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MATERIALS FOR A FLORA OF HOKKAIDO. III.

By

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and

Y. KUDO.

北海道植物志料 III.

宮 部 金 吾

工 藤 祐 舜

ERIOPHORUM L.

Key to the species of *Eriophorum* found in Hokkaido and adjacent regions.

1. { Bristles 6.....*E. alpinum* L.
Bristles numerous 2
2. { Spikelet solitary, terminal..... 3
Spikelets numerous, umbellate..... 5
3. { Bristles reddish-brown. Achenes strigose on the upper margin *E. strigosum* nob.
Bristles white or light brown. Achenes not strigose on the upper margin 4
4. { Caespitose. Sheath of the uppermost cauline leaf is bladeless and much inflated.
Achenes obovoid *E. vaginatum* L.
Stolon-bearing. Sheath of the uppermost cauline leaf is provided with a short
blade and not inflated. Achenes linear-oblong *E. Scheuchzeri* Hoppe.
5. { Peduncles scabrous. Bristles shorter, about 5 times the length of the fruit...*E. gracile* Koch.
Peduncles smooth. Bristles longer, 10-12 times the length of the fruit...*E. angustifolium* Roth.

10. *Eriophorum alpinum* L. Spec. Pl. ed. 1. (1753) p. 53; Kunth, Enum. Pl. 2. p. 176; Fr. Schm. Fl. Amgun. p. 66; Matsum. Ind. Pl. Jap. 2. 1. p. 147; Koidz. Tokyo Bot. Mag. 25. p. 204.

NOM. JAP. *Miyama-sagisuge*. (nov.).

HAB. Yezo. Prov. Ishikari: Tsuishikari (I. Yamamoto!¹⁾ Aug. 1910); Horomui (K. Misumi!²⁾ June 28, 1909; K. Miyabe!³⁾ June 18, 1912).—Prov. Iburi: Tomakomai (U. Faurie! July 1894); Yubutsu (Faurie, 1905; K. Kondo!⁴⁾ July 8, 1907).

Kamtschatka. Petropavlovski (N. Hashimoto!⁵⁾ July 12, 1907).

1) 山本岩龜 2) 三隅英雄 3) 宮部金吾 4) 近藤金吾 5) 橋本直也

[Trans. of Sapporo Natural History Soc. Vol. V. Part 2. April, 1914.]

Distrib. Middle and North Europe, Northern Asia and North America.

11. *Eriophorum vaginatum* L. l. c. p. 52; Kunth, l. c. p. 176; Trautv. et Mey. Fl. Ochot. p. 97; Maxim. Prim. Fl. Amur. p. 299; Fr. Schm. Fl. Sach. p. 191; F. Kurtz, in Engl. Bot. Jahrb. 19. p. 477; Matsum. l. c. p. 147.

? *E. Scheuchzerii* Matsum. l. c. p. 147.

NOM. JAP. *Watasuge*, *Suzumeno-keyari*.

HAB. *Yezo*. Prov. Ishikari: Horomui (Miyabe! July 14, 1885; Y. Tokubuchi! June 7, 1892).—Prov. Teshio: Kokunep (S. Ninouye!¹⁾ June 3, 1905).—Prov. Kushiro: Kushiro (S. Hashimoto!²⁾ 1890); Otanoshike (M. Nakamura!³⁾ April 10, 1886).—Prov. Nemuro: Nemuro (Miyabe! July 7, 1884); Tomoshiri (M. Nakamura! June 26, 1885; Miyabe! Aug. 2, 1894; D. Hoshi!⁴⁾ June 6, 1912); Otsuishi (S. Hashimoto! July 7, 1890).

Kuriles. Kunashiri: Furukamap (C. Yendo!⁵⁾ Sept. 27, 1894); Tomarimura (H. Tanaka!⁶⁾ Aug. 20, 1895).—Etorofu: Mt. Atoiya (T. Kawakami!⁷⁾ Aug. 11, 1898); Rubetsu (Kawakami! Aug. 25, 1898); Shibetoro (K. Miura!⁸⁾ July 23, 1906; K. Miyabe f. and G. Tanaka!⁹⁾ July 18, 1910); Moyoro (Miyabe f. and Tanaka! July 17, 1910).—Urup: Highland between Anama and Yoshinohama (K. Uchida!¹⁰⁾ June 17, 1891); Anama (K. Jimbo!¹¹⁾ June 18, 1891); Ahunruimoi (Jimbo! June 25, 1891).—Shimushu (S. Seki!¹²⁾ 1895).

Saghalin. Mauka-District: Kusunnai (T. Miyake!¹³⁾ July 7, 1906).—Odomari-District: Korsakoff (K. Miyabe and T. Miyagi!¹⁴⁾ July 12, 1906); Arakuri (Miyake! July 18, 1908); Chipisani (Miyake! July 17, 1908); Ichan (Miyake! June 28, 1908); Aberasani (Miyake! June 28, 1908).—Toyohara-District: Manue (Miyake! Aug. 20, 1907).—Shikka-District: Shikka (Miyabe and Miyagi! July 23, 1906); Lake Solenuiya (Miyabe and Miyagi! July 26, 1906); Tarankotan (Miyake! Aug. 13, 1906); Duwatakko (Miyake! Aug. 16, 1906); Hamdasa (Miyake! Aug. 27, 1906); Poronaimura (Miyake! Aug. 29, 1906).

DISTRIB. Widely distributed in north temperate regions.

12. *Eriophorum Scheuchzeri* Hoppe, Bot. Taschenb. (1800) p. 104; Kunth, l. c. p. 177; Trautv. et Mey. Fl. Ochot. p. 98; Kurtz, l. c. p. 477.

E. vaginatum Koidz. in Tokyo Bot. Mag. 25. p. 204.

1) ニノ上七五三次郎 2) 橋本左五郎 3) 中村守一 4) 星太吉 5) 遠藤千尋 6) 田中平太郎 7) 川上瀧彌 8) 三浦慶太郎 9) 宮部憲次、田中五一 10) 内田澁 11) 神保小虎 12) 關誠一 13) 三宅勉 14) 宮部金吾、宮城鐵夫

HAB. *Behring Sea Regions*. Kamtchatka: Petropavlovski (N. Hashimoto! July 12, 1907).—Alaska: Nome (N. Hashimoto! Aug. 6, 1907).

DISTRIB. Arctic and northern regions of Europe, Asia and North America.

Among numerous specimens of *Eriophorum* having solitary terminal spikelets collected in North and Middle Japan, we are unable to find any which corresponds to the present species.

13. *Eriophorum strigosum* Miyabe et Kudo. sp. nov.

Rhizoma stoloniferum. Culmus solitarius, gracilis, 20–60 cm altus, teres, striatus, laevis. Folia radicalia acerosa, glabra, canaliculata, usque 40 cm longa, sursum viridia, deorsum saepius plus-minus laeve castanea, apice sensim acuminata; caulina 2 vel rarius 3, longe vaginata, non inflata, laminis brevissimis acerosis, vaginis basin purpurascens, vagina superiore 5–6 cm longa. Spica terminalis, solitaria, multiflora, erecta vel plus-minus curvata, ovata vel oblonga, ca. 2 cm longa, 1–1.2 cm lata, bracteis medio argentio-incanis, margine hyalinis, sterilibus late ovatis, 5–6 mm longis 2.5–3 mm latis, uni-, bi- vel tri-nervatis, fertilibus oblongo-lanceolatis, 4.5–6 mm longis 1.5–2 mm latis, uni-nervatis. Antherae nobis ignotae. Achenium obovoideum, compressum, apice obtusum, ad marginem strigosum. Lanae numerosae, semine 9–plo longiores, rufae vel isabellinae.

NOM. JAP. *Kitsune-suge*. (nov.).

HAB. *Saghalin*. Shikka-District: Shikka (Miyabe and Miyagi! July 23, 1906).

DISTRIB. Endemic.

This is a striking species characterized by its strigose achenes and light reddish brown colored bristles. It is nearly related to *Eriophorum Chamissonis* C. A. Mey. and *E. russeorum* Fries; from either of them it is readily distinguished by the character of the achene.

14. *Eriophorum gracile* Koch in Roth Catal. 2. (1800) p. 259; Kunth, l. c. p. 179; Fr. Schm. Fl. Sach. p. 191; Fr. et Sav. Enum. Pl. Jap. 2. p. 115.

NOM. JAP. *Sagi-suge*.

HAB. *Yezo*. Prov. Oshima: Kikonai (Miyabe and Y. Tokubuchi!¹⁾ July 14, 1890).—Prov. Ishikari: Horomui (Miyabe! July 13, 1885, July 18, 1912).—Prov. Iburi: Yurap (Faurie!); Tomakomai (Faurie 1898).—Prov. Kushiro: Kushiro (Faurie, 1890); Hamanaka (Miyabe! Aug. 8, 1884); Shitakara (Sukeo Ito!²⁾ Aug. 1895).—Prov. Nemuro: Tomoshiri (D. Hoshi! May 21, 1912); Onnetto (Hoshi!

1) 宮部金吾、徳淵永次郎 2) 伊東祐夫

June 15, 1912); Bekkai (Miyabe! Aug. 15, 1910).

Kuriles. Etorofu: Shana (Miyabe f. and Tanaka! July 25, 1910).

Saghalin. Mauka-District: Uentomari (Miyake! June 22, 1907); Tokotan (Miyake! June 22, 1907).—Odomari-District: Sorowiyofuka (Miyake! July 16, 1907); Chipisani (Miyake! July 17, 1908).—Toyohara-District: Uspenskoe (Miyake! Sept. 30, 1906).—Shikka-District: Ramotteiuri (Miyake! Aug. 15, 1908); Sekesedufuri (Miyake! Aug. 1906).

Distrib. Europe, Siberia, Manchuria, Corea, North and Middle Japan and North America.

15. *Eriophorum angustifolium* Roth Fl. Germ. 2. (1793) p. 63; Kunth, l. c. p. 178; Ledeb. Fl. Ross. 4. p. 254; Yabe et Yendo, Tokyo Bot. Mag. 18, p. 174.

E. polystachyon L. l. c. p. 52. p. p.; Koidz. l. c. p. 204.

NOM JAP. *Shimushu-watasuge*.

HAB. *Kuriles*. Shimushu (S. Seki, 1895; N. Gunji!¹⁾ Aug. 1897; K. Yendo,²⁾ 1903).

Behring Sea Region. Kamchatka: Petropavlovski (N. Hashimoto! July 12, 1907).—E. Siberia: Anadyr (N. Hashimoto! July 28, 1907).—Alaska: Nome (N. Hashimoto! Aug. 6, 1907).

Distrib. Europe, Siberia, Amur-region, Manchuria, China, Corea, Kamchatka, Northern Kuriles and North America.

16. *Scirpus Maximowiczii* C. B. Clarke in Kew Bull. Add. Ser. 8 (1908) p. 30.

Eriophorum japonicum Maxim. Mém. Biol. 12. (1893) p. 558; Kom. Fl. Mansh. 1, p. 339; Matsum. Ind. Pl. Jap. 2. 1. p. 147; Nakai, Fl. Korea. 2. p. 513.—*Eriophorum latifolium* Kawakami, Tokyo Bot. Mag. 15. p. 218.

NOM. JAP. *Takane-kurosuge*, *Nambu-suge*, *Chishima-watasuge*.

HAB. *Honsiu*. Prov. Rikuchu: Nambu in alpine region (Chonosuke Sugawa!³⁾ 1865—Cotype-specimen); Mt. Komagatake (S. Sawada!⁴⁾ July 24, 1905; M. Miura!⁵⁾ Aug. 10, 1904).

Yezo. Prov. Ishikari: Mt. Yūbari (A. Hamana and H. Yanagisawa!⁶⁾ Aug. 6, 1912; S. Nishida!⁷⁾ Aug. 8, 1913).

Kuriles. Etorofu: Mt. Atoiya at 2000 ft. alt. (Kawakami! Aug. 11, 1898); Moyoro (Miyabe f. and Tanaka! July 17, 1910).—Urup: Yoshinohama (Jimbo! June 18, 1891).

1) 郡司成忠 2) 遠藤吉三郎 3) 須川長之助 4) 澤田兼吉 5) 三浦道哉 6) 濱名有實、柳澤秀雄 7) 西田彰三

DISTRIB. In the alpine region of northern Honsiu and Hokkaido, and also in Corea.

The present species was described by Maximowicz who took for its type the flowering specimens collected by Tschonoski (Chonosuke Sugawa) in the alpine region of Nambu in 1865. When one of the authors met Prof. Maximowicz in St. Petersburg in 1889, he expressed some doubt regarding the systematic position of the plant, which, he said, would be settled by the character of matured fruits.

The plant has the general aspect of *Eriophorum latifolium* Hoppe, with which it has often been confounded. The bristles are, however, six in number, and are about the same length as the style, and they never become elongated after anthesis as in the case of *Eriophorum*. The late C. B. Clarke referred the plant correctly to the genus *Scirpus*; and we have here adopted the name proposed by him.

17. *Zygadenus Makinoanus* Miyabe et Kudo. nom. nov.

Zygadenus japonicus Makino, in Tokyo Bot. Mag. 17 (1903) p. 162.—*Stenanthium sachalinense* Kawakami, in Tokyo Bot. Mag. 14 (1900) p. 111 (non Fr. Schmidt); Matsum. Ind. Pl. Jap. 2. 1. p. 214.

NOM. JAP. *Rishiriso*.

HAB. *Yezo*. Prov. Kitami: on the summit of Mt. Rishiri, Isl. Rishiri (S. Hori!¹⁾ Aug. 19, 1889; U. Faurie n. 3493, Aug. 1892, n. 2977. Aug. 1899; W. Hirose!²⁾ Aug. 3, 1896; T. Kawakami! Aug. 1899).

DISTRIB. Endemic.

We agree with Mr. Makino in considering the present plant as a new species of *Zygadenus*. We have nothing to add to the complete and accurate description of the species given by the author. As the specific name *Zygadenus japonicus* had already been used by Miquel (Prol. Fl. Jap. p. 310) for *Aoyagiso*, *Veratrum Maackii* Rgl., we take this opportunity to pay respect to our esteemed friend by associating his name with this interesting plant.

18. *Aletris foliata* Franch. in Jour. de Bot. 10 (1896) p. 179.

Metanarthecium foliatum Maxim. Decas Pl. Novarum (1882) p. 10; Matsum. Ind. Pl. Jap. 2. 1. p. 207.—*Aletris Dickinsii* Franch. Bull. Soc. Philom. 7e Série 10 (1886) p. 103.

NOM. JAP. *Nebari-nogiran*, *Yezo-no-sokushinran*.

1) 堀正太郎 2) 廣瀬渡

HAB. *Yezo*. Prov. Ishikari: Horomui (S. Hori! Aug. 4, 1885; Y. Tokubuchi!¹⁾ July 25, 1887; J. Hanazawa!²⁾ July 18, 1906); Tsuishikari (K. Miyabe! July 22, 1895).—Prov. Iburi: Yubutsu (Faurie, July 1905).

DISTRIB. Boggy plains of Hokkaido and mountain regions of Honsiu. According to Diels (Engl. Bot. Jahrb. 29 p. 240), a variety of the present species is found in Central China.

19. *Liriope minor* Makino, in Tokyo Bot. Mag. 7. (1893) p. 323 et 15. p. 93; Matsum. Ind. Pl. Jap. 2. 1. p. 206.

Ophiopogon spicatus δ . *minor* Maxim. Mél. Biol. 7. (1870) p. 324.

NOM. JAP. *Hime-yaburan*.

HAB. *Yezo*. Prov. Oshima: Yesashi (Miyabe and Tokubuchi! Aug. 1, 1890); Kaminokuni (Miyabe and Tokubuchi! July 23, 1890).—Prov. Hidaka: Fuyujima (K. Kondo!³⁾ Aug. 16, 1912).

DISTRIB. Liukiu, Kiusiu, Shikoku, Honsiu and Hokkaido. In Hokkaido the plant grows only in sandy beaches along the coast of warmer regions.

20. *Lloydia triflora* Baker in Jour. Linn. Soc. 14 (1874) p. 300; Kom. Fl. Mansh. 1. p. 464; Yabe et Yendo, Tok. Bot. Mag. 18. p. (177); Matsum. Ind. Pl. Jap. 2. 1. p. 206.

Ornithogalum triflorum Ledeb. in Mem. Acad. Petersb. 5. (1812) p. 529.—*Gagea triflora* Roem. et Schult. Syst. Veg. 7. (1829) p. 529; Ledeb. Fl. Ross. 4. p. 141; Maxim. Prim. Fl. Amur. p. 278; Fr. Schm. Fl. Sachal. p. 186.

NOM. JAP. *Hosoba-no-amana*.

HAB. *Yezo*. Prov. Oshima: Hakodate (M. Shimizu!⁴⁾ May 24, 1896).—Prov. Ishikari: Shimamatsu (Y. Yamazaki!⁵⁾ June 9, 1903); Hassabu (K. Miyabe f.!⁶⁾ May 22, 1909).—Prov. Hidaka: Samani (Nirei!⁷⁾ April 15, 1893).—Prov. Tokachi: Uraboro (K. Toganō!⁸⁾ April 26, 1895).—Prov. Kushiro: Ombetsu (M. Nakamura! May 20, 1890).—Prov. Kitami: Rebunshiri (Faurie, n. 9661, May 1893).

Kuriles. Without locality (*vide* Maximowicz).—Shumushu (K. Yendo. 1903).

Saghalin. Odomari-District: Solowiyofuka (T. Miyake! June 28, 1906); Tonnaicha (T. Miyake! June 19, 1908).

DISTRIB. North and Middle Japan, Corea, China, Manchuria, Siberia and Kamtschatka.

1) 徳淵永次郎 2) 半澤洵 3) 近藤金吾 4) 清水元太郎 5) 山崎益 6) 宮部憲次 7) 楡井某 8) 梶野好藏

21. *Allium lineare* L. Spec. Pl. ed. 1. (1753) p. 295; Kunth, Enum. Pl. 4. p. 419; Ledeb. Fl. Ross. 4. p. 178; Maxim. Fl. Amur. p. 282; Fr. Schm. Fl. Sachal. p. 187; Rgl. All. Monogr. p. 166.

NOM. JAP. *Karafuto-rakkyo*. (nov).

HAB. *Saghalin*. Nayashi-District: Sokorai (Miyabe and Miyagi! Aug. 13, 1906).—Russian-Saghalin: Pilew (Miyabe and Miyagi! Aug. 13, 1906).

DISTRIB. E. Russia, Siberia, Dahuria, Manchuria and Saghalin.

22. *Allium strictum* Schrad. Hort. Goett. t. 1. (1809); Kunth, l. c. p. 419; Ledeb. l. c. p. 178; Rgl. et Til. Fl. Ajan. p. 123; Rgl. l. c. p. 164.

A. lineare Kawakami, Tokyo Bot. Mag. 14. p. 107; Yabe et Yendo, in ibidem 18. p. (177); Matsum. Ind. Pl. Jap. 2. l. p. 189. p. p.; Hanzawa, Trans. of Sapporo Nat. Hist. Soc. 1. 1. p. 134; Nishida, in ibidem 4. 2. p. 178.

NOM. JAP. *Miyama-rakkyo*, (nov.).

HAB. *Yezo*. Prov. Ishikari: Mt. Ashiupetnupuri (S. Nishida and H. Yanagisawa!¹⁾ Aug. 4, 1913).—Prov. Iburi: Mt. Makkarinupuri (Miyabe and Hanzawa and Kondo!²⁾ Aug. 6, 1905).—Prov. Kitami: Mt. Rishiri, Isl. Rishiri (S. Hori! Aug. 1887; W. Hirose! July 27, 1896; Kawakami! Aug. 1899).

Kuriles. Paramushir: (C. Tarao!³⁾ Aug. 15, 1892).—Shimushu (S. Seki! 1895; N. Gunji!⁴⁾ 1897 and 1898; K. Yendo!⁵⁾ Aug. 24, 1903).

DISTRIB. Europe, Asia Minor, Persia, Siberia, Saghalin, Kuriles and Yezo.

23. *Allium splendens* Willd. ex Schult. Syst. 7. p. 1025. Kunth, l. c. p. 420; Ledeb. l. c. p. 179; Rgl. All. Monogr. p. 168; Korshinsky, Acta H. P. 12. p. 402; Nakai, Fl. Kor. 2. p. 261.

A. lineare Matsum. l. c. p. 189, p. p.

NOM. JAP. *Chishima-rakkyo*.

HAB. *Yezo*. Prov. Ishikari: Kamuikotan (Miyabe! Aug. 9, 1891).—Prov. Tokachi: Obihiro (T. Yanagimoto!⁶⁾ July 31, 1891; Hanzawa! July 31, 1904).—Prov. Kushiro: Shitakara (Sukeo Ito! July, 1895).—Prov. Kitami: Abashiri (Miyabe! July 15, 1884).

Kuriles. Etorofu: Shana (K. Miura! July 11, 1906); Tōro (K. Miura! July 24, 1906); Moyoro (Miyabe f. and Tanaka! July 8, 1910); Rubetsu (Kawakami! Aug. 25, 1897); Shibetoro (K. Miura! July 21, 1906).

1) 西田彰三、柳澤秀雄 2) 宮部金吾、半澤洵、近藤金吾 3) 多羅尾忠郎 4) 郡司成忠 5) 遠藤吉三
6) 柳本通義

Saghalin. Odomari-District: Tōbutsu (T. Miyake! June 27, 1907); Cape Suryuda (Miyabe and Miyagi! Aug. 1, 1906); Mereya (Miyabe, Miyagi, and Miyake! July 14, 1906); Chipisani (Miyabe, Miyagi and Miyake! July 15, 1906); Mitsuriofuka (Miyake! July 13, 1906); Chishinai (Miyake! July 6, 1908); Mt. Ochopoka (Miyake! June 13, 1908); Airopu (Miyabe and Miyagi! July 31, 1906); Naionnai (Miyabe and Miyagi! Aug. 1, 1906).—Toyohara-District: Chikaporonai (Miyake! Aug. 8, 1907).—Shikka-District: Makunkotan (Miyake! Sept. 15, 1906).

DISTRIB. Siberia, Dahuria, Corea, Manchuria, Kamtchatka, Saghalin, Southern Kuriles and Yezo.

The three species of *Allium* just enumerated above are so nearly related to one another as to have led some botanists to form an opinion that they are of one and the same species. Komarov, for instance, in his *Flora Manshuriae* treated *A. strictum* and *A. splendens* as synonyms of *A. lineare*.

A comparative study of a large number of the specimens of these plants collected in Hokkaido and Saghalin, however, leads us to consider them as three quite distinct species. They differ from one another in some important morphological characters as well as in their habitats.

Allium lineare L. is known at present only from the northern portion of Saghalin. It is readily distinguished by its long exserted stamens and also by its long acuminate simple teeth, one on each side at the base of the filament. The teeth are of about the same length as the perianth; sometimes they are a little longer.

Allium strictum Schrad. is an alpine species. It has small rather compact umbellate head composed of fewer and smaller flowers. The stamens are of about the same length as the perianth, often becoming a little exserted. The teeth are generally simple and obtuse, and are about one third as long as the perianth. Rarely they are provided with very small secondary teeth.

In *Allium splendens* Willd. we have the largest umbellate heads composed of numerous larger flowers. The stamens are long exserted; their teeth are of medium size, each of which is conspicuously lacerated at the apex. It has the widest distribution in Hokkaido and Saghalin, and grows commonly in open grassy plains.

TOFIELDIA HUDS.

Key to the Hokkaido species of Tofieldia.

1. { Pedicels erect or obliquely erect, straight and not nodding 2
Pedicels patent and more or less nodding 3
2. { Pedicels short and thick, shorter than the capsules. Capsules ovate-cylindrical, with
short and thick styles. Perianth-segments one-nerved, about half the length of
the capsule *T. Okuboi* Makino.
Pedicels long and slender, longer than the capsules. Capsules subglobose, with
long and slender styles. Perianth-segments three-nerved, nearly as long as the
capsule *T. yezoensis* nob.
3. { Inflorescence rather loosely flowered. Capsules ellipsoid *T. Kondo* nob.
Inflorescence more or less densely flowered. Capsules subglobose, broadly obovoid
or globoso-turbinate 4
4. { Inflorescence very densely flowered. Perianth-segments generally one-nerved, whitish.
Capsules yellowish-white. Styles tipped with a prominent stigma *T. nutans* Willd.
Inflorescence less densely flowered. Perianth-segments generally three-nerved, green.
Capsules blackish or blackish-purple. Styles tipped with a small and not pro-
minent stigma *T. fusca* nob.

24. Tofieldia Okuboi Makino, Tokyo Bot. Mag. 12. (1898) p. 42; Takeda, in ibidem 24. p. 317.

T. nutans Takeda, Tokyo Bot. Mag. 24. p. 317. p. p.

NOM. JAP. *Hime-iwashobu*.

HAB. Yezo. Prov. Tokachi: Mt. Tokachidake (S. Suganuma !¹⁾ July 16, 1900).
—Prov. Ishikari: On the summit of Mt. Yubari (A. Hamana and H. Yanagi-
sawa ! Aug. 6, 1912; S. Nishida ! Aug. 8, 1913).

Kuriles. Etorofu: Mt. Atoiya (Kawakami ! 1898).

DISTRIB. In the alpine region of Honsiu, Yezo and the Southern Kuriles.

25. Tofieldia yezoensis Miyabe et Kudo. sp. nov.

Rhizoma breve, foliis vetulis vestitum, radices elongatas filiformes tomentosae emittens. Folia linearia, falcata, ensiformia, apice sensim acuminata, basi equitantia, 6–10 cm longa, 2–3 mm lata, plerumque 9-nervata, nervibus 5 prominentibus, subcoriacea, utrinque scabriuscula, margine cartilago-scabra. Scapus erectus, ascendens, laevis, cum inflorescentia 14–17 cm longus, foliis 1/2–2/3 plo longior, saepius 2-foliatus, folio inferiore frondoso, deorsum longe vaginato, 4.5–6 cm longo, folio superiore parvo, breviter supra medium inserto, 1.5–2 cm longo. Inflorescentia racemosa, laxiuscule multiflora, 2.5–3.5 cm longa, bracteis minutis ovatis apice acutis vel acuminatis, distincte uni-nervatis margine scariosis, pedi-

1) 菅沼正吉

cellis oblique erectis capsulae 1.5-plo longioribus, laevibus, caliculo sub flore trilobato, lobis triangulari-ovatis, uninervatis. Perianthii lobi persistentes, 3.5 mm longi, lineari-oblaceolati, 3-nervati, nervibus lateralibus non prominentibus, capsulae paulo breviores. Filamenta filiformia, perianthii segmentis paulo longiora. Capsula subglobosa, 3-ocularis stylis persistentibus tenuibus longiusculis, stigmatibus prominentibus. Semina ca. 1 mm longa, laeve castanea, appendiculata, appendiculis parvis albis verciformibus, in quoque loculo numerosa.

NOM. JAP. *Yeniwa-zekisho*. (nov.)

HAB. *Hokkaido*. Prov. Iburi: Mt. Yeniwa (Kawakami! Aug. 1895).

This species is closely related to *Tofieldia nuda*, from which it is easily distinguished by its subcoriaceous and somewhat scabrous leaves, having generally nine nerves, and also by its subglobose capsules as well as by its 3-nerved perianth-segments.

26. *Tofieldia Kondo* Miyabe et Kudo. sp. nov.

Rhizoma breve, foliis vetulis vestitum, radices filiformes pilis ochroleucis obtectas emittens. Folia linearia, falcata vel ensiformia, apice sensim acuminata, basi equitantia, 5-7 cm longa, 2-3 mm lata, 5-7 nervata, subcoriacea, utrinque scabriuscula, margine cartilago-scabra. Scapus erectus vel ascendens, laevis, plerumque foliis duplo longior, cum inflorescentia 10-13 cm longus, bi-foliatus, folio inferiore prope basin inserto, breviter vaginato, foliis radicalibus vix diverso, superiore minore, variabile, 1.5-2.5 cm longo. Racemus laxiuscule multiflorus, 2-3 cm longus, bracteis minutis uninervatis, margine scariosis, pedicellis patentibus nutantibusque capsulam subaequantibus, caliculo trilobato, lobis triangulari-ovatis, uninervatis. Perianthii lobi persistentes, spathulato-oblongi, concurvati, 3-nervati, nervibus omnibus prominentibus, margine scariosis capsulae paulo breviores. Capsula late ellipsoidea, ochroleuca, stylis longis, stigmatibus prominentibus. Semina laeve castanea, breviter appendiculata, appendiculis albis minutis, in quoque loculo numerosa.

NOM. JAP. *Apoi-zekishō*. (nov.).

HAB. *Hokkaido*. Prov. Hidaka: Mt. Apoi near Samani (K. Kondo! Aug. 17, 1912).

DISTRIB. Endemic.

The species, which is most nearly related to the present plant, is probably *T. yezoensis*, from which one can easily distinguish it by its spreading and nodding pedicels, prominently 3-nerved perianth-segments and ellipsoidal capsules.

27. *Tofieldia nutans* Willd. ex Schult. Syst. 7. p. 1573; Yabe et Yendo, Tokyo Bot. Mag. 18. p. 177; Takeda, in ibidem 24. p. 317. pro maxima parte.

NOM. JAP. *Chishima-zekisho*.

HAB. *Honsiu*. Prov. Shinano: Mt. Yatsugatake (T. Miyake! Aug. 4, 1903).—Prov. Rikuchu: Mt. Hayachine (M. Miura! Aug. 5, 1904, July 9, 1905); Mt. Iwate (K. Miyabe! Sept. 5, 1893; R. Takahashi!¹⁾ Aug. 24, 1897; S. Arimoto!²⁾ July 16, 1903).

Yezo. Prov. Hidaka: Nukapira (C. Yendo! Sept. 27, 1895).—Prov. Tokachi: Yaramap, near Biro (Jimbo! 1891).

Kuriles. Shikotan: Anama (Miyabe f. and Tanaka! Aug. 14, 1910).—Etorofu: Rakkojima (Kawakami! Aug. 27, 1893); Shimonaiho (K. Miura! July 23, 1906); Shibetoro (K. Miura! July 21, 1906); Moikeshi (T. Ishikawa!³⁾ Aug. 18, 1890).—Urup: (T. Kitahara!⁴⁾ July 21, 1895; K. Miura! July 9, 1906).—Shimushu: (K. Yendo, 1903).

Saghalin. Toyohara-District: Mt. Susuya (T. Miyake! July 31, 1907); Mt. Chikaporonai (Miyake! Aug. 12, 1907).—Shikka-District: Mt. Nupuripo (Miyake! Aug. 13, 1907).

DISTRIB. Siberia, Kamtschatka, Kuriles, Saghalin, Yezo and Honsiu.

28. *Tofieldia fusca* Miyabe et Kudo. sp. nov.

Rhizoma breve, foliis vetulis vestitum, radicibus filiformibus pilis fulvis dense obtectis. Folia linearia, plus-minus ensiformia, apice sensim acuminata, 3–7 cm plerumque 4–5 cm longa, 2–4 mm lata, 5–9 nervata, coriacea, utrinque scabriuscula, margine cartilago-scabra. Scapus erectus vel ascendens, firmiusculus, laevis, cum inflorescentia 9–14 cm longus, foliis duplo vel triplo longior, foliis duobus praeditus, folio inferiore frondoso, deorsum longe vaginato, 3–5 cm longo, superiore breviter supra medium inserto, 1–2.5 cm. longo. Racemus densiuscule multiflorus 1.5–2 cm longus, bracteis minutis viridibus, indistincte uninervatis, margine scariosis, pedicellis patentibus apice nutantibus, capsulam subaequantibus, caliculo sub flore trilobato, lobis triangulari-ovatis. Perianthii lobi spathulato-oblongi vel spathulato-obovati, persistentes, 1–3 nervati, nervibus omnibus prominentibus vel lateralibus obsculis vel deficientibus, deorsum intense virides, sursum atro-purpureo-, purpureo- vel ochroleuco-colorati. Capsula fusca vel atro-purpurea, subgloboso-ellipsoides 3-locularis, stylis brevibus firmiusculis, stigmatibus parvis non prominentibus. Semina breviter appendiculata, in quoque loculo numerosa.

1) 高橋良直 2) 有元新太郎 3) 石川貞治 4) 北原多作

NOM. JAP. *Kuromi-no-iwazekisho*. (nov.).

HAB. *Honsiu*. Prov. Shinano: Mt. Shirouma (S. Komatsu! ¹⁾ Aug. 12, 1904).

Yezo. Prov. Ishikari: Mt. Yubari (Hamana and Yanagisawa! Aug. 6, 1912; S. Nishida! Aug. 8, 1913); Mt. Ashiupetnupuri (Nishida and Yanagisawa! Aug. 4, 1913).

DISTRIB. Alpine region of North and Middle Japan.

form. **rishiriensis** Miyabe et Kudo.

T. nutans Kawakami, Tokyo Bot. Mag. 14. p. 107; Takeda in ibidem 24. p. 317. p. p.

Planta pygmaea, caule tenuiore, inflorescentia densiuscula subcapitata.

NOM. JAP. *Rishiri-zekisho*. (nov.).

HAB. *Hokkaido*. Prov. Kitami: On the summit of Mt. Rishiri, Isl. Rishiri (Hirose! Aug. 3, 1896; Kawakami! Aug. 1899).

DISTRIB. Endemic.

The present species is closely related to *Tofieldia nutans* Willd., from which, however, it is readily distinguished by its blackish capsules, looser inflorescence, and somewhat thicker green perianth-segments, which are tinged with a blackish purple or sometimes ochraceous color, and which are provided generally with three nerves. The stem is, moreover, firmer and strict; and the styles are shorter and thicker and are tipped with a small and not prominent stigma. Abundant materials of the present species were collected on the summit of Mt. Yubari and adjacent peaks during 1912 and 1913 by Messrs. Nishida, Yanagisawa and Hamana. We have delineated the specific character of this species from more than 30 specimens. It is of extreme interest to find this rare plant also on Mt. Shirouma in the Province Shinano.

Forma *rishiriensis* has been included thus far in *Tofieldia nutans* Willd.,—and not without reason; for at first sight it looks like a depauperated form of that species. Fortunately we have at hand a large number of the specimens of this plant enabling us to pass better judgment on its affinity. The plant has in common with *Tofieldia fusca* many important characters in the capsule, style, stigma and perianth-segment.

1) 小松春三

摘 要

北海道並に其隣接せる地方に産するさぎすげ属検索表

1. { 瘦果の周囲にある長毛は六個 みやまさぎすげ
 瘦果の周囲にある長毛は多数 2
2. { 小穂は単一、頂生 3
 小穂は多数、繖生 5
3. { 長毛は赤褐色。瘦果の上部縁邊に硬毛を生ず きつねすげ
 長毛は白色又は僅に淡褐色。瘦果の上部縁邊に硬毛を生ぜず 4
4. { 簇生、匍枝を有せず。上位の莖葉は葉片を欠き、鞘部は上方に於て膨脹す。瘦果は倒卵
 形 わたすげ
 散生、匍枝を有す。上位の莖葉は葉片を備へ、鞘部は上方に於て膨脹せず。瘦果は線状
 長橢圓形 *E. Scheuchzeri*.
5. { 花梗は粗造。長毛は短、其長さ瘦果の約五倍 さぎすげ
 花梗は平滑。長毛は長、其長さ瘦果の十倍乃至十五倍 しむしゆわたすげ

10. *Eriophorum alpinum* L. みやまさぎすげ (新稱)

莖は纖弱直立し、小穂は一個、頂生にして本邦産さぎすげ属中最少なるものなり。瘦果の周囲にある長毛は六個にして白絹色なり。北海道にては對雁、幌向、苫小牧、勇拂等の泥炭地に生じ、又歐洲、亞細亞の北部及び北米等に廣く分布す。

11. *Eriophorum vaginatum* L. わたすげ

本州、北海道、千島、樺太を通じて本属中最も普通なる種類にして、上位の莖葉は顯著なる葉片を欠き、其鞘部は上方に於て膨脹せることと、瘦果は倒卵形なることにより容易に他種と區別し得べし。廣く北半球温帶地方に分布す。長毛の色は一樣ならず、稍褐色を帯ぶるものを、*Eriophorum Scheuchzeri* となせる者ありと雖も、本學所蔵の標本には該種に相當するものを一も認むること能はず。

12. *Eriophorum Scheuchzeri* Hoppe.

前種に類似する種類なるも、上位の莖葉は葉片を備へ、鞘部は上方に於て膨脹せず、瘦果は線状長橢圓形をなす。本種は歐洲、亞細亞及び北米の北部及び極地に産す。

13. *Eriophorum strigosum* Miyabe et Kudo. きつねすげ (新稱)

樺太特産の種にして敷香附近の「ツンドラ」に産す。小穂は頂生、単一、長橢圓形、卵形又は倒卵形をなす。瘦果の上縁部に硬毛あること並に長毛の赤褐色なることは本邦産わたすげ属中其類を見ざる特長なりとす。

14. *Eriophorum gracile* Koch. さぎすげ

本種は小穂多数にして繖生せる種類中、本邦中部諸高山より北海道、千島、樺太等の泥炭地に亘り最も廣く分布せるものなり。

15. *Eriophorum angustifolium* Roth. しむしゆわたすげ

前種に類似するも、花梗の平滑なることと、瘦果の周囲にある長毛の長さ瘦果の十倍乃至十五倍なることによりて容易に區別し得べし。本種は北千島に産し、未だ本邦群島中其他の地方に於て之を産するを知らず。

16. *Scirpus Maximowiczii* C. B. Clarke. たかねくろすげ、なんぶすげ、ちしまわたすげ

莖は剛にして、20-40 セ、メ、に達す。葉は稍廣く、披針狀線形をなし、縁邊は粗造、其尖端は硬化す。莖葉は五個乃至八個。小穂は小形、多数、黒藍色にして繖生若くは重繖生。長毛は六個其長さ花柱に等しく、花後と雖もさぎすげ屬のそのの如く延長せず。本種は始め Maximowicz 氏により、須川長之助の採集せる南部産標本につき、*Eriophorum japonicum* の名を以て記載せられたるものなり。其後著者の一人 1889 年に露都に於て同氏に面會せし時、氏は本種の分類上の位置につきて疑ある旨をもらされたり。故 C. B. Clarke 氏は本種をほたるゐ屬に編入し、*Scirpus Maximowiczii* なる學名を附せられたり。今回數多の標本につきて研究せる結果、Clarke 氏の説の正確なることを認め、其の名を襲用せり。本州北部北海道本島及び千島の諸高山に産し、又朝鮮にも在りと云ふ。

17. *Zygadenus Makinoanus* Miyabe et Kudo. りしりさう

本種は北見國利尻島利尻山頂に産する珍種にして曩に牧野富太郎氏により *Zygadenus japonicus* なる種名の下に、詳細なる記載文を以て發表せられしものなり。然るに *Zygadenus japonicus* なる名稱は已に Miquel 氏によりあをやぎさうに使用せられたるを以て、著者は茲に畏友牧野氏の氏名を本種に附し聊か欽敬の意を表さんとす。

18. *Aletris foliata* Franch. ねばりのぎらん、あぞのそくしんらん

本種は石狩、膽振等の泥炭地及び本州中部以北の諸高山に産す。其一變種は中央支那にありと云ふ。

19. *Liriope minor* Makino. ひめやぶらん

北海道にては渡島、日高の温暖なる地方の海岸砂地に生ず。

20. *Lloydia triflora* Bak. ほそほのあまな

本道に於ては渡島、石狩、日高、十勝、千島及び禮文島に産し、樺太に於ては南北を通じて之れを産す。

21. *Allium lineare* L. からふとらつきやう (新稱)

本種は本邦にありては、樺太北部にのみ産す。繖形頭狀花序は多数の花より成り、雄蕊は其長さ花被

の二倍に達し、兩側に各一個の長き單一にして鋭尖頭を有する鋸齒狀附屬物あり、其の附屬物の長さは殆んど花被に等しきか又はこれより少しく長し。東部歐露、西比利亞、滿洲等に分布す。

22. *Allium strictum* Schrad. みやまらつきやう (新稱)

本種は北海道の諸高山、北千島及び樺太に産す。繖形頭狀花序は比較的小にして、小數の鮮紅色を呈せる小花より成る。雄蕊は花被と稍等長。花絲の基部にある附屬體は其長さ花被の約三分の一、尖端鈍頭、概ね全縁なれども時に小なる鋸齒を有することあり。分布最も廣くして歐洲、小亞細亞、波斯及び西比利亞に生ず。

23. *Allium splendens* Willd. ちしまらつきやう

北海道本島、千島及び樺太を通じて最も普通なる種にして、繖形頭狀花序は比較的大にして多數の花より成り、一見前者と區別し得べし。雄蕊は抽出するもからふとらつきやうの如く甚だしからず。花絲の基部にある附屬物はからふとらつきやうとみやまらつきやうとの中間にあり、其長さ花被の約二分の一、其尖端は概ね不規則に尖裂す。本種は西比利亞、滿洲、朝鮮、勘察加、樺太及び北海道に産す。

北海道産ちやぼぜきしやう屬檢索表

- | | | | |
|----|---|--|----------|
| 1. | { | 花梗は直立又は斜上、眞直にして低頭せず | 2 |
| | { | 花梗は開出し、多少低頭す | 3 |
| 2. | { | 花梗は短厚、蒴より短し。蒴は卵狀圓嚢形、花柱は短厚。花被の各片は一脈を有し其長さは蒴より短し | ひめいはしやうぶ |
| | { | 花梗は長細、蒴より長し。蒴は殆んど球形、花柱は長細。花被の各片は概ね三脈を有し、其長さ殆んど蒴と等長 | えにはぜきしやう |
| 3. | { | 花序は稍粗。蒴は橢圓形 | あほいぜきしやう |
| | { | 花序は多少密。蒴は殆んど球形、廣倒卵形、又は球狀倒圓錐形 | 4 |
| 4. | { | 花序は稠密。花被の各片は概ね一脈を有す。蒴は概ね黃白色。柱頭は顯著 | ちしまぜきしやう |
| | { | 花序は稍密。花被の各片は概ね三脈を有す。蒴は帶黑色又は黒紫色。柱頭は顯著ならず | くろみぜきしやう |

24. *Tofieldia Okuboi* Makino. ひめいはしやうぶ

本種は從來本州の高山並に南千島に於て發見せられたるものなるも、今回の調査にして北海道本島より檢出し得たり。其の産地は十勝岳及び夕張岳なりとす。

25. *Tofieldia yezoensis* Miyabe et Kudo. えにはぜきしやう (新稱)

はなぜきしやう *Tofieldia nuda* Maxim. に最も近き種類なりと雖も、下記の諸點によりて區別することを得べし。葉は九脈を有し、其内五脈は顯著にして葉面に粗造なり。花梗は蒴果の一倍乃至一倍半、花被は線狀倒披針形、三脈を有し、其側脈は顯著ならず。蒴果は殆んど球形なり。膽振國惠庭山に産す。

26. *Tofieldia Kondoi* Miyabe et Kudo. あぼいぜきしやう (新稱)

本種は前種に類似する種類なれども其異なる主なる點を挙げば右の如し。花梗は太くして開出し其尖端必ず低頭し、殆んど蒴果に等しき長さを有すること、花被の各片は筈狀長橢圓形にして判然たる三脈を有すること、及び蒴果の廣橢圓形を呈すること等なり。本種は日高國樺皮郡アボイ山に於て近藤金吾氏初めて採集されたるを以て *Tofieldia Kondoi* あぼいぜきしやうと命名したり。

27. *Tofieldia nutans* Willd. ちしまぜきしやう

莖は柔弱。花序は花時にありては稠密、橢圓形又は長橢圓形、結實後は狭圓壺形を呈す。花梗は開出低頭し、蒴果より稍短し。花被の各片は筈狀長橢圓形、白色又は黄白色、概ね一脈を有す。花柱は稍長くして其尖端に顯著なる柱頭を有す。本邦に於ける其分布は樺太、千島、北海道本島及び本州の北部及び中部の諸高山に亘る。

28. *Tofieldia fusca* Miyabe et Kudo. くろみぜきしやう (新稱)

花序は多少粗にして長橢圓狀圓壺形又は橢圓形を呈し、花被の各片は綠色にして其上方は黒紫色又は赭黃色を帶ぶ。蒴果は帶黑色又は帶黒紫色。花柱は短く、柱頭は顯著ならず。本種は始めて石狩國夕張岳に於て西田彰三、柳澤秀雄、濱名有實の三氏により採集せられたるものにして、尙本種と認定せらるべきものは信濃白馬山にも産す。

北見國利尻島利尻山頂に産するものは本種の一品種りしりぜきしやうにして、之れに *Tofieldia fusca* Miyabe et Kudo form. *rishiriensis* Miyabe et Kudo の名を附せり。該品種は標準種より著しく小形にして花序は稠密にして橢圓形若くは殆んど球形を呈す。其他の性質に於てはくろみぜきしやうと一様なり。