Hiroshi INOUE*: **Taxonomic miscellany on hepatics (4)****

井上 浩*: 苔類の分類雑記 (4)

7. Notes on *Scapania verrucosa* Heeg from Japan.

Scapania verrucosa Heeg, Rev. Bryol. **20**: 81 (1893). =*Scapania parva* Steph., Mem. Soc. Nat. Cherbourg **29**: 226 (1894). =*S. verrucifera* Mass., Mem. Accad. Agr. Art. Comm. Verona, ser. **73**: 21 (1897).

Plants in loose tufts or scattered among other bryophytes on moist rocks, pale brownish to greenish yellow or pale brownish, with greenish to yellowish apices; shoots 2.5-3.1 (-3.4) mm wide and (0.9-) 1.1-1.7 (-2.1) cm long, simple or very rarely once branched in lower part, stem reddish brown (or gradually becoming pale yellowish brown towards shoot apex) with pale yellowish line along ventral stem-midline, 300-330 μ thick, cortical cells highly differentiated in 2-3 layers, discontinued at ventral side and replaced by the cells same as the medullary cells with subhyaline, thin-walls, with strongly thickened walls as bast-fiber cells, not markedly flattened tangentially. Leaves approximate to imbricate, with flattened or weakly concave ventral lobes and the dorsal lobes obliquely spreading at an angle of 20-45° with stems; ventral lobes oblong-ovate, usually widest at middle, 0.9-1 mm wide ×1.3-1.7 mm long and 1.4-1.7 times as long as wide, becoming gradually smaller towards shoot-base, apex broadly rounded to weakly subacute (but on and near gemmiparous leaves subacute to sometimes acute, often with more or less eroded cells); dorsal lobes transversely inserted or slightly arcuate, broadly quadrate to obliquely heart-shaped or ovate, about 0.45-0.6 the ventral lobe in size (sometimes in upper leaves up to 0.7 and in lower leaves 0.4), not closely covering the ventral lobes and loosely to distinctly divergent to oblique (especially when moist usually with angle of 15-30° to the ventral lobe), with acute or subacute to subobtuse apex; keel weakly arched or sometimes nearly straight, diverging at an angle of 35-50°, 450-600 μ long and 0.25-0.45 of ventral lobe in length, with narrow wing 2-3 cells broad; lobe

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** Continued from Journ. Jap. Bot. **59**: 344-349, 1984.

margins uniformly and minutely dentate, teeth 1-celled (or very rarely 2-celled), with additional minute teeth formed by projecting cell-walls. Cells of leaf-lobes with small- to medium-sized, weakly bulging trigones, those of marginal 2-4 rows uniformly coalescent, forming a distinct, thick-walled border; cells from apical region of lobes 15-20×18-25 μ, those from middle portion 15-18×18-28 μ, those of basal region 18-25×20-35(-40) μ; cuticle distinctly papillose, with small hemispherical papillae. Oil-bodies 2-5 per median lobe-cell, globose or subglobose and 3-6 μ, grayish, composed of numerous minute granules, with weakly papillose surface. Gemmae yellowish to pale reddish brown, numerous on lobe apices, forming bright to pale or sometimes deep brownish group (thus, lobe-apices nearly always eroded), 2-4-celled, mostly irregularly angular to tetrahedral to occasionally polyhedral, 15-20×13-18 μ.

Distribution: In Europe, Müller (1956) said that this species was distributed in "Pyrenäen über die Alpen und Apennin, Karpaten, Transsilvanisch Alpen, Schwarze Meerküste" and I have seen several specimens from these regions (including Schiffner's Hepaticae Europeae Exssicatae nos. 762 & 763). This species is also disjunctively distributed in the Himalayas (Müller, 1905; Kashyap & Chopra, 1932), and China (Yünnan: leg. Delavay, s.n. in G no. 8177, type of *Scapania parva*; Schen-si, leg. Massalongo no. 233, type of *Scapania verrucifera*, in G) and recently it was also found in Japan (Between Mt. Jumonji and Azusa-shiraiwa, Chichibu Mts., Saitama Pref., leg. H. Inoue nos. 3330 & 3331 in TNS).

Notes: Although they are all sterile, the Japanese plants are perfectly identical with the European plants. The above description is based entirely on the Japanese plants. In the Chichibu Mts. the plants were found growing on a rather humid, limestone cliff in *Tsuga diversifolia* forest, at ca 2000 m alt., with several small mosses.

Amakawa (1964) gave a short description of *S. parva* Steph., based on the type, but unfortunately he overlooked the very characteristic gemmae of this species. The gemmae characteristically form a bright to pale brownish (or sometimes deep reddish brown) group at the apices of leaf-lobes around the shoot apex and they are typically 2-3-celled and oblong-ovate in shape. Some of gemmae are irregularly angular to tetrahedral or rarely polyhedral (in this case the gemmae become 3-4-celled). This habit and variation of the gemmae were also observed in the European and Chinese plants, although they were described to be "charakteristisch dreiecking, stern-bis birnförmig, 2 zellig"

(Müller, 1956). When the gemmae groups are removed, the apices of leaf-lobes become characteristically eroded.

Müller (1905) cited *Scapania parva* Steph. (msc) as a synonym of *S. verrucosa* Heeg based on a specimen from Himalaya, but Stephani (1894) had already described *S. parva* based on a Chinese specimen. Stephani (1910) redescribed *S. parva* and treated *S. verrucifera* Mass. as a synonym. Amakawa (1964) considered these species to be "similar to each other and may possibly be the same taxon". I have studied all authentic specimens concerned and have not been able to find any specific differences.

8. *Cephalozia nipponica* Hatt. and *C. catenulata* (Hüb.) Lindb.

Cephalozia nipponica Hatt. is a fairly common species in middle to southern Japan. Its distribution extends north to southern Hokkaido and south to Taiwan, and disjunctively also in Thailand. This species commonly grows on decaying wood in lowland evergreen to montane deciduous broad-leaved forest and its frequent associates include *Odontoschisma denudatum, Nowellia curvifolia,* and *Jungermannia subulata.*

The close similarity of *Cephalozia nipponica* with *C. catenulata* (Hüb.) Lindb. has already been pointed out by Hattori (1944). Kitagawa (1969) noted that "*C. catenulata* can be separated from *C. nipponica* in rather minor respects", as (1) the less rigid nature of plants, and (2) the usually straight and not so distinctly connivent leaf-lobes. Schuster (1974) treated *C. nipponica* as a synonym of *C. catenulata* based solely on figures given by Amakawa (1952) as *C. media* var. *nipponica* (=*C. nipponica*!).

As earlier shown (Inoue, 1974), *Cephalozia nipponica* has no direct affinity with *C. lunulifolia* (=*C. media*!). I have compared the Japanese *C. nipponica* vis-à-vis European (no. 565-567 of Schiffner's Hepaticae Europeae Exssicatae and others in TNS) and American plants (Tennessee: Clingmans Dome, leg. Inoue no. 24391; South Carolina: Oconee Co., leg. Schuster no. 45185; and others in TNS) of *C. catenulata.* As stated by Kitagawa (1969), *C. nipponica* is different from *C. catenulata* in "rather minor respects", as follows:

Leaves usually dorsally converging and erect-ascending, with leaf-lobes hardly connivent; leaf-cells 23-30×30-38 μ at the base; female bracts and bracteoles with sharply serrate-dentate margins; branches often longly attenuate becoming stoloniform ..... *C. catenulata*

Leaves never vertically oriented, with leaf-lobes usually moderately to distinctly

connivent; leaf-cells 35-40×40-50 μ at the base; female bracts and bracteoles barely to moderately toothed or sometimes shortly lobed on margin; branches usually not attenuate, never becoming stoloniform .....*C. nipponica*

These differences would warrant the segregation of Japanese population as geographical subspecies of *C. catenulata*, as follows:

Cephalozia catenulata (Hüb.) Lindb., Acta Soc. Sci. Fenn. 10: 262 (1872) subsp. **nipponica** (Hatt.) Inoue, comb. nov.

Basionym: *Cephalozia nipponica* Hatt., Bull. Tokyo Sci. Mus. 11: 74, fig. 45 (1944).

Synonym: *Cephalozia nipponica* Hatt. var. *yakusimensis* Hatt., Journ. Hattori Bot. Lab. 4: 57, fig. 30-31 (1950). *Cephalozia media* Lindb. var. *nipponica* (Hatt.) Amak., Journ. Hattori Bot. Lab. 8: 56 (1952).

9. New synonyms and a correction for the genus *Plagiochila* (Dum.) Dum. in southeast Asia.

Since the publication of a monograph of the genus *Plagiochila* (Dum.) Dum. in southeast Asia (Inoue, 1984), the following new synonyms and a correction have been detected.

(1) **Plagiochila blepharophora** (Nees) Lindenbg., Spec. Hepat. 1-5: 102 (1842) = *Plagiochila amoena* Herz., Trans. Brit. Bryol. Soc. 2: 73 (1952), syn. nov.

Plagiochila amoena Herz. is the substitute name for *P. elegantissima* Herz. (1950), non Herz. (1938).

(2) **Plagiochila bantamensis** (Reinw. et al.) Dum., Rec. d'Obs. Tournay: 15 (1835) = *Plagiochila scalpellifolia* Chen & Wu, Acta Phytotax. Sinica 17: 93, fig. 1 (1979), syn. nov.

The description and figures given by Chen & Wu (1979) clearly indicate that *P. scalpellifolia* (China: Kwangtun; Hainan, leg. P.C. Chen et al. no. 124 in PE; type not seen) should be included in the category of *P. bantamensis*.

(3) **Plagiochila teysmannii** S. Lac. in Dozy, *Plagiochila Sandei* Dz. icone illustrata: 6 (1856) = *Plagiochila fuscorufa* Steph., Spec. Hepat. 6: 158 (1918), syn. nov.

Plagiochila fuscorufa Steph. was erroneously cited also as a synonym under *P. arbuscula* (Brid. ex Lehm. & Lindenbg.) Lindenbg. but this citation should be deleted.

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7. 昨年夏，埼玉県秩父十文字峠附近で採集した *Scapania* の 1 種は *S. verrucosa* に同定でき，日本新産である。従来，中国及びヒマラヤから *S. parva* Steph. 及び *S. verrucifera* Mass. の名で記録されていたものも，ヨーロッパに分布している *S. verrucosa* と同じものである。従って，本種はヨーロッパ，ヒマラヤ～中国，日本という分布をもつことになる。

8. *Cephalozia nipponica* Hatt. は日本～台湾～タイに分布する。Schuster (1974) はこれをヨーロッパ，北アメリカに分布する *C. catenulata* の異名としたが，やはり *C. nipponica* は英文に示たしように差がみられ，地理的亜種として認める方がよいと考えられる。

9. 東南アジアのハネゴケ属モノグラフ (Inoue 1984) の中で見落としていた synonym の追加及び synonym の取扱い訂正を行った。