Sinske HATTORI* & Manxiang ZHANG**: Porellaceae of Shensi Province, China

In this small article we report two genera and twelve species of Porellaceae from Shensi (=Shaanxi) Province, China. A monotypic Ascidiota has been known in Northwest and Southwest China and, as subsp. alaskana, disjunctively in Arctic Alaska. Porella gracillima subsp. urogea has been known in Shensi Province and disjunctively in Taiwan, whereas subsp. gracillima is distributed in Northeast China, Altai Mountains, northwestern India, eastern Siberia (Irkutsk, Ussuri River Region, and Sakhalin) and northern (or high altitudes of) Japan. P. nitidula has been found only in Shensi Province, and is related to P. arboris-vitae which is distributed from western Europe to Canary Islands.

For data in literature containing basionyms, synonyms, illustrations, etc. for the taxa listed below, refer to "Synopsis of Asiatic Porellaceae" by S. Hattori (1978).

Except for Ascidiota blepharophylla, Porella chinensis, P. nitidula, and P. revoluta, the species listed here are known also in Japan.

1) Ascidiota blepharophylla Mass.
   Tai-pai-shan, Ping-an-sze to Fang-yang-sze, 3000 m, July 1963, C.P. Wei 5546a (rock; with Porella caespitans).
   Distr.: China (subalpine forests in Shensi and neighboring areas). [Subsp. alaskana: Arctic Alaska.]

2) Porella caespitans (Steph.) Hatt.
C. P. Wei 4400. Nan-chen Co., Dah-ba-shan, Shiao-pa, 1200 m, Nov. 1972, C. P. Wang 20747 (moist rock with *P. densifolia*). Tai-pai-shan, Wa-fang-tsi, Lao-ma-kou, 1600 m, Aug. 1963, C. P. Wei 5995 (stone-wall); —, 1650 m, Aug. 1963, C. P. Wei 6019 (stone-wall); —, Hau-ping-sze, Ti-tsui-kou, 1350 m, July 1963, C. P. Wei 4876, 4927, 4944 (stone-walls); —, Dah-tien, 2300 m, July 1963, C. P. Wei 5216 (stone-wall); —, Ping-an-sze to Fang-yang-sze, 3000 m, July 1963, C. P. Wei 5546a (rock; with *Ascidioata blepharophylla*).

Distr.: China (Shensi, Kansu, Yunnan, Taiwan); Indo-china, Bhutan, Nepal, India, Japan, Korea.

3) *Porella chinensis* (Steph.) Hatt.


Distr.: China (Shensi, Kansu, Sinkiang, Heilungkiang, Tibet, Chekiang); NW India (incl. Himalayas), E Siberia (Amur area).

4) *Porella densifolia* (Steph.) Hatt.


Distr.: China (Shensi, Kansu, Chekiang, Taiwan); Korea, Japan. [Subsp. *appendiculata*: NW India, Himalayas; subsp. *andamana*: Andaman Is.]

4a) *Porella densifolia* var. *paraphyllina* (Chen) Pocs.


Distr.: China (Shensi, Szechuan, Anhwei); N. Vietnam.
5) *Porella gracillima* Mitt. subsp. *urogea* (Mass.) Hatt. & Zhang, comb. nov.


m, July 1963, P. C. Wei 5197a, 5132, 5357 (rock-cliffs), 5101a, 5133a (tree-trunks); —, Aug. 1937, T. N. Liou & P. C. Tsoong 401 (dripping rock); —, Mei-lo-shih, July 1974, M. S. Chang 791 (rock); —, Doou-mu-kung to Da-tien, 2180 m, Sept. 1960, M. S. Chang 197 (rock); —, Ping-an-sze to Ming-shing-sze, 2620 m, Sept. 1960, M. S. Chang 47 (soil-covered rock); —, Ping-an-sze, 2740 m, July 1963, C. P. Wei 5376 (rock-cliff), 5336a (soil); —, Ping-an-sze to Doou-mu-kung, 2780 m, Sept. 1960, M. S. Chang 87a (rock); —, Fang-yang-sze, July 1938, T. N. Liou & P. C. Tsoong 4166; —, Wa-fang-tsi, Aug. 1963, C. P. Wei 6002 (branches); —, Hwang-bai-yuan, 1800-2000 m, Sept. 1963, C. P. Wei 6461, 6577a (soil-covered rocks); —, Shih-ya-tsi, 2700 m, Sept. 1963, C. P. Wei 6196 (rock); —, Fang-yang-sze, July 1938, T. N. Liou & P. C. Tsoong 4166; —, Wa-fang-tsi, Aug. 1963, C. P. Wei 6002 (branches); —, Hwang-bai-yuan, 1800-2000 m, Sept. 1963, C. P. Wei 6461, 6577a (soil-covered rocks); —, Shih-ya-tsi, 2700 m, Sept. 1963, C. P. Wei 6196 (rock); —, Ying-tzuei-tsi, 3200 m, Sept. 1963, C. P. Wei 6382 (tree-roots), 6406a (rock-cliffs), 6377a 6436 (soil-covered rocks). Chinling range, Shiao-hau-dih, 1500 m, Aug. 1963, C. P. Wei 5906a (rock-cliff).

Distr.: China (Shensi, Taiwan). [Subsp. gracillima: China (Northeast), Altai Mts., NW India, E Siberia (Ussuri River, Irkutsk), Sakhalin, Japan.]

6) Porella japonica (Sande Lac.) Mitt.


Distr.: China (Anhwei, Szechuan, Heilungkiang, Kirin, Taiwan; new to Shensi); Korea, Japan, Vietnam, India (Panjab), Sumatra, Borneo, Philippines.

6a) Porella japonica var. dense-spinosa Hatt. & Zhang, var. nov.

A typo recedit marginibus folioruin et amphigastiorum dense spiniferis.


Distr.: Known only from the type collections.

The present new variety is somewhat larger than the type variety and has densely toothed leaves and underleaves.

7) Porella nitidula (Mass. ex Steph.) Hatt.

W Tai-pai-shan, Wa-fang-tsi, Lao-ma-kou, 1650 m, Aug. 1963, C. P. Wei 6012 (rock-cliff); —, Wa-fang-tsi, 1800 m, Aug. 1963, C. P. Wei 6115 (rock-cliff);
S slope, Ying-tzuei-tsi, 3200 m, *Abies-Betula* forest, Sept. 1963, C.P. Wei 6377a (soil-covered rock; with *P. gracillima* var. *urogea*). Feng Co., Sin-chia-shan, Dung-he, 1500 m, hardwood forest, June 1979, M.S. Chang 1374 (soil-covered rock); —, 2000 m, *Quercus* forest, May 1979, M.S. Chang 1253 (rock-cliff); Ningshen Co., S slope of Chinling range, 2300 m, July 1962, P.C. Chen et al. 419 (tree-trunk). Huo Co., Lao-yü, 1400 m, Sept. 1962, C.P. Wei 4754.

Distr.: China (Shensi).

The present species has been known only from Shensi, China. Hattori (1978) regarded the present species as a subspecies of European *Porella arboris-vitae* (With.) Grolle. After study of the above-cited specimens we consider the present species as a small species closely related to, and geographically isolated from, *P. arboris-vitae*.

8) *Porella oblongifolia* Hatt.


Distr.: China (incl. Kansu, Kirin, Tibet; new to Shensi); E Siberia (Amur distr.), Korea, Japan.

9) *Porella obtusata* (Tayl.) Trev. var. *macroloba* (Steph.) Hatt. & Zhang, comb. nov.


Distr.: China (Taiwan; new to Shensi); NW India, Japan. [Var. *obtusata* is distributed in Europe and N Africa.]

10) *Porella perrottetiana* (Mont.) Trev.


Distr.: China (Taiwan, Cheking, Hunan; new to Shensi); India (incl. Himalayas), Ceylon, Bhutan, Burma, Indo-china, Korea, Japan, Philippines.

10a) *Porella perrottetiana* var. *ciliatodentata* (Chen & Wu) Hatt.

Tai-pai-shan, Fang-yang-sze, 3000 m, July 1963, C.P. Wei 5559 (tree-base); —, 3100 m, July 1963, C.P. Wei 5566 (rock-cliff).

Distr.: China (Anhwei, Szechuan; new to Shensi); Vietnam.


Distr.: China (Shensi). [Var. *revoluta* is distributed in India, Nepal, Sikkim, Bhutan, and China (Yunnan and Shensi)].

12) *Porella stephaniana* (Mass.) Hatt.


Distr.: China (Shensi, Chekiang); Japan.

Reference