

***Stemonaria liaoningensis*, sp. nov. (Myxomycetes, Stemonitidaceae) from northern China**

B. Zhang & Y. Li*

Engineering Research Center of Chinese Ministry of Education for Edible and Medicinal Fungi Jilin Agricultural University, 2888 Xincheng Street, Changchun 130118, People's Republic of China

B. Zhang & Y. Li (2012) *Stemonaria liaoningensis*, sp. nov. (Myxomycetes, Stemonitidaceae) from northern China. – *Sydowia* 64 (2): 329–333.

Stemonaria liaoningensis, collected from Liaoning Province in China, is described as a new species. It is characterized by a capillitium with thicker and darker basal branches and successive thinner branches of stalk and columella, from *Stemonitis* by the absence of a peripheral capillitium net, from *Stemonitopsis* by the structure of stalk and columella and the absence of a peripheral capillitium net, and from *Symphytocarpus* and *Amaurochaete* by a distinct stalk and not pseudoaethalioid or aethalioid sporocarps (Nannenga-Bremekamp *et al.* 1984).

Keywords: taxonomy, SEM, slime molds.

Stemonitidaceae consists of 16 genera, of which *Stemonitis* Gled., *Comatricha* Preuss., *Stemonitopsis* (Nann.-Bremek.) Nann.-Bremek., *Symphytocarpus* Ing & Nann.-Bremek., *Amaurochaete* Rostaf. and *Stemonaria* Nann.-Bremek., R. Sharma & Y. Yamam. are very closely related. The genus *Stemonaria* differs from *Comatricha* by only slightly longitudinally fibrous or homogeneous structure of stalk and columella, from *Stemonitis* by the absence of a peripheral capillitium net, from *Stemonitopsis* by the structure of stalk and columella and the absence of a peripheral capillitium net, and from *Symphytocarpus* and *Amaurochaete* by a distinct stalk and not pseudoaethalioid or aethalioid sporocarps (Nannenga-Bremekamp *et al.* 1984).

Stemonaria was established by Nannenga-Bremekamp in 1984 and currently comprises 14 species worldwide (Nannenga-Bremekamp *et al.* 1984; Kirk *et al.* 2008; Lado 2001, 2012). Prior to the present study only two species of *Stemonaria*, *S. longa* (Peck) Nann.-Bremek., R. Sharma & Y. Yamam. and *S. irregularis* (Rex) Nann.-Bremek., R. Sharma & Y. Yamam., were reported from China (Li & Li 1989, Li 2008).

During our investigation on myxomycetes in the Liaoning province, a new species of *Stemonaria* was found on the bark surface of a dead log in the Laotudingzi National Nature Reserve.

* e-mail: yuli966@126.com

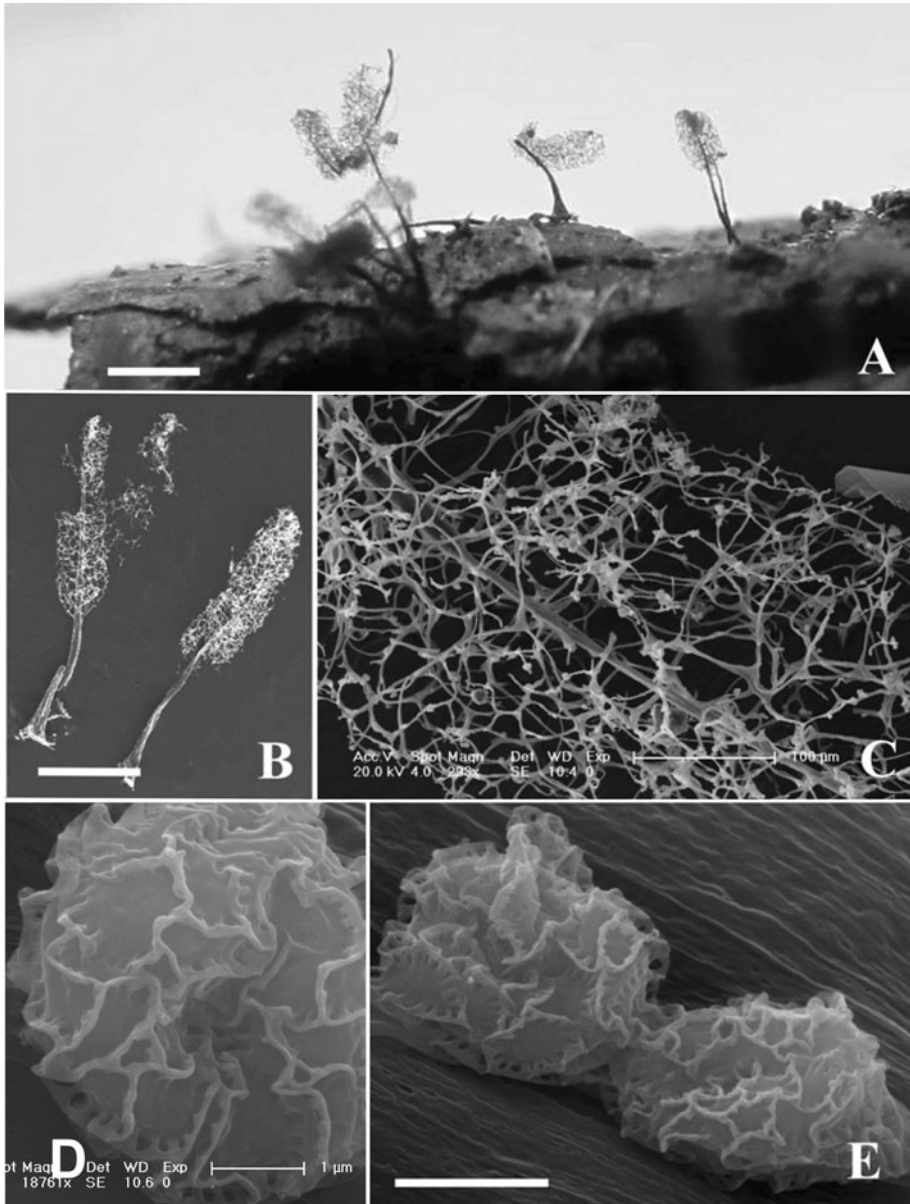


Fig. 1. *Stemonaria liaoningensis* (holotype). **A–B.** Sporocarps. **C.** Capillitium. **D–E.** Spores. Bars: A 1 mm, B 500 μ m, D 1 μ m, E 5 μ m.

Materials and methods

Sporocarps and microscopic structures were examined by light and scanning electron microscope according to Martin & Alexopoulos (1969), Li *et al.* (1993) and Li & Li (1995). Permanent slides were mounted in Hoyer's medium (Martin & Alexopoulos 1969). Colour estimation followed Robb-recht (1974) by spreading capillitium in a drop of 94 % ethanol, determining the colour after one minute, and then mounting in Hoyer's medium. Colour terms are given according to Flora of British Fungi (Royal Botanic Garden Edinburgh 1969). The specimens are deposited in the Herbarium of the Mycological Institute, Jilin Agricultural University (HMJAU).

Taxonomy

Stemonaria liaoningensis B. Zhang & Yu Li, **sp. nov.** – Fig. 1.
MycoBank no.: MB 800552

Holotypus. – CHINA, Liaoning province, Laotudingzi National Reserve, on the bark surface of a dead log, 12 May 2010, *leg.* Zhang Bo 20103001 (Holotype, HMJAU10331).

Etymology. – The epithet refers to the type locality in the Liaoning province.

Distribution. – Up to now only known from the type locality, the Liaoning Province in northern China.

Description. – Sporocarps scattered to gregarious, 2.3–2.5 mm in total height. Sporotheca cylindrical, slender, curved, dark brown, shiny. Stalk thin, black shiny, longitudinally striate, about 1/2 of the total sporocarp height, dark brown in transmitted light. Peridium fugaceous. Columella attenuate upwards, dissipating into the capillitium near the sporotheca apex. Capillitium dense, very dark brown, arising along the length of the columella, basal branches rather thick, successive branches thinner, internal network with irregular polygonal meshes bearing many membraneous swellings, surface net incomplete, free ends few. Spore-mass pale brown, spores globose, 7–10 µm in diam., yellowish brown to colourless in transmitted light, surface with an irregular net of many elongate meshes, 5–8 meshes across diam.

Key to the recognized *Stemonaria* species

- | | |
|---|--------------------------------|
| 1. Spores bearing warts or spines forming a reticulum..... | 2 |
| 1*. Spores warted or spinose, not forming a reticulum..... | 8 |
| 2(1). Sporocarps more than 7 mm in height..... | 3 |
| 2*(1). Sporocarps less than 7 mm in height..... | 5 |
| 3(2). Capillitium open, lax, the thread rather thin, forked..... | <i>S. longa</i> |
| 3*(2). Capillitium closed..... | 4 |
| 4(3*). Capillitium rather lax, with scattered small bulbous expansions at the junctions. Spores 7–9 µm in diam..... | <i>S. pilosa</i> |
| 4*(3*). Capillitium rather dense, with small membranous or bulbous expansions at the junctions. Spores 6–7 µm in diam. | <i>S. reticulospora</i> |
| 5(2*). Sporocarps 4–5 mm high..... | <i>S. fuscooides</i> |

- 5*(2*). Sporocarps less than 4 mm high..... 6
 6(5*). Sporocarps 2.5–3.5 mm high. Capillitium dark brown. *S. gracilis*
 6*(5*). Sporocarps less than 3 mm high. Capillitium thicker and darker..... 7
 7(6*). Sporocarps 2–2.5 mm in total height. Spores pale yellowish or
 colourless, 7–10 µm in diam., with warts forming an irregular net
 *S. liaoningensis*
 7*(6*). Sporocarps 0.6–1.2 mm in total height. Spores dark brown, 10 µm in
 diam., marked with spines and warts arranged lines partly forming an
 irregular net..... *S. minuta*
 8(1*). Spores united into coherent groups..... *S. rufipes*
 8*(1*). Spores free, globose or subglobose 9
 9(8*). Peridium membranous, persistent..... *S. argentella*
 9*(8*). Peridium early evanescent..... 10
 10(9*). Capillitium pale. *S. pallidofila*
 10(9*). Capillitium dark brown..... 11
 11(10*). Capillitial primary branches pointing upwards..... *S. laxa*
 11*(10*). Capillitial primary branches at right angles to the columella..... 12
 12(11*). Capillitium dense, forming an internal net with regular polygonal
 meshes bearing many bulbous swellings at the junctions, spores 7–8 µm
 in diam. *S. nannengae*
 12*(11*). Capillitium open, forming an internal net with membranous
 expansions. Spores dark, pale on one side, 7.5–9.5 µm in diam
 *S. irregularis*
 12**(11*). Capillitium very lax..... 13
 13(12**). Capillitium free ends more than 10 µm long, spores 7–9 µm in
 diam..... *S. laxiretis*
 13*(12**). Capillitium free ends less than 10 µm, spores 9–11 µm in diam.
 *S. clausifila*

Discussion

Stemonaria liaoningensis is similar to *S. minuta* Nann.-Bremek. & Y. Yamam. and *S. gracilis* Nann.-Bremek. & Y. Yamam. due to its sporocarps size. But *S. minuta* differs by shorter and slender stalk (about 0.08–0.1 mm long) and dark brown spores (10 µm in diam.) with verrucae or spines forming an incomplete irregular net. *S. fragilis* differs by successively thinner branches and pale brown spores (10–11 µm in diam.).

Stemonaria argentella Y. Yamam., *S. clausifila* Nann.-Bremek. & Y. Yamam., *S. rufipes* Nann.-Bremek. & Y. Yamam., *S. laxa* Nann.-Bremek. & Y. Yamam., *S. irregularis*, *S. nannengae* (T. N. Lakh. & K. G. Mukerji) Nann.-Bremek., *S. pallidofila* Y. Yamam. & Nann.-Bremek. and *S. laxiretis* Nann.-Bremek. & Y. Yamam. have warted or spinulose spores. *Stemonaria longa*, *S. pilosa* Nann.-Bremek. and *S. reticulospora* Nann.-Bremek., R. Sharma & K. S. Thind have larger sporocarps (more than 7 mm in total height). *Stemonaria fuscoidea* can be distinguished from *S. liaoningensis* by its larger sporo-

carps (about 4–5 mm in total height), shorter stalk (about 1/4–1/5 of the total height), and large capillitium meshes (2–4 meshes across the radius).

Acknowledgements

We thank Tianhao Li (Jilin Agricultural University, P. R. China) for his valuable revisions and kind help. This study was supported by a fund from the Ministry of Agriculture of China.

References

- Kirk P. M., Cannon P. F., Minter D. W., Stalpers J. A. (2008) *Ainsworth & Bisby's dictionary of the fungi*. 10th edn. CAB International, Wallingford.
- Lado C. (2001) Nomenclomyx: a nomenclatural taxabase of myxomycetes. *Cuadernos de Trabajo de Flora Micológica Ibérica* **16**.
- Lado C. (2012) An online nomenclatural information system of *Eumycetozoa*. <http://www.nomen.eumycetozoa.com> (visited 2012-4).
- Li Y. (2008) *Flora Fungorum Sinicorum II Physarales Stemonitales*. Chinese Science Press, Beijing.
- Li Y., Chen S.-L., Li H.-Z. (1993) Myxomycetes from China X: Additions and notes to Trichiaceae from China. *Mycosystema* **6**: 107–112.
- Li Y., Li H.-Z. (1989) Myxomycetes from China I: a checklist of Myxomycetes from China. *Mycotaxon* **35**(2): 429–436.
- Li Y., Li H.-Z. (1995) Myxomycetes from China. 3. Description of a new species, *Cribraria media*, and discussion of the relationship between *Cribraria* and *Dictydium*. *Mycotaxon* **53**: 69–80.
- Martin G. M., Alexopoulos C. J. (1969) *The Myxomycetes*. University of Iowa Press, Iowa.
- Nannenga-Bremekamp N. E., Yamamoto Y., Sharma R. (1984) *Stemonaria*, a new genus in the Stemonitaceae and two new species of *Stemonitis* (Myxomycetes). *Proceeding of the Koninklijke Nederlandse Akademie van Wetenschappen* **87**(4): 449–469.
- Robbrecht E. (1974) The genus *Arcyria* Wiggers in Belgium. *Bulletin du Jardin Botanique National de Belgique* **44**: 303–353.
- Royal Botanic Garden Edinburgh (1969) *Flora of British Fungi: colour identification chart*. Her Majesty's Stationery Office Books, Edinburgh.

(Manuscript accepted 3 Sep 2012; Corresponding Editor: I. Krisai-Greilhuber)

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Sydowia](#)

Jahr/Year: 2012

Band/Volume: [64](#)

Autor(en)/Author(s): Zhang Bo, Li Yu

Artikel/Article: [Stemonaria liaoningensis, sp. nov. \(Myxomycetes, Stemonitidaceae\) from northern China. 329-333](#)