Rhizoclonium pukapuka **Levanets & B.L.Brooks,** ***nom. nov.*** **(≡** ***Rhizoclonium profundum*** **E.Y.Dawson,** ***nom. illeg.*****) (*Cladophoraceae, Ulvophyceae*)**

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The American botanist, phycologist, taxonomist, ecologist, and nature-writer Elmer Yale Dawson (1918–1966) who published numerous books and papers on marine algae, cacti, and succulents (Hawkes 2005), described a new species of *Rhizoclonium* Kützing (1843: 261), *Rhizoclonium profundum* E.Y.Dawson, from Pukapuka Atoll, formerly Danger Island, Union Group, now Cook Islands (Dawson 1959). However, this name is a later homonym of *R. profundum* Brand (1895: 226), and is thus illegitimate (ICN Principle III, Art. 53.1, Turland & al. 2018). We propose here to replace this name as follows.

Rhizoclonium pukapuka Levanets & B.L.Brooks, *nom. nov.*
Replaced name: *Rhizoclonium profundum* E.Y.Dawson *Pacific Naturalist* 1(7): 7, fig. 1. 1959, *nom. illeg.*, not *Rhizoclonium profundum* Brand 1895: 226.
Lectotype (**here designated**): **UC**1201184, collection number 20022 in The University and Jepson Herbaria, University of California, Berkeley (**UC**); Cook Islands, Solar Eclipse Exped. 1958 IGY and LSD 31. Pukapuka, dredged at a depth of 150-225 ft. with *Caulerpa urvilleana* in fine coral ooze, coll. F.R. Sanderlin, Aug. 22-Oct. 28, 1958 (University and Jepson Herbaria Specimen Portal, Fig. 2).
Description: Thalli filamentous, loosely entangled, 4–9 cm long or more, mostly 200–250 µm in diameter, of mature cells 1.5–2.5 diameters long, very slightly contracted at the septa, the walls thin (4–5 µm), but clearly stratified; juvenile plants arising from a digitately branched, small, flat multicellular attachment, with two or three branches near the base, expanding from about 70 µm in diameter at the base to 220 µm diameter 1 cm above the base, producing frequent unicellular or multicellular rhizoids, these usually forming attachment discs but occasionally forming new vegetative shoots from their tips; mature filaments rarely branched except for short protuberances, but frequently producing long rhizoids (Fig. 3).
Registration (of name): http://phycobank.org/105774.
Registration (of lectotype): http://phycobank.org/105775.
Type locality: Union Group islands [now Cook Islands]: Danger Islands, Pukapuka Atoll, leg. F.R. Sanderlin, between 22 August and 28 October 1958, on IGY Solar Eclipse expedition.
Etymology: the epithet is a noun in apposition and named for the island of Pukapuka.
Note: Dawson (1959: 8) designated a type as follows: “Dawson 20022 in Herb US (Isotype US), Pukapuka, Danger Islands, Union Group, col. by F.R. Sanderlin between Aug. 22 and Oct. 28, 1958, on IGY Solar Eclipse expedition.” (Fig. 1). Unfortunately, no record of this type specimen being in holdings of The United States National Herbarium (**US**) and no specimens have been found. Thus, since the “type” mentioned in (Dawson 1959) is missing, we propose to designate a “isotype” specimen with the same collection data and labelled “E.Y.D. 2022” at The University and Jepson Herbaria, University of California (**UC**) as lectotype. A specimen label also records material in the “wet stack”.
This plant was found entwined about luxuriant specimens of *Caulerpa urvilleana* which “…were said to be growing in a fine coral ooze at depths between 150 and 225 feet and not observed either

at shallower or deeper levels." The only other species detected in this association were small or fragmentary *Cladophora* and *Lejolisia* epiphytes (Dawson 1959).

Christensen (1991: 15) suggested that *Rhizoclonium profundum* Brand may represent a *Cladophora*. A study of topotype material from Bavarian lakes Würmsee (now Lake Starnberg) and Ammersee should be investigated. N'Yeurt & Payri (2007: 15) commented that "The synonymy of *Rhizoclonium profundum* and *R. grande* was suggested by Dawson (1959: 7), and an examination of Setchell & Gardner'sillustrations and description of the Galapagos material would seem to confirm this." Dawson (1957: 7) did discuss other *Rhizoclonium* species, such as *R. grande* Børgesen (type locality: "India: Bombay, Worli Seaface"; Børgesen 1935: 14, figs 5, 6), but concluded that it differed from it "…in the very thin cell walls (about 4–5 μ) and in its habitat in deep, still waters." and "These several sharp distinctions justify description of the present plant as new."

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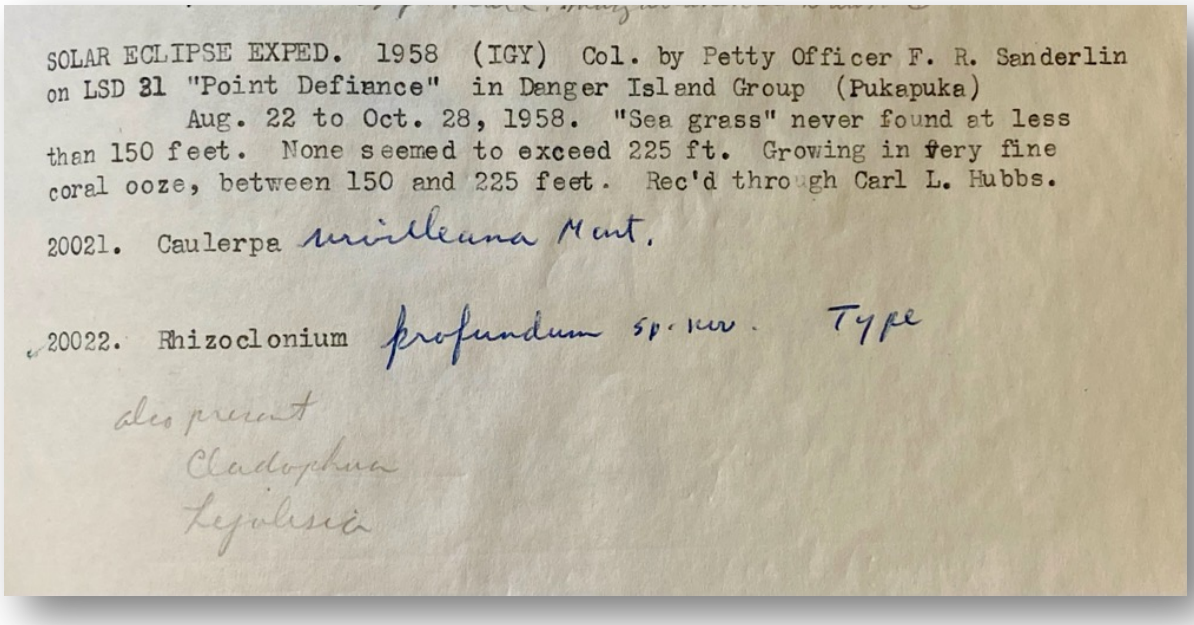
SOLAR ECLIPSE EXPED. 1958 (IGY) Col. by Petty Officer F. R. Sanderlin on LSD 31 "Point Defiance" in Danger Island Group (Pukapuka)
Aug. 22 to Oct. 28, 1958. "Sea grass" never found at less than 150 feet. None seemed to exceed 225 ft. Growing in very fine coral ooze, between 150 and 225 feet. Rec'd through Carl L. Hubbs.

20021. Caulerpa *racemosa* Mont.

20022. Rhizoclonium *profundum* sp. nov. Type

also present
Cladophora
Lyngbyea

Figure 1. Image from E.Y. Dawson's field notebook with information on *Rhizoclonium profundum* sp. nov. type and description of type locality.

Figure 2. Lectotype (**here designated**) of *Rhizoclonium pukapuka* Levanets & B.L.Brooks, *nom. nov.*: digital image of herbarium sheet with *Rhizoclonium profundum* E.Y.Dawson, *nom. illeg.* deposited in The University and Jepson Herbaria, University of California, Berkeley (UC), Specimen ID UC1201184, Collection number E.Y.D. 20022.

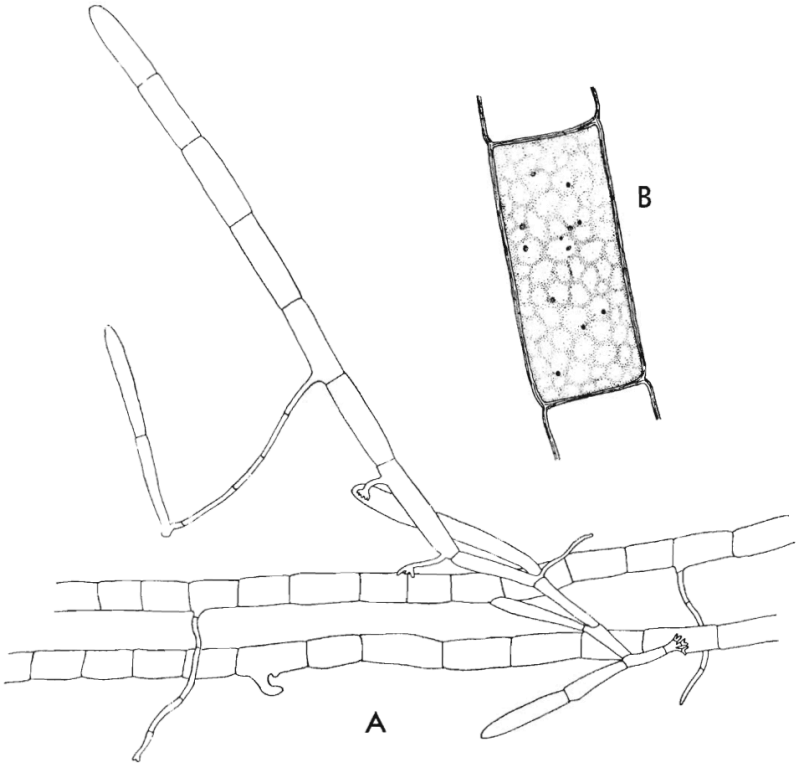

Fig. 3. Morphology of *Rhizoclonium profundum* E.Y.Dawson, *nom. illeg*.: A - habit of a young plant attached to two filaments of older plants, showing rhizoids, attachments and branches; B - detail of a single mature cell showing stratified walls and reticulate chloroplast (after Dawson 1959).