NOTE

Cheilolejeunea trapezia (Nees) Kachroo & R.M. Schust. ex Mizut. var. ceylanica (Gottsche) A.E.D. Daniels & K.C. Kariyappa comb. et stat. nov. (Lejeuneaceae) from India

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ABSTRACT: It is found that the species Cheilolejeunea ceylanica falls within the circumscription of the polymorphic C. trapezia. The only tenable character that distinguishes the former and the latter is the presence of vitta in leaves of the former. Hence, the name C. ceylanica is reduced to a variety of C. trapezia and a new combination C. trapezia var. ceylanica is made here. Figures and photographs are provided to prove the conclusion. Incidentally, var. ceylanica is an addition to the liverwort flora of India from Courtallam in the Southern Western Ghats.

KEY WORDS: Cheilolejeunea trapezia var. ceylanica, Courtallam, Western Ghats.

INTRODUCTION

Nees (1830) described Jungermannia trapezia as a new species and typified the name on a material from Java. Mizutani (1961) placed J. trapezia in the genus Cheilolejeunea. Nees (1830) described Jungermannia thymifolia var. imbricata and typified the name again on a material from Java. Gottsche et al. (1845) elevated variety imbricata to the rank of a species and placed it in the genus Lejeunea. Hattori (1957) transferred L. imbricata to the genus Cheilolejeunea. But Thiers (1992), who found C. trapezia (Nees) Mizut. and C. imbricata (Nees) S. Hatt. conspecific, reduced C. trapezia to a synonym of C. imbricata. Zhu and Grolle (2004) rightly pointed out that C. trapezia is the correct name for C. imbricata, the former epithet being prorable at the rank of a species. Gottsche (1845) described Lejeunea ceylanica as a new species and typified the name on a material from Ceylon (Sri Lanka). Schuster and Kachroo (1961) placed L. ceylanica in the genus Cheilolejeunea.

The first record of the species Cheilolejeunea imbricata in India was by Stephani (Sp. Hepat. 6: 396. 1923) but under the name Strepsilejeunea planifolia Steph. (vide Asthana et al., 1995). Asthana et al.’s (l.c.), revision of the genus Cheilolejeunea in India has 9 species including C. imbricata (= C. trapezia). While discussing the affinities of the allied species, Asthana et al. (l.c.) pointed out the difficulty in distinguishing C. trapezia from C. ceylanica. The key characters used by them to separate the latter from the former are the relatively long (5 or 6 cells long) second tooth of the leaf lobule and the 5 to 10 cells long and 3 to 5 cells wide vitta in the midleaf. Zhu et al. (2002) who included C. ceylanica as well as C. imbricata (= C. trapezia) in their monograph on the genus Cheilolejeunea in China also mentioned both the characters earlier given by Asthana et al. (l.c.) but failed to indicate the number of cells in the second tooth of the leaf lobule. However, they pointed out 2 additional characters viz., the angle of divergence (30–60º) of leaf attachment to stem and the usual falcate nature of the leaves. While discussing the plasticity of C. trapezia, Zhu et al. (l.c.) stated that it is the most variable species (also vide Thiers, l.c.; Zhu & Grolle, l.c.) in China and pointed out the variations as - underleaves are usually imbricate and sinuately inserted, leaves incurved at ventral and apical margins, the length of the second tooth of the leaf lobule varies from 1 to 6 cells (2–6 cells in C. ceylanica, Thiers, 1992), ventral merophytes usually 2 or 3 cells wide and 4 cells wide only in well-developed stems (2–4 cells wide is a subgeneric character, Thiers, 1992) and the number of oil bodies 1 to 3 per cell in leaves. The sexual characters which are the most conservative and reliable ones to distinguish taxa are the same barring the male bracts which are 2 to 5 pairs in C. ceylanica but 2 to 8 pairs in C. trapezia. All these characters fall well within the circumscription of C. trapezia (Table 1).

DISCUSSION

A perusal of pertinent literature shows that the
characters used by earlier authors to distinguish *Cheilolejeunea trapezia* from *C. ceylanica* are the number of ventral merophyte cells which are 2 cells wide in *C. ceylanica* but 2 to 4 in *C. trapezia* (cf. Mizutani, 1978, 1980; Thiers, 1992; Asthana et al., 1995; Zhu et al., 2002). However, in the ample fresh material from various localities in the southernmost Western Ghats studied now, the ventral merophyte is either 3 or 4 cells wide. Leaves are imbricate and obliquely to widely spreading in both the species, sometimes falcate (cf. Mizutani, l.c.; Asthana et al., l.c.; Zhu et al., l.c.; Zhu and Grolle, 2004) (Table 1). Such conditions can be found in the same plant in the present material. The insertion of underleaves is transverse to subtransverse, sometimes sinuate (cf. Mizutani, l.c.; Asthana et al., l.c.; Zhu et al., l.c.; Zhu and Grolle, 2004). All the 3 types of insertions are found in the same material in the present study. The shape and nature of the leaf lobule being rectangular, truncate or acute, inflated or not (cf. Thiers, l.c.) and the length of the leaf lobule tooth are highly variable (Fig. 1).

However, *C. ceylanica* does possess a vitta in the leaves, a consistent character that distinguishes it from *C. trapezia*. Since, this is the only tenable character that distinguishes *C. ceylanica* from *C. trapezia*, *C. ceylanica* is reduced to a variety of *C. trapezia* and a new combination is made here.


Figs 1 & 2


Plants monoicous or dioicous, 10–25 mm long, pale yellow-green. Leaves imbricate, widely spreading, 0.9–1 × 0.65–0.68 mm, oblong, arched at antical margin, straight or incurred in middle at postical margin, entire, rounded at apex; apical cells 12–22 × 8–14 μm; median ones 20–32 × 12–25 μm; basal ones 16–40 × 14–28 μm; walls faintly trigonous, with or without intermediate nodular thickenings; vitta distinct; oil bodies 1–3 per cell, 15–25 × 5–10 μm, elongate, segmented; leaf lobules 0.45–0.5 × 0.23–0.25 mm, rectangular, flat or swollen, incurred or not, free at margin, truncate or slightly stricincted at apex, 2-toothed; first tooth indistinct; second one ca. 40 × 12 μm, acute, 1–8 cells long and 1 or 2 cells wide at base; keel straight or arched, smooth. Underleaves distant and transversely to subtransversely inserted, to rarely imbricate and sinutate inserted, 0.3–0.45 × 0.3–0.38 mm, almost twice as broad as stem, orbicular to ovate, 2-lobed for half, entire. Male inflorescences on lateral branches, capitate or spicate, with 2–8 pairs of swollen bracts, sometimes with apical innovations; bracteoles 1 or 2, confined to base of inflorescence. Female inflorescences with 1 subfloral innovation of *Radula-Jubula* type; bracts ca. 0.83 × 0.45 mm, oblong-obovate, incurved at margin; lobules linear; bracteoles ca. 0.6 × 0.23 mm, oblong-obovate, 2-lobed at apex. Perianth 0.63–0.99 × 0.48–0.63 mm, obovate, 4- or 5-plicate with 1 dorsal (often absent), 2 lateral and 2 ventral sharp or blunt plicae.

Habitat: Corticolous on *Lagerstroemia microcarpa* Wight (*Lythraceae*), a tree common in moist deciduous forests, ca. 750 m.

Distribution: Australia, Bangladesh, China, Indonesia, Japan, Kampuchea, Micronesia, New Caledonia, the Philippines, Samoa, Sri Lanka, Thailand, Vietnam and India: Western Ghats of Tamil Nadu (Tirunelveli).


Note: Zhu and Grolle (2004) ascribed the combination *Cheilolejeunea trapezia* to Kachroo and Schuster (1961) since their publication appeared in February whereas Mizutani’s appeared in October 1961. The purported basionym cited by Kachroo and Schuster (l.c.) was a combination based on *Jungermannia trapezia* Nees, a fact overlooked by Zhu and Grolle (l.c.). This wrong citation of the basionym makes the combination published by Kachroo and Schuster invalid (Art. 33.7 cf. ex. 20. a).

Schiffner (1893) was the first to make the combination *Pycnolejeunea imbricata* who, however, attributed it to Stephani (also vide Schiffner, 1898).

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**LITERATURE CITED**


Cheilolejeunea trapezia var. ceylanica comb. & stat. nov. (細鱗蘚科)之處理

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摘要：本文將Cheilolejeunea ceylanica處理為C. trapezia之變種，區別此兩分類群的可靠特徵只有一個，即是在C. ceylanica葉內有假脈。因此，C. ceylanica在分類上由種降階為變種，成為一新組合名C. trapezia var. ceylanica。本文也提供手繪圖與照片來支持這樣的分類處理。

關鍵詞：Cheilolejeunea trapezia var. ceylanica、Courtallam、西高止山。