

# Lectotypification of *Halymenia rodrigueziana* J. Feldmann [= *Sebdenia rodrigueziana* (J. Feldmann) Codomier ex Athanasiadis (Sebdeniaceae, Rhodophyta)]

by

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## Abstract

Manghisi, A. & Ribera, M.A. 2007. Lectotypification of *Halymenia rodrigueziana* J. Feldmann [= *Sebdenia rodrigueziana* (J. Feldmann) Codomier ex Athanasiadis (Sebdeniaceae, Rhodophyta)]. *Anales Jard. Bot. Madrid* 64(1): 75-78.

Here we designate as a lectotype of *Halymenia rodrigueziana* J. Feldmann the sheet JF2328 held in the Herbarium of J. Feldmann, included in the Herbarium of the Cryptogam Laboratory of the Muséum National d'Histoire Naturelle de Paris (PC). Also we present the correct citation of this species and for *Sebdenia rodrigueziana* (J. Feldmann) Codomier ex Athanasiadis.

**Keywords:** *Halymenia rodrigueziana*, lectotypification, nomenclature, Rhodophyta, *Sebdenia rodrigueziana*, Sebdeniaceae.

## Resumen

Manghisi, A. & Ribera, M.A. 2007. Lectotipificación de *Halymenia rodrigueziana* J. Feldmann [= *Sebdenia rodrigueziana* (J. Feldmann) Codomier ex Athanasiadis (Sebdeniaceae, Rhodophyta)]. *Anales Jard. Bot. Madrid* 64(1): 75-78 (en inglés).

Se designa como lectótipo de *Halymenia rodrigueziana* J. Feldmann el ejemplar de herbario JF2328 del herbario de J. Feldmann incluido en el herbario del laboratorio de criptogamia del Muséum National d'Histoire Naturelle de Paris (PC). Asimismo se aporta la correcta citación para *Sebdenia rodrigueziana* (J. Feldmann) Codomier ex Athanasiadis.

**Palabras clave:** *Halymenia rodrigueziana*, lectotipificación, nomenclatura, Rhodophyta, *Sebdenia rodrigueziana*, Sebdeniaceae.

## Introduction

*Sebdenia* was originally created by J. Agardh (1876: 134) as an unranked under-group of the genus *Halymenia*. Later Berthold (1882: 530) upgraded *Sebdenia* to genus, including two species *S. monardiana* (Montagne) Berthold (type species) and *S. dichotoma* Berthold. The two genera *Halymenia* and *Sebdenia* are quite similar in gross morphology and anatomy, but they differ in some relevant characters, such as the presence/absence of ampulla, the presence/absence of "gland cell" and the development of spores (Saunders & Kraft, 1996).

*Sebdenia* (J. Agardh) Berthold is the type genus of the family Sebdeniaceae Kylin (1932: 12). The family Sebdeniaceae is bigeneric (Schneider & al., 2006), but

there are clues to the existence of two still undescribed genera (Saunders & Kraft, 2002; Saunders & al., 2004). About 15 species are currently listed under *Sebdenia* (excluding synonyms) (Guiry, 2004), but many of them are poorly studied, and a revision of the genus is needed.

*Sebdenia* species are distributed from Indian Ocean to Pacific, from Atlantic to Mediterranean (Guiry, 2004). The type species, *S. monardiana*, is endemic of the Mediterranean Sea, where can be found also *S. dichotoma* and *S. rodrigueziana* (J. Feldmann) Athanasiadis (Manghisi & al., 2005), can be found, and is present also in the Macaronesian area (Haroun & al., 2002).

*S. rodrigueziana* has quite a complex citation history and no holotype was designated when the species was originally described.

## Discussion

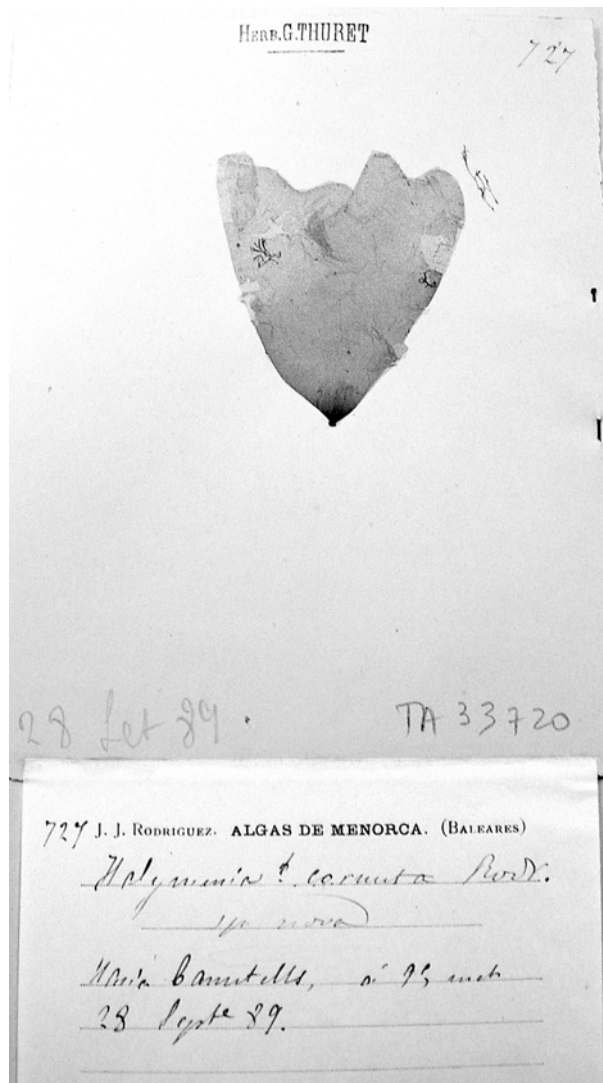
Feldmann (1935) described for the first time *Halymenia rodrigueziana*, and some years later he published a more accurate description of the same species, adding two drawings (Feldmann, 1939). Later Codomier (1972) made the new combination *Sebdenia rodrigueziana* (J. Feldmann) Codomier, but failed to cite the page where the basionym appears (as required by Art. 32.3 and 33.3 of the ICBN, Greuter & al., 2000), citing instead the pagination of the entire publication (which is not acceptable under Art. 33.3. note 1), so his combination is not valid. Parkinson (1980) in his work of correcting Codomier's nomenclatural errors, proposed the new combination *Sebdenia rodrigueziana* (J. Feldmann) Codomier ex P.G. Parkinson, and

that is the one currently accepted (Guiry, 2004; Silva, 2004). Recently Athanasiadis (*pers. comm.*) noted that the combination *Sebdenia rodrigueziana* (J. Feldmann) P.G. Parkinson is still not valid, because Parkinson failed to give reference to the first publication of Feldmann (1935), where the basionym, was originally published, citing instead the second publication of Feldmann (1939). Parkinson's error can not be corrected, because in Feldmann (1939) there is a reference to his previous paper (1935), so Art. 33.6 (a) does not apply to Parkinson's combination. On the contrary, Athanasiadis (1987: 55) cited *Sebdenia rodrigueziana* (J. Feldmann) Codomier, but – by giving the correct reference to the basionym – his citation of this species fulfills all requirements for valid publication of a new binomial. Consequently, it must be cited as *Sebdenia rodrigueziana* (J. Feldmann) Codomier ex Athanasiadis, under the Art. 46.4.

Feldmann (1939) also gave the synonymy with the unpublished name *Halymenia cornuta* J.J. Rodríguez. In the Herbarium Thuret-Bornet (PC), we found the specimen of *Halymenia cornuta* J.J. Rodríguez cited by Feldmann (1939): Spain, Minorca, near Canutells, 95 m, 28 Sept. 1889, TA33720 (PC, Herb. Rodríguez in the Herb. Thuret-Bornet) (Fig. 1). We studied this material and confirm that it is *S. rodrigueziana*. The Herbarium Rodríguez in Minorca holds three more specimens of *H. cornuta* from Minorca, near Canutells, 95 m, 28 Sept. 1889; near Cap d'en Font, 70 m, 10 Sept. 1894; *ibid.*, 67 m, 11 Oct. 1895. One of them belongs to the same sampling of the one held in the Herbarium Thuret-Bornet.

Finally, Codomier (1972) also gave the synonymy with *Halymenia mucosa* Ercegović. It was impossible to find the original material of *H. mucosa* Ercegović.

In the protologue, Feldmann (1935) cites material from the Mediterranean, that is the coast near Banyuls-sur-Mer (Eastern Pyrenean, France) and the Balearic Islands (Spain) originally collected by Rodríguez Femenias, in the infra-littoral zone between 25 and 95 m depth, generally found on maërl beds. The Herbarium of J. Feldmann, included in the Herbarium of the Laboratoire de Cryptogamie of the Muséum national d'histoire naturelle de Paris (PC), holds 11 sheets of this species cited as *Halymenia rodrigueziana* J. Feldmann from distinct geographic points near Banyuls-sur-Mer (Eastern Pyrenean, France), nine of them predate the protologue: Cap l'Abeille, dredged 25 m, 4 Sept. 1931, JF1896; *ibid.*, dredged, 8 Sept. 1932, JF2577; *ibid.*, dredged 25 m, 14 Sept. 1932, JF2599; *ibid.*, dredged 25-30 m, 19



**Fig. 1.** *Halymenia cornuta* J.J. Rodríguez, herbarium sheet TA33720 (PC, in Herb. Thuret-Bornet).

June 1933, JF2817; Cap Béar, 20-25 m, 25 June 1932, JF2303; *ibid.*, dredged 30 m, 4 July 1932, JF2406; Cap Cerbère, dredged 30 m, 18 July 1932, JF2880; Cap Peyrefite, dredged, 21 Sept. 1932, JF2635, and Cap Réderis, dredged, 27 June 1932, JF2328. All these sheets have to be regarded as the original material (Art. 9.2. note 2, ICBN). Since J. Feldmann did not point out the holotype, all the above can be regarded as syntypes and among them it is possible to choose a lectotype. Here we designate as lectotype of *Halymenia rodrigueziana* the specimen JF2328 of the Herbarium of J. Feldmann, which consists of four small plants and a larger one, placed on two separate sheets with the same number (Fig. 2), acceptable under Art. 8.2 and 8.3 of the ICBN. We chose this material because it is representative of the species and because two of the small plants and the larger one correspond to the drawings that J. Feldmann included in his later publication (Feldmann, 1939: 322, fig. 22).

***Sebdenia rodrigueziana*** (J. Feldmann) Athanasiadis, *A survey of the seaweeds of the Aegean Sea ...*: 55. 1987. *Halymenia rodrigueziana* J. Feldmann, *Bull. Soc. Hist. Nat. Afr. Nord* 9: 367. 1935. Lectotype (here designated): France. Eastern Pyrenean: Cap Réderis, dredged, 27 June 1932, JF2328 (PC!, in Herb. J. Feldmann). (Fig. 1). *Sebdenia rodrigueziana* (J. Feldmann) Codomier, *C. r. hebdomadales Acad. sci., Ser. D, Sci. nat.* 274: 2299. 1972, *nom. inval.* *Sebdenia rodrigueziana* (J. Feldmann) P.G. Parkinson, *Halymenia*: 13. 1980, *nom. inval.*

*Halymenia cornuta* J.J. Rodríguez *nomen nudum*, in J. Feldmann, *Rev. Algol.* 11: 323. 1939.

*Halymenia mucosa* Ercegović, *Acta Adriat.* 4: 59, fig. 6. 1949. Type locality: Croatia, near the island of Jabuka. Type not designated.

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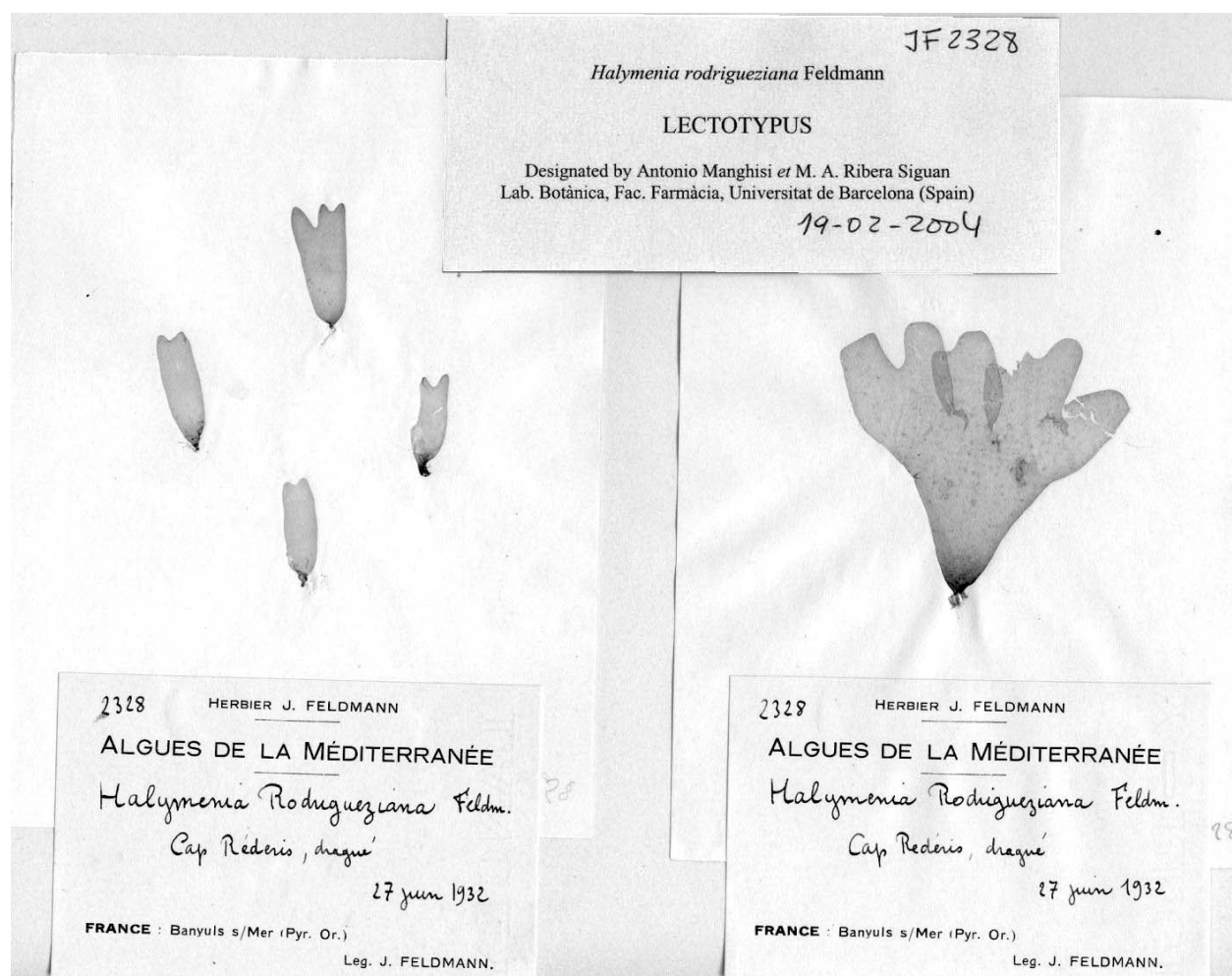


Fig. 2. Lectotype of *Halymenia rodrigueziana* J. Feldmann, herbarium sheet JF2328 (PC, in Herb. J. Feldmann).

séum national d'histoire naturelle de Paris, and Dr. Bruno de Reviere, curator of the mentioned herbarium, for kindly lending the material. We also thank Drs. A. Athanasiadis, C. Benedí, G. Furnari and P. Silva for their valuable advice.

## References

- Agardh, J. 1876. *Species genera et ordines algarum. Volumen tertium: de Florideis curae posteriores*. Part 1. Lipsiae. VII + 724 pp.
- Athanasiadis, A. 1987. *A survey of the seaweeds of the Aegean Sea with taxonomic studies on species of the tribe Antithamniaeae (Rhodophyta)*. Goterna, Kungälv.
- Berthold, G. 1882. Über die Vertheilung der Algen im Golf von Neapel nebst einem Verzeichnis der bisher daselbst beobachteten Arten. *Mitteilungen der Zoologischen Station zu Neapel* 3: 393-536 + III tables.
- Codomier, L. 1972. Sur la reproduction sexuée du *Sebdenia rodrigueziana* (J. Feldm.) comb. nov. (Gigartinales, Sebdeniaceae). *Comptes rendus hebdomadaires des séances de l'Académie des sciences. Série D, Sciences naturelles* 274: 2299-2301.
- Ercegović, A. 1949. Sur quelques algues rouges, rares ou nouvelles de l' Adriatique. *Acta Adriatica* 4: 43-121.
- Feldmann, J. 1935. Algae marinae mediterraneae novae. *Bulletin de la Societe d'Histoire Naturelle de l'Afrique du Nord* 9: 362-369.
- Feldmann, J., 1939. Algues marines de la côte des Albères. IV. - Rhodophycées. *Revue Algologique* 11: 247-330.
- Greuter, W., Mcneil, J., Barrie, F.R., Burdet, H.-M., Demoulin, V., Filgueiras, T.S., Nicolson, D.H., Silva, P.C., Skog, J.E., Treharne, P., Turland, N.J. & Hawksworth, D.L. 2000. *International Code of Botanic Nomenclature (St Louis Code) adopted by the Sixteenth Interantional Botanical Congress, St. Louis, Missouri, July-August 1999*. Koeltz, Scientific Books, Königstein, XVIII+474 p. *Regnum Vegetabile*, 138.
- Guiry, M.D. 2004, 11 September – *Sebdenia* (J. Agardh) Berthold 1882: 21. In: Guiry, M.D., Rindi, F. & Guiry, G.M. 2006. *AlgaeBase version 4.0*. World-wide electronic publication, National University of Ireland, Galway. [Searched on 23 February 2006]. Available online at <http://www.algaebase.org>.
- Haroun, R.J., Gil-Rodríguez, M.g., Díaz de Castro, J. & Prud'homme van Reine, W.F. 2002. A Checklist of the Marine Plants from the Canary Islands. *Botanica Marina* 45: 139-169.
- Kylin, H., 1932. Die Florideenordnung Gigartinales. *Lunds universitets årsskrift* 28(8): 1-88.
- Manghisi, A., Gómez Garreta, A. & Ribera, M.A. 2005. Mapas de distribución de algas marinas de la Península Ibérica e Islas Baleares. XXI. *Sebdenia* (Sebdeniaceae, Rhodophyta). *Botanica Complutensis* 29: 85-88.
- Parkinson, P. G., 1980. *Halymenia*. The Pettifogging Press, Auckland, 20 p.
- Saunders, G.W., Chiovitti, A. & Kraft, G.T. 2004. Small-subunit rDNA sequences from representatives of selected families of the Gigartinales and Rhodymeniales (Rhodophyta). 3. Delineating the Gigartinales sensu stricto. *Canadian journal of botany* 82: 43-74.
- Saunders, G.W. & Kraft, G.T. 1996. Small-subunit rRNA gene sequences from representatives of selected families of the Gigartinales and Rhodymeniales (Rhodophyta). 2. Recognition of the Halymeniales ord. nov. *Canadian journal of botany* 74: 694-707.
- Saunders, G.W. & Kraft, G.T. 2002. Two new Australian species of *Predaea* (Nemastomataceae, Rhodophyta) with taxonomic recommendations for an emended Nemastomatales and expanded Halymeniales. *Journal of phycology* 38: 1245-1260.
- Schneider, C.W., Lane, C.E. & Saunders, G.W. 2006. *Crassitegula walsinghamii* (Sebdeniaceae, Halymeniales), a new red algal genus and species from Bermuda based upon morphology and SSU rDNA sequence analyses. *European Journal of Phycology* 41(1): 115-124.
- Silva, P. 1997-2004. *Index Nominum Algarum*, University Herbarium, University of California, Berkeley. [Searched on 23 February 2006] Available online at <http://ucjeps.berkeley.edu/INA.html>

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