Symbolae Florae Bryophytae Orientali-Asiae VI.*

By

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151) **Plagiochasma rupestre** (FORSTER) STEPHANI in Bull. Herb. Boiss. VI (1898) p. 783.

Syn. *Aytonia rupestris* FORSTER in Comm. Soc. reg. Gott. Vol. IX (1789) p. 73.

Corsinia lamellosa NEES et BISCHOFF in Flora XIII (1830) p. 401.

Sedgwickia hemisphaerica BISCHOFF in Nova Acta Acad. Caes.-Leop. Carol. XVII (1835) p. 1079.

Plagiochasma Aitonia LINDENBERG et NEES Naturg. Europ. Leberm. IV (1838) p. 41.

Anthrocephalus italicus SASSI in Atti Prim. Riun. Sci. Pisa (1840) p. 160.

Jungermannia australis TAYLOR in HOOKER f. & TAYLOR's Journ. Bot. III (1844) p. 572.

Plagiochasma australe NEES in GOTTSCHKE, LINDENBERG et NEES Syn. Hep. (1846) p. 515.

Plagiochasma elongatum LINDENBERG et GOTTSCHKE in l.c. (1846) p. 519.

Plagiochasma mexicanum LINDENBERG et GOTTSCHKE in l.c. (1846) p. 519.

Plagiochasma italicum DE NOTARIS in Mem. Real. Accad. Sci. Torino II. XVIII (1859) p. 476.

Ottonia rupestris DUMORTIER Hep. Europ. (1874) p. 148.

Rupinia italica TREVISAN in Rend. Ist. Lomb. II, VII (1874) p. 785.

Rupinia rupestris TREVISAN in Mem. R. Ist. Lomb. III, IV (1877) p. 437.

Aitonia lanigera SPRUCE in Trans. Bot. Soc. Edinburgh, XV (1885) p. 568.

Aitonia australis STEPHANI in Hedwigia XXVIII (1889) p. 129.

Plagiochasma lanigerum STEPHANI in Bull. Herb. Boiss. VI (1898) p. 188.

Aytonia Evansii HAYNES in Bull. Torrey Bot. Club. XXXIV (1907) p. 57.

* The expense of the study has been partly defrayed by the Subsidy granted by the Foundation for the Promotion of Scientific and Industrial Research of Japan.

Text-fig. 22. *Plagiochasma rupestre* (FORST.) STEPHANI. 1. Pore, cross-section, $\times 280$. 2, 3. Pores, surface view, $\times 330$. 4. Spore, $\times 330$. 5. Elater, $\times 330$.

Nom. Jap. Taroko-mikangoke (nov.)

Hab. On rocky banks.

Formosa: Taroko-kyô, prov. Kwanrenkô (Y. HORIKAWA, Jan. 8, 1935).

Distr. Mediterranean Europe, Madeira, Cape Verde, Canary, Ascension, Teneriffe, St. Helena, Africa, U.S.A., Jamaica, South America, Galapagos, New Zealand, Australia.

This extraordinary variable species is not only a new addition to the flora of Formosa but also to Asia.

152) ***Drepanolejeunea asymmetrica*** HORIKAWA in Journ. Sci. Hiroshima Univ. Ser. B, Div. 2, Vol. 1 (1933) p. 201.

Hab. On the living leaves of *Ficus* in dense forest.

Formosa: Mt. Kôtôzan, Isl. Botel Tobago (N. FUKUYAMA et T. SUZUKI, June 17, 1934).

Distr. Japan Proper (Honshiu).

The species is new to the flora of Formosa.

153) ***Drepanolejeunea unidentata*** HORIKAWA, sp. nov.

Sterilis. Planta exigua, tenerrima, flavesceus, substrato appressa, ad 2 mm longa, cum foliis 0.33 mm lata, in cortice arcte repens. Caulis ca. 0.045 mm in diametro, repens, hyalinis, simplex; rhizodium fasciculis affixus. Folia caulina remotiuscula, oblique patula vel suberecta, valde

concava apiceque decurva, in plano anguste lanceolata, ca. 0.28 mm longa, 0.11 mm lata, apice longeque attenuata, acuta, margine antico valde unidentata, dentibus validis patulis, marginibus ceterum subintegerrimis,

Text-fig. 23. *Drepanolejeunea unidentata*
HORIKAWA.

1. Part of plant, antical view, $\times 78$.
2. Ditto, postical view, $\times 130$.
3. Apical part of leaf, $\times 330$.

antice papulosa, brevi basi inserta, basi antica subtruncata. Cellulae medio ca. 15μ , trigonis nullis, parietibus ubique validis. Lobulus magnus, folio subduplo brevior, oblique adscendens, oblongus, triplo longior quam latus, carina arcuata, levi sinu in folium excurrens, apice quam basis subduplo angustiore, oblique truncato, angulo spina valida armato, sub apice constrictus. Amphigastria caulina parva, caule parum latiora, disco basali brevissimo, apice profunde emarginato-bifida, lobis setaceis late divergentibus.

Hab. On the stem of *Dendrobium Miyakei* SCHLTR. in dense forest. Formosa: Mt. Kôtozan, Isl. Botel Tobago (N. FUKUYAMA, July 10, 1934).

This species seems nearly related to *Drepanolejeunea tenuis* (REINW., BL. et NEES) SPRUCE, known from Java, Sumatra, Philippines, Formosa, Liukius, Yakushima and Japan Proper, from which this is distinguished by having one solid tooth on the antical margin of leaves.

154) ***Leptolejeunea aberrantia*** HORIKAWA, sp. nov.

Sterilis. Planta major grandifolia, virescens, ad 12 mm longa, cum foliis 1 mm lata, foliicola. Caulis ca. 0.066 mm in diametro, regulariter remoteque ramosus, ramis longis recte divergentibus. Folia caulina parum imbricata, subrecte patula, subplana, in plano ovato-oblonga, ca. 0.5 mm longa, 0.35 mm lata, asymmetrica, margine postico substricto, antico late rotundato, apice late truncata, ubique integerrima, brevissima basi inserta, basi antica truncato-rotundata. Cellulae superae 11μ , medio $18 \times 26\mu$ et basales $22 \times 37\mu$, trigonis valde parvis in medio et angulis parietum; ocellus solitarius suprabasalis ca. $30 \times 64\mu$. Lobulus parvus, folio triplo brevior,

oblique adscendens, oblongo-ovatus, valde inflatus, subduplo longior quam latus, carina leviter arcuata, stricte in folii marginem excurrent, apice quam basis duplo latiore, arcuate truncato, angulo obsuto, cellulis elongatis limbato, saepe obsoleta. Amphigastria caulina parva, disco basali integro obcuneato, apice late subtruncato, angulis in setam abeuntibus, setulis late vel recte divergentibus, 4–5 cellulas longis.

Text-fig. 24. *Leptolejeunea aberrantia* HORIKAWA. 1. Part of stem, antical view, $\times 60$. 2. Part of plant, postical view, $\times 40$. 3. Apical portion of lobule, $\times 330$. 4. Cells from middle of lobe, $\times 330$. 5, 6, 7. Underleaves, $\times 170$.

Hab. On the leaves of ferns in dense forest.

Formosa: Mt. Kôtôzan, Isl. Botel Tobago (T. SUZUKI et N. FUKUYAMA, June 17, 1934).

Our present species is apparently near to *Leptolejeunea truncatifolia* STEPHANI,* a species found in the Philippines, but differs from the latter in the imbricate and ovate-oblong leaves, basal ocellus and not constricted lobules.

155) **Physocolea venusta** (SANDE LACOSTE) STEPHANI in Spec. Hep. V (1916) p. 907.

Syn. *Lejeunea venusta* SANDE LACOSTE Syn. Hep. Jav. (1856) p. 64.

Cololejeunea venusta SCHIFFNER in ENGLER et PRANTL natürl. Pflanzenfam. I. 3 (1893) p. 122.

Nom. Jap. Uniba-yôjôgoke, Tosano-kekusarigoke.

* STEPHANI: Spec. Hep. V (1913) p. 388.

Hab. Among mosses in dense forest.

Hokkaidô: the foot of Mt. Shiribeshi, prov. Shiribeshi (Y. HORIKAWA, Aug. 8, 1931).

Distr. Java, Sumatra, Japan Proper (Shikoku, Honshiu).

This species is new to the flora of Hokkaidô, Mt. Shiribeshi is situated at about 43° N. L., 141° E. L., so that this locality seems surely to be the northeast in its distribution.

156) **Exodictyon Blumii** (C. MÜLLER) FLEISCHER Musc. Archip. Ind. (1899) no. 58 et Musc. Fl. Buitenzorg, I. (1904) p. 188.

Syn. *Leucophanes Blumii* C. MÜLLER Syn. II. (1851) p. 537.

Hab. On the old trunk of trees.

Formosa: Mt. Toranzan, prov. Taitô (Y. HORIKAWA, Jan. 7, 1935); Between Botansha and Botanwan, prov. Takao (Y. HORIKAWA, Jan. 1, 1935).

Distr. Java, Philippines, Liukius.

The present species is a new addition to the flora of Formosa.

157) **Rhizogonium badakense** FLEISCHER Musc. Fl. Buitenzorg, II. (1902-04) p. 595.

Nom. Jap. Hiroba-hinokigoke.

Hab. On the decayed woods.

Formosa: Mt. Morrison (Niitakatozanguchi-Kodamayama), prov. Tainan (Y. HORIKAWA, Aug. 18, 1932); Mt. Chipon, prov. Taitô (Y. HORIKAWA, Dec. 30, 1932).

Distr. Java, Liukius, Japan Proper.

This species is new to the flora of Formosa.

168) **Ulota japonica** (SULLIVANT et LESQUIREUX) MITTEN in Trans. Linh. Soc. 2 Ser. (1891) p. 162.

Syn. *Orthotrichum japonicum* SULLIVANT et LESQUIREUX in ROGER's North. Pac. Expl. Exped.

Nom. Jap. Yezo-kinmôgoke.

Hab. On the barks of *Abies sachalinensis* MAST.

Saghalien: Ho-e, Kiushiu Imp. Univ. Forests, prov. Siska (Y. HORIKAWA, July 27, 1931).

Distr. Hokkaidô.

The species is a new addition to the flora of Saghalien.

159) **Climacium americanum** BRIDEL Bryol. univ. II. (1827) p. 273.

Syn. *Neckera dendroides* β *americana* C. MÜLLER Syn. II. (1851) p. 122.

Nom. Jap. America-mannengusa.

Hab. On the humus.

Saghalien: Ito-e, Kiushiu Imp. Univ. Forests, prov. Siska (S. TANAKA, July 1931).

Distr. North America, Hokkaidô, Japan Proper (Honshiu).

This is a new addition to the flora of Saghalien.

160) **Hypopterygium japonicum** MITTEN in Journ. Linn. Soc. Bot. VIII. (1864) p. 155.

Nom. Jap. Hime-kujakugoke.

Hab. On moist earth in shaded place.

Hokkaidô: Mt. Shiribeshi, prov. Shiribeshi (Y. HORIKAWA, Aug. 8, 1931).

Distr. Yakushima, Japan Proper, Korea.

This species is new to the flora of Hokkaidô.

161) **Isopterygium Textori** (SANDE LACOSTE) MITTEN in Trans. Linn. Soc. 2 Ser. (1891) p. 176.

Syn. *Rhynchostegium Textori* SANDE LACOSTE in MIQUEL's Ann. Mus. Bot. Ludg. Batav. II. (1865-66) p. 299.

Nom. Jap. Aka-ichiigoke.

Hab. On the cliffy soil.

Liukius: Between Yuwan and Shin-mura, isl. Amamiôshima (Y. HORIKAWA, March 25, 1934); Mt. Benokiyama, isl. Okinawa (Y. HORIKAWA, March 28, 1934); Mt. Bannadake, isl. Ishigakijima (Y. HORIKAWA, March 31, 1934); Mt. Tedôsan, Sonai, Mt. Hatoma-mori, Mt. Gazadake, isl. Iriomotejima (Y. HORIKAWA, Apr. 2-7, 1934).

Distr. Japan Proper, Formosa, Annam.

This is a new addition to the flora of the Liukius.

162) **Pogonatum hetero-contortum** HORIKAWA, sp. nov.

Dioicum; robustissimum, elatum, caespitosum, brunneo-viride. Caulis erectus, ad 8 cm altus, cum foliis ca. 12 mm crassus, fusco-rubiginosus, basi dense hyalino-radiculosus, superne dense foliosus, simplex. Folia sicca valde contorta, humida patentia, basi breviter ovata, lineali-lanceolata, longe acuminata, ad 11 mm longa et basi 1.5 mm, medio 0.8 mm lata, margine a medio ad apicem acuteque serratis, dentibus crassis et validis, unicellularibus; nervo valido, in medio folii ca. 0.1 mm alto, postice valde convexo, antice leviter concavo, cum apicem evanido, dorso e medio ad apicem remote 2-3-seriate spinoso-serrato; lamellis folii totam occupantis, valde densissimis et numerosis, ca. 55 seriatis, in sectione transversali breviora, usque 18μ et 2-cellulas alta, cellulis fere subaequalibus, cellula apicali laevi haud incrassata quadrato-rotundata. Cellulis laminalibus bistratis, quadratis, ca. 15μ , incrassatis, cellulis vaginalibus inferioribus elongate rectangulis $12-15 \times 38-45\mu$, parietibus validus. Folia perichaetia intima fere angustiora, e

basi longe semivaginante elliptica abrupte lineari-subulata, ca. 8 mm longa, basi 0.55 mm, medio 0.33 mm lata, marginibus ad $\frac{1}{5}$ apicem bene serratis; lamellis ca. 18 seriatis; nervo valido, dorso ad $\frac{1}{5}$ superne 2-seriate spinoso-serrato. Seta ad 2.7 cm alta, rubro-fusca, rigida, minutissime verrucosa. Theca erecta vel suberecta, oblonga, distincte 10-plicata, gibbosula, fusca, ca. 3.5 mm longa, 1.6 mm crassa, sicciatate macrostoma et infra orificium valde contracta. Exostomii dentes sicci incurvi ca. 0.4 mm alti, hyalini, medio rufescentes. Caetera desunt.

Text-fig. 25. *Pogonatum hetero-contortum* HORIKAWA. 1. Leaf, $\times 12$. 2. Tooth from the margin of leaf, $\times 330$. 3. Upper portion of leaf, dorsal view, $\times 12$. 4. Cross-section of leaf, $\times 60$. 5. Middle part of ditto, $\times 330$. 6. Marginal part of ditto, $\times 330$. 7. Perichaetial leaf, $\times 12$. 8. Cross-section of capsule, $\times 20$. 9. Portion of capsule-wall, in cross-section, $\times 130$.

Hab. On the humus.

Yakushima: Between Ishizuka-kokuyurin (ca. 850 m) and Hananoego (Y. HORIKAWA, July 11, 1933).

This species is allied to *Pogonatum contortum* (MENZ.) LESQUIREUX in its general appearance, from which, however, it differs in its far narrower, longer and acuminate leaves, entire margin of lower $\frac{1}{3}$ in leaf-length, far numerous number of 2-celled lamellae and smooth, 10-plicated capsule.

(To be continued)

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