

Nomenclatural notes on *Cheilolejeunea inaequitexta* and *C. trapezia* (Lejeuneaceae, Hepaticae)

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Cheilolejeunea trapezia (Nees) Kachroo & R.M. Schust. is the correct name for species commonly known as *C. imbricata* (Nees) S. Hatt. A lectotype is designated for *C. inaequitexta* Schiffn. ex Steph., which is synonymized with *Lejeunea micholitzii* Mizut.

Key words: *Cheilolejeunea*, lectotype, Lejeuneaceae, nomenclature, taxonomy

Cheilolejeunea is a large and diverse genus with about 80 species in the family Lejeuneaceae (Thiers 1997). Recently new species have been continuously added to the genus (e.g. Zhu *et al.* 2000, Grolle *et al.* 2002, Dauphin & Gradstein 2003, Renner & Glenn 2003). During our studies on the Asian species of *Cheilolejeunea*, we found that the name *Cheilolejeunea imbricata* has to be replaced by *C. trapezia*. While examining the original material of the poorly known *C. inaequitexta*, we also found that the name required a lectotypification.

Cheilolejeunea trapezia (Nees) Kachroo & R.M. Schust.

J. Linn. Soc. London, Bot. 56: 509. 1961 (Feb.). — *Jungermannia trapezia* Nees, Enum. Pl. Crypt. Jav.: 41. 1830 (species rank 1830). — *Lejeunea trapezia* (Nees) Gottsche *et al.*, Syn. Hepat.: 357. 1845. — *Pycnolejeunea trapezia* (Nees) Steph., Hedwigia 29: 76. 1890, *nom. inval.* (Art. 43.1). — *Pycnolejeunea trapezia* (Nees) Schiffn. in Engler & Prantl, Nat. Pflanzenfam. 1(3): 124. 1893. — *Cheilolejeunea trapezia* (Nees) Mizut., J. Hattori Bot. Lab. 24: 282. 1961 (Oct.).

— TYPE: Indonesia. Java, “in *Collemate bullata*”, Blume & Reinwardt *s.n.* (holotype STR!; isotypes FH *fide* Thiers 1992, W Lindenb. Hep. 6401!).

Lejeunea trapezia (Nees) Gottsche *et al.* var. *minor* Gottsche *et al.*, Syn. Hepat.: 358. 1845. — *Pycnolejeunea trapezia* (Nees) Schiffn. var. *minor* (Gottsche *et al.*) Schiffn., Consp. Hepat. Arch.: Ind.: 261. 1898. — TYPE: Indonesia. Java, “ad pedem Merapi montis inter Muscos arboreos legit Junghuhn (Herb. Nees)” (isotype G 16573!).

Jungermannia thymifolia var. *imbricata* Nees, Enum. Pl. Crypt. Jav.: 42. 1830, *syn. nov.* — *Lejeunea imbricata* (Nees) Gottsche *et al.*, Syn. Hepat.: 359. 1845 (species rank 1845). — *Pycnolejeunea imbricata* (Nees) Schiffn. in Engler & Prantl, Nat. Pflanzenfam. 1(3): 124. 1893. — *Cheilolejeunea imbricata* (Nees) S. Hatt., Misc. Bryol. Linchenol. 1(14): 1. 1957. — TYPE: Indonesia. Java, without specific locality, collector or date, Herb. Nees, Herb. Lindenb. 6406 (holotype STR; isotypes G 16567!, G 16568!).

Placolejeunea subarrhyncha Herzog, Svensk. Bot. Tidskr. 42: 234. 1948. — TYPE: Indonesia. West Borneo, Bukit Bajah, 1240 m, Winkler 3360 *p.p.* (holotype JE!).

For other synonyms of *Cheilolejeunea imbricata*, see Mizutani (1961, 1982), Thiers (1992), Asthana *et al.* (1996), and Zhu *et al.* (2002).

The name *Cheilolejeunea imbricata* (Nees) S. Hatt. has been widely used by recent workers

(e.g., Thiers 1992, 1997, Asthana *et al.* 1996, Zhu & So 2001, Zhu & Lai 2003, Zhu & Long 2003). *Cheilolejeunea trapezia*, previously known from Amboina (cf. Schiffner 1898 as *Pycnolejeunea trapezia*), Borneo (Grolle 1979), Fiji, Samoa, Sumatra and Tahiti (cf. Miller *et al.* 1983), and Zaire (Tixier 1995) was reduced into synonymy of *Cheilolejeunea imbricata* by Thiers (1992), which is a very common species in tropical and subtropical regions of Asia and Oceania. Our examination of type material of the two also confirms that there are no differences between the two species in taxonomically important features. However, the name *Cheilolejeunea imbricata* has to be replaced by *C. trapezia* (Nees) Kachroo & R.M. Schust., because priority is recognized by the ICBN only in the same rank (Greuter *et al.* 2000: art. 11.2).

As discussed by Zhu *et al.* (2002, as *Cheilolejeunea imbricata*) and Mizutani (2002, as *C. imbricata*), *C. trapezia* is a highly variable species. The main characters of the species include (1) a dioicous condition, (2) larger size of plants, (1.2–)1.5–2.6 mm wide, (3) large, oblong leaf lobules about 1/2–2/3 as long as the leaf lobes, (4) a usually robust stem with a ventral merophyte 2–4 cells wide, (5) a shorter lobular tooth usually 1–4(–5) cells long, (6) a lack of vittae in leaf lobes, (7) bilobed underleaves, (8) 1–2 large oil bodies per leaf cell, and (9) obovate perianths with 4–5 keels.

Lejeunea micholitzii Mizut.

J. Hattori Bot. Lab. 33: 236. 1970. — *Hygrolejeunea parvisaccata* Steph., Sp. Hepat. 5: 567. 1914 (non *Lejeunea parvisaccata* (Steph.) Steph., Sp. Hepat. 5: 784. 1915). — *Taxilejeunea parvisaccata* (Steph.) Eifrig, Ann. Bryol. 9: 90. 1937 “1936”. — TYPE: Philippines. Luzon Benguet, 1884 *Micholitz s.n.* (holotype G 024700!).

Cheilolejeunea inaequitexta Schiffn. ex Steph., Sp. Hepat. 5: 665. 1914, *syn. nov.* — LECTOTYPE (designated here): TYPE: Indonesia. Java, Forêt de Tjibodas, Jan. 1895 *J. Massart 1582 p.p.* (FH!; isolectotype G 012027!).

Cheilolejeunea inaequitexta Schiffn., Hedwigia 39: 202. 1900, *nom. nud.*

Cheilolejeunea inaequitexta Schiffn. ex Steph. was regarded as a little-known species, known only from Borneo (Herzog 1952) and Java (Stephani 1914). Schiffner (1900) cited six specimens collected by Massart: “*Massart 1126 p.p., 1328, 1441 p.p., 1533 p.p., 1582 p.p., 1593 p.p.*” for *C. inaequitexta* Schiffn. Four of them are located in FH. Steph-

ani (1914) failed to cite any specimens in the protologue. Of the four original collections (*Massart 1582 p.p., 1328, 1593 p.p.* and *1126 p.p.*) of *C. inaequitexta* Schiffn. ex Steph. in the Stephani herbarium (G), *Massart 1582 p.p.* is the only specimen with perianths. It is also the specimen used by Stephani for the illustration of *C. inaequitexta* in the *Icones Ineditae* (no. 001792) (Stephani 1985) and thus is selected here as the lectotype.

Our examination of original material of *Cheilolejeunea inaequitexta* in FH and G reveals that it does not fit the genus *Cheilolejeunea* owing to its proximal hyaline papilla. Instead, it is conspecific with *Lejeunea micholitzii* Mizut., previously known from Indonesia (Java, Sumatra; Eifrig 1937 as *Taxilejeunea parvisaccata*), Malaysia (Kinabalu (Mizutani 1970), Sarawak (Herzog 1952 as *Cheilolejeunea inaequitexta*), and the Philippines (Mizutani 1970)). *Lejeunea micholitzii* is characterized by remote, bilobed underleaves with two narrower lobes, presence of distinct trigones and intermediate thickenings of leaf cells, small and usually reduced leaf lobules, very short androecia on very short lateral branches, and (4–)5-keeled perianths. It is similar to the Asian and Oceanian *L. anisophylla* Mont. when dry, but the latter differs primarily in its androecia usually terminal on elongate branches (cf. Zhu & So 2001: p. 157). Whether the oil bodies of the two species are different is still uncertain, because no fresh material of *L. micholitzii* has been checked.

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