

Lectotypification of *Gymnogongrus ligulatus*. An addendum to “Two novel species of *Yonagunia* (Halymeniales, Rhodophyta) were uncovered in the South of Madagascar during the Atimo-Vatae Expedition”

Antonio MANGHISI ^{a,b*}, Marina MORABITO ^a & Line LE GALL ^b

^a Department of Chemical, Biological, Pharmaceutical and Environmental Sciences, University of Messina, Salita Sperone, 31, 98166 Messina, Italy

^b Institut de Systématique, Évolution, Biodiversité, UMR 7205 CNRS, EPHE, MNHN, UPMC, Équipe Exploration, Espèces, Évolution, Muséum National d’Histoire Naturelle, case postale N° 39, 57 rue Cuvier, 75231 Cedex 05 Paris, France

Abstract – In the cited article, we proposed the new combination *Yonagunia ligulata* (Harvey ex Kützing) Manghisi, M. Morabito, De Clerck & Le Gall. In this note, we add the lectotypification of its basonym, *Gymnogongrus ligulatus* Harvey ex Kützing.

***Yonagunia* / Madagascar / Atimo Vatae / Rhodophyta / Halymeniales / typification**

In Manghisi *et al.* (2015), two species of *Yonagunia* S. Kawaguchi *et* M. Masuda (Kawaguchi *et al.*, 2004) were newly reported: one was new to science while the other proved to be conspecific with *Polyopes ligulatus* (Harvey ex Kützing) De Toni (1905). Therefore, the new combination *Yonagunia ligulata* (Harvey ex Kützing) Manghisi, M. Morabito, De Clerck *et* Le Gall was proposed. As soon as we were aware of the identity of this species, we started the search for its type. However, the answers to our requests arrived just after the publication of the article.

Gymnogongrus ligulatus is a name used by Harvey (1857) to designate the exsiccatum n. 50 of his Ceylon Algae, but the specimen has neither a description nor a reference to a validly published name, so it is not valid by art. 38.1 of the International Code of Nomenclature for algae, fungi, and plants (McNeill *et al.*, 2012). The name *Gymnogongrus ligulatus* was later validly published by Kützing (1869) who added a description and two drawings (pl. 63, figs. a, b). In the protologue, Kützing (1869) made reference to a specimen seen in Sonder’s Herbarium, but did not designate an holotype. According to the protologue, the best candidate for the lectotypification should be searched among material collected by Harvey in Ceylon, belonging to Sonder’s herbarium, examined by Kützing and drawn in his plate.

Otto Wilhelm Sonder (1812-1881) was a German apothecary in Hamburg. He was an enthusiastic botanist, latterly an algologist, and amassed a huge private herbarium by obtaining specimens from leading botanists and plant collectors. When Sonder’s herbarium grew to the point that he could not manage it himself, he sold it.

* Corresponding author: amanghisi@unime.it

Much of Sonder's South African material (between 60,000 and 100,000 specimens) went to the Swedish Museum of Natural History (S) in 1875, and some of his Australian material to the French botanist Jean Michel Gaudoger. The Royal Botanic Gardens Victoria (MEL) acquired in 1883 the vast remaining collection (counting between 250,000 and 330,000 specimens), including an extensive collection of algae, containing authentic specimens from C.A. Agardh, W.H. Harvey and Sonder himself (Gunn & Codd, 1981; Stafleu & Cowan, 1985).

The Swedish Museum of Natural History (S) hold a specimen of *Gymnogongrus ligulatus*, A1696, collected by Harvey in Ceylon, and it also has a pencilled "50" in the lower left corner. It is unknown if it come from a copy of Harvey's Ceylon Algae or from Sonder's herbarium, and there is no resemblance to Kützing plate, so it can be excluded for the lectotypification.

The National Herbarium of Victoria (MEL) at Royal Botanic Gardens Victoria hold two specimens of *Gymnogongrus ligulatus*, MEL 504575 and MEL 504576, both of them collected by Harvey in Ceylon, and a pencilled "50" in the lower left corner. However, MEL 504575 also has in the lower left corner the annotation *Tab. ph. XIX.63*. Below, a typewrite note by Doris Sinkora (who was the MEL curator in the 1980s) claims "Holotype of *Gymnogongrus ligulatus* Harvey ex Kützing. The plate is a mirror image of the plant rising in the centre of the specimen sheet. The pencilled annotation above the lower left margin is in Kützing's hand. D. Sinkora 30.IV.1984". We do agree with the choice of the former curator,

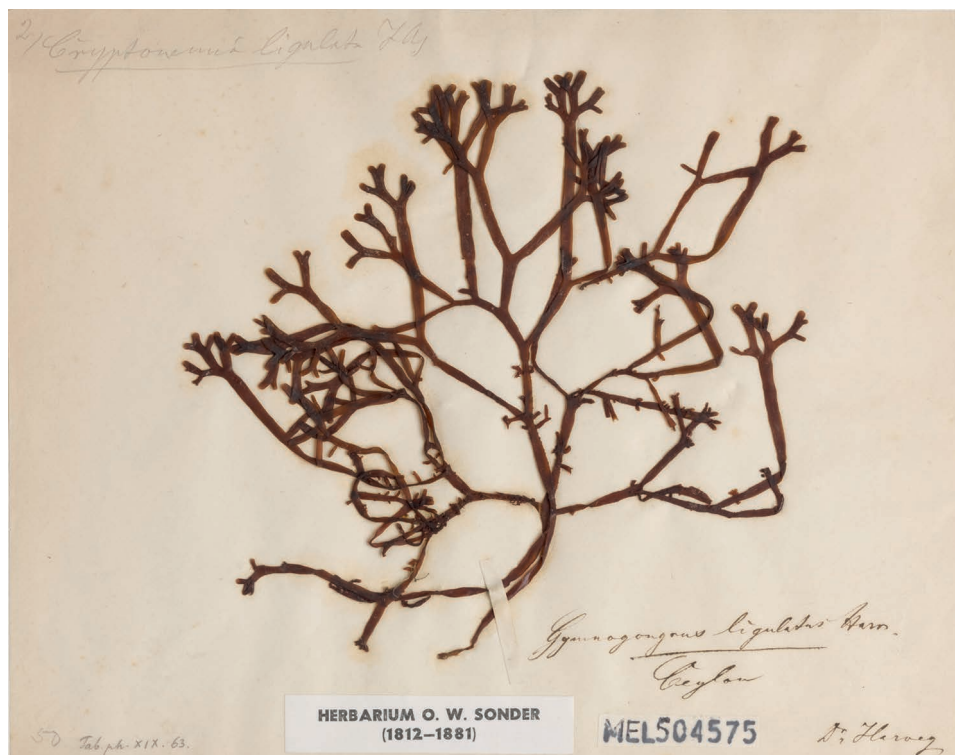


Fig. 1. Lectotype of *Gymnogongrus ligulatus* Harvey ex Kützing (MEL 504575), reproduced with permission from the National Herbarium of Victoria (MEL), Royal Botanic Gardens Melbourne.

because all the details correspond to the protologue and here we designate MEL 504575 as lectotype of *Gymnogongrus ligulatus* Harvey *ex* Kützing.

***Yonagunia ligulata* (Harvey *ex* Kützing) Manghisi, M. Morabito, De Clerck & Le Gall (2015): 207**

Gymnogongrus ligulatus Harvey *ex* Kützing (1869): 23-24, pl. 63: figs. a, b. **Lectotype:** MEL 504575 (Fig. 1). **Isosyntypes:** exsiccate n. 50 of W.H. Harvey's *Algae of Ceylon* (1857) (De Toni, 1905: 1956). **Type locality:** Sri Lanka (Kützing, 1869: 23; De Toni, 1905: 1956; Silva *et al.*, 1996: 203).

Cryptonemia ligulata (Harvey *ex* Kützing) J. Agardh (1876): 162

Polyopes ligulatus (Harvey *ex* Kützing) De Toni (1905): 1596

In addition, sequence data for the paper Manghisi *et al.* (2015) are available in GenBank under the accession numbers KU146879 to KU146896 for CO1 and KU146864 to KU146868 for *rbcL*.

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REFERENCES

- AGARDH J.G., 1876 — *Species genera et ordines algarum, seu descriptiones succinctae specierum, generum et ordinum, quibus algarum regnum constituitur. Volumen tertium: de Florideis curae posteriores. Part 1.* Lipsiae [Leipzig], C.W.K. Gleerup, pp. [ii*-iii*], [i]-[vii], [1]-724 p.
- DE TONI G.B., 1905 — *Sylloge algarum omnium hucusque cognitarum. Vol. IV. Florideae. Sectio IV.* Patavii [Padova], pp.[i-v], 1523-1973 p.
- GUNN M. & CODD L.E.W., 1981 — *Botanical exploration of Southern Africa.* Cape Town, Published for the Botanical Research Institute by A.A. Balkema., 400 p.
- HARVEY W.H., 1857 — *Ceylon algae [Exsiccata with printed names].* Dublin, Trinity College Dublin, pp. 1-30, 30bis, 31-47, 49-86, 88-106. p.
- KAWAGUCHI S., SHIMADA S., WANG H.W. & MASUDA M., 2004 — The new genus *Yonagunia* Kawaguchi et Masuda (Halymeniaceae, Rhodophyta), based on *Y. tenuifolia* Kawaguchi et Masuda sp nov from southern Japan and including *Y. formosana* (Okamura) Kawaguchi et Masuda comb. nov from southeast Asia. *Journal of Phycology* 40 (1): 180-192.
- KÜTZING F.T., 1869 — *Tabulae phycologicae; oder, Abbildungen der Tange. Vol. 19.* Nordhausen, Gedruckt auf kosten des Verfassers (in commission bei W. Köhne), pp. i-iv, 1-36, 100 pls p.
- MANGHISI A., MORABITO M., BOO G.H., BOO S.M., BONILLO C., CLERCK O.D. & GALL L.L., 2015 — Two Novel Species of *Yonagunia* (Halymeniales, Rhodophyta) were Uncovered in the South of Madagascar during the Afimo-Vatae Expedition. *Cryptogamie, Algologie* 36 (2): 199-217.
- MCNEILL J., BARRIE F.R., BUCK W.R., DEMOULINE V., GREUTER W., HAWKSWORTH D.L., HERENDEEN P.S., KNAPP S., MARHOLD K., PRADO J., PRUD'HOMME VAN REINE W.F., SMITH G.F., WIERSEMA J.H. & TURLAND N.J., 2012 — *International Code of Nomenclature for algae, fungi, and plants (Melbourne Code), adopted by the Eighteenth International Botanical Congress Melbourne, Australia, July 2011.* Königstein, germany, Koeltz Scientific Books, p.
- SILVA P.C., BASSON P.W. & MOE R.L., 1996 — *Catalogue of the benthic marine algae of the Indian Ocean.* 1259 p.
- STAFLEU F.A. & COWAN R.S., 1985 — *Taxonomic literature. A selective guide to botanical publications and collections with dates, commentaries and types. Vol. 5: Authors Sal-Ste.* Antwerpen, Utrecht: Bohn, Scheltema & Holkema, 1088 p.