

SHORT COMMUNICATION

Taxonomic Examination on *Potamogeton alpinus* Balbis (Potamogetonaceae) in Korea

Shin, Hyunchur and Hong-Keun Choi*

Division of Biological Science, Soonchunhyang University, Asan 337-880 and

Division of Natural Sciences, Ajou University, Suwon 442-749, Korea

The distribution of *Potamogeton alpinus* Balbis which is the aquatic vascular plants was confirmed in Korea. We report the taxon as an unrecorded species in Korea. *P. alpinus* previously known as *P. dentatus* is characterized by unbranched stems and sessile, but not amplexicaul leaves with entire margins and obtuse apices. It differs from *P. dentatus* which has petiolated leaves with obtuse or round apex having mucronate tips.

Keywords: Potamogetonaceae, *Potamogeton alpinus*, *P. dentatus*, unrecorded species

Potamogeton dentatus Hagstrom was cited as an unrecorded species from Nam-han River, Korea (Choi, 1985). This species is different from other species of *Potamogeton* in Korea by having only submerged leaves, which have very short petioles and slightly undulated margin, but not perfoliate base (Choi, 1985). During the comprehensive study on genus *Potamogeton* in Korea, it is confirmed that this taxon has been misidentified. The plants of *P. dentatus* have the broadly lanceolate or narrowly oblong leaves with obtuse or round apex having mucronate tips with 1~4 mm long, and petioles with 3~12 mm long (Kadano, 1996; Kitamura *et al*, 1986; Ohwi, 1984). However, the voucher specimens of *P. dentatus* used by Choi (1985) do not show any of these characteristics. Instead, these specimens show the narrowly elliptical and sessile leaves with acuminate apex without any tips. These characteristics are coincided with those of *P. alpinus* Balbis (Kadano, 1996; Kitamura *et al*, 1986; Ohwi, 1984; Preston, 1995).

All materials were collected from Nam-han River which is one of the main rivers in South Korea. Voucher specimens are deposited at AJOU: KOREA. Kangwon Province. Youndang Bridge, Yuongweol County, 29 July 1985, Choi s.n. (AJOU [12 sheets]); Hari Narute, Youngchun Myun, 29 July 1985, Choi s.n. (AJOU); Jinbandeul, Nam Myon, Youngweol County, 27 Aug. 1997, Choi & Kim 38 (AJOU [10

sheets]).

For the line drawing of the plants single flowers, inflorescences, and carpels were sectioned following observation with stereomicroscope. And all voucher specimens were examined for the diagnosis of *P. alpinus* Balbis.

RESULTS AND DISCUSSION

Potamogeton alpinus Balbis, Misc. Bot. p.327, 1804. Syn. *P. dentatus* sensu Choi non Hagstrom, Monogr. Vasc. Hydrophy. Korea, p.174, Fig. 52, 1985.

Korean name: Job-eun-eep-mal (좁은잎말; Choi, 1985)

Aquatic perennial herbs growing in fresh water, attached to the bottom by roots and rhizomes. Rhizomes slender to robust, much branched. Stems elongate, up to 2.8 m long, unbranched or rarely branched. Leaves submerged, alternate, 7~10 cm long, 0.9~1.2 cm broad, narrowly elliptical to oblong-elliptical, sessile, obtuse at apex and base, entire and shallowly undulate at the margin, midrib distinct and lateral veins 4~6 on each side, floating leaves absent. Stipules 2~3 cm long, 0.4~0.6 cm wide, open, clasping the stem along their entire length, translucent, acute or rounded at the apex, lost when old and often fibrous strands remaining at base, veins many, not distinct. Turions absent. Inflorescence spikes, axillary, 4~8 cm long, peduncles 1.9~3.5 cm long, tetere or slightly compressed. Flowers numerous, contiguous, 4 carpels and 4 stamens, without perianth. Fruits not seen. North America and

*Corresponding author: Fax +82-331-219-1615
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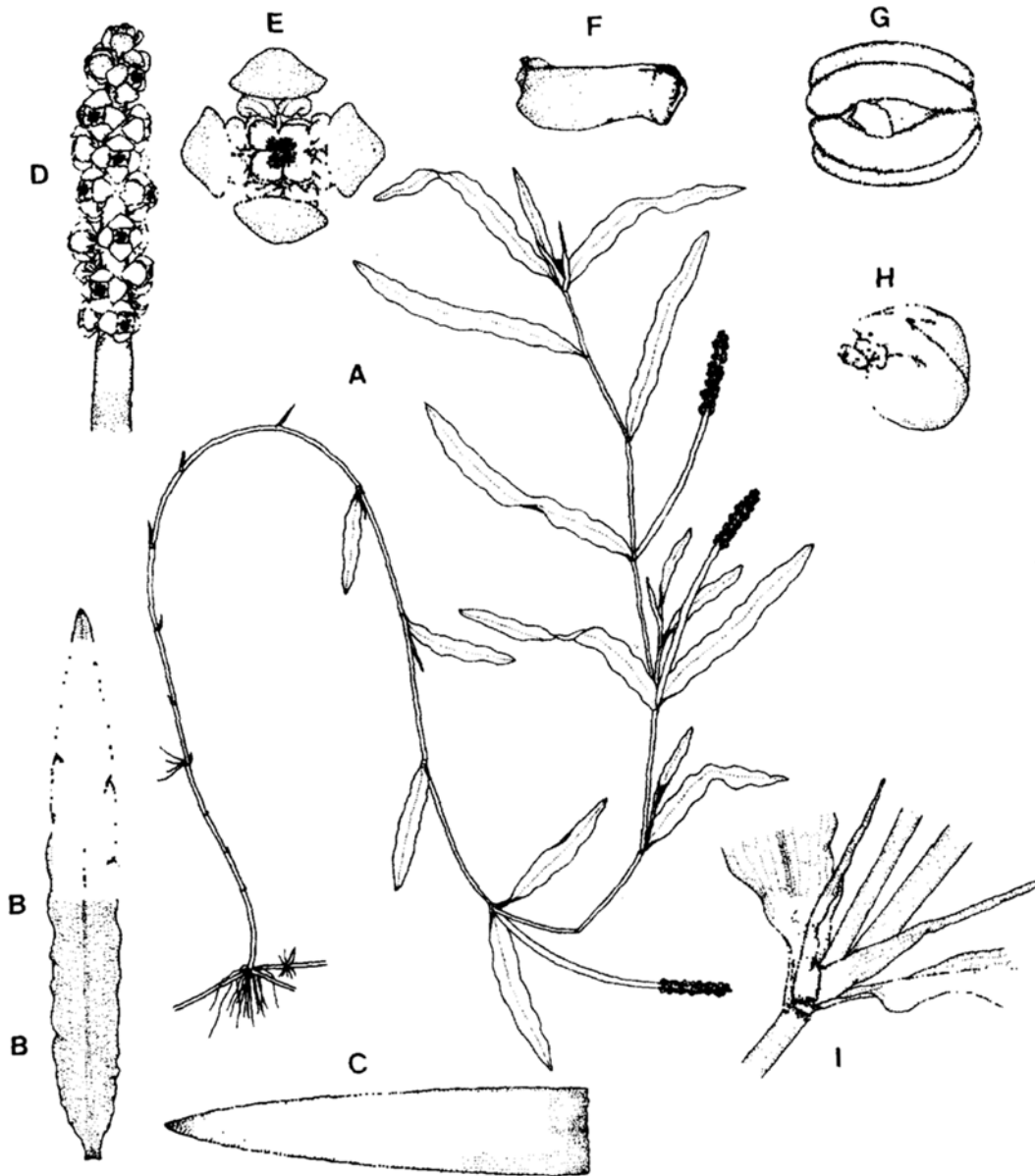


Fig. 1. *Potamogeton alpinus* Balbis. A, habit(x1/3); B, leaf(x1); C, detached stipule; D, inflorescence; E, stamen; F, connective; G, carpel; H, fruit; I, stipule attached at stem and leaf.

Eurasia. (Fig. 1)

Potamogeton alpinus is characterized by unbranched stems and sessile, but not amplexicaul leaves with entire margins and obtuse apices (Preston, 1995), and distributes widely in colder areas of the Northern Hemisphere (Ohwi, 1984). The plants of *P. alpinus* are characteristically found in sheltered bays at the edge of lakes, in ditches leading into lakes or in rivers (Preston, 1995).

The presence or absence of floating leaves is distinctive character to distinguish the species of genus

Potamogeton (Haynes, 1978; Ogden, 1943; Preston, 1995). Although the plants of *P. alpinus* have originally two kinds of leaves, one is submerged and the other is floating leaf, floating leaves may not developed depending on their habits (Kadano, 1996), and usually absent (Ogden, 1943). This makes the taxonomic confusion in indentifying this taxon. All specimens of *P. alpinus* in Korea do not have the floating leaves. That is the reason why they used to be misidentified as *P. dentatus* which belongs to the group of having only submersed leaf (Choi, 1985).

Also Korean species of *Potamogeton alpinus* differs from other submersed leaved one based on leaf characteristics; the former has the leaves with ca. 1 cm wide and does not have petiole, compared with the latter, which have the leaves with less than 5 mm wide or have the distinct petiole, or perfoliatus leaves (Choi, 1985).

This taxon was found in the upper stream of Namhan River which located around Youngweol county, Kangwon Province, and did not found elsewhere in Korea until now.

ACKNOWLEDGEMENT

This work was supported by the research fund of Korea Research Foundation (1997-001-D00335).

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Received February 14, 1998

Accepted April 17, 1998