PROC. BIOL. SOC. WASH.
98(1), 1985, pp. 232–236

HALOPHILA DECIPIENS, AN UNREPORTED SEAGRASS FROM THE PHILIPPINES

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Abstract.—*Halophila decipiens* Ostenfeld is reported for the first time from the Philippines. This report and a previous one from the Gulf of Siam represent the only distribution records of the species in the northern Pacific.

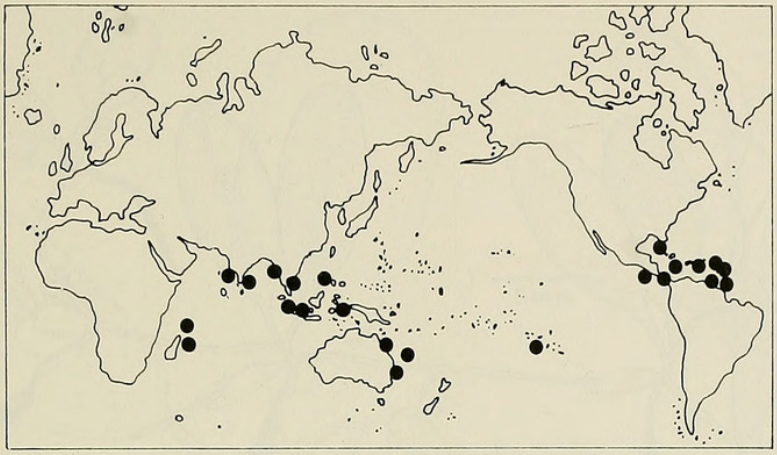
On July 29, 1983 and April 11, 1984, the authors visited an artificial reef site at Sumariling Beach, Siaton, Negros Oriental, Philippines (Fig. 1B) for purposes of collecting seaweeds and seagrasses for systematic study. Among their collections were fertile specimens of an unreported seagrass, *Halophila decipiens* Ostenfeld (Hydrocharitaceae). The discovery of *H. decipiens* in the Philippines is a new distribution record. Additionally, this record and a previous one from the Gulf of Siam represent the only locations in the northern Pacific.

The specimens are cited according to the senior author's field number and are deposited in the U.S. National Herbarium, Smithsonian Institution, Washington, D.C., in the Silliman University Herbarium, Central Philippines, in the Rijksherbarium, Leiden, Netherlands, and in the Philippine National Herbarium.

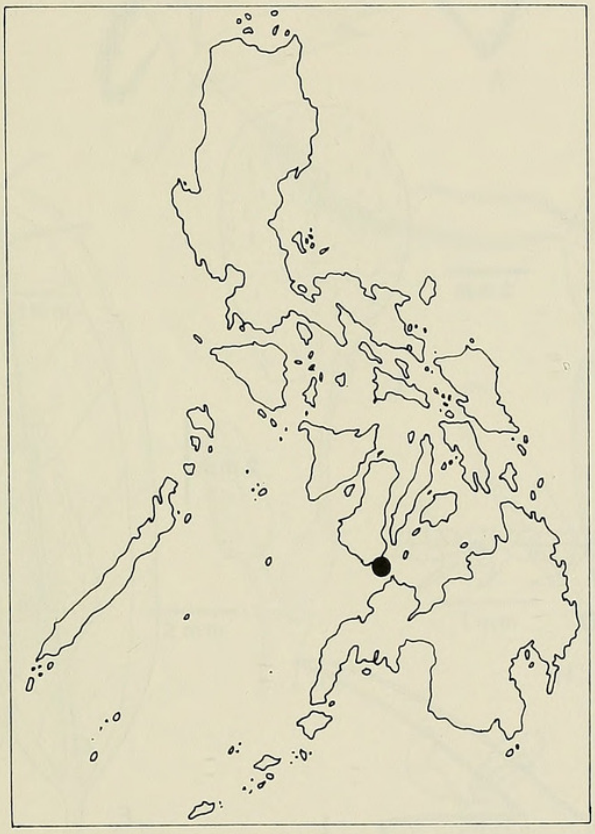
Halophila decipiens Ostenfeld, Bot. Tidsskr. 24:260. 1902.
Figs. 2, 3

Description.—Plants monoecious, pale green, with long, thin rhizomes not more than 1 mm in diameter; internodes 5–40 mm long; usually one long root present below each erect shoot. Erect shoot short, bearing a pair of leaves borne on each node. Leaves petiolate, the petioles triquetrous, 5–10 mm long, enveloped by a pair of transparent, orbicular to ovate-elliptic stipules having only the dorsal surface hairy and the apex emarginate. Leaf blades oblong, oval or elliptic, round at the apex, the base shortly attenuate or cuneate, 6–10 mm wide, up to 22 mm long, the margins minutely serrate; lateral veins 6–9 pairs, a few occasionally forked, the midrib connected to the intramarginal vein at the top; both surfaces of leaf blade beset with minute, unicellular hairs. Spathes arising between a pair of leaves, ovate, obovate, or elliptic, occasionally slightly apiculate, transparent and scarious, up to 7 mm long and 6 mm wide, with an uneven margin, only the dorsal surface densely hairy, enclosing 1 male and 1 female flower. Hooded perianth segments 3, enclosing a long-pedicelled staminate flower up to 3.5 mm long and 0.3 mm in diameter consisting of 3 oblong, sessile anthers, each with a thin membranous cover. Pistillate flower subsessile, with an elliptic to ovoid ovary, up to 2.5 mm long and 1 mm in diameter; hypanthium 2–4 mm long; styles 3, up to 12 mm long. Fruits ovoid to subglobose, 4 mm long and 2.5 mm in diameter, beaked.

Natural history.—Specimens of *Halophila decipiens* from the Philippines were collected by SCUBA diving in a bay, 1.5 km from a river outlet, at depths of 11 to 23 meters. During the rainy season, in June to August, the water in the bay



A



B

Fig. 1. *Halophila decipiens*. A, World distribution; B, Philippine distribution.

becomes turbid due to agitation of the bottom; otherwise it is clear. The plants grew in soft mud mixed with fine sand. They were observed growing with fertile *Halophila minor* and *H. spinulosa* at 11 meters, but with *H. minor* only at 13, 17, and 20 meters. Pure stands of *H. decipiens* were found at 23 meters depth. The plants thrive in sheltered areas on soft mud, sand-mud, and sandy substrates, usually in deep waters. They have been collected from an estuary in New Caledonia, mangrove-swamps on Guadeloupe and Puerto Rico, at the entrance of a river in Queensland, in a creek at Kingston Harbor in Jamaica, and at reef sites

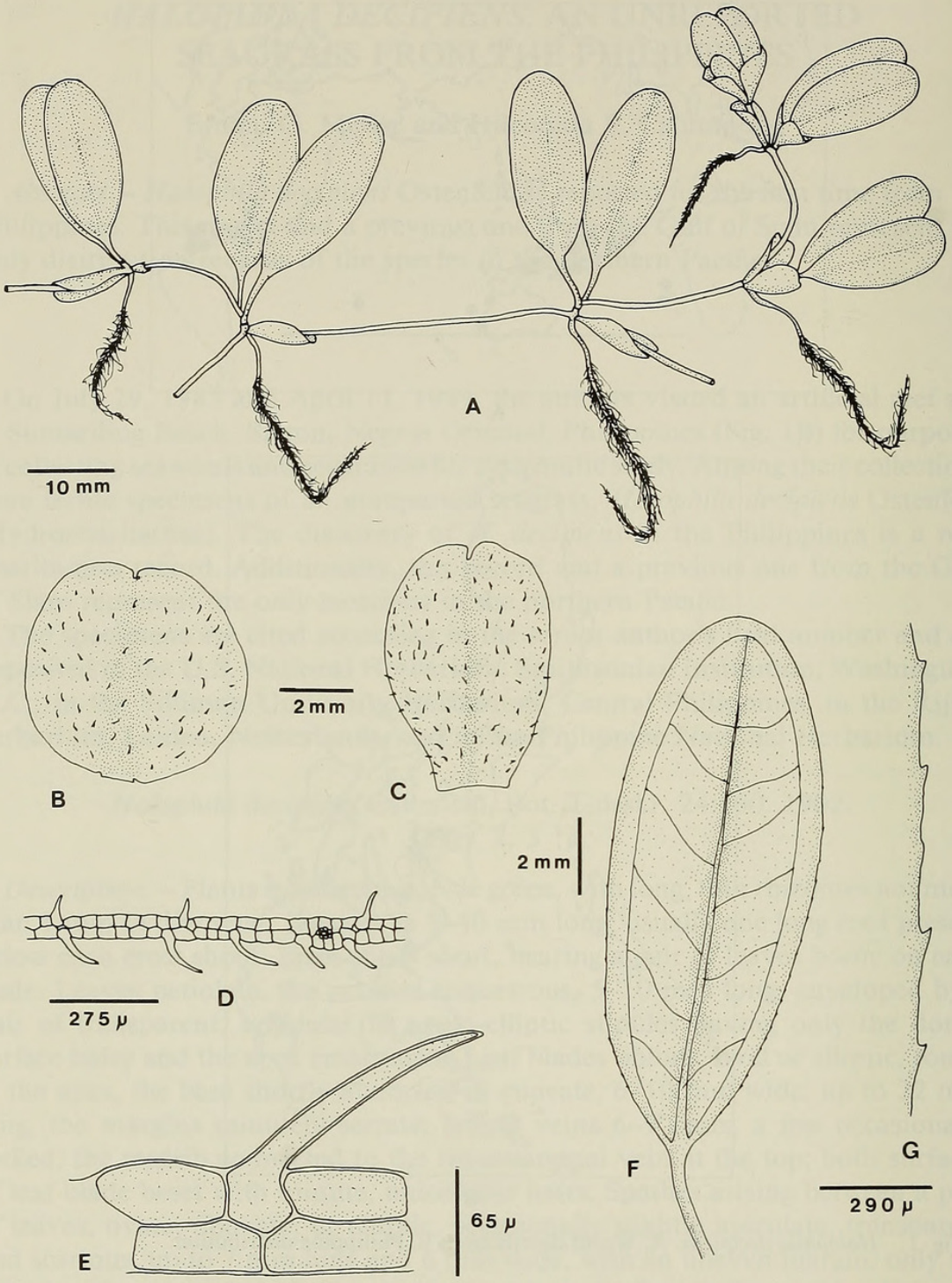


Fig. 2. *Halophila decipiens*. A, Habit of sterile specimen; B–C, Stipules, with hairs on dorsal surface; D, Cross-section of leaf showing hairs on both surfaces; E, Magnified hair on leaf surface; F, Leaf, showing lateral veins and serrate margins; G, Magnified serrate margin of a leaf.

in Queensland and Puerto Rico. Den Hartog (1970) considers *H. decipiens* pantropical.

Range.—*Halophila decipiens* occurs in the Seychelles, Cargados Carajos, India, Sri Lanka, Thailand, Indonesia, Queensland, New South Wales, New Caledonia, Tahiti, Jamaica, Puerto Rico, Virgin Islands, Guadeloupe, St. Vincent, Marti-

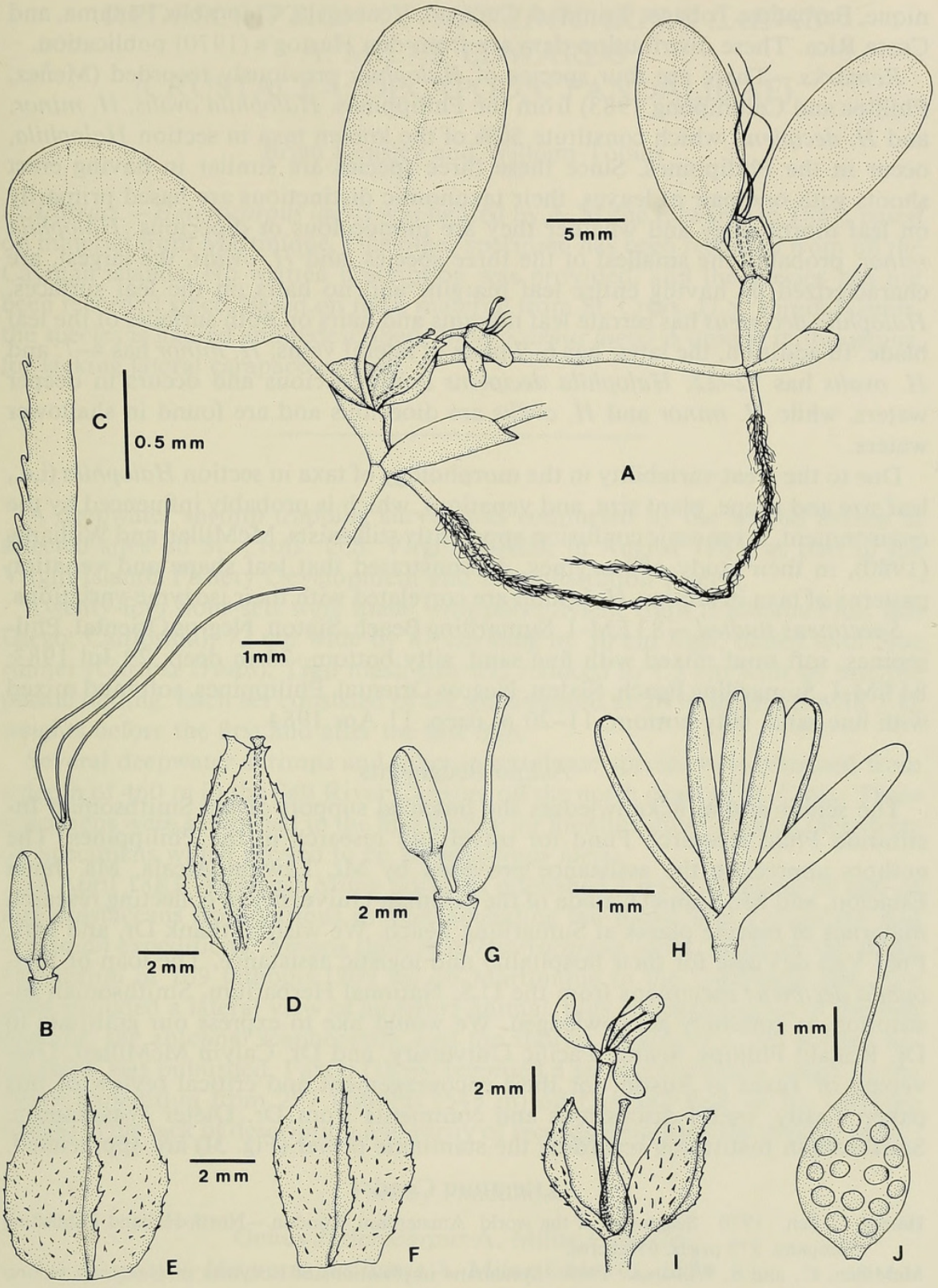


Fig. 3. *Halophila decipiens*. A, Habit of a fertile specimen with male and female flowers; B, Male and female flowers without the spathe; C, Magnified portion of a style with papillae; D, Male and female flowers enclosed by spathe; E–F, Spathes with keels and hairs; G, Mature flowering stage, showing female flower after the styles have fallen off and a male flower; H, Male flower with three anthers enclosed by three perianth segments; I, Spathe enclosing beaked fruit and male flower after anthesis, the latter showing long pedicel, perianth segments and persistent connective tissues; J, Beaked fruit, showing subglobose seeds.

nique, Barbados, Tobago, Trinidad, Curaçao, Venezuela, Colombia, Panama, and Costa Rica. These distribution data are from den Hartog's (1970) publication.

Remarks.—There are four species of *Halophila* previously recorded (Meñez, Phillips and Calumpong 1983) from the Philippines. *Halophila ovalis, H. minor,* and *H. decipiens,* which constitute 50% of the known taxa in section *Halophila,* occur in the Philippines. Since these three species are similar in having erect shoots with one pair of leaves, their taxonomic distinctions are based primarily on leaf morphology and whether they are monoecious or dioecious. *Halophila minor,* probably the smallest of the three species, and *H. ovalis,* the largest, are characterized by having entire leaf margins and no hairs on the leaf surfaces. *Halophila decipiens* has serrate leaf margins and hairs on both surfaces of the leaf blade. In addition, the latter has 6–9 pairs of lateral veins; *H. minor* has 4–7, and *H. ovalis* has 12–22. *Halophila decipiens* is monoecious and occurs in deeper waters, while *H. minor* and *H. ovalis* are dioecious and are found in shallower waters.

Due to the great variability in the morphology of taxa in section *Halophila* (i.e., leaf size and shape, plant size, and venation), which is probably influenced by the environment, taxonomic confusion apparently still exists. McMillan and Williams (1980), in their study of isozymes, demonstrated that leaf shape and venation patterns of taxa in section *Halophila* are correlated with their isozyme variations.

Specimens studied.—83 EM-1, Sumariling Beach, Siaton, Negros Oriental, Philippines, soft mud mixed with fine sand, silty bottom, 23 m deep, 29 Jul 1983; 84 EM-1, Sumariling Beach, Siaton, Negros Oriental, Philippines, soft mud mixed with fine sand, silty bottom, 11–20 m deep, 11 Apr 1984.

Acknowledgments

The senior author acknowledges the financial support of the Smithsonian Institution Fluid Research Fund for travel and research in the Philippines. The authors appreciate the assistance provided by Mr. Lawton Alcala, Ms. Janet Estacion, and Mr. Daniel Catada of the Silliman University in collecting research materials of marine plants at Sumariling Beach. We wish to thank Dr. and Mrs. Fred Van deVusse for their hospitality and logistic assistance. The loan of *Halophila decipiens* specimens from the U.S. National Herbarium, Smithsonian Institution, is gratefully acknowledged. We would like to express our gratitude to Dr. Ronald Phillips, Seattle Pacific University, and Dr. Calvin McMillan, University of Texas at Austin, for their encouragement and critical review of this paper. Lastly, useful discussions and comments from Dr. Dieter Wasshausen, Smithsonian Institution regarding the staminate flower (Fig. 3I) are appreciated.

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Menez, E G and Calumpong, Hilconida P. 1985. "Halophila decipiens, An Unreported Seagrass From The Philippines." *Proceedings of the Biological Society of Washington* 98, 232–236.

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