

Syo KUROKAWA\*: **Anaptychia (lichens) and  
their allies of Japan (2)\*\***

(with 2 plates)

黒川 道\*: 日本産ゲジゲジゴケ属地衣 (2)\*\*

2. **Anaptychia speciosa** (Wulf.) Massalongo, Memor. Lichenogr. 36 (1853);  
Lyngbe in Videnskaps. I. Mat.-Naturv. Kl. 8: 12 (1916).

var. **speciosa**

*Lichen speciosus* Wulf. in Jacq. Collect. Bot. 3: 119 (1789).—*Parmelia speciosa*  
Ach., Meth. Lich. 198 (1803).—*Physcia speciosa* Nyl., Prodr. Lich. Gall. Actes Soc.  
Linn. Bord. 307 (1857) et Syn. Lich. 416 (1858-60).

Thallus plagas usque ad 10 cm latas formans, laciniatus, laciniis elongatis et  
linearibus, 0.7~2 mm latis, 0.2~0.3 mm crassis, in apicibus lacinarum lateralium  
brevium saepe soraliis capitatis praeditis.

Hymenium 130~200 $\mu$  altum, J+coerulescens; excipulum proprium una cum  
hypothecio 30~60 $\mu$  altum; sporae fusco-brunnescentes, ellipsoideae, (28) 30~37 $\times$ 14  
~18 $\mu$  magnae.

Reaction: thallus K+yellow; med. K+yellow, CaCl—, PD $\pm$ pale yellow.

Chem. ingr.: atranorine, zeorin and undetermined substance (identical with  
that of *A. hypoleuca*).

Hab.: on bark of trees and rarely among mosses on rocks.

Distr.: Europe.

Exsicc. exam.: Rabenhorst, Lichenes Europaei no. 908 (in A<sup>1</sup>).

Specim. exam.: Germany: Baiern, Oberammergau (Aug., 1893, & Aug. 1894,  
Schnabl); Allgäu, Oberstdorf (July 1895, Lösch); Baiern, Bäumen (1865, W. Baur);  
Eibsee (1897, Vaykruger); Kärnten, Knoten 1.000 m (1897, Simmer): Heiderberg  
(June 1857, W. Ahles); Bern (1894, Kemmler). Austria: Tyrol (Aug. 10, 1897,  
Arnold) (all in A).

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1) The herbarium abbreviations used in this paper are as follows: A—private  
herbarium of Dr. Y. Asahina, Tokyo; I—private herbarium of Mr. Y. Ikoma,  
Tottori City; K—private herbarium of the author, Tokyo; KU—herbarium of  
Kyoto University, Kyoto; M—herbarium of National Science Museum, Tokyo;  
T—herbarium of University of Tokyo, Tokyo; Ta—private herbarium of Mr.  
Y. Tanaka, Nara Pref.; US—U. S. National Herbarium, Smithsonian Institu-  
tion, Washington; Y—private herbarium of Mr. I. Yoshimura, Kochi Pref.

var. **microspora** Kurokawa var. nov.

*Anaptychia hypoleuca* var. *sorediifera* (non Vain.) Sato in Bull. Biogeogr. Soc. Jap. 6: 115 (1936) pr. maj. p.—*Anaptychia speciosa* (non Mass.) Räsänen in Journ. Jap. Bot. 16: 139 (1940).

Thallus cinerascens vel albidoglauescens, plagas ad 10 cm latas formans, substrato laxe adnatus, laciniatus;

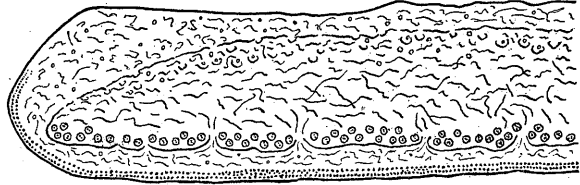


Fig. 6. Transverse section of thallus of *A. speciosa* var. *microspora* ( $\times 100$ ).

lacinae vulgo elongatae et lineares, margo integris vel subintegris, crebre dichotome aut partim subdigitatim divisae, contiguae vel subimbricatae, rarius peripheriam versus subdiscretae, superne planae vel leviter convexae, 0.7~2 mm latae et 0.2~0.3 mm crassae, vulgo utrinque corticatae, in apicibus laciniarum lateralium brevium saepe soraliis capitatis praeditae; subtus albidae vel centrum versus leviter fuscae; in marginibus rhizinis thallo concoloribus vel apices versus obfuscatis et irregulariter divisis ornatae.

Cortex superior aequaliter vel subaequaliter incrassatus, 50~100 $\mu$  crassus, ex hyphis parallelibus formatus, parte exteriori obscure cinerea, 15~20 $\mu$  crassa, parte inferiore decolorae; stratum gonidiale sub cortice superiore praeditum, continuum, 25~50 $\mu$  crassum, gonidiis 6~9 $\mu$  diam.; stratum medullare ex hyphis intricatis formatum, ca. 100 $\mu$  crassum; cortex inferior ca. 25 $\mu$  vel usque ad 40 $\mu$  crassus, ad apices versus saepe tenuissimus et rarius partim deficiens, omnino incoloratus vel parte exteriori plus minus obscuratus.

Apothecia 2~5 mm lata, discis fusco-brunnescentibus, epruinosis, marginibus integris vel crenatis; receptaculum thallo concolor, laevigatum. Hymenium 100~130 $\mu$  altum, J+coerulescens; epithecium fuscum vel fusco-brunnescens; excipulum proprium una cum hypothecio ca. 30 $\mu$  altum; cortex receptaculi subaequaliter incrassatus; paraphyses in apicibus parum incrassatae, simplices, eseptatae; asci subclavati, 8-spori; spores fuscescentes vel fusco-brunnescentes, ellipsoideae, apice rotundatae, medio non aut levissime constrictae, 1-septatae, 2-loculares, loculis rotundatis vel subtriangularibus, 23~31 $\times$ 11~16 $\mu$  magnae.

Reaction: thallus K+yellow; med. K+yellow, CaCl $^{-}$ , PD $\pm$ pale yellow.

Chem. ingr.: atranorine, zeorin and undetermined substance (identical with

that of *A. hypoleuca*).

Hab. : on bark of trees.

Jap. name : yama-gezigezigoke.

Distr. : North America, Manchuria, Korea, Saghalien and northern Japan.

Exsicc. exam. : Tuckerman, Lichenes Amer. Septentr. no. 81 (—holotype in A).

Specim. exam. : Manchuria : Hinko-syo (滨江省), Syorei (小嶺) (June 14, 1942, S. Asahina in A). Korea : Mt. Hakutosan (白頭山), ca. 700 m (Nov. 16, 1938, G. Adachi in A). Saghalien : Aikawa (July 22, 1932, Y. A. in A); Tinnai (Aug. 14, 1933, M. Sato, Karahuto no. 200 in T). Japan : Honsyu. Prov. Uzen : Mt. Gassan (Aug. 25, 1932, M. Sato, Tohoku no. 384, in T). Prov. Sinano : Mt. Yagatake (Aug. 4, 1916, A. Yasuda no. 383, in T).

European specimens of the present species have linear and elongated laciniae and capitate soraliae at the apices of short branches of laciniae, and the spores are usually  $30\sim 37\times 14\sim 18\mu$  in size as observed by Lynge in Norwegian plants. On the contrary the specimens from North America and Saghalien, resembling European ones in the habitus and form of the thallus, have smaller spores ( $21\sim 30\times 10\sim 15\mu$ ). And the hymenium is also lower than those of European specimens, correlating with spore size. So I ventured to separate the lichens with smaller spores as var. *microspora* from typical plants of Europe, because the former probably belongs to a different geographical race. Northern Japanese representatives are unfortunately sterile, but they should be referred to this variety.

### 3. *Anaptychia pseudospeciosa* Kurokawa sp. nov.

var. *pseudospeciosa* f. *pseudospeciosa*

*Anaptychia corallophora* (non Vain.) Zahlbr. in Fedde Repert. **33**: 68 (1933); Sato in Journ. Jap. Bot. **12**: 426 (1936).

Thallus cinereus vel cinereo-glauescens, plagas ca. 5 cm latas formans, lacinia-tus; laciniae sat crebre di- vel trichotome divisae, breves, neque elongatae, nec lineares, vulgo subimbricatae, 0.7~1.5 mm latae et 0.2~0.3 mm crassae, utrinque corticatae, in apicibus laciniarum lateralium brevissimarum soralis capitatis praeditae, soralis demum saepe confluentibus et pulvinatis; subtus albidae, leviter brunnescentes vel fusco-brunnescentes; margine et subtus rhizinosae, rhizinis brevibus, pallidis vel obfuscatis, saepe simplicibus aut demum irregulariter divisis.

Cortex superior aequaliter vel subaequaliter incrassatus, 50~120 $\mu$  crassus, ex hyphis parallelibus formatus, parte exteriori obscure cinerea, ca. 15 $\mu$  crassa; stratum gonidiale sub cortice superiore praeditum, continuum, ca. 25 $\mu$  crassum, goni-

diis ca.  $8\mu$  diam.; stratum medullare  $60\sim 80\mu$  crassum; cortex inferior  $25\sim 40\mu$  crassus, sed apices versus saepe tenuissimus et rarius partim deficiens.

Apothecia rarissima,  $1\sim 3$  mm lata, discis fusco-brunnescentibus, epruinosis, marginibus primum integris vel subcrenatis sed mox sat sorediosis. Hymenium  $100\sim 130\mu$  altum, J+coerulescens; epithecium brunnescens; excipulum proprium una cum hypothecio  $30\sim 40\mu$  altum; paraphyses filiformes, in apicibus parum incrassatae, simplices, eseptatae; asci subclavati,  $100\sim 120\times 20\sim 25\mu$  magni, 8-spori; sporae fusco-brunnescentes, ellipsoideae, apice rotundatae, medio non aut levissime constrictae, 1-septatae, 2-loculares, loculis rotundatis vel subrotundatis,  $26\sim 32\times 12\sim 14\mu$  magnae.

Reaction: thallus K+yellow; med. K+yellow afterwards reddish yellow, CaCl—, PD+yellow.

Chem. ingr.: atranorine, zeorin, norstictic acid, salazinic acid and undetermined substance (identical with that of *A. hypoleuca*).

Hab.: on rocks and rarely on bark of trees.

Distr.: Japan (Honsyu, Sikoku, Kyusyu), Formosa and India.

Jap. name: yama-gezizegigoke-modoki.

Exsicc. exam.: Lich. Jap. Exsicc. no. 203 (—holotype in A and isotype in M, K and US).

Specim. exam.: Japan: Honsyu. Prov. Kozuke: Seta-gun, Kosakasi (A. Tunoda, in M). Prov. Musasi: Titibu, Mitumine, Mt. Myoho 1.300 m (S. K. 56146, in K); Totimoto (S. K. 50327, in K); Arakawa-mura, Siroku 400 m (S. K. 56110, 56111 and 56112, all in K); Mt. Mitake (S. K. 50112, in K). Prov. Owari: Inuyama (Y. A. in A). Prov. Ise: Taki-gun, Oosugi-dani (Y. Tanaka, in Ta). Prov. Yamato: Mt. Oodaigahara, fertile! (Y. Tanaka, in Ta). Prov. Settu: Arima-gun, Dozymura (M. Togashi, in A). Prov. Tanba: Taki-gun, Ooyama-mura (Y. A. in A). Prov. Aki: Isl. Ituku-sima, Mt. Misen (Y. Ikoma 3069, in I). Sikoku. Prov. Tosa: Takaoka-gun, Togano-mura, Mt. Kokuzo (I. Yoshimura 957, in Y); Takaoka-gun, Bandagamori (H. Matumoto, in Y); Tosa-gun, Tosayama-mura, Zyo (I. Yoshimura 1152, in K and Y). Kyusyu. Isl. Yakusima: Kosugi-dani (M. Omura, in A). Formosa: Raisha (Jan. 4, 1926, Y. A. Taiwan no. 106, fertile! in A). India: Madura (South India), Palni Hills (May 18, 1906, Rev. Fr. Leigh in K).

This new species has formerly been confounded with *A. speciosa*, but it is distinguished from the latter by chemical ingredients. When the Ac. X. of the present species is treated with  $\text{KOH}+\text{K}_2\text{CO}_3$  in the cold, first of all, fine red nee-

dles of the potassium norstictate complex appear, spreading gradually over the whole sight field. Then after a while, the X shaped crystal aggregates of thicker prisms of potassium salazinate complex are observed. Morphologically it differs from *A. speciosa* in having short and non-linear laciniae. Moreover *A. speciosa* is considered as circumpolar lichen, whereas the present species seems to be tropical or subtropical one. The type material is unfortunately sterile, and the description of apothecia is taken from the specimen collected in Formosa by Y. Asahina (Taiwan no. 106).

f. **Tagawae** Kurokawa f. nov.

Thallus lacinii centrum versus ad margines microphyllino dissectis, divisionibus angustissimis, subascendentibus, in apicibus laciniarum et divisionum saepe soraliis ornatus. Ceterum ut in planta typica.

Distr.: Japan (Honsyu).

Specim. exam.: Honsyu. Prov. Yamato: Mt. Tonomine, on mossy rocks (Nov. 16, 1952, M. Tagawa no. 176—holotype in KU and isotype in K).

var. **inactiva** Kurokawa var. nov.

*Physcia speciosa* (non Nyl.) Nyl., Lich. Jap. 32 (1890) pr. p.; Müll. Arg. in Nuov. Giorn. Bot. Ital. 23: 123 (1891)—*Anaptychia speciosa* (non Mass.) Zahlbr. in Bot. Mag. Tokyo 41: 364 (1927).

Statura thalli ut in planta typica, sed differt ab ea nec acidum norsticticum nec acidum salazinicum continente.

Reaction: thallus K+yellow; med. K+yellow, CaCl—, PD±pale yellow.

Chem. ingr.: atranorine, zeorin and undetermined substance (identical with that of *A. pypoleuca*).

Hab.: on rocks and rarely on bark of trees.

Distr.: Japan (Honsyu, Sikoku, Kyusyu), North and Central America, Hawaii, and Java.

Specim. exam.: Japan. Honsyu. Prov. Musasi: Titibu, east valley of River Ootigawa (S. K. 510182, in K). Prov. Sinano: Mt. Norikura (Y. A. in A); Lake-side of Sirakaba (M. Togashi, in A). Prov. Kai: Mt. Sitimen (Y. A. 162, in A). Prov. Izu: Amagi-Pass, Suisyoti (Aug. 20, 1956, Y. A.—holotype in A and isotype in K, M and US). Prov. Mikawa: Mt. Horaizi (S. K. 56026-b, in K). Prov. Yamasiro: Kihune (Y. A. in A). Prov. Yamato: Yosino-gun, Kawakami-mura, Kasiwagi (Y. Tanaka 323, in Ta); Uda-gun, Ukasi-mura, Iwahasi (M. Tawawa 120 and 103, both in KU). Prov. Settu: Misima-gun, Simamoto-mati, Syakudai (S. K.

57257, in K); Kobe city, Nunobiki 250 m (T. Suzuki, in K). Prov. Tanba: Kasuwabara-mati, Kanegasaka (M. Togashi, in A). Prov. Inaba: Yazu-gun, Oo-mura (Y. Ikoma 2473, in A and I); Tottori city, Mt. Hisamatu (Y. Ikoma 3080 and 3101-b, both in I). Sikoku. Prov. Iyo: Arai-gun, Kakuno-mati (K. Oti, in A); Kakuno-mati, Tonaru (K. Oti, in A). Prov. Tosa: Agawa-gun, Nanokawa-mura (I. Yoshimura 712, in Y). Kyusyu. Prov. Buzen: Simoge-gun, Sinyabakei, Kanbara (Y. A. in A). North America. New Jersey: Greenbank St. Forest, Burlington Co. (M. E. Hale 15337, in K). Central America. Costa Rica: Prov. de Cartago, Vicinity of Pejivalle 900 m (Paul G. Standley and Juvenal Valerio 46721 and 46729, in US). Ghiriqui Panama: Llano del Volcano (P. F. Scholander, in US). Hawaii. Oahu, Kalihi (Faurie 1071, in KU). Java. Prov. Batavia: In monte Megamendong 880 m (V. Schiffner, Iter Indicum 1893/94 no. 3348, in A).

This new variety is externally identical with the typical plant, from which it is distinguished by the different chemical constituents. On the other hand from a closely related species, *A. speciosa* it is distinguishable in having short and non linear laciniae. The present variety seems to be widely distributed in tropical and subtropical zones, and in Japan it occurs from Kyusyu to Kanto district of Honshyu.

The geographical distribution of *A. speciosa* group should be investigated more exactly. But studies based on literatures alone are insufficient, for many authors do not distinguish between *A. speciosa* and *A. pseudospeciosa*, and there also many incorrect determinations of *A. speciosa*, *A. hypoleuca* and *A. soređiifera*.

4. **Anaptychia esorediata** (Vain.) DR. et Lynge in Lynge in Videnskaps. I. Mat.-Naturv. Kl. 16: 14 (1924).

f. **esorediata**

*Anaptychia speciosa* var. *esorediata* Vain., Lich. Gat. Welw. Afr. Pl. 2: 409 (1901) et Lich. Ins.

Philipp. 2: 107 (1913);

Zahlbr. in Bot. Mag.

Tokyo 41: 364 (1927);

Sato, Index Plant. Nipp.

IV Lichenes 9 (1943)—

*Anaptychia speciosa* f.

*compactior* Zahlbr. in

Bot. Mag. Tokyo 41:

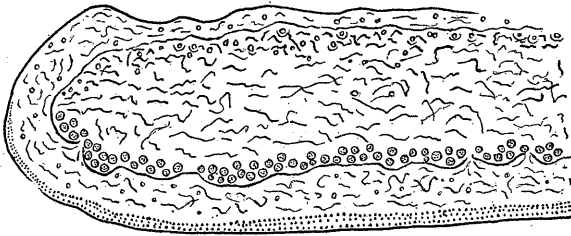


Fig. 7. Transverse section of thallus of *A. esorediata* ( $\times 100$ ).

364 (1927); Asahina in Journ. Jap. Bot. **15**: 278 (1939)—*Chaudhuria indica* Zahlbr. in Annal. Mycol. **30**: 433 (1932).

Reaction: thallus K+yellow; med. K+yellow, CaCl—, PD±pale yellow.

Chem. ingr.: atranorine, zeorin and undetermined substance (identical with that of *A. hypoleuca*).

Hab.: on rocks and on bark of trees.

Distr.: Japan, Central and South America, Africa, India, Java, Siam, Indo-China, Philippine and China.

Jap. name: oo-gezigezigoke (new).

Exsicc. exam.: Zahlbruckner et Redinger, Lich. Rariores Exsicc. nos. 313 and 360.

Externally this species resembles *A. hypoleuca* var. *hypoleuca* f. *hypoleuca*, from which it differs in having the cortical layer on the undersurface of laciniae. In transverse section of the laciniae the upper cortex of the present species is equally or subequally thickened, although that of *A. hypoleuca* has distinctly irregular thickness. Many earlier lichenologists have considered this lichen to be only a variety of *A. speciosa*, but I agree with Lynge's opinion in regarding it as a proper species. A full description is given by Lynge (ibid.) and my observation agrees very well with it. The present species seems to be closely related to *A. isidiophora* rather than *A. speciosa* in external appearances and distribution range.

f. **subimbricata** Räsänen in Journ. Jap. Bot. **16**: 139 (1940).

*A. speciosa* var. *esorediata* f. *subimbricata* Sato, Index Plant. Nipp. IV Lichenes 9 et 115 (1943).

Laciniae centrum versus lacinulis secundariis instructae, lacinulis subimbricatis, brevibus, thallo concoloribus, in apicibus rotundatis. Ceterum ut in planta typica.

Distr.: Japan and China.

The present form is distinguishable from the typical plant in having secondary short lacinules at the central part of the thallus. The isotype (Yasuda no. 671), which was collected by Ogata in Prov. Iyo on October 2, 1922, is preserved in T. This form is rather common in central and south-western Japan. Among the specimens sent from U. S. National Herbarium on loan, two specimens, both of them being collected by C. Wright at Hong Kong in China, is identical with this form.

f. **angustata** Räsänen in Journ. Jap. Bot. **16**: 139 (1940).

*A. speciosa* var. *esorediata* f. *angustata* Sato, Index Plant. Nipp. IV Lichenes

9 et 115 (1943).

Thallus tenuior, 150~200 $\mu$  crassae; laciniae angustatae, 0.5~1 mm latae. Ceterum ut in planta typica.

Distr.: Japan (Honsyu).

The isotype of this form (Yasuda no. 386) collected by A. Yasuda at Sendai on September 3, 1912 is preserved in T.

f. **condensata** Kurokawa f. nov.

Apothecia numerosissima et condensata. Ceterum ut in planta typica.

Distr.: Japan, Philippine and Formosa.

Specim. exam.: Japan. Honsyu. Prov. Awa: Mt. Kiyosumi (S. K. 56559, in K). Prov. Settu: Mt. Katuodera (May 3, 1935, N. Ui—holotype in A and isotype in K). Philippine. Prov. Luzon. Baguio Mountain (August 1923, A. W. C. Herre 9682, in K). Formosa. Taityu-syu (台中州), Keitau (溪頭) (Dec. 29, 1933, Y. A. in A).

5. **Anaptychia isidiophora** (Nyl.) Vainio in Bot. Mag. Tokyo **32**: 156 (1918); Zahlbr., Cat. Lich. **7**: 729 (1931).

*Physcia domingensis* f. *isidiophora* Nyl. in Acta Soc. Scient. Fenn. **7**: 440 (1863)—*Anaptychia speciosa* f. *isidiophora* Zahlbr. in Bot. Mag. Tokyo **41**: 364 (1927) et Cat. Lich. **7**: 742 (1931)—*Physcia speciosa* (non Nyl.) Nyl. in Journ. Linn. Soc. **20**: 67 (1884) et Lich. Jap. **32** (1890) pr. p.

Thallus cinereus vel cinereo-glaucescens, plagas usque 10~15 cm raro usque 20 cm latas formans, laciniatus; laciniae vulgo elongatae et lineares, crebre di- vel trichotome divisae, 1~2 mm latae, 0.2~0.35 mm crassae, superne planae vel convexae, contiguae vel subimbricatae, ad margines isidiosae; subtus omnino corticatae, albidae vel centrum versus leviter brunnescentes; in marginibus rhizinis thallo concoloribus vel apices versus obfuscatis et irregulariter divisis ornatae.

Cortex superior aequaliter vel subaequaliter incrassatus, 80~150 $\mu$  crassus, ex hyphis parallelibus formatus, parte exteriori obscure cinerea, 20~30 $\mu$  crassa; stratum gonidiale sub cortice superiore praeditum, continuum, ca. 30 $\mu$  crassum, gonidiis 6~9 $\mu$  diam.; stratum medullare 100~200 $\mu$  crassum; cortex inferior vulgo sat incrassatus, 20~30 vel usque ad 40 $\mu$  crassus.

Apothecia 1.5~5 mm lata, discis fusco-brunnescentibus, epruinosis; receptaculum thallo concolor, primum laevigatum sed demum sat isidiosum. Hymenium 120~150 $\mu$  altum, J+coerulescens; epithecium leviter brunnescens; excipulum proprium una cum hypothecio 30~40 $\mu$  altum; cortex receptaculi subaequaliter incrassatus; paraphyses in apicibus parum incrassatae, simplices; asci subclavati, 90~120 $\times$ 20~



26 $\mu$  magni, 8-spori; sporae fusco-brunnescentes, ellipsoideae, apice rotundatae, medio non aut levissime constrictae, 1-septatae, 2-loculares, loculis rotundatis, 25~32 $\times$ 10~15 $\mu$  magnae.

Reaction: thallus K+yellow; med. K+yellow, CaCl<sup>-</sup>, PD $\pm$ pale yellow.

Chem. ingr.: atranorine, zeorin and undetermined substance (identical with that of *A. hypo'euca*).

Hab.: on rocks and on bark of trees.

Distr.: Japan, Manchuria and Africa.

Jap. name: toge-gezigezigoke (new).

The present species resembles *A. esorediata* and *A. hypoleuca* var. *microphylla*, but from the former it is distinguished by presence of isidia and from the latter by presence of cortex on the undersurface of the laciniae and in equally or subequally thickened upper cortex. *A. isidiophora* seems to be widely distributed in

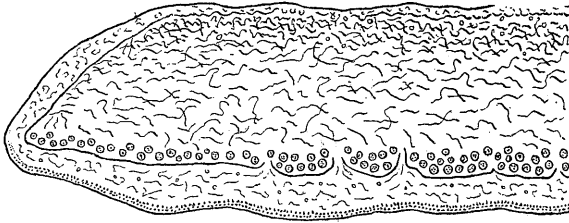


Fig. 8. Transverse section of thallus of *A. dissecta* ( $\times 100$ ).

tropical and subtropical zones. Among the specimens sent from U. S. National Herbarium on loan one specimen collected by G. Wright at Simon's Bay in Cape of Good Hope is identical with this species.

6. **Anaptychia dissecta** Kurokawa sp. nov.

var. **dissecta**

Thallus cinerascens vel glaucescens, plagas 5~10 cm latas formans, substrato laxe adnatus, laciniatus; laciniae crebre dichotome aut partim subdigidatim divisae, contiguae vel rarius peripheriam versus subdiscretae, 0.7~2 mm latae, 0.15~0.3 mm crassae, ad margines microphyllino vel subsidioideo dissectae, demum etiam centrum versus isidiosae, divisionibus et isidiis demum ad apices sorediosis; subtus tenue corticatae vel apices versus decorticatae, albidae vel centrum versus leviter brunnescentes; in marginibus rhizinis thallo concoloribus et irregulariter divisis ornatae.

Cortex superior aequaliter vel subaequaliter incrassatus, 50~120 $\mu$  crassus, ex

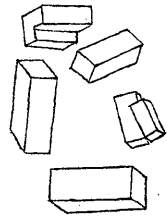


Fig. 9. Rectangular parallelepiped crystals obtained on heating Ac. X. of *A. dissecta* with o-T.

hyphis parallelibus formatus, parte exteriore obscure cinerea ca.  $15\mu$  crassa; stratum gonidiale continuum,  $25\sim 40\mu$  crassum, gonidiis ca.  $8\mu$  diam.; stratum medullare  $90\sim 180\mu$  crassum.

Apothecia rarissima,  $1\sim 5$  mm lata, discis fusco-brunnescentibus, epruinosis; receptaculum thallo concolor, primum laevigatum sed mox sat isidiosum. Hymenium ca.  $150\mu$  altum, J+coerulescens; epithecium leviter brunnescens; excipulum proprium una cum hypothecio  $30\mu$  altum; paraphyses filiformes, in apicibus parum incrassatae, simplices, eseptatae; asci subclavati,  $125\times 25\mu$  magni, 8-spori; sporae fusco-brunnescentes, ellipsoideae, apice rotundatae, medio non aut levissime constrictae, 1-septatae, 2-loculares, loculis rotundatis vel obovoidibus,  $28\sim 32\times 12\sim 16\mu$  magnae.

Reaction: K+yellow; med. K+yellow, CaCl $^{-}$ , PD+deep yellow.

Chem. ingr.: atranorine, zeorin, norstictic acid, salazinic acid and undetermined substances A and B (A is identical with undet. substance of *A. hypoleuca*, but B is proper to this species).

Hab.: among mosses on rocks.

Distr.: Japan.

Jap. name: tizire-gezigezigoke.

Specim. exam.: Honsyu. Prov. Musasi: Mt. Takao (S. K. 51010, in K); Nippara (M. Togashi, in A and K). Prov. Mikawa: Mt. Horaizi (Jan. 7, 1956, S. K. 56029—holotype in A and isotype in K and M). Prov. Ise: Turugi-Pass (Y. A. in A). Prov. Kii: Mt. Koya (Y. Numaziri 79, in A and M; Y. Numaziri 738, in A; S. K. 56089-a, in K); Owase city, Kuki (M. Tagawa 373, in KU); Arita-gun, Simizu-tyo, Murokawa-dani (M. Tagawa and K. Iwatsuki 504, in K and KU). Prov. Settu: Siso-gun, Mt. Hunakosi (K. Utsumi, in A); Toyokawa-mura (N. Ui, in A). Kyusyu. Prov. Buzen: Simoge-gun, Sinyabakei, Kanbara (M. Togashi, in A).

This new species is closely related to *A. isidiophora*, from which it is distinguished by different chemical constituents. When the Ac. X. of the present species is heated with An. under cover glass, besides slender curved needles of *o*-toluidine compound of atranorine and double pyramid shaped crystals of zeorin the fusiform, deep yellow and thin plates are observed. Heating with *o*-T., rectangular parallelepiped and deep yellow crystals, which show straight extinction with respect to the long edges, appear. The PD+deep yellow reaction of medullar of the present species is due to this undetermined substance B.

var. *koyana* Kurokawa var. nov.

Statura thalli ut in planta typica, sed differt ab ea nec acidum norsticiticum nec acidum salazinicum continente.

Hab. : among mosses on rocks.

Distr. : Japan and Formosa.

Specim. exam. : Japan. Honsyu. Prov. Suruga : Mt. Huzi, Oomiya-guti, 2-gome (Y. A. in A). Prov. Mikawa : Minami-sitara-gum, Nagasino-mura (M. Mizutani, in A); Mt. Horaizi (S. K. 56014 and 56027, both in K). Prov. Kii : Mt. Koya (April 4, 1956, S. K. 56027—holotype in A and isotype in K and US); Mt. Koya (Y. Numaziri, in M). Prov. Aki : Isl. Ituku-sima (Y. Ikoma 1426, in I). Sikoku. Prov. Tosa : Tosa-gun, Tosayama-mura, Zyo (I. Yoshimura 1163, in K and Y); Agawa-gun, Nanokawa-mura (Nobuhara 725, in Y). Formosa. Taityu-syu (台中州) : Keitau (溪頭) (Y. A. in A).

〇オオナンバンギセルの白花品 (浅野一男) Kazuo ASANO: A new form of *Aeginetia sinensis*.

純白花のオオナンバンギセルを三信国境の信濃国売木村ブナノネ山の尾根で1958年8月に発見した。ブナノネ山は、標高1000mから1198.8mの頂上まで、広範囲にわたってオオナンバンギセルの生育をみ、その個体数も頗る多い、筆者は1956年より該地の植生調査を行なっているが、今夏はじめて、純白花品の混生していることを知った。

花冠は純白であり、萼は淡黄色である。通常品と異なっており、未記載と思われるので、和名を花色に因んで、シロバナオオナンバンギセルとした。標本は東京大学に納められている。

***Aeginetia sinensis*** G. Beck forma **albiflora** Asano, f. nov.

Corollae candidae. Calyces tantum helvi.

Nom. Jap. Shirobana-ōnanbangiseru, nov.

Hab. Hondo : in monte Bunanone-yama, Urugi-mura, Shimoina-gun, Prov. Shinano. (K. Asano, Aug. 13, 1958 : Typus in Herb. Univ. Tokyo.)

(長野県下伊那郡高森北小学校)

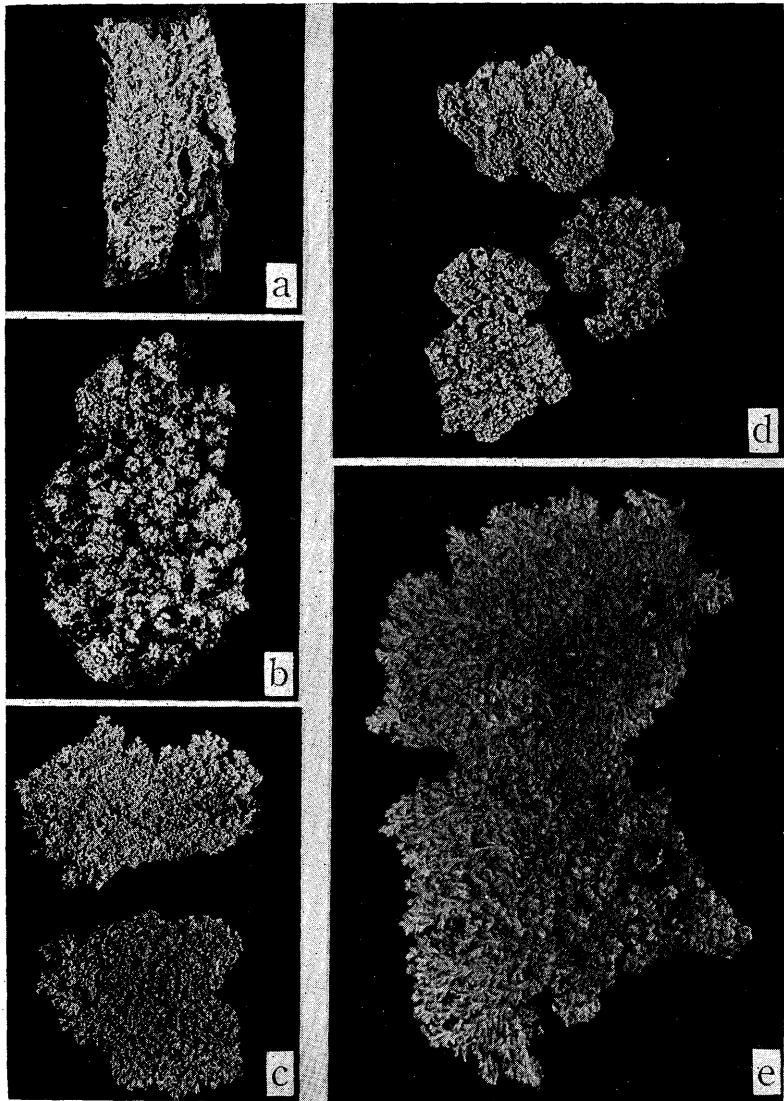


Plate 1. a: *A. speciosa* var. *microspora* from Aikawa, Saghalien ( $\times 1/2$ ). b: Type of *A. pseudospeciosa* ( $\times 1/2$ ). c: Type of *A. pseudospeciosa* f. *Tagawae* ( $\times 1/2$ ). d: Type of *A. pseudospeciosa* var. *inactiva* ( $\times 1/2$ ). e: *A. esorediata* ( $\times 1/2$ ).

S. KUROKAWA: Anaptychiae

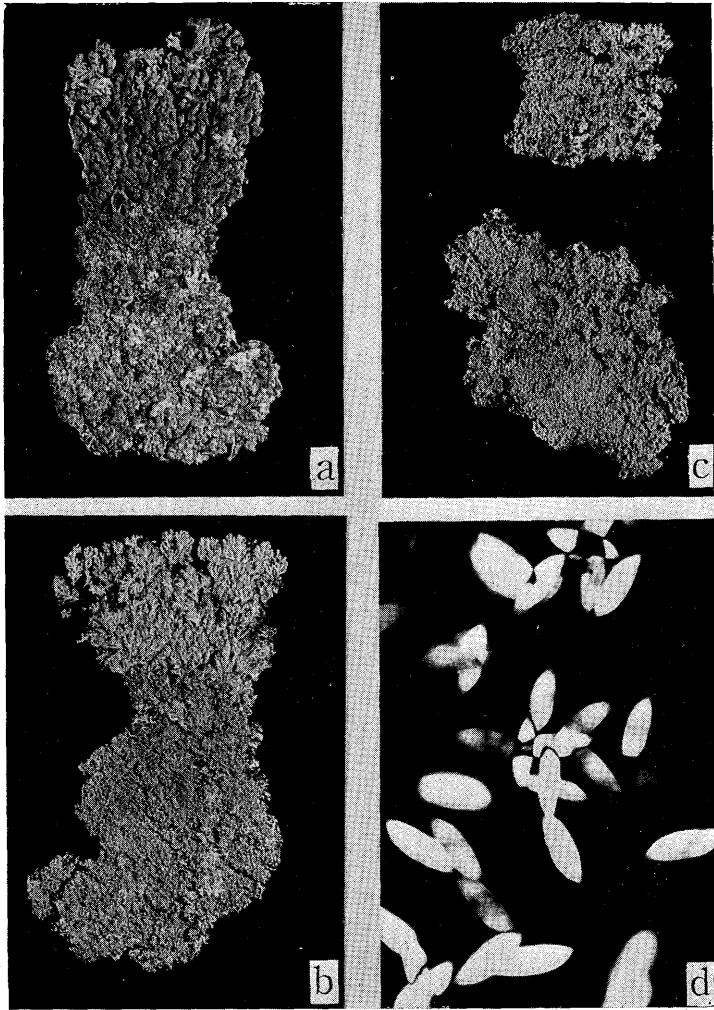


Plate 2. a: Type of *A. esorediata* f. *subimbricata* ( $\times 1/2$ ). b: *A. isidiophora* ( $\times 1/2$ ) c: Type of *A. dissecta* ( $\times 1/2$ ). d: Fusiform plates obtained on heating Ac. X. of *A. dissecta* with o-T.

S. KUROKAWA : Anaptychiae