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A PROVISIONAL LIST OF FUNGI COLLECTED IN SOUTHERN SAGHALIEN

BY

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南樺太採集菌類目錄

河合克己・大谷廣直

On account of the great diversity of the phanerogamic flora the Southern Saghalien offers an especially attractive field to the students of the parasitic fungi. About twenty years ago, Prof. Emer. Dr. KINGO MIYABE and Messrs. TSUTOME MIYAKE and TETSUO MIYAGI made a quite extensive collection of fungi of the Island, and their specimens were deposited in the Herbarium of the Faculty of Agriculture, Hokkaido Imperial University. Following this, several collections were made by the members of the Phytopathological Laboratory of the same Faculty year by year. Among them, some of rust fungi were reported by Mr. NAOHIDE HIRATSUKA,* most of which was collected by himself.

In the late summer of 1929, Mr. YOSHIO TOKUNAGA and the senior author made a botanical collection along the western coast of the Southern Saghalien, and in the next summer the junior author with Mr. YÛZABURÔ IMAI collected many flowering plants and fungi along its eastern coast. In these excursions, a large number of fungi was collected, among which some unrecorded or new

* A provisional list of the Melampsoraceae of Saghalien. (Bot. Mag. Tokyo, XLII, p. 26-32, 1928)
Additional notes on the Melampsoraceae of Saghalien. (Transact. Sapporo Nat. Hist. Soc. X, p. 119-121, 1929)

Notes on the Melampsoraceae collected in the so-called "Tsundra" near Shikka, S. Saghalien. (Jour. Soc. Agr. & For. Sapporo, XXI, p. 56-63, 1929. *In Japanese*)

Erster Beitrag zur Uredineen-Flora von Südsachalin. (Mem. Tottori Agr. Coll. I, p. 63-98, 1930)
[Transact. Sapporo Nat. Hist. Soc., Vol. XI, Pt. 4, 1931]

species were found. The present paper was intended to enumerate not only rusts, but also downy mildews, smuts and powdery mildews collected by the writers.

The genera are listed alphabetically under each family and the species under genus similarly. Under each host a list of the specimens is given with locality and date. In order to avoid prolix repetition, eastern coast is designated as E. C., and western coast as W. C. Moreover, the names of the collectors are omitted because it can be assumed that the collection of the eastern coast was made by H. ÔTANI and Y. IMAI, and that of the western coast by Y. TOKUNAGA and K. KAWAI.

The writers wish to express here their sincere thanks to Prof. Emer. Dr. K. MIYABE, Profs. S. ITO and Y. TOCHINAI for their valuable suggestions and critical advices, and to Mr. M. TATEWAKI for determination of some of the hosts. They are also greatly indebted to Messrs. Y. TOKUNAGA and Y. IMAI who have given so many helps during the excursions and the privilege to publish freely the present paper.

PHYCOMYCETES

Albuginaceæ

1. *Albugo candida* (PERS.) O.KUNTZE

On *Arabis pendula* L. (*Yezohatazao*). E. C.-Higashi-Taraika (July 23, 1930). On *Arabis Stelleri* DC. var. *japonica* FR. SCHM. (*Hamahatazao*). E. C.-Horo (July 11, 1930), Shikka (July 19, 1930). W. C.-Anbetsu (Sept. 2, 1929). On *Brassica Napus* L. (*Seiyô-aburana*). W. C.-Tei (Aug. 13, 1929).

Peronosporaceæ

2. *Bremia Lactucae* REGEL

On *Picris japonica* THUNB. (*Kôzorina*). W.C.-Kita-Nayoshi (Aug. 30, 1929).

3. *Peronospora alta* FÜCK.

On *Plantago major* L. var. *asiatica* DECNE. (*Ôbako*). E.C.-Horo (July 11, 1930). W.C.-Kita-Nayoshi (Aug. 30, 1929).

4. *Peronospora flava* GÄUM.

On *Linaria japonica* MIQ. (*Unran*). E.C.-Higashi-Taraika (July 23, 1930).

5. *Peronospora Galii* FUECK.

On *Galium trifidum* L. (*Hosobano-yotsubamugura*). E.C.-Shikka (July 19, 1930), Higashi-Taraika (July 23, 1930). On *Galium trifloriforme* KOM. (*Kurumanugura*). W.C.-Kita-Nayoshi (Aug. 28, 1929).

6. *Peronospora Lamii* A. BRAUN.

On *Galeopsis Tetractis* L. (*Chishima-odoriko*). E.C.-Konuma (July 9, 1930).

7. *Peronospora lapponica* LAGERH.

On *Euphrasia Maximowiczii* WETST. (*Tachikogomogusa*). E.C.-Shikka (Aug. 7, 1930).

8. *Peronospora Lathyrj palustris* GÄUM.

On *Lathyrus palustris* L. var. *piosus* LEDEB. (*Yezo-renrisô*). E.C.-Shikka (July 22, 1930).

9. *Peronospora media* GÄUM.

On *Stellaria yezoensis* MAXIM. (*Shiraoi-hakobe*). W.C.-Kita-Nayoshi (Aug. 30, 1929).

10. *Peronospora minor* (CASP.) GÄUM.

On *Atriplex Patula* L. (*Hama-akaza*). E.C.-Akashiki (Aug. 31, 1929).

11. *Peronospora Pedicularis* PALM.

On *Pedicularis resupinata* L. (*Shiogamagiku*). E.C.-Higashi-Taraika (July 23, 1930).

12. *Peronospora parasitica* (PERS.) FRIES.

On *Cardamine impatiens* L. (*Janinjn*). W.C.-Anbetsu (Sept. 4, 1929), On *Nasturtium palustre* DC. (*Sukashitagobô*). E.C.-Aba (July 31, 1930)

13. *Peronospora variabilis* GÄUM.

On *Chenopodium album* L. var. *centrorubrum* MAKINO (*Akaza*). E.C.-Shikka (July 22, 1930), Motodomari (Aug. 27, 1930). W.C.-Esutori (Aug. 27, 1929)

14. *Plasmopara pygmaea* (UNG.) SCHRÖET.

On *Anemone debilis* FISCH. (*Himeichige*). E.C.-Horo (July 11, 1930)

15. *Rhysotheca Umbelliferarum* (CASP.) WILSON

On *Angelica Maximowiczii* BENTH. (*Hosoba-senkiu*). E.C.-Mt. Tosso (Aug. 9, 1930). On *Angelica anomala* LALLEM. (*Yezono-yoroigusa*). E. C.-Horo (July 11, 1930). On *Ligusticum scoticum* L. (*Maru-a-tôki*). W.C.-Kita-Nayoshi (Aug. 28, 1929).

BASIDIOMYCETES

Ustilaginaceæ

16. *Cintractia Caricis* (PERS.) MAGNUS

On *Carex Arenelli* CHRIST. (*Aizu-suge*). E.C.-Higashi-Taraika (July 23, 1930) On *Carex caryophyllea* LATOJR. subsp. *nervata* KUK. (*Shiba-suge*). E.C.-Shikka (July 19, 1930), Higashi-Taraika (July 23, 1930)

17. *Sphacelotheca Polygoni-senticosi* (P. HENN.) MIYABE et TAKAHASHI

On *Polygonum sagittatum* L. var. *sibiricum* MEISN. (*Unagi-zukami*). W.C.-Kita-Nayoshi (Aug. 30, 1929).

18. *Ustilago Avenae* (PERS.) JENS.

On *Avena sativa* L. (*Enbaku*). W.C.-Kita-Nayoshi (Aug. 27, 1929)

19. *Ustilago echinata* SCHROET.

On *Phalaris arundinacea* L. (*Kusayoshi*). W.C.-Akashiki (Aug. 31, 1929)

20. *Ustilago utriculosa* TUL.

On *Polygonum Hydropiper* L. var. *vulgare* MEISN. (*Yanagi-tade*). E.C.-Manui (Sept. 7, 1929), W.C.-Kita-Nayoshi (Aug. 27, 1929)

Tilletiaceæ

21. *Urocystis Junci* LAGERH.

On *Juncus balticus* WILLD. var. *Haenkei* BUCH. (*Ôinui*). E.C.-Shikka (July 18, 1930)

Pucciniaceæ

22. *Miyagia Anaphalidis* MIYABE

On *Anaphalis margaritacea* BENTH. et HOOK. (*Yama-hakako*). E.C.-Mt. Tosso (Sept. 8, 1929). W.C.-Kita-Nayoshi (Aug. 27, 1929), Anbetsu (Sept. 2, 1929)

23. *Phragmidium americanum* (PECK.) DIET.

On *Rosa Marretii* LÉVEL. (*Karafuto-bara*). E.C.-Higashi-Taraika (July 23, 1930) W.C.-Kita-

Nayoshi (Aug. 27, 1929), Anbetsu (Sept. 2, 1929)

24. *Phragmidium arcticum* LAGERH.

On *Rubus arcticus* L. (*Chishima-Ichigo*). E.C.-Shikka (July 18, 1930)

25. *Phragmidium Rosae-acicularis* LIRO

On *Rosa acicularis* LINDL. var. *Gmelini* SCHNEID. (*Ôtakane-bara*). E.C.-Horo (July 11, 1930)

26. *Phragmidium Rubi-Idaei* (PERS.) KARST.

On *Rubus idaeus* L. var. *aculeatissimus* Rgl. (*Yezo-ichigo*). E.C.-Manui (Sept. 7, 1929), Mt. Kashipo (Sept. 9, 1929)

27. *Phragmidium yezoense* KASAI

On *Rosa rugosa* THUNB. (*Hamanasu*). E.C.-Shikka (July 18, 1930)

28. *Puccinia Absinthii* DC.

On *Artemisia vulgaris* L. var. *kamtschatica* BESS. (*Yezo-yomogi*). E.C.-Mt. Tosso (Sept. 8, 1929), Manui (Sept. 7, 1929). W.C.-Kita-Nayoshi (Aug. 28, 1929)

29. *Puccinia Acetosae* (SCHUM.) KOERN.

On *Rumex Acetosella* L. (*Hime-suiŝa*). W.C.-Kita-Nayoshi (Aug. 30, 1929)

30. *Puccinia agropyrina* ERIKSS.

On *Agropyron repens* BEAUV. (*Shiba-mugi*). E.C.-Toyohara (Sept. 5, 1929)

31. *Puccinia Agrostidis* PLOWR.

On *Agrostis hiemalis* B. S. P. (*Yezo-nukabo*). W.C.-Kita-Nayoshi (Aug. 28, 1929). On *Agrostis perenans* TUCKERN (*Yama-nukabo*). W.C.-Kita-Nayoshi (Aug. 28, 1929)

32. *Puccinia Allii* (DC.) RUD.

On *Allium splendens* WILLD. (*Chishima-rakkyô*). E.C.-Mt. Tosso (Sept. 8, 1929. Aug. 9, 1930). W.C.-Akashiki (Aug. 31, 1929)

33. *Puccinia Angelicae* (SCHUM.) FUECK.

On *Angelica refracta* FR. SCHM. (*Yezono-ôbasenkyu*). E.C.-Konuma (Aug. 5, 1930). W.C.-Kita-Nayoshi (Aug. 29, 1929)

34. *Puccinia Angelicae-edulis* T. MIYAKE

On *Angelica edulis* MIYABE (*Amaniu*). W.C.-Kita-Nayoshi (Aug. 29, 1929). On *Angelica anomala*

LALLEM (*Yezono-yoroigusa*). E.C.-Mt. Tosso (Sept. 8, 1929) W.C.-Tsumanai (Sept. 8, 1929). On *Angelica ursina* BENTH. et HOOK. (*Yezoni*). E.C.-Mt. Tosso (Sept. 8, 1929. Aug. 8, 1930), Mt. Kashipo (Sept. 6, 1929). W.C.-Akashiki (Aug. 31, 1929), Anbetsu (Sept. 3, 1929), Kita-Nayoshi (Aug. 28, 1929), Tsumanai (Sept. 3, 1929)

35. *Puccinia Arenariae* (SCHUM.) WINT.

On *Stellaria media* CYR. (*Hakobe*). W.C.-Kita-Nayoshi (Aug. 28, 1929)

36. *Puccinia argentata* (SCHULTZ) WINT.

On *Impatiens Noli-tangere* L. (*Kitsurifune*). E.C.-Konuma (Aug. 5, 1930). W.C.-Kita-Nayoshi (Aug. 28, 1929), Akashiki (Aug. 31, 1929), Anbetsu (Sept. 2, 1929)

37. *Puccinia asarina* KZE.

On *Asarum Sieboldi* MIQ. (*Usuba-saishin*). E.C.-Konuma (July 10, 1930)

38. *Puccinia brevicornis* S. ITO

On *Calamagrostis Langsdorffii* TRIN. (*Iwanogariyasu*). E.C.-Kurokawa (July 9, 1930)

39. *Puccinia Bupleuri-falcata* (DC.) WINT.

On *Bupleurum sachalinense* FR. SCHM. (*Hotarusaike*). W.C.-Kita-Nayoshi (Aug. 28, 1929)

40. *Puccinia calumnata* SYD.

On *Polygonum Weyrichii* FR. SCHM. (*Urajiro-tade*). E.C.-Mt. Tosso (Sept. 8, 1929) Manui (Sept. 8, 1929)

41. *Puccinia Calthaeicola* SCHROET.

On *Caltha palustris* L. var. *typica* REGEL. (*Yezo-ryukinka*). E.C.-Konuma (July 9, 1930)

42. *Puccinia Caricis* (SCHUM.) REB.

On *Carex Lyngbyei* HORNEM. (*Yarame-suge*). E.C.-Horo (July. 11, 1930). Konuma (Aug. 8, 1930). On *Carex laevirostris* BLYTT (*Ôkasasuge*). W.C.-Kita-Nayoshi (Aug. 28, 1929). On *Carex Gmelini* HK. et ARN. (*Nemuro-suge*). W.C.-Kita-Nayoshi (Aug. 31, 1929). On *Carex pisiformis* BOTT. var. *sachalinensis* KUK. (*Ôito-suge*). E.C.-Horo, Kurokawa (July 10, 1930)

43. *Puccinia Clintoniae-udensis* BUBÁK

On *Ciintonia udensis* TRAUTV. et MEY. (*Tsubame-omoto*). E.C.-Mt. Kashipo (Sept. 9, 1929)

44. *Puccinia Chrysosplenii* GREV.

On *Chrysosplenium flagelliferum* FR. SCHM. (*Kobano-nekonomesô*). W.C.-Anbetsu (Sept. 2, 1929)

45. *Puccinia Cicutae* LASCH

On *Cicuta virosa* L. (*Dokuzeri*). E.C.-Konuma (Aug. 8, 1930)

46. *Puccinia Cirsii* LASCH

On *Cirsium Weyrichii* MAXIM. (*Tani-azami*). W.C.-Kita-Nayoshi (Aug. 28, 1929). On *Cirsium pectinellum* A. GRAY var. *typicum* NAKAI (*Yezono-sawaazami*). W.C.-Anbetsu (Sept. 2, 1929)

47. *Puccinia Circaeae* PERS.

On *Circaea alpina* L. (*Miyama-tanidade*). E.C.-Mt. Kashipo (Sept. 8, 1929). W.C.-Kita-Nayoshi (Aug. 29, 1929), Akashiki (Aug. 31, 1929), Anbetsu (Sept. 2, 1929)

48. *Puccinia Eriophori* THUEM.

On *Eriophorum vaginatum* L. (*Watasuge*). E.C.-Kurokawa (July 10, 1930)

49. *Puccinia ferruginosa* SYD.

On *Artemisia vulgaris* L. var. *kamtschatica* BESS. (*Yezo-yomogi*). E.C.-Konuma (Aug. 5, 1930). W.C.-Kita-Nayoshi (Aug. 28, 1929)

50. *Puccinia Haleniae* ARTH. et HOLW.

On *Halenia sibirica* BORKH. (*Hanaikari*). E.C.-Mt. Tosso (Sept. 2, 1929. Aug. 9, 1930). W.C.-Kita-Nayoshi (Aug. 27, 1929), Akashiki (Aug. 31, 1929), Anbetsu (Sept. 2, 1929)

51. *Puccinia Hemerocallidis* THUEM.

On *Hemerocallis Middendorffii* TRAUTV. et. MEY. (*Yezo-kwanzô*). E.C.-Higashi-Taraika (July 23, 1930), Toyohara (Aug. 9, 1930). W.C.-Anbetsu (Sept. 2, 1929)

52. *Puccinia Hieracii* (SCHUM.) MART.

On *Hieracium umbellatum* L. (*Yanagi-tampofo*). E.C.-Shikka (July 20, 1930), Mt. Tosso (Aug. 9, 1930), Toyohara (Aug. 12, 1930). W.C.-Kita-Nayoshi (Aug. 29, 1929)

53. *Puccinia Iridis* (DC.) WALLR.

On *Iris setosa* PALL. (*Hidgi-ayame*). W.C.-Akashiki (Aug. 31, 1929).

54. *Puccinia lactucicola* MIURA

On *Lactuca sibirica* BENTH. (*Yezo-murasaki-nigana*). E.C.-Konuma (Aug. 5, 1930) Manui (Sept. 2, 1929), Mt. Tosso (Sept. 8, 1929). W.C.-Kita-Nayoshi (Aug. 29, 1929), Anbetsu (Sept. 2, 1929)

55. *Puccinia ligusticicola* T. MIYAKE

On *Ligusticum scoticum* L. (*Maruba-tôki*). W.C.-Kita-Nayoshi (Aug. 30, 1929) Akashiki (Aug. 31, 1929)

56. *Puccinia leioderma* LINDR.

On *Aegopodium alpestre* LEDEB. (*Yezo-bôfû*). W.C.-Akashiki (Aug. 31, 1929)

57. *Puccinia Magnusiana* KOERN.

On *Phragmites communis* TRIN. (*Kitayoshi*). W.C.-Akashiki (Aug. 31, 1929)

58. *Puccinia Majanthemi* DIET.

On *Majanthemum dilatatum* NELS. et MACBR. (*Ômaizurusô*). E.C.-Konuma (July 9, 1930), Shikka (July 22, 1930), Higashi-Taraika (Aug. 9, 1930), Tominai (Aug. 5, 1930), Tosso (Aug. 9, 1930). W.C.-Kita-Nayoshi (Aug. 27, 1929)

59. *Puccinia Passerinii* SCHROET.

On *Thesium repens* LEDEB. (*Kamayarisô*). E.C.-Horo (July 11, 1930)

60. *Puccinia Phragmitis* (SCHM.) KOERN.

On *Phragmites communis* TRIN. (*Kitayoshi*). E.C.-Manui (Sept. 7, 1929)

61. *Puccinia Picridis* HAZSL.

On *Picris japonica* THUNB. (*Kôzorina*). W.C.-Kita-Nayoshi (Aug. 28, 1929)

62. *Puccinia Poarum* NIELS.

On *Poa sphondylodes* TRIN. var. *strictula* KOIZ. (*Ichigo-tsunagi*). E.C.-Konuma (July 9, 1930), Shikka (July 22, 1930), Higashi-Taraika (July 23, 1930)

63. *Puccinia Polygoni-Weyrichii* MIYAKE in sched. n. sp.

Spermogonia and aecidia unknown.

Uredosori hypophyllous, small ($\frac{1}{3}$ – $\frac{1}{2}$ mm.), scattered, roundish, naked, powdery, ferruginous; uredospores globoid, ovoid or ellipsoidal, echinulate, yellowish or subhyaline, $21\text{--}32 \times 18\text{--}25 \mu$, wall ca. 2.5μ , with often thickened apex ($5\text{--}7 \mu$), germ-pores 2 in the lower half. Teleutosori hypophyllous, small ($\frac{1}{3}$ – 1 mm.), roundish, scattered or gregarious, early naked, compact, brown to black; teleospores ellipsoidal, broad ellipsoidal or oblong-clavate, sometimes irregular in

shape, rounded at both ends, not thickened above, slightly or not constricted at the septum, smooth or with few minute warts, chestnut-brown, $27-45 \times 15-26 \mu$,



Fig. 1.

Puccinia Polygoni-Weyrichii MIYAKE

wall $2-2.5 \mu$ thick, germ-pore of the upper cell mostly apical, rarely just above the septum, that of the lower just below the septum, without or with flattened hyaline papilla on them; pedicels hyaline, short, fragile.

On *Polygonum Weyrichii* FR. SCHM. (*Urajiro-tade*). E.C.-Mt. Kashipo (Aug. 20, 1929). W.C.-Akashiki (Aug. 31, 1929). Anbetsu (Sept. 2, 1929).

Remarks. The present species somewhat relates to *Puccinia calumnata* SCHROET. and *Puccinia nitidula* TRANZ. but it differs from them by the position of the germ-pore of the lower cell of the teleutospore.

64. *Puccinia punctata* LINK

On *Asperula odorata* L. (*Kurumabasô*). E.C.-Tosso (Aug. 31, 1929). On *Galium verum* L. (*Kawara-matsuba*). E.C.-Tosso (Sept. 31, 1929). W.C.-Akashiki (Aug. 31, 1929), Anbetsu (Sept. 2, 1929)

65. *Puccinia Ribis* DC.

On *Ribes rubrum* L. var. *pubescens* SWARTZ. (*Karafuto-suguri*). W.C.-Tsumanai (Aug. 31, 1929)

6. *Puccinia Rubiae-tataricae* SYD.

On *Veratrum album* L. var. *Lobelianum* REICH. f. *japonica* BAK. (*Baikeisô*). E.C.-Higashi-Ta-raika (July 22, 1930)

67. *Puccinia sessilis* SCHNEID.

On *Phalaris arundinacea* L. var. *genuina* HACKEL (*Kusayoshi*). E.C.-Manui (Sept. 7, 1929). W.C.-Kita-Nayoshi (Aug. 29, 1929), Anbetsu (Sept. 2, 1929)

68. *Puccinia Sonchi-arvensis* TOKUNAGA & KAWAI, n. sp.

Teleutosori hypophyllous, very rarely epiphyllous, small (0.2-0.5 mm.), roundish, isolated or densely gregarious in roundish or elongated groups up to 3 mm. across or 6 mm. long along the veins with conspicuous purple spots, early naked, ruptured epidermis not so conspicuous, sometimes confluent, compact pulvinate, blackish-brown. Teleutospores clavate or oblong, apex rounded

or obtusely pointed acute, thickened ($6-11\ \mu$), base rounded or attenuated, slightly constricted at the septum, smooth, chestnut-brown, darker at apex, $39-61 \times$

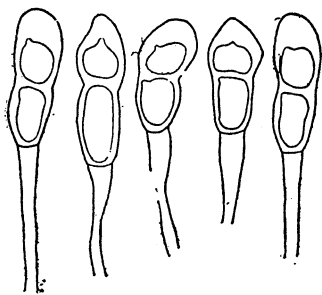


Fig. 2.

Puccinia Sonchi-arvensis
TOKUNAGA & KAWAI

$17-20\ \mu$, germ-pore of the upper cell at the apex, that of the lower just below the septum; pedicels hyaline, $30-66\ \mu$ long, persistent.

On *Sonchus arvensis* L. var. *uliginosus* TRAUTV. (*Hachijōna*) W.C.-Kita-Nayoshi (Aug. 28, 1929).

Remarks. The present fungus clearly differs from *Puccinia Sonchi* ROB. by the absence of paraphyses and the early naked sori. It is also distinguishable from *Puccinia sonchina* SYD. by the smooth epispore.

69. *Puccinia Spergulae* DC.

On *Spergula arvensis* L. (*Ōtsumekusa*). E.C.-Konuma (July 9, 1930)

70. *Puccinia Tokunagai* ITO et KAWAI, n. sp.

Teleutosori hypophyllous or on bracts, small, roundish ($0.4-0.8$ mm. across), scattered or gregarious in roundish groups ($2-4$ mm. across), with brownish discolored spot, black, early naked but covered by the hairs of the host plant, rather inconspicuous, compact. Teleutospores clavate or long ellipsoidal, apex slightly constricted at the septum, smooth, chestnut-brown, upper cell darker in color, $48-80 \times 20-29\ \mu$, germ-pore of the upper cell at the apex, that of the lower just below the septum; pedicels hyaline or subhyaline, fragile, up to $35\ \mu$ long; mesospores rarely mixed in the sori.

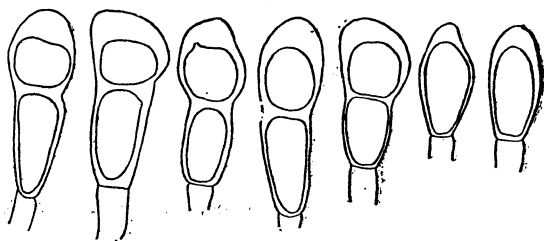


Fig. 3.

Puccinia Tokunagai ITO et KAWAI

On *Leontopodium sachalinense* MIYABE et KUDO (*Yezo-usuyukisō*). E.C.-Mt. Tosso (Sept. 8, 1929)

71. *Puccinia tosoensis* TOKUNAGA & KAWAI n. sp.

Uredosori epiphyllous, small ($0.2-0.5$ mm. across), roundish, scattered, early

naked, pulverulent, blackish-brown. Uredospores ovate, ovate-oblong or ellipsoidal, echinulate, yellow or orange-yellow, $28-36 \times 25-27 \mu$, epispore $2-2.5 \mu$ thick, slightly thickened at the base, germ-pores 2 or 3, equatorial. Teleutosori mostly epiphyllous, early naked, surrounded by the ruptured epidermis, pulverulent, black. Teleutospores globoid, ovoid or broadly ellipsoidal, slightly or not thickened at the apex (ca. 5μ) with lighter colored papilla, rounded at the both ends, slightly or not constricted at the septum, verrucose, chestnut-brown, $32-41 \times 26-36 \mu$, epispore $2-3 \mu$; germ-pore of the upper cell at the apex, that of the lower at the upper half, with small lighter colored papilla on the lower one; pedicels short, hyaline, subdeciduous.

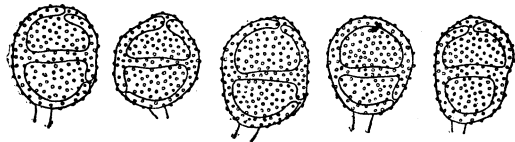


Fig. 4.

Puccinia tosoensis TOKUNAGA & KAWAIOn *Serratula atripricifolia*

BENTH. et HOOK. (*Karafuto-yamabokuchi*) E.C.-Mt. Tosso (Sept. 8, 1929), Mt. Kashipo (Sept. 9, 1929)

Remarks. The present species somewhat relates to *Puccinia tinctoriae* P. MAGN. but it differs clearly by the broader teleutospore.

72. *Puccinia Veratri* NIESSL

On *Veratrum album* L. var. *Lobelianum* REICH. f. *japonica* BAK. (*Baikeisô*) E.C.-Higashi-Tarai-ika (July 23, 1930)

73. *Puccinia Violae* (SCHUM.) DC.

On *Viola sylvestriformis* W. BECKR. (*Ainu-tachitsubosumire*). E.C.-Tosso (Sept. 8, 1929), Toyohara (Aug. 12, 1930)

74. *Rostrupia Elymi* (WEST.) LAGERH.

On *Elymus mollis* TRIN. (*Tenkigusa*). W.C.-Akashiki (Aug. 31, 1929), Anbetsu (Sept. 2, 1929), On *Elymus dahuricus* TURCZ. (*Hamamugi*). W.C. Anbetsu (Sept. 2, 1929)

75. *Uromyces caryophyllinus* (SCHRANK) WINT.

On *Dianthus superbus* L. (*Kawara-nadeshiko*). E.C.-Mt. Tosso (Sept. 8, 1929)

76. *Uromyces Fubae* (PERS.) DE BARY

On *Lathyrus maritimus* (L.) BIGEL. (*Hamaendô*). E.C.-Mt. Tosso (Sept. 8, 1929), Shikka (July

19, 1930). On *Lathyrus palustris* L. var. *pilosus* LEDEB. (*Yezono-renrisô*). E.C.-Kashipo (Sept. 7, 1929). W.C.-Akashiki (Aug. 31, 1929). On *Vicia japonica* A. GRAY (*Hiroha-kusafujû*). W.C.-Akashiki (Aug. 31, 1929)

77. *Uromyces Geranii* (DC.) OTTH et WARTM.

On *Geranium erianthum* DC. (*Chishima-furô*). W.C.-Anbetsu (Sept. 2, 1929)

78. *Uromyces Hedysari-obscuri* (DC.) CAR. et PICC.

On *Hedysarum obscurum* L. (*Chishima-rengé*). E.C.-Mt. Tosso (Sept. 8, 1929), Mt. Koshipo (Sept. 9, 1929)

79. *Uromyces japonicus* BERK. et CURT.

On *Allium Victoriae* L. (*Gyôja-ninniku*). E.C.-Kurokawa (July 23, 1930)

80. *Uromyces Polygoni* (PERS.) FUCK.

On *Polygonum aviculare* L. (*Michiyanagi*). E.C.-Higashi-Taraika (Sept. 4, 1929)

81. *Uromyces Veratri* (DC.) SCHROET.

On *Veratrum album* L. var. *Lobelianum* REICHE. f. *japonica* BAK. (*Baikeisô*) E.C.-Mt. Kashipo (Sept. 9, 1929), Higashi-Taraika (July 23, 1930), Chikahoro (Sept. 7, 1930)

82. *Xenodochus carbonarius* (WINT.) SCHLECHT.

On *Sanguisorba tenuifolia* FISCH. var. *alba* TRAUTV. et MEY. (*Shiro-waremokô*) E.C.-Shikka (Aug. 7, 1930), Kurokawa (July 10, 1930). W.C.-Kita-Nayoshi (Aug. 28, 1929)

Melampsoraceae

83. *Calyptospora Goeppertiana* KÜHN

On *Vaccinium Vitis-Idaea* L. (*Kokemomo*). E.C.-Mt. Kashipo (Sept. 7, 1929), Mt. Tosso (Sept. 9, 1929), Shikka (July 16, 1930), Horo (July 11, 1930). W.C.-Anbetsu (Sept. 2, 1929). On *Abies sachalinensis* FR. SCHM. (*Todomatsu*). E.C.-Konuma (July 9, 1930), Shikka (July 20, 1930)

84. *Chrysomyxa alpina* HIRATS.

On *Rhododendron chrysanthum* PALL. (*Kibana-shakunage*). E.C.-Mt. Kashipo (Sept. 9, 1929), Mt. Tosso (Aug. 9, 1930)

85. *Chrysomyxa Cassandrae* (PECK. et CLINT.) TRANZ.

On *Chamaedaphne calyculata* MOENCH. (*Horomui-tsutsuji*). E.C.-Shikka (July 20, 1930)

86. *Chrysomyxa Ledi* (ALB. et SCHW.) DE BARY

On *Ledum palustre* L. var. *diversifoliosum* NAKAI (*Karafuto-isotsutsuji*). E.C.-Kurokawa (July 10, 1930). On *Ledum palustre* L. var. *vulgare* LEDEB. (*Hosoba-isotsutsuji*). E.C.-Shikka (July 20, 1930)

87. *Coleosporium Cacaliae* OTTH.

On *Cacalia hastata* L. var. *glabra* LEDEB. (*Yobusumasô*). W.C.-Anbetsu (Sept. 2, 1929). On *Cacalia auriculata* DC. var. *ochotensis* MAXIM. (*Karafuto-mimikômoni*). E.C.-Mt. Tosso (Sept. 8, 1929), Mt. Kashipo (Sept. 9, 1929)

88. *Coleosporium cimicifugatum* THUEM.

On *Cimicifuga yezoensis* KUDO (*Yezoshôma*). E.C.-Mt. Kashipo (Sept. 9, 1929), Mt. Tosso (Sept. 8, 1929) Mt. Tosso (Sept. 8, 1929)

89. *Coleosporium Ligulariae* THUEM.

On *Ligularia calthaeifolia* MAXIM. (*Takarakô*). E.C.-Mt. Kashipo (Sept. 9, 1929). W.C.-Akashiki (Aug. 31, 1929)

90. *Coleosporium Saussureae* THUEM.

On *Saussurea acuminata* TURCZ. (*Tonakai-azami*). E.C.-Mt. Kashipo (Sept. 9, 1930). On *Saussurea manshurica* KOM. (*Yanone-azami*). W.C.-Akashiki & Anbetsu (Aug. 31, 1929). On *Saussurea nupuripoensis* MIYABE et MIYAKE (*Nupuripo-azami*). E.C.-Mt. Tosso (Sept. 8, 1929). W.C.-Kita-Nayoshi (Aug. 28, 1929). On *Saussurea sachalinensis* FR. SCHM. (*Karafuto-azami*). E.C.-Mt. Tosso (Sept. 8, 1929)

91. *Coleosporium Senecionis* (PERS.) FR.

On *Senecio nemorensis* L. var. *fuchsii* KOCH. (*Hosoba-kion*). W.C.-Anbetsu (Sept. 2, 1929). On *Senecio palmatus* PALL. (*Hangonsô*). E.C.-Mt. Kashipo (Sept. 9, 1929). W.C.-Kita-Nayoshi (Aug. 29, 1929)

92. *Melampsora Larici-Capraearum* KLEB.

On *Salix Bakko* KIMURA (*Bakko-yanagi*). E.C.-Shikka (July 20, 1930)

93. *Melampsoridium Hiratsukanum* ITO

On *Alnus hirsuta* TURCZ. (*Keyama-hannoki*). W.C.-Kita-Nayoshi (Aug. 27, 1929)

94. *Melampsorella Cerastii* (MART.) WINT.

On *Stellaria radians* L. (*Yezo-ôyama-hakobé*). E.C.-Higashi-Taraika (July 23, 1930). W.C.-Anbetsu (Sept. 2, 1929). On *Stellaria longifolia* MÜHLB. (*Yezo-nomino-fusuma*). E.C.-Higashi-Taraika

(July 23, 1930). W.C.-Kita-Nayoshi (Aug. 27, 1929), Akashiki (Aug. 31, 1929)

95. *Mesospora Hypericorum* (DC.) DIET.

On *Hypericum Gebleri* LEDEB. (*Suzuya-tomoe*). E.C.-Konuma (Aug. 5, 1930)

96. *Pucciniastrum Circaeae* (SCHUM.) SPEG.

On *Circaea alpina* L. (*Miyama-tanitate*). E.C.-Mt. Kashipo (Sept. 8, 1929). W.C.-Akashiki (Aug. 31, 1929)

97. *Pucciniastrum pustulatum* (PERS.) DIET.

On *Epilobium angustifolium* L. (*Yanagi-ran*). E.C.-Tosso (Sept. 8, 1929), Mt. Kashipo (Sept. 9, 1929). W.C.-Kita-Nayoshi (Aug. 27, 1929), Anbetsu (Sept. 2, 1929)

98. *Thekopsora Vacciniorum* (DC.) KARST.

On *Vaccinium Vitis-Idaea* L. (*Kokemomo*). E.C.-Mt. Tosso (Sept. 8, 1929), Horo (July 11, 1930), Sakaehama (July 16, 1930)

99. *Thekopsora myrtillina* KARST.

On *Vaccinium Sinaïi* A. GRAY (*Ôba-sunoki*). W.C.-Anbetsu (Sept. 2, 1929)

ASCOMYCETES

Erysiphaceæ

100. *Erysiphe aquilegiae* DC.

On *Aconitum umbrosum* KOM. (*Oreijinso*). W.C.-Tumanai (Sept. 3, 1929). On *Caltha palustris* L. var. *typica* RGL. (*Yezo-ryukinkwa*). E.C.-Konuma (Aug. 5, 1930). On *Ranunculus repens* L. var. *major* NAKAI (*Haikinpôge*). W.C.-Kita-Nayoshi (Aug. 29, 1929). On *Thalictrum Thunbergii* A. P. DC. var. *majus* NAKAI (*Yezo-akikaramatsu*). W.C.-Anbetsu (Sept. 2, 1929)

101. *Erysiphe cichoracearum* DC.

On *Arabis pendula* L. (*Yezo-hatazao*). E.C.-Tei (Aug. 13, 1930). On *Artemisia vulgaris* L. var. *latiloba* L. (*Hiroha-urajiro-yomogi*). E.C.-Tosso (Sept. 8, 1929). On *Artemisia vulgaris* L. var. *kamtschatica* BESS. (*Yezo-yomogi*). E.C.-Toyohara (Sept. 5, 1929). W.C.-Kita-Nayoshi (Aug. 29, 1929). On *Artemisia laciniata* WILLD. var. *latifolia* MAXIM. (*Hiroha-kiku-yomogi*). E.C.-Tosso (Aug. 9, 1930). On *Cirsium schantarense* TRAUTV. et MEY. (*Okuyezo-azami*). W.C.-Kita-Nayoshi (Aug. 27, 1929). On *Cirsium Weyrichii* MAXIM. (*Yezo-azami*). E.C.-Tosso (Aug. 9, 1930). On *Plantago kamtschatica* LINK. (*Yezo-ôbako*). W.C.-Kita-Nayoshi (Aug. 29, 1929). On *Plantago major* L. var. *asiatica* DECNE. (*Ôbako*). E.C.-Konuma (Aug. 5, 1930). W.C.-Kita-Nayoshi (Aug. 29, 1929), Tumanai (Sept. 3, 1929). On

Polemonium coeruleum L. var. *laxiflorum* MIYABE et KUDO (*Karafuto-hanashinobu*). W.C.-Kita-Nayoshi (Aug. 29, 1929). On *Polemonium coeruleum* L. var. *racemosum* MIYABE et KUDO (*Kushiro-hanashinobu*). E.C.-Shikka (Aug. 7, 1930). On *Sonchus arvensis* L. var. *uliginosus* TRAUTV. (*Hachijōna*). E.C.-Konuma (Aug. 5, 1930)

102. *Erysiphe galeopsides* DC.

On *Galeopsis Tetrahit* L. (*Chishima-odoriko*). E.C.-Shikka (July 22, 1930). W.C.-Kita-Nayoshi (Aug. 29, 1929), Anbetsu (Sept. 4, 1929). On *Lamium album* L. var. *barbatum* FRANCH. et SAV. (*Odorikoso*). W.C.-Akashiki (Aug. 31, 1929)

103. *Erysiphe graminis* DC.

On *Agropyron repens* BEAUV. (*Shibamugi*). E.C.-Shikka (July 22, 1930). On *Poa sphondylodes* TRIN. var. *strictula* KOIDZ. (*Ichigotsunagi*). E.C.-Higashi-Taraika (July 23, 1930). On *Trisetum flavescens* BEAUV. var. *genuinum* HACKEL (*Chishima-kanitsurigusa*). E.C.-Higashi-Taraika (July 23, 1930)

104. *Microsphaera Bäumleri* P. MAGN.

On *Vicia japonica* A. GRAY (*Hiroha-kusafuji*). W.C.-Kita-Nayoshi (Aug. 28, 1929) Akashiki (Sept. 3, 1929)

105. *Podosphaera Oxyacanthae* (DC.) DE BARY

On *Crataegus chlorosarca* MAXIM. (*Kuromi-sanzashi*). E.C.-Konuma (Aug. 5, 1930)

106. *Sphaerotheca epilobii* (WALLR.) SACC.

On *Epilobium cephalostigma* HAUSSKN. (*Kegon-akabana*). E.C.-Konuma (Aug. 28, 1930). On *Epilobium glandulosum* LEHM. (*Karafuto-akabana*). E.C.-Konuma (Aug. 5, 1930) W.C.-Kita-Nayoshi (Aug. 28, 1929). On *Epilobium palustre* L. (*Hosoba-akabana*). E.C.-Tominai (Aug. 5, 1930)

107. *Sphaerotheca fuliginea* (SCHLECHT.) POLLAC.

On *Cacalia auriculata* DC. var. *kamtschatica* MAXIM. (*Mimikōmori*). E.C.-Chikahoro (Aug. 9, 1930). On *Cacalia auriculata* DC. var. *ochotensis* MAXIM. (*Karafuto-mimikōmori*). W.C.-Akashiki (Sept. 3, 1929). On *Cacalia hastata* L. var. *pubescens* LEDEB. (*Urage-yobusumasō*). W.C.-Anbetsu (Sept. 3, 1929). On *Cirsium Weyrichii* MAXIM. (*Yezo-azami*). E.C.-Chikahoro (Aug. 9, 1930). On *Filipendula kamtschatica* MAXIM. form. *typica* KOIDZ. (*Oni-shimotsuke*). E.C.-Aba (July 31, 1930), Tominai (Aug. 3, 1930). W.C.-Kita-Nayoshi (Aug. 30, 1929). On *Impatiens Noli-tangere* L. (*Kūsurifune*). E.C.-Chikahoro (Aug. 9, 1930). W.C.-Akashiki (Aug. 31, 1929). On *Pedicularis respinata* L. (*Shiogama-giku*). W.C.-Kita-Nayoshi (Aug. 29, 1929). On *Saussurea manshurica* KOM. (*Yanone-azami*). W.C.-Akashiki (Aug. 31, 1929). On *Senecio nemorensis* L. var. *Fuchsi* KOCH. (*Hosoba-kion*). W.C.-Anbetsu (Sept. 2, 1929)

108. *Sphaerotheca Mors-Uvae* (SCHWEIN.) BERK. et CURT.

On *Euphorbia Sieboldiana* MORR. et DECNE. (*Natsutōdai*). E.C.-Tosso (Aug. 9, 1930)

摘 要

1929年夏著者の一人河合は徳永芳雄氏と共に、南樺太特に其の西海岸地方に於て、植物採集旅行を試み、翌年夏著者の一人大谷は今井勇三郎氏と共に、其の東海岸に於て、顕花植物並に菌類の採集を試みたり。

本報告は此等の旅行に於て採集せる寄生菌類中、藻菌十五種、黒穗菌六種、銹菌七十八種、及びウドン粉菌八種に就いて報告せるものなり。内新種と認めて記載せるものは、次の四種なりとす。

Puccinia Polygoni-Weyrichii MIYAKE

Puccinia Sonchi-arvensis TOKUNAGA et KAWAI

Puccinia Tokunagai ITO et KAWAI

Puccinia tosoensis TOKUNAGA et KAWAI
