

NOTES IN OPISTHOBRANCHIA (MOLLUSCA, GASTROPODA) 8.
On the interpretation of the Code and the synonymies of
***Spurilla onubensis* Carmona, Lei, Pola, Gosliner, Valdés & Cervera,**
2014 and *Berghia dakariensis* Pruvot-Fol, 1953
(Mollusca: Nudibranchia: Aeolidida)

¹Ortea, J. & ^{2,3}Caballer, M.

¹ Departamento BOS, Zoología, Universidad de Oviedo. Oviedo, España

² Muséum National d'Histoire Naturelle, 55 rue de Buffon, 75005 Paris, Francia

³ Centro de Oceanología y Estudios Antárticos

Instituto Venezolano de Investigaciones Científicas. Ctra. Panamericana Km 11, Miranda, Venezuela.

* Corresponding author: manuelcaballergutierrez@hotmail.com

ABSTRACT

Spurilla onubensis Carmona, Lei, Pola, Gosliner, Valdés & Cervera, 2014, from Spain and Morocco, is proposed to be a junior synonym of *Spurilla croisiceensis* Labbé, 1923 (Type locality: Croisic, France), due to their identical external anatomy, coloration and radula. *Berghia dakarieusis* (Pruvet-Fol, 1953), recently redescribed from Senegal and posteriorly considered synonymous to *Berghia benteva* (Er. Marcus, 1958) is reinstated based on the Principle of Priority established in the International Code of Zoological Nomenclature.

Key words: Opisthobranchia, systematics, Atlantic, amphiatlantic, reinstatement, ICZN, Principle of Priority, *Spurilla*, *Berghia*.

RESUMEN

Se propone la sinonimia de *Spurilla onubensis* Carmona, Lei, Pola, Gosliner, Valdés & Cervera, 2014, descrita a partir de animales del sur de España y de Marruecos, con *Spurilla croisiceensis* Labbé, 1923 (Localidad tipo: Croisic, Francia) con la misma arquitectura corporal, coloración y rádula. En base a la ley de prioridad establecido en el Código Internacional de Nomenclatura Zoológica, se reinstaura la validez de *Berghia dakariensis* (Pruvet-Fol, 1953), recientemente redescrita en Senegal y posteriormente pasada a la sinonimia con *Berghia benteva*.

Palabras clave: Opisthobranchia, sistemática, Atlántico, anfiatlántico, restablecimiento, ICZN, ley de prioridad, *Spurilla*, sinónimos.

INTRODUCTION

Spurilla croisicensis (Labbé, 1923) is a big, peach-red colored, aeolidacea that inhabits the Atlantic coasts of France. This species was very well described by LABBÉ (1923a; 1923b; 1923c, 1930, 1932), and has been considered by other specialists in the Family Aeolidiidae Gray, 1827 or as a model for histology (HENNEGUY, 1925; NAVILLE, 1926; ROUSSEAU, 1927, ROUSSEAU, 1931; ROUSSEAU, 1934; ROUSSEAU, 1935; ROUSSEAU, 1936; TARDY, 1969; NORDSIECK, 1972; WÄGELE & JOHNSEN, 2001). PRUVOT-FOL (1954) give a detailed description on the species but points out the possibility that *S. croisicensis* may be a variety of *Aeolidiella glauca* (Alder & Hancock, 1845). Posteriorly, CARMONA, LEI, POLA, GOSLINER, VALDÉS & CERVERA (2014a) tackle a deep review of the genus *Spurilla* Bergh, 1864, and describe *Spurilla onubensis* Carmona, Lei, Pola, Gosliner, Valdés & Cervera, 2014 from Spain and Morocco, in base to specimens that fit perfectly in the original description of *S. croisicensis*.

Spurilla dakariensis Pruvot-Fol, 1953 has been redescribed by CABALLER & ORTEA (2013) in base to one specimen from Senegal, which was deposited as neotype in the Muséum national d'Histoire naturelle in Paris (MNHN). This species was transferred to the genus *Berghia* Trinches, 1877 and compared to *Berghia benteva* (Er. Marcus, 1958), a junior synonym. CARMONA, POLA, GOSLINER & CERVERA (2014a) in their revision of *Berghia* consider 10 valid species in the world, one of them *B. benteva*, with *B. dakariensis* on the list of synonymies.

This systematic note, the eighth published in the series, tackles the reinstatement of the names *S. croisicensis* and *B. dakariensis* supported by the Principle of Priority (ICZN, 1999).

SYSTEMATICS

Family AEOLIDIIDAE Gray, 1827

Genus *Spurilla* Bergh, 1864

Spurilla croisicensis (Labbé, 1923)

Aeolidiella croisicensis Labbé, 1923a: Bulletin de la Société des Sciences Naturelles de l'Ouest de la France, Proces Verbaux, series 4, 3: 9. Type locality: Croisic, France.

Synonymy: *Spurilla onubensis* Carmona, Lei, Pola, Gosliner, Valdés & Cervera, 2014a.

Description: See LABBÉ (1923a; 1923b; 1923c, 1930, 1932).

Genus *Berghia* Trinches, 1877

Berghia dakariensis (Pruvot-Fol, 1953)

Spurilla dakariensis Pruvot-Fol, 1953: Travaux de l'Institut Scientifique Chérifien 5. Neotype: 35 mm long alive (15 mm preserved), deposited in MNHN. Type locality: Wreck "La Russe" (14°38.1'N 17°18.9'W), Gorée Bay, Dakar, Senegal, 17 m deep.

Synonymy: *Baeolidia benteva* Marcus 1958.

Description: See CABALLER & ORTEA (2013).

DISCUSSION

The opisthobranch fauna from Croisic has been studied by LABBÉ (1923), who described 5 new species from this french station, one of them *Spurilla croisicensis*. This species reaches up to 30 mm long, with the body “garance” red, pinkish foot, apex of the cerata and rhinophores white, rhinophores with transversal folds, smooth jaws and 16 radular plates with 24-26 denticles on each side. Several years later LABBÉ (1930) gave complementary data on *S. croisicensis*, which has red rhinophores folded transversally, 14-15 rows of cerata (7-8 arches) and an anterior collar composed of small cerata, similar to that of *Aeolidiella glauca*, but with the same color as the rest. Additionally, he illustrated the radular tooth of *S. croisicensis*, with 36-40 lateral denticles, identical to the one figured by CARMONA *et al.* (2014a: Fig. 6 B). JUST & EDMUND (1985), in their effort to recover the unpublished work of Lemche, do not consider the papers of LABBÉ (1923a; 1930), and illustrate as *Spurilla* sp. A (JUST & EDMUND, 1985: Plate 68) one specimen from Arcachon (France) collected and sketched by Lemche in 1969. CARMONA *et al.* (2014a) identify *Spurilla* sp. A with *Spurilla onubensis* given that they have “*exactly the same color pattern*”, which they consider typical, but this pattern also matches perfectly with the description of LABBÉ (1923a; 1930). Due to the coincidence in the distribution, the external morphology, the color pattern and the radular morphology among other characters, we propose the synonymy of *S. onubensis* with *S. croisicensis*, the oldest name, applying the Principle of Priority established in the Code (International Commission on Zoological Nomenclature, 1999: Glossary): “*The principle that the valid name of a taxon is the oldest available name applied to it (taking into consideration the other provisions of Article 23), provided that the name is not invalidated by any provision of the Code or by any ruling by the Commission [Art. 23]*”.

CARMONA *et al.* (2014) necessarily ought to know the paper of LABBÉ (1923a), because it appeared in the reference list of another paper published in 2014 by 4 of the authors (CARMONA, POLA, GOSLINER & CERVERA, 2014b) about the genus *Berghia*. In addition, *Spurilla margaritae* Labbé, 1923, another of the 5 species from Croisic described by LABBÉ (1923a) together with *S. croisicensis*, was included in the list of synonymies of *Berghia verrucicornis* (Costa, 1867). The omission of old species such as *S. croisicensis* is inexplicable, far more in the context of the global review of the genus as the one tackled by CARMONA *et al.* (2014a).

Berghia dakariensis was described by PRUVOT-FOL (1953) in base to some specimens collected in Dakar, Senegal. The description of the species was certainly not exhaustive, but was enough to identify *B. dakariensis* if new material was found in the type locality. Thus, CABALLER & ORTEA (2013) using one specimen from Dakar, redescribed the species and designated a neotype (deposited in MNHN). Their description included a color plate, some schemes on the internal anatomy and was detailed enough ensure the recognition of the specimen designated as neotype and to identify a new junior synonym to the species, *Berghia benteva*. Contemporaneously, CARMONA, POLA, GOSLINER & CERVERA (2013) published a revision of the Aeolidiidae in which they consider *Spurilla dakariensis nomen dubium*, since they were not able to identify the species with their material from Huelva (Spain) and Agadir (Morocco), which actually belonged to an undescribed taxa (*Spurilla* sp. A), that was posteriorly described as *Spurilla onubensis* by CARMONA *et al.* (2014a). CARMONA *et al.* (2014b) besides the redescription of *B. dakariensis* (CABALLER & ORTEA, 2013), insisted on considering it a *nomen dubium*, even when it had been identified beyond doubt and ignoring the NOMENCLATURAL ACT of the establishment of a neotype for the species, sup-

ported by the Code (ICZN, 1999: Art 75). This authors (Carmona *et al.*, 2014b) argued again that PRUVOT-FOL (1953) “*did not provide any information about the external coloration of the animal, the ornamentation of the rhinophores or the arrangement of the cerata, only pointing out the large size of the species and the shape of the jaw and radular teeth*”, and repeated that “*some forms of Spurilla neapolitana, Spurilla sp. A and Spurilla brasiliensis could be attributed to Spurilla dakariensis*”.

The International Code of Zoological Nomenclature (ICZN, 1999) is not a penal code, is code of ethics, a guide for the universal behavior of all those who work in the inventory of the Animal Kingdom. The Code do not include penalties against those who try to take species from others and its boundaries do not go beyond the inviolable framework of the established order.

We don't know if CARMONA *et al.* (2014b) consider invalid the redescription of *B. dakariensis*, the neotype (not mentioned in their paper) or the Code (they don't discuss the status of the neotype), but they transfer *B. dakariensis* to the list of synonymies of *B. benteva* and stated that this was probably the only amphiatlantic species in the genus *Berghia*.

As far as *B. dakariensis* has been redescribed, a neotype has been designated accordingly to the Code (ICZN, 1999), and there has not been any proposal of invalidation, we consider again the reinstatement of *B. dakariensis* as a valid species and the synonymy of *B. benteva* under the Principle of Priority (ICZN, 1999).

In recent times, some authors seem to pay no attention to the old names, the contemporary literature and in some cases, to the Code (ICZN, 1999), which may be interpreted in inexplicable ways. This could be due to the increasing dependence on internet, databases, or papers electronically available, or to the great impact of the molecular biology, which is undoubtedly a new and fantastic tool for the Taxonomy but not a goal itself.

Another example of this, may be the absence of *Facelina variegata* d'Oliveira, 1929 in the list of synonymies of *B. verrucicornis* (CARMONA *et al.*, 2014b), proposed by ORTEA, BACALLADO & MORO (2012), which is neither discussed.

REFERENCES

- CARMONA L., B.R. LEI, M. POLA, T.M. GOSLINER, Á. VALDÉS & J.L. CERVERA. 2014a. Untangling the *Spurilla neapolitana* (Delle Chiaje, 1841) species complex: a review of the genus *Spurilla* Bergh, 1864 (Mollusca: Nudibranchia: Aeolidiidae). *Zoological Journal of the Linnean Society*, 170(1): 132–154
- CARMONA, L., M. POLA, T.M. GOSLINER & J.L. CERVERA. 2013. A tale that morphology fails to tell: a molecular phylogeny of Acolidiidae (Aeolidida, Nudibranchia, Gastropoda). *PloS One*, 8: e63000. doi:10.1371/journal.pone.0063000
- CARMONA, L., M. POLA, T.M. GOSLINER & J.L. CERVERA. 2014b. The Atlantic-Mediterranean genus *Berghia* (Mollusca, Nudibranchia, Aeolidiidae). Taxonomic review and phylogenetic analysis. *Journal of Molluscan Studies* doi 10.1093/mollus/eyu031.
- HENNEGUY, L. F. 1925. Contribution à l'histologie des nudibranches. *Archives d'Anatomie Microscopique*, Paris 21: 400-468, pl. 5.
- ICZN. 1999. *International Code of Zoological Nomenclature*, ed. 4: The International Trust for Zoological Nomenclature, London, 306 pp.

- JUST, H. & M. EDMUNDS. 1985. North Atlantic nudibranchs (Mollusea) seen by Henning Lemche, with additional species from the Mediterranean and the north east Pacific. *Ophelia Supplement*. 2: 1-170.
- LABBÉ, A. 1923a. Description sommaire de cinq nouvelles espèces d'Éolidiens trouvées à la station du Croisic. *Bulletin de la Société des Sciences Naturelles de l'Ouest de la France, Proces Verbaux*, series 4, 3: 7-10.
- LABBÉ, A. 1923b. Note préliminaire sur cinq espèces nouvelles d'Éolidiens de la Station de Croisic. *Bulletin de la Société Zoologique de France*, 48: 265-268.
- LABBÉ, A. 1923c. La genèse des nématocysts des Nudibranches. *Comptes Rendus Hebdomadaires des Séances de l'Academie des Sciences*, Paris, 176: 1508-1510.
- LABBÉ, A. 1930a. Remarques sur les genres *Aeolidiella* Bergh, *Spurilla* Bergh, et *Berghia* Trinchese. *Bulletin de la Société Zoologique de France*, 54: 619-630.
- LABBÉ, A. 1932. Liste de nudibranches recueillis à la Station du Croisic de 1913 à 1931. *Bulletin de la Société Zoologique de France*, 56: 440-454.
- NAVILLE, A. 1926. Notes sur les éolidiens. Un éolidien d'eau saumâtre. Origine des nématocystes zooxanthelles et homochromie. *Revue Suisse de Zoologie* 33: 251-289.
- NORDSIECK, Fritz. 1972. *Die europäischen Meeresschnecken (Opisthobranchia mit Pyramidellidae; Rissoacea), Vom Eismeer bis Kapverden, Mittelmeer und Schwarzes Meer*, xiii + 327. Gustav Fischer Verlag, Stuttgart.
- ORTEA, J., J.J. BACALLADO & L. MORO. 2012. Notas en Opisthobranchia (Mollusea, Gastropoda) 4. Sobre la sinonimia de *Facelina variegata* De Oliveira, 1895 con *Berghia verrucicornis* (Costa, 1867) (Nudibranchia; Facelinidae). *Vieraea*, 40: 93-96.
- PRUVOT-FOL, A. 1953. Étude de quelques Opisthobranches de la côte atlantique du Maroc et du Sénégal. *Travaux de l'Institut Scientifique Chérifien* 5: 1-105.
- PRUVOT-FOL, A. 1954. *Mollusques Opisthobranches. Faune de France*, Paris 58: 1-460.
- ROUSSEAU, C. 1927. Les nématocystes des éolidiens. *Bulletin de la Société des Sciences Naturelles de l'Ouest de la France*, series 4, 37: 1-26, pl. 1.
- ROUSSEAU, C. 1931. Sur la présence de zooxanthelles chez les Éolidiens. *Comptes Rendus Hebdomadaires des Séances de l'Academie des Sciences*, Paris 193(20): 954-956.
- ROUSSEAU, C. 1934. Sur la structure de l'épithélium hépatique des Éolidiens. *Comptes Rendus Hebdomadaires des Séances de l'Academie des Sciences*, Paris 198(7): 677-679.
- ROUSSEAU, C. 1935. Histophysiologie du foie des éolidiens. Étude de leurs xanthelles cytologie des cellules nématophages. *Archives d'Anatomie Microscopique*, 31(3): 305-395.
- ROUSSEAU, C. 1936. Histophysiologie du foie des éolidiens. Étude de leurs xanthelles cytologie des cellules nématophages. Thèses présentées à la Faculté des Sciences de l'Université de Paris, pp. 305-395. Masson et Cie.
- TARDY, J. P. 1969. Étude systématique et biologique sur trois espèces d'Aeolidielles des côtes européennes (Gasteropodes Nudibranches). *Bulletin de l'Institut Océanographique*, Monaco 68(1389): 1-40, pls. 1-15.
- WÄGELE, H., & G. JOHNSEN. 2001. Observations on the histology and photosynthetic performance of solar-powered" opisthobranchs (Mollusea, Gastropoda, Opisthobranchia) containing symbiotic chloroplasts or zooxanthellae. *Organisms, Diversity & Evolution* 1(3): 193-210.