* D’Orb. and *Sp. Petersii* Stp.” (*Stp.* stands for Steenstrup), the first one with the ink sac trilobate – that is a true *Sepiola* by today’s standards – the latter two species with the ink sac simple, which shows that they belong to *Sepietta*. Steenstrup (1887: 184) also reported that these three Mediterranean species “have for decades been kept distinct from each other in our Museum [presently Zoological Museum of the University of Copenhagen, ZMUC] by special specific designations.” The specimens of *Sepiola* sensu Steenstrup 1887 were from “the Adriatic Sea (Trieste), from the bays at Genoa and Nice and several other places on the Mediterranean coast” (Steenstrup, 1887: 183).

At the end of his paper, Steenstrup (1887: 188–189) gave a key to the *Sepiola* species of European seas. The English translation of such a key, originally in Latin in both the Danish and English versions of Steenstrup’s paper, is reported below (the original typographical set up has been retained as much as possible; my interpolations in square brackets).

*Analytical key to the species of the Genus Sepiola from the Mediterranean, Atlantic and German seas known up to the present.*

- a. ink sac trilobate that is eared; fins longer than half the mantle length, equal to 3/5 of it.  
Suckers of all arms biseriate . . . . . 1. *Sep. Rondeletii* Leach  
suckers at the tip of ventral arms multiseri-ate (4-seriate), biseriate on the other [arms] . . . 2. *Sep. Atlantica* D’Orb.
- b. ink sac simple that is pyriform; fins almost as long as half the mantle length, not longer  
Suckers on all arms biseriate . . . . . { 3. *Sep. Petersii* Stp.  
suckers at the tip of ventral arms multiseri-ate, biseriate on the other [arms] . . . . . 2. *Sep. Oweniana* D’Orb. Stp.





**Figure 3** Drawings of *Sepioida* sensu Steenstrup 1887; from left to right: "*Sepioida Rondeletii*" (11), *Sepioida* sp. (12) and "*Sepioida Petersii*" (13); after Steenstrup (1900) modified.

The above key also included *Sepioida Scandica* Steenstrup, a new species, pertaining to the "*fauna anglica et scandinavica*."

A second paper by Steenstrup dealing with the Sepioididae was published posthumously in 1900. Since the part about *Sepioida* species had been not completed by the Author, it was not inserted in the publication – in spite of the paper title –, apart from an instructive plate which includes drawings of "*Sepioida Rondeletii* [fig. 11], *Sepioida* sp. [fig. 12] and *Sepioida Petersii* [fig. 13]" (see Fig. 3 herein).

Between the erection of the two nominal species *Sepioida petersii* Steenstrup 1887 and *Sepioida obscura* Naef 1916, the former binomen was used by a number of scientists. See, for instance, the list of references to *Sepioida* in Jatta (1896). Eventually Naef (1923: 641) dismissed Steenstrup's *Sepioida petersii* and *Sepioida scandica*, that would have pertained to Naef's new genus *Sepioida*, stating that "Steenstrup (1887) grouped at least the species of his genus *Sepioida* according to the form of the ink sac, which he considered as a constant character. He did not distinguish between the species, and his data were therefore not accepted."

## DISCUSSION

The dichotomous key to the species of *Sepioida* of European seas by Steenstrup (1887) subdi-

vides the species with "trilobate ink sac", namely *Sepioida rondeletii* and *Sepioida atlantica* – that is true *Sepioida* species by modern standards – from those with "pear-shaped ink sac", namely *Sepioida petersii* n.sp., *Sepioida scandica* n.sp. and *Sepioida oweniana* – that is *Sepioida* species according to our present knowledge.

As for the first *Sepioida* group, the characters given in the key are sufficient to separate the two "species", as they were known at that time. Indeed *S. rondeletii* sensu Steenstrup 1887 was later on found to be a collective name that included several *Sepioida* species (Naef, 1923) and the characters defining *S. atlantica* would also fit *Sepioida steenstrupiana* Levy 1912 (Naef, 1923).

As regards the group of sepiolines with pear-shaped ink sac, i.e. the genus *Sepioida* Naef 1912, the definitions given by Steenstrup are not sufficient to discriminate different species of *Sepioida*. First of all, according to the key infrasubdivision, *S. oweniana* might be separated from *S. petersii* + *S. scandica* thanks to tips of its ventral arms bearing pluriserial (more than two) rows of suckers, which is not true (Naef, 1923)! Secondly, no character is given to discriminate *S. petersii* and *S. scandica* from each other, apart from their geographic distributions, since, according to Steenstrup (1887), the former species lives in the Mediterranean Sea and the latter in English and Scandinavian seas.

In the observations following the key, also in Latin, Steenstrup (1887) added that the five *Sepiolo* species differ from each other because of the relative size of the tentacle club suckers, the number of sucker longitudinal rows on the club and the number of teeth in the club sucker rings. He further stated that the club of *S. oweniana*, with very small suckers, was most different within the genus. The latter feature is indeed a peculiarity of the true *S. oweniana* (cf. Naef, 1923).

Furthermore, the drawing of "*Sepiolo Petersii* Stp.", fig. 13 in the plate of Steenstrup (1900) (Fig. 3), depicts a specimen of *Sepietta*, as denoted by the lack of light organs, which is a female of the species *S. oweniana* most probably, given the very large bursa copulatrix (pointed at by the *x* in the figure) (plate 1). Note that the bursa copulatrix somewhat contracts following copulation, which is the present case as shown by the occurrence of spermatangia implanted on it (Fig. 3), so this is a very large bursa copulatrix that cannot pertain to *S. petersii* = *S. obscura*.

To sum up, the description of *Sepiolo petersii* Steenstrup 1887 in the key and observations (Steenstrup, 1887) and the illustration in the plate (Steenstrup, 1900) are not sufficient to discriminate any species of *Sepietta*. In such cases the examination of type specimens should help in solving the problem. Fortunately the specimens which Steenstrup (1887: 184) referred to (see previous section) are still kept at the ZMUC and were already examined by Kristensen & Knudsen (1983). These Authors found that the 18 syntypes of *Sepiolo petersii* Steenstrup, 1887 (2 ♂♂, 15 ♀♀, 1 ind.; from Trieste, northern Adriatic Sea, Steenstrup *leg.*, 1869) belonged indeed to *Sepietta oweniana* (d'Orbigny 1839 [sic!, corrected: 1841]). The same holds true for *Sepiolo scandica* Steenstrup 1887: the two syntypes (1 ♂ collected off Frederikshavn, Denmark, Kattegat, and 1 ♀ from the Faeroes, North Atlantic Ocean) are in fact *S. oweniana* (Kristensen & Knudsen, 1983). Hence both binomina *Sepiolo petersii* Steenstrup 1887 and *Sepiolo scandica* Steenstrup 1887 are junior synonyms of *Sepietta oweniana* (d'Orbigny 1841) and, as such, are invalid under Art. 23.1 of the International Code of Zoological Nomenclature (International Commission on Zoological Nomenclature, 1999) (hereafter abbreviated as ICZN).

It is not clear why Nesis (1987) revived the name *Sepietta petersii* (Steenstrup 1887) after some

80 years of oblivion and considered it the senior synonym of *Sepietta obscura* Naef 1916. Note, however, that the original Russian version of Nesis' (1982) handbook was published before Kristensen & Knudsen (1983), so that Nesis could not possibly know of the results of the examination of *Sepiolo petersii* syntypes by those Authors. Note also the spelling of *petersii* with a single final *-i* in Nesis (1987), instead of two final *-ii* as in the original spelling (Steenstrup, 1887).

Despite the invalidity of his purported new species, viz. *S. petersii* and *S. scandica*, Steenstrup (1887) showed that two forms of ink sac – indeed the presence and the absence of light organs in the mantle cavity – discriminate two groups (today we should say two clades) of sepiolines. Naef based his definition of the Mediterranean genera of Sepiolinae just on the characters absence/presence and shape of such light organs (Naef, 1912 and 1916).

#### SYSTEMATICS OF *SEPIETTA*

Order SEPIOLIDA Fiononi 1981  
Family SEPIOLIDAE Leach 1817  
Subfamily SEPIOLINAE Leach 1817

Genus *Sepietta* Naef 1912

*Work* Adolf Naef, 1912 – Die Gattungen der Sepioliden. *Zoologische Anzeiger* 39: 244–248 [248].

*Definition* "Leuchtorgane fehlen. Saugnäpfe auf den Armen wie bei b, auf den Tentakelkeulen in 16 oder mehr Reihen und sehr klein. Nackenband, Habitus, Hectocotylisation wie bei b. Schale sehr schwach entwickelt, nicht immer deutlich" (Naef, 1912: 248) [Note: "b" corresponds to the genus *Sepiolo*].

*Gender* Feminine.

*Derivation of name* Not stated.

*Type species* *Sepiolo oweniana* d'Orbigny 1841, by monotypy.

*Other species originally included in the genus* None.

*Sepietta oweniana* (d'Orbigny in Férussac & d'Orbigny 1841)

*Work* André de Férussac et Alcide d'Orbigny, 1834–48 – *Histoire naturelle générale et particulière des Céphalopodes Acétabulifères vivants et fossiles*. Paris, 2 vol., 366 pp., 144 pls. : 229–230 [229].

*Original spelling and combination* *Sepioloa Oweniana*.

*Definition* The Author gave a two-page long description; in the paragraph *Rapports et différences* he compared this species to *Sepioloa rondeletii*, the only other in the genus *Sepioloa* sensu d'Orbigny 1841: "... elle s'en distingue facilement par une forme plus allongée, par son corps ovoïde, par ses nageoires, plus petites, plus larges, par sa tête plus longue, par ses bras sessiles, beaucoup plus longs, par ses bras contractiles, de plus du double de longueur, et non élargis à leur extrémité, et peut-être par la manque d'osselet. C'est, au reste, de toutes les espèces, la plus allongée, et celle dont les bras sont couverts de plus petites cupules" (Férussac & d'Orbigny, 1834–48: 230).

*Derivation of name* Based on the family name of Richard Owen: "... nous la dédions à M. Owen" (Férussac & d'Orbigny, 1834–48: 230).

*Type locality* Not designated: "... nous ignorons entièrement d'où ils viennent" (Férussac & d'Orbigny, 1834–48: 230).

*Type specimen* 2 syntypes, no longer extant: "Nous en avons examiné deux exemplaires, l'un appartenant au Muséum d'histoire naturelle, l'autre, à notre collection" (Férussac & d'Orbigny, 1834–48: 230).

*Type repository* Muséum National d'Histoire Naturelle of Paris; the type specimen said to be kept there was not found by Lu, Boucher-Rodoni & Tillier (1995).

*Systematic status* Valid species.

*Note about the date of publication of the species* Although the authorship of *S. oweniana* has been commonly ascribed to d'Orbigny, its date of pub-

lication has been variously quoted as 1839 (e.g. Kristensen & Knudsen, 1983), 1840 (e.g. Bello, 1986), 1841 (e.g. Bello, 1995) or even as a range of dates, i.e. 1839–1941 (e.g. Sweeney, 2001) and 1839–1842 (e.g. Cuccu, Mereu, Cannas, Marcias, Cau & Jereb, 2010). Indeed, the binomen *Sepioloa oweniana* and its description are reported at pages 229–230 of Férussac & d'Orbigny (1834–1848) and its depiction in plate 3 (figs 1–5) of the same work, which parts were published in the years 1841 and 1839–42 respectively (Tillier & Boucher-Rodoni, 1993). Art. 21.6 of the ICZN states "if the date of publication specified in a work is a range of date, the work is to be dated from the final day of the range" whence it derives that, for priority purposes, the publication date of plate 3 of Férussac & d'Orbigny (1834–48) is 1842, which is later than the publication date of pages 229–230, i.e. 1841. Therefore the original description of *Sepioloa oweniana* d'Orbigny is the written one (Férussac & d'Orbigny, 1834–48 [1841]: pp. 229–230) and not the figured one (Férussac & d'Orbigny, 1834–48 [1839–42]: pl. 3), and its official date of publication is 1841.

*Sepietta obscura* Naef 1916

*Work* Adolf Naef, 1916 – Ueber neue Sepioliden aus dem Golf von Neapel. *Pubblicazioni della Stazione Zoologica di Napoli* 1: 1–10 [4].

*Original spelling and combination* *Sepietta obscura*.

*Definition* The Author defined the species by a two-page long detailed description, which also includes two text figures; the main diagnostic characters differentiating *S. obscura* from the other *Sepietta* species are reported hereafter. The description of the hectocotylus is most accurate and includes the following parts: "Am Grunde verbindet ihn eine wulstige Hautfalte auf eine kleine Strecke mit dem rechten Dorsalarm [...] Vor dem *Apparatus copulator* stehen, wie bei den meisten *Sepioloa*-Arten, drei kleine Nöpfe [...] Der *Apparatus* stellt einen queren Kamm dar, an dem man deutlich vier Erhebungen beobachtet, von denen die lateralste eine gewöhnlich einwärts gekrümmten Zahn darstellt, welcher mehr oder weniger frei stellt. [...] [The suckers] sind auf der Innenreihe normal ausgebildet, die ersten jedoch merklich stärker als am rechten Dorsalarm ver-



grössert, am stärksten der erste [...] gegen die Spitze hin nimmt die Grösse der Näpfe gleichmässig ab. [...]” (Naef, 1916: 4–5). Other diagnostic characters concern the tentacle club: “Die Tentakelkeule trägt mässig kleine Näpfchen, von denen auf den schrägen Querreihen, die man, wenigstens in der Nähe des Schwimmsaums, deutlich erkennen kann, weniger als 16 (meist zählt man in mittleren Teil etwa 12) stehen” (Naef, 1916: 5); the fins: “Die Flossen zeigen einen nahezu kreis förmigen Umriss [...]” (Naef, 1916: 5); and the colour: “Die Färbung des lebenden Tieres ist, in völlig wohlbehaltenem Zustand, rotbraun, entschieden dunkler (daher der Name) als bei folgender Art [i.e. *Sepietta oweniana*] [...]” (Naef, 1916: 5).

*Derivation of name* From the Latin *obscurus*, dark-coloured: “Die Färbung des lebenden Tieres ist, in völlig wohlbehaltenem Zustand, rotbraun, **entschieden dunkler (daher der Name) als bei folgender Art** [i.e. *Sepietta oweniana*], von der sie sich durch die Grösse auf den ersten Blick unterscheidet” [bold type emphasis is mine] (Naef, 1916: 5). Indeed the Latin ‘*obscurus*’ means ‘dark’ in both a proper and a figurative sense, i.e. ‘devoid or partially devoid of light’ = ‘dark-coloured’ and ‘obscure’ = ‘not clear to the understanding’, respectively; however Naef clearly refers to the animal colouration which is “distinctly darker than *S. oweniana*” when both alive and alcohol-preserved (Naef, 1923: 652). Hence the genesis of the FAO official names, that is “mysterious bobtail squid” (English), “sépiele mystérieuse” (French) and “sepieta misteriosa” (Spanish) (e.g. Reid & Jereb, 2005), is really a mystery! It would be appropriate to re-name this species “dark bobtail squid”.

*Type locality* “Neapel, Triest” [Naples, Tyrrhenian Sea, western Mediterranean; Trieste, Adriatic Sea, eastern Mediterranean].

*Type specimen* “Neapel 500 Stück, Triest 300 Stück” [Naples 500 specimens, Trieste 300 specimens].

*Type repository* Not designated, most probably Stazione Zoologica di Napoli; specimens not found.

*Systematic status* Valid species.

### *Sepietta neglecta* Naef 1916

*Work* Adolf Naef, 1916 – Ueber neue Sepioliden aus dem Golf von Neapel. *Pubblicazioni della Stazione Zoologica di Napoli* 1: 1–10 [9].

*Original spelling and combination* *Sepietta neglecta*.

*Definition* The Author defined the species by a one-page long detailed description, which also includes two text figures; the main diagnostic characters differentiating *S. neglecta* from the other *Sepietta* species are reported hereafter. The description of the hectocotylus includes the following parts: “Der Hectocotylus von *Sepietta neglecta* zeigt am Grunde vier kleine, normal gestellte Näpfe, ebenso wie bei der vorigen Art [i.e. *S. oweniana*]; darauf folgt der Apparatus copulator. [...] Der distale Armteil [...]; seine innere Napfreihe zeigt zuerst vier ziemlich beträchtlich und gleichmässig vergrösserte Saugnäpfe, darauf einen sehr merklich kleineren, an den sich weiterhin etwa 15, an Grösse langsam und gleichmässig abnehmende Näpfe anschliessen. [...]” (Naef, 1916: 9). Additional diagnostic characters concern the body size and the fins: “Die Art schliesst sich eng an *Sepietta Oweniana* an, ist aber viel kleiner als diese und erreicht kaum 5 cm Gesamtlänge. Die Flossen zeigen noch stärker als bei der vorigen Art [i.e. *S. oweniana*] den herzartigen Umriss [...] (Naef, 1916: 9); the tentacles: “Die Tentakel sind auffallend zart und die Keule klein und schmal mit gleichmässig sehr kleinen Näpfen besetzt [...]. Sie stehen auf den schrägen Reihen zu über 16” (Naef, 1916: 10); and the colour: “Der Färbung nach gleichen die Tiere der *S. obscura*, sind also im Leben wohl dunkel rotbraun” (Naef, 1916: 10).

*Derivation of name* Not stated, however from the Latin *neglectus*, neglected; possibly referring to its diminutive appearance with respect to *S. oweniana*; with regard to this, it is noteworthy that all sepioline specific names created by Naef refer to physical characters of the species, such as *ligulata*, often with a comparative significance, i.e. *affinis*, *intermedia*, *robusta*, *tenera*, *obscura*, *minor*.

*Type locality* “Golf von Neapel” [Gulf of Naples, Tyrrhenian Sea, western Mediterranean]

*Type specimen* "Etwa 100 Stücke" [about 100 specimens].

*Type repository* Not designated, most probably Stazione Zoologica di Napoli; specimens not found.

*Systematic status* Valid species.

### INVALID SPECIES

#### *Sepietta petersii* (Steenstrup 1887)

*Work* Japetus Steenstrup, 1887 – Notæ Teuthologicae. 6. Species generis *Sepiolæ* Maris Mediterranei. *Oversigt over det Kongelige Danske Videnskabernes Selskabs Forhandlinger*: 47–66 [58]. [English translation by A. Volsøe, J. Knudsen & W. Rees, 1962, in *The cephalopod papers of Japetus Steenstrup*. Danish Science Press Ltd.: 176–189. Page numeration refers to this translation.]

*Original spelling and combination* *Sepiola Petersii*.

*Definition* "Bursa atramenti simplici s. pyriformi; pinnis longitudine dimidium pallii fere æquantibus, haud superantibus. Cupulis omnium brachiorum biseriatis" (Steenstrup, 1887: 189).

*Derivation of name* Based on the family name of Wilhelm Peters, the first scientist to discover and describe two forms of ink sac in "*Sepiola rondeletii*": "By the specific name I have tried, in general, to recall the indefatigable efforts which my late colleague and friend Dr. Peters had made for decades in order to clear up the matter ..." (Steenstrup, 1887: 184).

*Type locality* Trieste, northern Adriatic Sea.

*Type specimen* 18 syntypes.

*Type repository* Zoological Museum of the University of Copenhagen.

*Systematic status* Invalid species under Art. 23.1 of the ICZN, junior synonym of *Sepietta oweniana* (d'Orbigny 1841), fide Kristensen & Knudsen (1983). Available name under Arts. 10–12 of ICZN. *Sepietta petersi* (Steenstrup 1887) sensu

Nesis 1987 is indeed a species different from that actually so named by Steenstrup (cf. Discussion); it is in fact a junior synonym of *Sepietta obscura* Naef 1916.

#### *Sepiola scandica* Steenstrup 1887

*Work* Japetus Steenstrup, 1887 – Notæ Teuthologicae. 6. Species generis *Sepiolæ* Maris Mediterranei. *Oversigt over det Kongelige Danske Videnskabernes Selskabs Forhandlinger*: 47–66 [65]. [English translation by A. Volsøe, J. Knudsen & W. Rees, 1962, in *The cephalopod papers of Japetus Steenstrup*. Danish Science Press Ltd.: 176–189. Page numeration refers to this translation.]

*Original spelling and combination* *Sepiola Scandica*.

*Definition* "Bursa atramenti simplici s. pyriformi; pinnis longitudine dimidium pallii fere æquantibus, haud superantibus. Cupulis omnium brachiorum biseriatis." Further description: "Valvula infundibuli, in maribus duplo vel triplo minor quam in feminis, mari *Sepiolæ* Scandicæ (? = Sep. *Rondeletii* faunæ anglicæ et scandinavicæ) omnino deesse videtur" (Steenstrup, 1887: 189).

*Derivation of name* Not stated, however based on the geographical name Scandinavia, the broader area where the specimens were collected (cf. under Definition and Type locality).

*Type locality* Frederikshavn, Denmark, Kattegat and Faeroe Islands, NE Atlantic Ocean.

*Type specimen* 2 syntypes.

*Type repository* Zoological Museum of the University of Copenhagen.

*Systematic status* Invalid species under Art. 23.1 of the International Code of Zoological Nomenclature (ICZN, 1999), junior synonym of *Sepietta oweniana* (d'Orbigny 1841), fide Kristensen & Knudsen (1983). Available name under Arts. 10–12 of the ICZN.

Identification guides to the species of the genus *Sepietta*, in addition to Naef (1916 and 1923) and Nesis (1987), are in Guerra (1992), Bello (1995) and Reid & Jereb (2005). Cladistic analyses involving



the genus *Sepietta* are in Bello (1998), Nishiguchi, Ruby & McFall-Ngai (1998), Nishiguchi, Lopez & Boletzky (2004), Groenenberg, Goud, De Heij & Gittenberger (2010).

#### ACKNOWLEDGEMENTS

I am most grateful to Dr. Sigurd Boletzky for kindly reviewing the present paper.

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