

Myxomycetes from Yunnan Province, China, Collected in 1998

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Abstract Sixteen species are reported from Yunnan Prov., China. Among them, four species, *Diderma deplanatum*, *Lamproderma arcyrrioides*, *Physarum* cf. *conglomeratum*, and *Stemonitis rhizoideipes*, are new to China, and nine species are new to Yunnan.

Key words: Myxomycetes, China, Yunnan, distribution, taxonomy

Yunnan Province is located in Southwest China. From this province, Teng (1963) reported 37 myxomycete taxa. Lately Li and Li (1989) listed 22 species of myxomycetes and added 4 species which did not appear in Teng's book to the myxomycete flora of Yunnan. In addition, *Perichaena poronema* was described by Li *et al.* (1990) as a new species from Yunnan and *Didymium iridis* was added to this province in the English edition of Teng's book (Teng, 1996) as *D. nigripes* var. *xanthopus*. Thus, as far as we know, a total of 43 myxomycetes have been found in this province.

The present paper is based on a myxomycete collection made during the botanical expedition in Yunnan organized by the National Science Museum, Tokyo, in collaboration with the Kunming Institute of Botany, Academia Sinica, in 1998. The collection consists of 26 specimens belonging to 16 species, which are alphabetically arranged in the following list. Nine species of them are new to Yunnan and are indicated by asterisks in the list, and four species are new to China, indicated by double asterisks.

Specimens cited are divided into two complete sets. One set of them is deposited in the herbarium, National Science Museum, Tokyo (TNS), Japan, and the other is deposited in the herbarium, Kunming Institute of Botany, Academia Sinica, Kunming, Yunnan (KUN), China.

1. *Arcyria cinerea* (Bull.) Pers., Syn. Fung. 184 (1801).

98CU-5 (Yong Shan Co., He Ba Chang, on dead bark, coll. Y. Doi, 21 IX 1998).

The specimen is poor but the sporocarps are typical except for their pale yellow color.

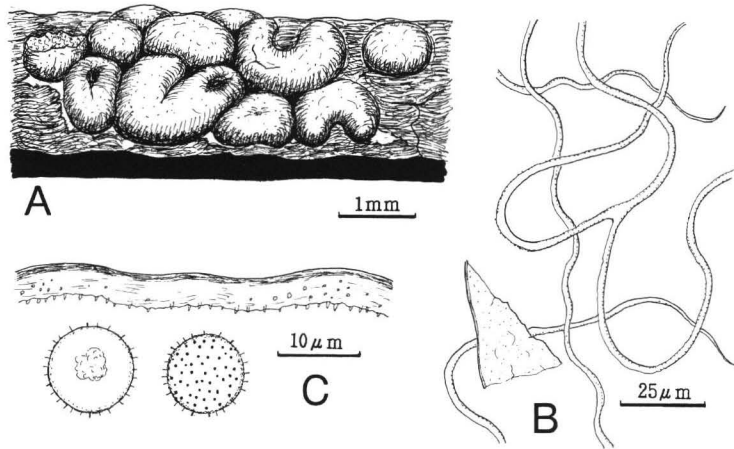


Fig. 1. *Calomyxa metallica* (98CU-18). A. Sporocarps and plasmodiocarps. B. Capillitium and peridium. C. Part of a capillitium thread and two spores.

2.* ***Badhamia utricularis*** (Bull.) Berk., Trans. Linn. Soc. **21**: 153 (1853).

98CU-2 (Yiliang Co., Xian Cao Ba, on dead bark, coll. Y. Doi, 17 IX 1998).

Stalked sporocarps are gregarious to crowded, but most of them are completely dehiscent. The stalks are yellowish, long, and weak. The spores are usually loosely clustered, but free spores are also observed.

3.* ***Calomyxa metallica*** (Berk.) Nieuwl. var. ***metallica***, Am. Midl. Nat. **4**: 335 (1916).

Fig. 1

98CU-18 (Lu Sui Co., Pian Ma Peak Gate, on dead bark, coll. N. Maekawa, 1 X 1998).

The specimen is fine and has crowded plasmodiocarps and sporocarps. The peridium is membranous and iridescent with golden tint. The capillitium threads are thickened on one side, and spinulose or verruculose on the other.

4.* ***Clastoderma debaryanum*** Blytt var. ***debaryanum***, Bot. Zeit. **38**: 343 (1880).

98CU-19 p.p. (Lu Sui Co., Pian Ma Peak Gate, on dead bark, coll. K. Miyazaki, 1 X 1998, mixed with *Lamproderma arcyrioides*), prepared as a slide specimen only.

The capillitium forms nearly complete net with small and rarely widened peridial platelets.

5.* ***Diderma cor-rubrum*** T. Macbr., N. Am. Slime-Moulds ed. 2. 140 (1922). Fig. 2

98CU-16 (Lu Sui Co., Pian Ma, on dead bark, coll. N. Maekawa, 30 IX 1998), and 98CU-17 (Lu Sui Co., Pian Ma, on dead bark, coll. T. Matsui, 30 IX 1998).

Both specimens are fine and have stalked sporocarps. The columella and the

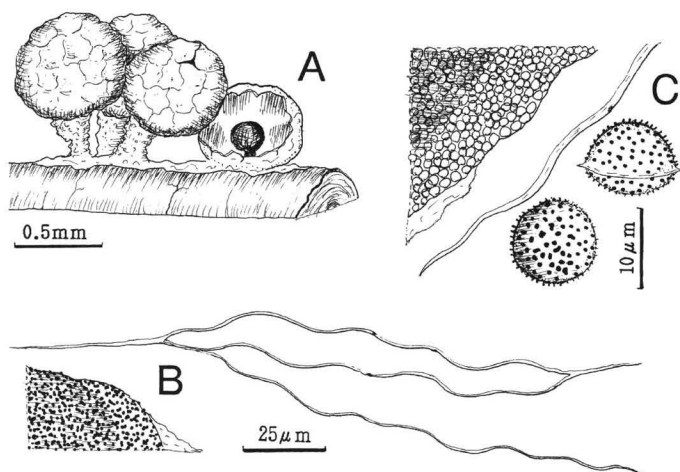


Fig. 2. *Diderma cor-rubrum* (98CU-16). A. Four sporocarps. B. Capillitium and peridium. C. Tip of a capillitium thread, peridium and two spores.

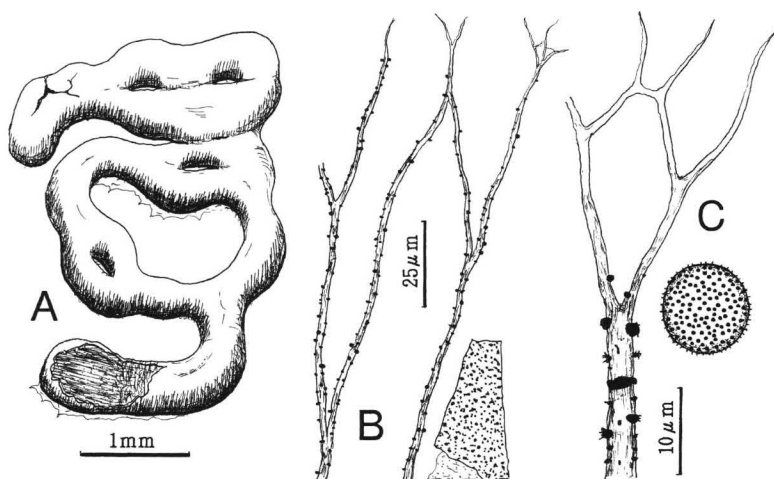


Fig. 3. *Diderma deplanatum* (98CU-13). A. Plasmodiocarp. B. Capillitium and peridium. C. Capillitium and a spore.

inner surface of inner peridium are reddish-brown. The spores are typically apiculate at both ends.

6. *Diderma deplanatum* Fr., Syst. Myc. 3: 110 (1829).**

Fig. 3

98CU-13 (Lu Sui Co., Pian Ma, on fallen leaves, coll. H. Hagiwara, 29 IX 1998), and 98CU-20 (Lu Sui Co., Pian Ma Peak Gate, on moss, coll. M. Zang, 1 X

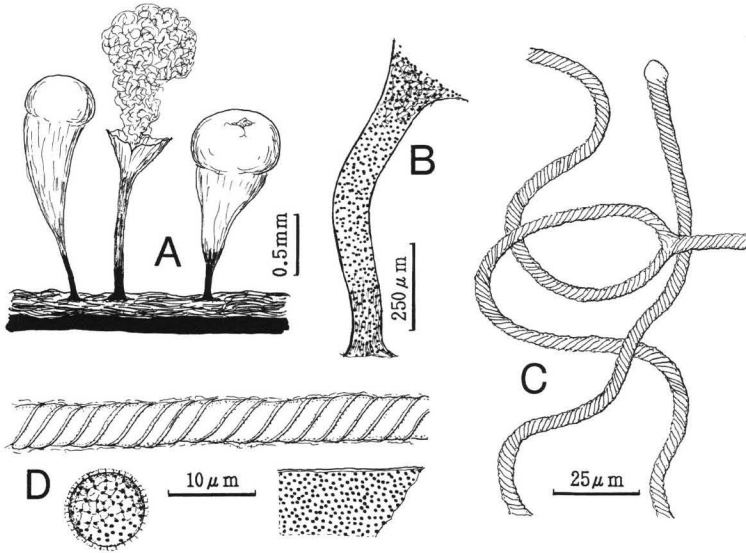


Fig. 4. *Hemitrichia clavata* var. *clavata* (98CU-22). A. Three sporocarps. B. Stalk. C. Capillitium. D. Part of a capillitium thread, peridium and a spore.

1998).

98CU-13 is a typical specimen with flat plasmodiocarps and rough capillitium threads. Another specimen is somewhat immature and has irregular capillitium with wide expansions.

7.* *Didymium crustaceum* Fr., Syst. Myc. 3: 124 (1829).

98CU-26 (Gongshan Co., Bingzhong Le, on living herb and moss, coll. H. Hagiwara, 5 X 1998).

Sporocarps are immature. They have distinct stalks, but are rarely sessile. The outer peridial crust is white and limy, and distinctly remote from the inner peridium.

8. *Enteridium splendens* (Morgan) T. Macbr. var. *splendens*, N. Am. Slime-Moulds 151 (1899).

98CU-11 (Lu Sui Co., Pian Ma, on dead bark, coll. H. Hagiwara, 29 IX 1998).

A small brown aethalium is typical and has netted plate-like pseudocapillitium. The spores are also typical and have banded-reticulation on the major part of epispore.

9. *Hemitrichia clavata* (Pers.) Rostaf. var. *clavata*, in Fuckel, Jahrb. Nass. Ver. Nat. 27–28: 75 (1873).

98CU-14 (Lu Sui Co., Pian Ma, on dead wood, coll. N. Maekawa, 30 IX, mixed

Fig. 4

with *Hemitrichia serpula*), and 98CU-22 (Gongshan Co., Bingzhong Le, on dead bark, coll. K. Miyazaki, 5 X 1998).

Sporocarps of 98CU-22 have long stalks. In this point, this specimen approaches *H. clavata* var. *calyculata* (Speg.) Y. Yamam. (Yamamoto *et al.*, 1993).

10. *Hemitrichia serpula* (Scop.) Rostaf. var. ***serpula***, in Lister, Mycet. 179 (1894).

98CU-1 (Yiliang Co., Xian Cao Ba, on dead bark, coll. Y. Doi, 17 IX 1998), 98CU-8 (Lu Sui Co., between Lu Sui and Pian Ma, on dead bark, coll. Y. Doi, 28 IX 1998), 98CU-9 (Lu Sui Co., between Lu Sui and Pian Ma, on a fallen leaf, coll. K. Miyazaki, 28 IX 1998), 98CU-15 (Lu Sui Co., Pian Ma, on dead bark, coll. K. Miyazaki, 30 IX 1998), 98CU-23 (Gongshan Co., Bingzhong Le, on dead wood, coll. K. Miyazaki, 5 X 1998), and 98CU-24 (Gongshan Co., Bingzhong Le, on plant litter, coll. N. Maekawa, 5 X 1998).

Spores of 98CU-23 sometimes have extremely curved banded-reticulation on the surface.

11. *Lamproderma arcyrrioides*** (Sommerf.) Rostaf. f. ***arcyrrioides***, Mon. 206 (1874).

98CU-19 (Lu Sui Co., Pian Ma Peak Gate, on dead bark, coll. K. Miyazaki, 1 X 1998, mixed with *Clastoderma debaryanum*). One of us, Hagiwara, observed the plasmodium changed color from white to yellow.

Nearly sessile sporocarps are bluishly iridescent or dull brown, and are mixed with plasmodiocarps.

12. *Perichaena depressa* Lib., Pl. Crypt. 378 (1837).

98CU-3 (Yong Shan Co., He Ba Chang, on dead bark, coll. H. Hagiwara, 20 IX 1998).

The specimen is poor. Crowded sessile sporocarps are partly dehisced by circumscissile rupture. They have no lime on the peridium.

13. *Physarum* cf. *conglomeratum*** (Fr.) Rostaf., Mon. 108 (1874).

98CU-21 (Lu Sui Co., Pian Ma Peak Gate, on moss growing on dead wood, coll. N. Maekawa, 1 X 1998).

Pale yellow sessile sporocarps are crowded, approaching pseudoaethalium. They have thick limy peridium. The spores are verruculose and paler on one side, and measure ca. 11 μm in diam. These features are intermediate between those of *P. conglomeratum* and *P. contextum* (Pers.) Pers.

14. *Physarum didermoides* (Pers.) Rostaf., Mon. 97 (1874).

98CU-6 (Yong Shan Co., He Ba Chang, on dead bark, coll. N. Maekawa, 21 IX 1998).

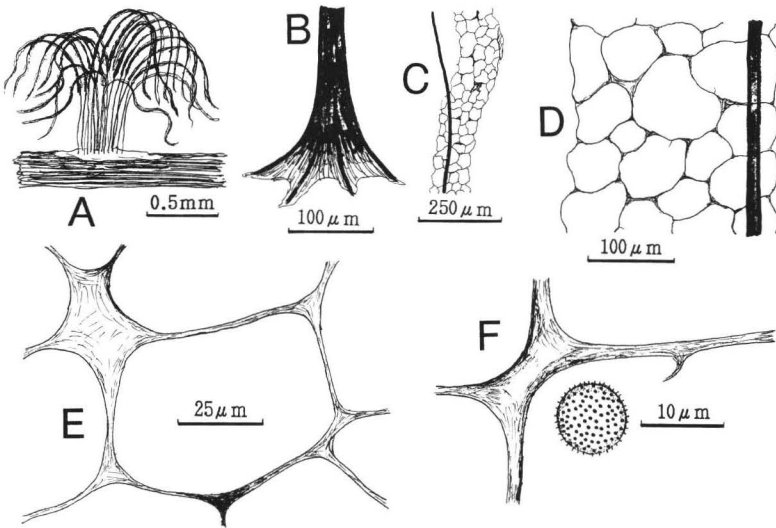


Fig. 5. *Stemonitis rhizoideipes* (98CU-10). A. Clustered sporocarps. B. Stalk. C, D. Columella and capillitium. E. Surface net. F. Part of a surface net and a spore.

White sessile sporocarps are somewhat immature and crowded. The spores are somewhat angular and irregular in size.

15. *Stemonitis rhizoideipes*** Nann.-Bremek., R. Sharma & K. S. Thind, in Nannenga-Bremekamp, Yamamoto & Sharma, Proc. K. Ned. Akad. Wet. C. **87**: 465 (1984).

Fig. 5

98CU-10 (Lu Sui Co., between Lu Sui and Pian Ma, on dead bark, coll. Z.-l. Yang, 28 IX 1998).

Fructification sporocarpous. Sporocarps clustered, stipitate, up to 18 mm tall, drooping. Capitula cylindrical, dark brown, ca. 12 mm long. Stalk black, polished, slightly attenuate upwards, ca. 6 mm long, i.e. about 1/3 the total height, with somewhat rhizoid-like thickenings at the base. Hypothallus membranous, silvery, shining, common to the colony. Peridium early fugaceous, sometimes leaving some flakes clinging to the periphery of capillitium. Columella a continuation of the stalk, reaching near the apex of capitulum. Capillitium arising from all length of the columella, but main branches are slender and few, so the plume of capillitium tends to be asymmetrical and apart from the columella, forming very lax surface net, 30–150 μm wide, with many membranous expansions. Spores nearly globose, brownish-gray by transmitted light, evenly spinulose, 7.7–8.8 μm (mean=8.3, sd=0.30, n=20) in diam., with a indistinct paler area.

Stemonitis rhizoideipes, originally described on the basis of the specimen obtained from Bhutan in September of 1980, may be included in *S. splendens* Rostaf.

var. *flaccida* Lister sensu lato. In the stalk length, however, it is quite different from *S. splendens* var. *flaccida* sensu stricto which is treated as *Symphycarpus flaccidus* (Lister) Ing & Nann.-Bremek. in Nannenga-Bremekamp (1974). The present species is also like *Stemonitis splendens* var. *webberi* (Rex) Lister, but the sporocarps are much larger than those of the latter.

16. *Trichia favoginea* (Batsch) Pers. var. ***persimilis*** (P. Karst.) Y. Yamam., Myxom. Biota Jpn. 240 (1998).

98CU-7 (Yong Shan Co., He Ba Chang, on dead wood, coll. N. Maekawa, 21 IX 1998), 98CU-12 (Lu Sui Co., Pian Ma, on dead bark, coll. D. Kitayama, 29 IX 1998), and 98CU-25 (Gongshan Co., Bingzhong Le, on dead bark, coll. N. Maekawa, 5 X 1998).

Sporocarps of 98CU-12 are somewhat longitudinally elongated and nearly sessile. The spores have border 1.5–2 μm high. These facts show that this specimen approaches the type variety, var. *favoginea*.

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