

THE GENUS *MNILOLOMA* (HEPATICAЕ, CALYPOGЕIACEAE)  
NEW TO CHINA DISCOVERED FROM TAIWAN  
РОД *MNILOLOMA* (HEPATICAЕ, CALYPOGЕIACEAE) —  
НОВОСТЬ ДЛЯ КИТАЯ, НАЙДЕН НА ТАЙВАНЕ

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Abstract

The Hepatic genus *Mnioloma* Herzog, Calypogeiaceae, with species of *M. fuscum* (Lehm.) Schust. is discovered from Taiwan and new to China. The world distribution of the genus shows that *M. fuscum* is the only species widely distributed in paleotropical and pacific regions and the new locality in Taiwan is the most northern station of the genus.

Резюме

Род печеночников *Mnioloma* Herzog, Calypogeiaceae, и вид *M. fuscum* (Lehm.) Schust. найдены на Тайване, и это первая находка для Китая. Данный вид является единственным палеотропическим представителем рода; он широко распространен в тропиках Старого Света и тихоокеанском регионе. Новое местонахождение вида – самое северное для рода в целом.

According to Piippo (1990), two genera *Metacalypogeia* and *Calypogeia* with 12 species in family Calypogeiaceae have been reported in China. During our recent study of the specimens collected from Taiwan in 1998, we discovered another genus *Mnioloma* with species of *M. fuscum* (Lehm.) Schust. belonging to Calypogeiaceae, which is new record for bryoflora of China. And the new locality of *M. fuscum* in Taiwan is the most northern station of the genus. Therefore, the genus *Mnioloma* and *M. fuscum* is reported and its distribution is discussed here.

**MNILOLOMA** Herzog, Ann. Bryol. 3: 119. 1930.

*Calypogeia* subgen. *Mnioloma* (Herzog) Bischl., Candollea 18: 25. 1963.

The genus *Mnioloma* belonging to family Calypogeiaceae was established by Herzog in 1930. It had not been restudied until Bischler (1963) reduced it to a subgenus *Mnioloma* of genus *Calypogeia*. According to Schuster's concept, the genus *Mnioloma* is

mainly characterized by having: 1) plants generally brownish and stem dark-brown with one layer of smaller and firm-walled cortical cells; 2) branches uniformly ventral-intercalary from axils of underleaves; 3) leaves flat, dull, with obtuse to pointed apex, but never bidentate or bilobed; 4) underleaves minutely emarginated at apex; 5) intermarginal leaf cells conspicuously verruculose and margin cells slightly to distinctly elongated, often forming a differentiated border; 6) oil-bodies finely granular-segmented rather than botryoidal; and 7) lack of ability to form gemmae.

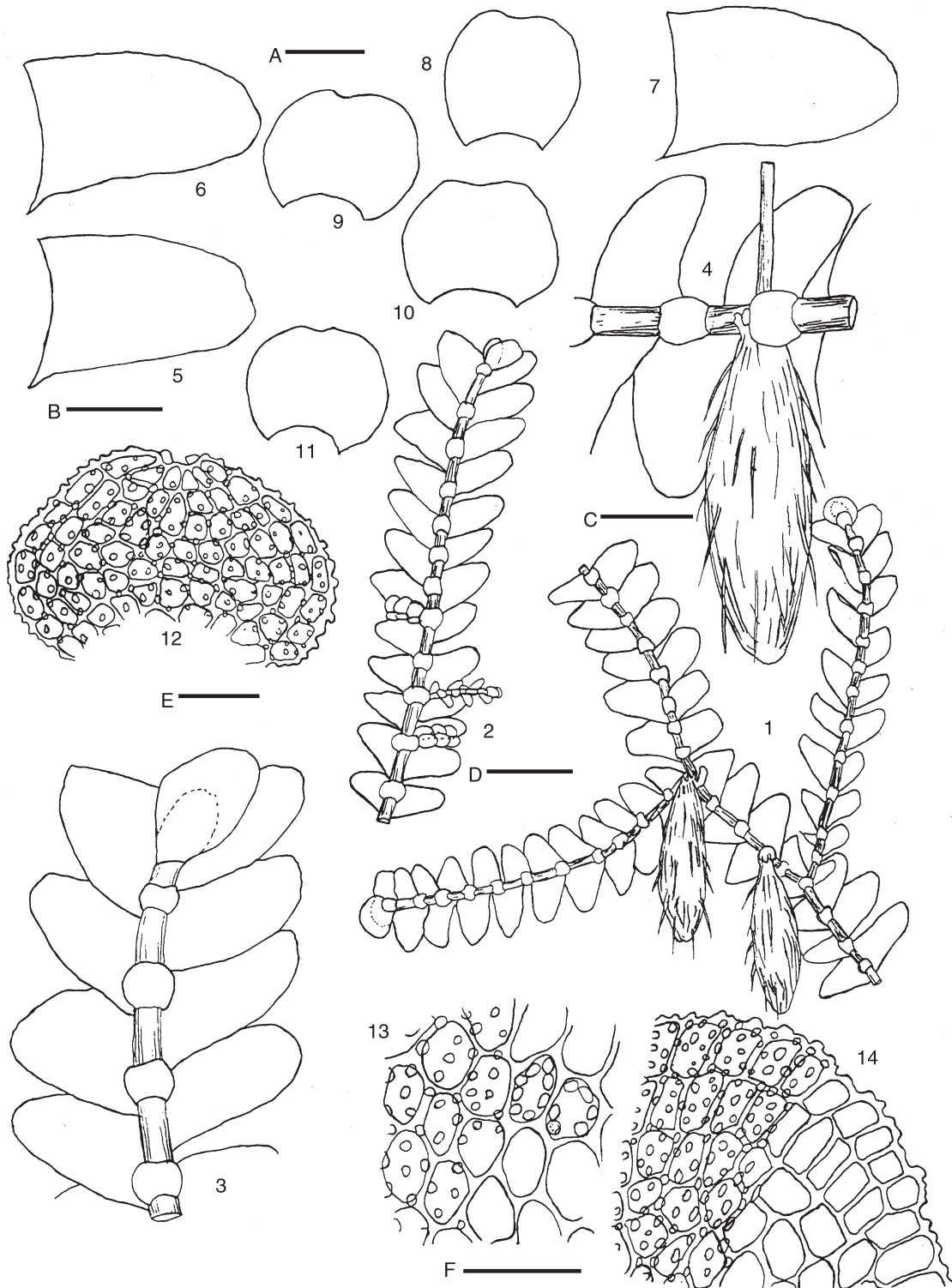
According to Schuster (1995), the genus *Mnioloma* was divided into two subgenera, namely subg. *Caracoma* and subg. *Mnioloma*, with 12 species in the world. Among these species, 11 species are neotropical taxa and restrictly distributed in Central and South America. Only one species, *M. fuscum*, is paleotropical taxon and widely distributed in paleotropical and pacific regions.

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Figs. 1-14. *Mnioloma fuscum* (Lehm.) Schust.: 1 - habit with marsupium; 2 - portion of plant with androecium; 3 - portion of plant, ventral view; 4 - portion of stem with marsupium; 5-7 - leaves; 8-11 - underleaves; 12 - underleaf and cells; 13 - median leaf cells; 14 - stem-leaf margin cells (drawn from specimen from Taiwan, Gao & Cao 980487, by Chien Gao). Scale bars: A = 0.1 mm for 8-11; B = 0.25 mm for 5-7; C = 0.5 mm for 3-4; D = 1 mm for 1-2; E = 20  $\mu$ m for 12; F = 50  $\mu$ m for 13-14).

***Mnioloma fuscum*** (Lehm.) Schust., *Fragm. Flor. Geobot. Ann.* 40, Pars 2: 848. fig.7. 1995. — *Jungermannia fusca* Lehm., *Linnaea* 4: 360. 1829. — *Kantia fusca* (Lehm.) Steph., *Hedwigia* 27: 380. 1888. — *Calypogeia fusca* (Lehm.) Steph., *Spec. Hep.* 3: 398. 1908. Figs. 1-14

Plants olive-green to fuscous, 1.5~2.0 cm long, 1.0~1.5 mm wide with leaves, creeping on rotten wood. Stems elliptical in cross section, 4-6 cells high, with a rather ill-defined cortex of moderately thickened cells, freely but irregularly branched; branching uniformly ventral-intercalary. Rhizoids few or sporadic on normally-leaved axes, in ill-defined fascicles. Leaves flat, contiguous to weakly imbricated, incubous, widely to somewhat obliquely spreading, obliquely inserted, broad-ovate to short rounded-oblong, 0.5-0.6 mm long, 0.3-0.4 mm wide, apex rounded, entire or crenulated, but not toothed; margins virtually entire, locally and sporadically, feebly crenulate with cells whose edges bow out. Underleaves broad-ovate, width wider than length, as wide as stem or slightly wider than stem; margins entire to feebly sinuous; apices minutely notched, vestigial lobes reduced to two juxtaposed slime papillae. Leaf cells round to subround polygonal, variable, faintly to perceptibly thick-walled and with distinct, sometimes feebly convex-sided trigones; apex cells 24-28 x 24-30  $\mu\text{m}$ , basal cells 35-70 x 30-40  $\mu\text{m}$ , marginal cells frequently somewhat radially elongated; cuticle densely papillose, papillae low. Oil-bodies finely granular-segmented. Dioecious. Gynoecia on short ventral-intercalary branches from underleaf axes, budlike when unfertilized, formed of two gyres of thin, delicate, bilobed bracts, with crenulate margins. Marsupia pendent, long-oblong, 2-2.5 mm long, 0.8-1.0 mm wide. Androecia on short ventral-intercalary branches, from underleaf axes; male bracts closely imbricate, usually in 3-5 pairs. Sporophytes unknown.

Specimens examined: TAIWAN. Xinzhu County. Yuanyang Lake Nature Reserve, 121°25'E, 24°35'N, elev. 1 670m, on rotten wood, *Gao Chien & Cao Tong 980449, 980487*, 19 October 1998 (IFSBH).

*Mnioloma fuscum* is easily recognized by having: 1) plants olive-green to brown, with uniformly ventral-intercalary branches from axis of underleaves; 2) leaves incubous, broad-ovate to short rounded-oblong with rounded, entire to crenulate apex; 3) underleaves broad-ovate with minutely notched apices, the vestigial lobes reduced to two juxtaposed slime papillae; 4) cells of leaves and underleaves conspicuously verruculose and margin cells slightly differentiated.

The world distribution of *Mnioloma fuscum* based on literature citations (Bischler 1963, 1970; Geissler & Bischler 1985; Grolle 1977; Grolle & Schwltze-Motel 1972; Kitagawa 1988; Schuster 1972, 1995) shows that this species is widely distributed in paleotropical and pacific regions. It has been recorded from Africa (Ethiopia, Uganda, Seychelles, Swaziland, Tanzania), Southwest Asia (Indonesia [Borneo, Java, Sumatra], Thailand, Sri Lanka) and islands on the Atlantic Ocean (Azores, St. Helena), Solomon, New Guinea, Samoa and Hawaii. The new locality of *M. fuscum* found in Taiwan (24°35'N), north of the tropic of Cancer, is the most northern station of the species as well as of the genus *Mnioloma* as a whole.

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