



Notes on Early Land Plants Today. 47. Transfer of *Iwatsukia* to *Odontoschisma* (Cephaloziaceae, Marchantiophyta)

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The genus *Iwatsukia* (Cephaloziaceae) is a small tropical liverwort genus of 4 species, *Iwatsukia exigua* from Sabah and New Guinea, *Iwatsukia bifida* from Venezuela and Costa Rica, the pantropical *Iwatsukia jishibae*, and *Iwatsukia spinosa* from Venezuela (Schuster 1968, 2002). Vilnet *et al.* (2012) showed that *Iwatsukia jishibae* is nested in *Odontoschisma* (Dumortier 1831: 68) Dumortier (1835: 19) and Váňa *et al.* (2013) made the necessary nomenclatural transfer. In the framework of a phylogenetic and taxonomic study of *Odontoschisma* and related genera which is in preparation, we were able to confirm the position of *Iwatsukia jishibae* in *Odontoschisma*. In addition, we found that *Iwatsukia bifida* is nested in *Odontoschisma*, forming a separate lineage within the genus together with *Iwatsukia jishibae*. We also found that *Iwatsukia exigua*, the type species of *Iwatsukia*, is a synonym of *Iwatsukia jishibae*. We therefore transfer the genus *Iwatsukia* to *Odontoschisma*.

Formal treatment

Odontoschisma (Dumort.) Dumort. **sect. *Iwatsukia*** (N.Kitag.) Gradst., Aranda & Vanderp., **comb. nov.** Basionym:—*Iwatsukia* N.Kitag., *J. Hattori Bot. Lab.* 27: 178, 1964 (Kitagawa 1964). Type:—*Iwatsukia exigua* N.Kitag.

Odontoschisma jishibae (Steph.) L.Söderstr. et Váňa, *Phytotaxa* 112: 13, 2013 (Váňa *et al.* 2013). Basionym:—*Cephalozia jishibae* Steph., *Sp. Hepat. (Stephani)* 6: 437, 1924 (Stephani 1924). Type:—JAPAN. Shinano, Mt. Yaku, *Jishiba 203* (lectotype [designated by Grolle 1965] G-00061127, isolectotype JE!) ≡ *Iwatsukia jishibae* (Steph.) N.Kitag., *Acta Phytotax. Geobot.* 21: 114, 1965 (Kitagawa 1965).

= *Iwatsukia exigua* N.Kitag., *J. Hattori Bot. Lab.* 27: 178, 1964 (Kitagawa 1964), **syn. nov.** Type:—SABAH. S slope of Mt. Kinabalu below Paca Cave, *Iwatsuki 1070* (holotype NICH!; isotype JE!).

Odontoschisma bifidum (Fulford) Gradst., Aranda & Vanderp., **comb. nov.** Basionym:—*Cladomastigum bifidum* Fulford, *Acta Bot. Venez.* 2: 80, 1967 (Fulford 1967). Type:—VENEZUELA. Bolivar, Auyan-tepui, along Río Churún, *Steiermark 93300* (holotype NY 713605!) ≡ *Iwatsukia bifida* (Fulford) R.M.Schust., *Bull. Nat. Sci. Mus. Tokyo* 11: 314, 1968 (Schuster 1968).

Odontoschisma spinosum (Fulford) Gradst., Aranda & Vanderp., **comb. nov.** Basionym:—*Cladomastigum spinosum* Fulford, *Mem. N.Y. Bot. Gard.* 23: 840, 1972 (Fulford 1972). Type:—VENEZUELA. Bolivar, summit of Meseta de Jáua, *Steiermark 98009* (holotype CINC) ≡ *Iwatsukia spinosa* (Fulford) R.M.Schust., *Trop. Bryol.* 2: 249, 1990 (Schuster 1990).

References

- Dumortier, B.C. (1831) *Sylloge Jungermannidearum Europae Indigenarum*. J. Casterman, Tournay, 100 pp.
<http://dx.doi.org/10.5962/bhl.title.22343>
- Dumortier, B.C. (1835) *Receuil d'Observations sur les Jungermanniacées. I. Révision des genres*. J.A. Blanquart, Tournay, 27 pp.
- Fulford, M.H. (1967) Hepaticae. (In: J.A. Steyermark, Flora del Auyan-tepui). *Acta Botanica Venezuelica* 2: 72–99.
- Fulford, M.H. (1972) Hepaticae. (In: J.A. Steyermark & B. Maguire, The Flora of the Meseta del Cerro Jaua). *Memoirs of the New York Botanical Garden* 23: 838–845.
- Grolle, R. (1965) Miscellanea Hepaticologica 31–40. *Journal of the Hattori Botanical Laboratory* 28: 101–106.
- Kitagawa, N. (1964) A new genus of Hepaticae from North Borneo. *Journal of the Hattori Botanical Laboratory* 27: 178–182.
- Kitagawa, N. (1965) Cephaloziellaceae of Japan. *Acta Phytotaxonomica et Geobotanica* 21: 107–116.
- Schuster, R.M. (1968) Studies on Hepaticae XLV. On *Iwatsukia* Kitagawa. *Bulletin of the National Science Museum* 11: 309–317.
- Schuster, R.M. (1990) Origins of neotropical leafy Hepaticae. *Tropical Bryology* 2: 239–264.
- Schuster, R.M. (2002) Austral Hepaticae Part II. *Nova Hedwigia Beiheft* 119: 1–606.
- Stephani, F. (1924) *Species Hepaticarum* 6. George & Cie, Genève & Bale, pp. 433–622.
- Váňa, J., Söderström, L., Hagborg, A. & von Konrat, M. (2013) New combinations and synonyms in Cephaloziaceae (Marchantiophyta). *Phytotaxa* 112: 7–15.
<http://dx.doi.org/10.11646/phytotaxa.112.1.2>
- Vilnet, A.A., Konstantinova, N.A. & Troitsky, A.V. (1912) Molecular phylogeny and systematics of the suborder Cephaloziineae with special attention to the family Cephaloziaceae s.l. (Jungermanniales, Marchantiophyta). *Arctoa* 21: 113–132.