

Three New Species of the Genus *Echinodorus* Imported for the Decoration of Aquaria

Trži nové druhy rodu *Echinodorus* dovezené pro okrasné účely

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Abstract — The work deals with 3 species of the genus *Echinodorus* related to *E. intermedius* (MART.) GRISEB. from which they differ in the pellucid lines in the blades. In the last years they have been imported from South America and cultivated as decoration plants in aquaria. Two species (*E. amazonicus* sp. n. and *E. parviflorus* sp. n.) come from the Amazon basin, the third species (*E. bleheri* sp. n.) is of unknown origin. Their diagnoses and geographical distribution are presented.

Introduction

In the aquaria 3 typically submersed species from the genus *Echinodorus* are commonly cultivated. They have not yet been treated taxonomically in spite of the fact that some of them have been known for 20 to 30 years. They belong to the section *Intermedii* and differ from *E. intermedius* (MART.) GRISEB. first of all in long pellucid lines in the blades. Further common characters of these three new species are prostrate stems, relatively small flowers, usually 9 stamens, the nutlets have 3 to many irregularly situated glands of various sizes. New plants develop in the whorls of emerged stems besides the flowers, in submersed stems only proliferations are formed sometimes associated with the development of abortive buds.

The Taxonomy

Echinodorus amazonicus RATAJ sp. n. (Pl. XVIII: A)

Syn.: *Echinodorus brevipedicellatus* auct. — non (O. KUNTZE) BUCH., 1903.

Planta perennis, aquatica; folia submersa 35–40 cm longa, petioli canaliculati, laminis breviori; lamina anguste lanceolata, utrinque acuminata, acinaciformis, quinque-pseudopeninervia, lineis pellucidis elongatis ornata, 17–25 cm longa et 2–3 cm lata; marginae foliis emersis undulatae; scapus simplex (vel ramosus), reflexus, tenuis, 30-usque 60 cm longus, basi striatus, inter verticillos trigonus; verticilli 3–6, radicans, 6–12-flori; bractae subulatae, pedunculis longiorae, inferne 3,5 cm, superne 0,5–1 cm longae, plerumque 9-costatae; pedunculi 0,4–0,8 cm longi; sepala glabra, 2–4 mm longa, 9-costata; petala alba, sepalis duplo longiora; corona diam. 0,8–1,4 cm; stamina (6)–9–(12); achenae 2 mm longae et 1 mm latae, vix compressae, 3-usque 4-costatae, glandulae (2)–3–5 vel plurae, rostrum erectum, 0,5–0,75 mm longum.

[†]Holotype: Brasil, Rondonia, Rio Jamari-Cachoeira de Sta. Cruz, 28. 6. 1965, PIRES et MARTIN 9972 (UB).

Distribution: probably the whole Amazon basin from the equator southwards to the 10th parallel from the State of Amazonas up to the mouth of the river Amazon in the State of Pará.

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Besides the type specimen from the upper basin I saw a specimen from Belém (Brazil, Pará, Belém, Peixe Boi, 26. 8. 1967, HOREMAN, PR).

E. amazonicus RATAJ (small-leaved Amazon swordplant) has been imported to Europe since 1938 under the incorrect name of *E. brevipedicellatus* which it does not resemble at all. It is commonly cultivated in aquaria. As alleged by the importers it abounds in the whole basin of the Amazon in slow running and stagnant waters 50 to 100 cm deep. It is propagated first of all vegetatively from young plants which develop in the whorls of submersed stems instead of flowers. In submersed form it differs from the following species in that it has narrower, sword-like recurved blades with entire margins. The stem of *E. bleheri* always branches, that of *E. amazonicus* is usually simple.

Echinodorus bleheri RATAJ sp. n.* (Pl. XVIII: B)

Syn.: *Echinodorus paniculatus* auct. — non MICHELI, 1881; *Echinodorus rangeri* HORT.

Planta perennis, aquatica; folia submersa 40–60 cm longa; petioli canaliculati; lamina late lanceolata, utrinque acuminata, quinque-pseudopennerinervia, lineis pellucidis elongatis ornata, 20–30 cm longa et 6–8 cm lata; marginae laminae emersis crispato-undulatae; scapus *E. amazonici* similis, sed paniculatus, radicans; flores et achenae ignotae, origo ignotum. Cult. in aquariis.

Holotype: Cult. at Cornell University, 17. 3. 1955, MOORE 7120 (BH).

Distribution: origin unknown, probably Brazil (the Amazon basin?). The majority of the imported plants comes from Brazil and from tropical Asia where *E. bleheri* is cultivated wholesale in water plantations.

E. bleheri RATAJ (Amazon swordplant) was being imported about 20 years ago and is now cultivated as an attractive aquarium plant. Its incorrect commercial name is *E. paniculatus* with which it has no common characters, or *E. rangeri*. At present it is cultivated entirely artificially. The main importers failed to bring any information about the natural localities. I have not seen spontaneous plants in the world herbaria.

E. bleheri belongs to the most widely distributed aquarium plants. In submersed form it differs from the similar *E. amazonicus* in much broader blades with undulated margins not recurved sword-like.



Fig. 1. — *Echinodorus parviflorus* RATAJ; A = the plant with inflorescence; B = the pellucid lines in the blade; C = the nutlet.

*) To honour Mrs. Amanda BLEHER, Magé, Brazil

Echinodorus parviflorus RATAJ sp. n. (Fig. 1)

Syn.: *E. peruensis* Hort. A. Blass Catalogue, München; *E. tocatins* Hort, A. Bleher Catalogue, Magé

Planta perennis, aquatica; folia submersa 20–30 cm longa; petioli canaliculati, laminis aequilongi vel longiori; lamina submersa lanceolata, utrinque acuminata, quinque-pseudopenninervia, lineis pellucidis ornata, 6–15 cm longa et 2–3–(3,5) cm lata, vel ovata, basi abrupta, 6–10 cm longa et 4–6 cm lata; lamina emersa lanceolata; scapus simplex, reflexus, tenuis, proliferatus, 30–40 cm longus; verticilli 2–5; bracteae subulatae, pedunculis aequilongae vel breviores; pedunculi 0.5–1 cm longi; sepala glabra, 2–3 mm longa; petala alba, sepalis aequilonga; corona diam. 0.5–0.7 cm; stamina (6)–9; achenae 1.5 mm longae et 1 mm latae, 3-usque 4-costatae; glandulae plurae; rostrum erectum, 0,5 mm longum.

Holotype: Cult. in Bot. Inst. Šumperk-Temenice, 15. 8. 1968, RATAJ (PR 270201).

Distribution: I have not seen spontaneous plants in the world herbaria. As alleged by the importers *E. parviflorus* is collected in mass in Peru and Bolivia.

E. parviflorus RATAJ is imported under the commercial name *E. peruensis* or *E. tocatins*. It differs from the preceding species in longer petioles, in variability of form of blades, which are lanceolate or ovate, and in much smaller flowers. The nervation of the blades is very dark and dense so that the surface of the blade has a green-brown to olive-brown colouring. Young leaves are sometimes red-brown and that is why *E. parviflorus* is often called "black swordplant". One plant often has to 40 well-developed leaves. It is smaller than the preceding species. When cultivated submersely it is propagated by young plants developing on the stems in the whorls instead of flowers.

Souhrn

Práce pojednává o 3 druzích rodu *Echinodorus*, které byly dovezeny z Jižní Ameriky a jsou pěstovány v akváriích pod nesprávnými, případně obchodními názvy. Všechny 3 nové druhy náležejí do příbuzenstva *Echinodorus intermedius* (MART.) GRISEB. a liší se od něj průsvitnými liniemi v čepelích listů. Dva druhy (*E. amazonicus* RATAJ sp. n. a *E. parviflorus* RATAJ sp. n.) pocházejí z povodí Amazonky, třetí druh (*E. bleheri* RATAJ sp. n.) není zatím znám z přirozených lokalit.

Recensent: Z. Pouzar

See also plate XVIII. in the appendix.

G. Taylor [ed.]:

Index Kewensis Supplementum 14 (1961–1965)

Clarendon Press: Oxford University Press, London 1970, 149 str., cena 6 £ 10 s. (Kniha předána do knihovny Katedry botaniky UK.)

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J. Holub



A. — *Echinodorus amazonicus* RATAJ; A = the plant with inflorescence; B = the pellucid lines in the blade; C = the nutlet.



B. — *Echinodorus bleheri* RATAJ; A = the plant with inflorescence, B = the pellucid lines in the blade.