

**Doris M. SINKORA and Michael J. WYNNE: On the identity of
Talarodictyon tilesii ENDLICHER**

Key Index Words: Chlorophyta—Hydroclathrus—*H. clathratus*—Phaeophyta—*Talarodictyon*—*T. tilesii*—*Tilesius*

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The discovery of syntype material of *Talarodictyon tilesii* ENDLICHER in MEL is of interest to algal taxonomists, since it clears up the identity of this poorly known taxon. The status of the genus *Talarodictyon* has been an enigma ever since it was first described by ENDLICHER (1843). ENDLICHER's account was reasonably detailed, including the words "Ulva reticulata, saccata..." and "viridis". ENDLICHER credited the description to unpublished notes by the alga's collector TILESIIUS along with TILESIIUS' illustration then deposited in the herbarium of A.W.E.T. HENSCHEL (1790-1856), physician and Professor of Botany in Breslau (Wroclaw), then Prussia, now Poland. W.G. TILESIIUS (ANON. 1857), along with G.H. LANGSDORFF (LINDEMANN 1885), served as surgeon, naturalist, and artist from 1803-1806 on a voyage of circumnavigation of the globe made by VON KRUSENSTERN (LASÈGUE 1845, BROCKHAUS 1894). The specimen was collected by TILESIIUS in the drift following an underwater volcanic eruption while the ship was anchored in Nagasaki Harbor in April, 1805. It was reportedly cast up along with various other seaweeds.

KÜTZING (1849) repeated verbatim ENDLICHER's description of *Talarodictyon*, and he also indicated (with "v. ic.") that he had seen the original illustration. But the specimen of *T. tilesii* presumably had disappeared shortly after ENDLICHER's description. KÜTZING placed the genus in his family Anadyomenaceae (KÜTZING 1843, "Anadyomenae"), while at the same time designating it as a "Genus maxime obscurum!". Other workers, such as GRAY

(1866), gave occasional mention to *Talarodictyon* but without providing any new insights. MARTENS (1868) continued to list the genus in the Anadyomenaceae. WILLE (1890) regarded *Talarodictyon* as a "Zweifelhafte Gattung", assigning it to the Valoniaceae next to *Anadyomene*. Its placement in the Anadyomenaceae, albeit with a query, was followed by EGEROD in contemporary works (FARR *et al.* 1979), whereas DETONI (1889) placed it in the Cladophoraceae, subfamily Microdictyae, again as a "genus maxime obscurum". Yet despite its having been described from southern Japan, this taxon has not been included in checklists for this region (OKAMURA 1932, YOSHIDA *et al.* 1985).

TILESIIUS' original manuscript notes and the unpublished plate of *Talarodictyon tilesii* with a label in F.K. MERTENS' hand have been located among the SONDER collections deposited in the National Herbarium of Victoria (MEL). The handwriting of the plant name on the label has been recognized by Mag. C. RIEDL-DORN (Naturhistorisches Museum Wien) to be that of E. FENZL, who started his career as assistant to ENDLICHER (KANITZ 1880). TILESIIUS' MS description is on the reverse side of the plate. More importantly, the actual algal specimen has also been found. How this material came into the SONDER herbarium has not been established. The Type specimen is MEL 501457, *legit* TILESIIUS, Nagasaki Harbor, Japan. The plate of *Talarodictyon tilesii* ENDLICHER (Fig. 1) is somewhat olive-green, rather more green than yellow, but a dark green, not the grass-green of an *Ulva*. Dr. C. CLEMENTE, Curator

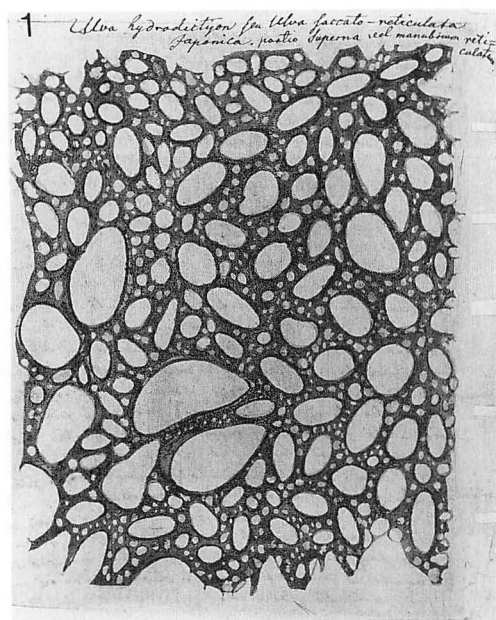


Fig. 1. Hand-coloured soft-ground etching of *Talarodictyon tilesii* in MEL.

of Prints and Drawings, National Gallery of Victoria, Melbourne, has identified the plate as a hand-coloured soft-ground etching (BRUNNER 1962, GRIFFITHS 1980).

An examination of the specimen itself (Fig. 2) revealed the presence of plurilocular sporangia, which demonstrates conclusively that it is not a green alga as has been formerly thought but a brown alga. Its generic assignment is with *Hydroclathrus* BORY (1825). The alga has the normal color of a slightly bleached drift collection of *Hydroclathrus*. Both icon and specimen exhibit a sheet perforated by a dense arrangement of holes, ranging from small to large, very similar to a specimen of *Hydroclathrus clathratus* depicted by WYNNE (1981, Fig. 2.7). The next question is: To which species of *Hydroclathrus* does it belong?

With the recent description of *Hydroclathrus tenuis* from the South China Sea by TSENG and LU BAOREN (1983), two species of *Hydroclathrus* are now recognized. *Hydroclathrus clathratus* (C. AGARDH) HOWE, the type of the genus, is known to be widely distributed in warm temperate and tropical seas (HOWE 1920). Although TSENG and LU BAOREN made no reference to SONDER (1871),

in his work on tropical Australian algae SONDER used the same epithet *tenuis* to describe a new variety of *Hydroclathrus clathratus* from Cape York and the Gulf of Carpenteria. SONDER's varietal Type is deposited in MEL. SONDER's variety was initially accepted (GRUNOW 1874) but has subsequently come to be regarded within the synonymy of *H. clathratus* (e.g., LEWIS 1985). Another coincidental usage of *tenuis* is that by HARVEY, who distributed "*Hydroclathrus cancellatus* var. *tenuis*" as No. 5 in his Friendly Islands Exsiccatae. This variety was not ever validated by HARVEY, but two specimens in MICH and one in MEL are identifiable as *Hydroclathrus tenuis* TSENG & LU BAOREN.

Colored plates of *Hydroclathrus tenuis* and *H. clathratus* are presented in TSENG's (1983) "Common Seaweeds of China". TSENG and LU BAOREN (1983) distinguished *H. tenuis* from *H. clathratus* by the comparatively softer, much more slender texture of the former and by anatomical differences: thinner membrane (250–300 μm thick vs. 600–800 μm thick in *H. clathratus*); smaller medullary cells (70–80 μm diam. vs. 100–130 μm diam.); and its longer plurilocular organs (22–25 μm long vs. 10–15 μm long). For southern Australian material of *H. clathratus*, WOMERSLEY (1987) reported the length of plurilocular organs to be 15–20 μm , a range intermediate in comparison with the measurements given by TSENG and LU BAOREN. Our examination of the type specimen of *Talarodictyon tilesii* showed medullary cells to range 60–130 μm in diameter and the plurilocular sporangia to be mostly uniseriate, comprised of 3–7 cells. We concluded that the most reasonable assignment is *Hydroclathrus clathratus*. Consequently, *Talarodictyon tilesii* ENDLICHER (1843) is to be regarded as a junior taxonomic synonym of *H. clathratus*.

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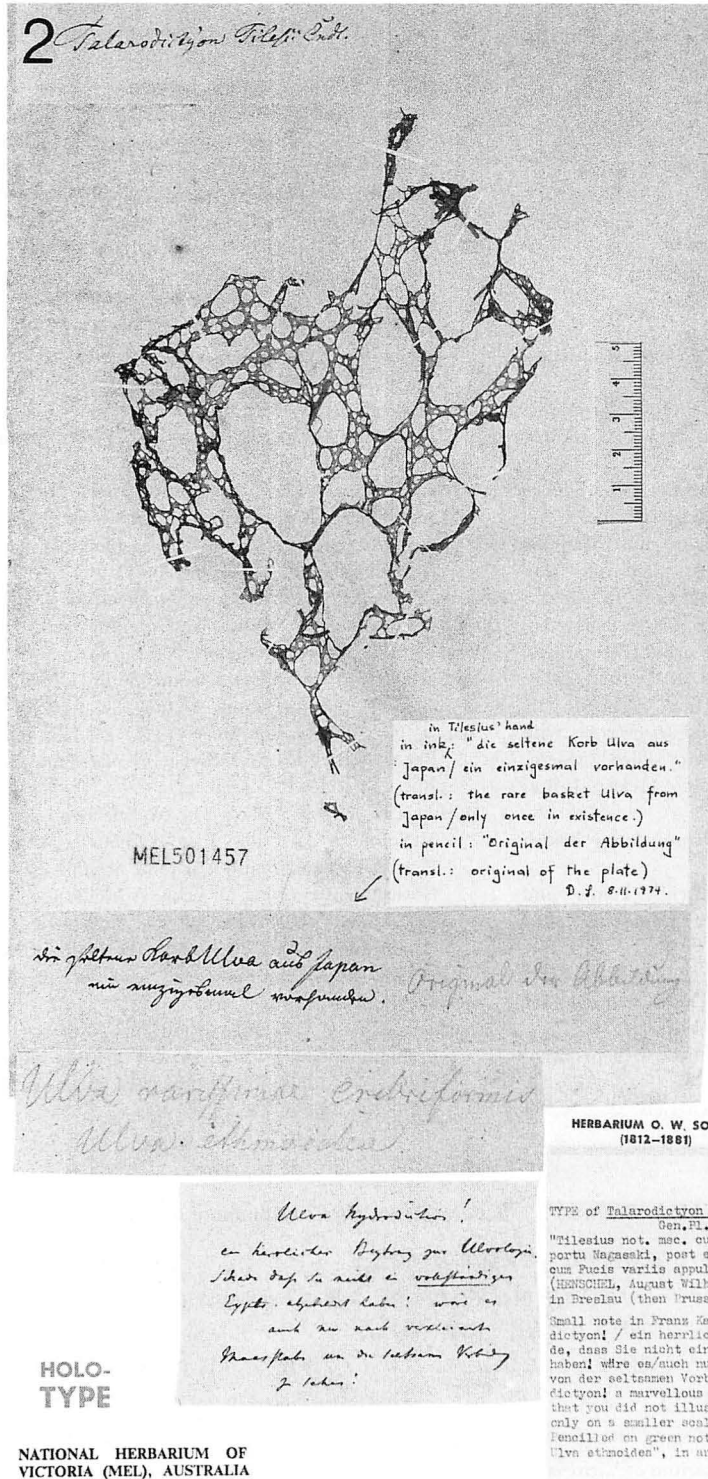


Fig. 2. Type specimen of *Talarodictyon tilesii* ENDL. (MEL 501457).

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D. M. SINKORA* · M. J. WYNNE** : *Talarodictyon tilesii* ENDLICHER の正体

Talarodictyon tilesii の標本 (syntype) が記載原稿ならびに未発表の図版とともにビクトリア国立標本館 (MEL) の SONDER コレクションの中から見つかり、分類学的な検討を行なった。本種は ENDLICHER (1843) によって記載され、標本は W.G. TILESIIUS が長崎港で1805年4月に海底火山噴火後の打上げの中から採集したものである。標本の藻体には複子嚢があり、緑藻ではなく褐藻である。*Hydroclathrus* (カゴモノリ属) に所属すべきものと判断され、図版および標本とも *H. clathratus* (カゴモノリ) によく似ていた。髓細胞は直径 60-130 μm であり、複子嚢はほとんど単列で 3-7 細胞からなることから、*Talarodictyon tilesii* は *Hydroclathrus clathratus* であるとするのが最も妥当との結論となった。(* National Herbarium of Victoria, South Yarra, Vic. 3141, Australia; ** Department of Biology and Herbarium, University of Michigan, Ann Arbor, MI 48109, U.S.A.)