Materials for a Rust-Flora of Riukiu Islands. II.*

By

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With 1 Text-figure.

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56. **Hyalopsora Polypodii** (DIET.) MAGNUS in Ber. Deutsch. Bot. Ges. XIX, p. 582, 1901.

Syn. *Pucciniastrum Polypodii* DIETEL in Hedwigia, XXXVIII, p. (260), 1899.

On *Diplazium oshimense* H. ITO (*Shikeshida*). Okinawa Isl.: Motobumura (Kunigami-gun) (April 15, 1940, Y. TAIRA, no. 458). New to Riukiu Islands!

57. **Coleosporium Evodiae** DIETEL in Ann. Myc. VII, p. 355, 1909.

On *Evodia glauca* MIQ. (*Shima-kuroki*). Amami-ôshima Isl.: Sanbô-mura (Oct. 20, 1936, T. TAMOTSU).

58. **Hemileia Gardeniae-floridae** SAWADA in Transact. Nat. Hist. Soc. Formosa, XXI, p. 234, 1931 (*nomen seminudum*); Govern. Res. Inst. Formosa, Dept. Agric. Rept. no. 61, p. 43 & pl. I, figs. 27 & 28, 1933 (*nomen seminudum*); HIRATSUKA, f. & YOSHINAGA in Mem. Tottori Agric. Coll. III, p. 274, 1935.

On *Gardenia jasminoides* ELL. var. *grandiflora* NAKAI (*Kuchinashi*). Amami-ôshima Isl.: Tatsugô-mura (Oct. 15, 1936, T. TAMOTSU).

59. **Skierka Agallocha** RACIBORSKI in Bull. Acad. Sci. Cracovie, Cl. Sci. math. et nat. (1909), p. 275, 1909; MAINS in Mycologia, XXXI, p. 188, 1939; SACCARDO, Syll. Fung. XXI, p. 609; SYDOW, Monogr. Ured. III, p. 332.

Soris uredosporiferis amphigenis, maculis minutis, flavidis vel flavobrunneolis insidentibus, sparsis, laxe aggregatis vel circinatim dispositis, rotundatis, minutissimis, 0.1–0.4 mm diam., diu epidermide tectis, flavobrunneis, brunneis vel atro-brunneis; uredosporis obovatis, oblongis, fusi-formibus vel clavatis, aculeis brevibus crassis laxae aequaliterque obsitis,

* Continued from Vol. LIV, p. 166 (1940).

subhyalinis vel dilute flavis, $47-90 \times 20-43 \mu$, membranis tenuis, lateraliter $5-12 \mu$, formantibus juga, poris germinationis indistinctis.

Hab. On *Excoecaria Agallocha* L. var. *genuina* MÜLL.-ARG. (*Okinawa-jinkô*, *Shimashiraki*). Okinawa Isl.: Nawa-shi (March 15, 1940, Y. TAIRA, no. 398).

The present fungus coincides exactly to the description of *Skierka Agallocha* RACIBORSKI on *Excoecaria Agallocha* from Java in the characters of teleutospores. RACIBORSKI did not describe the uredostage of this fungus, which the writer takes pleasure in supplementary in this paper. This species is new to the mycological flora of our country.

60. **Uromyces Tairae** HIRATSUKA, f. nov. spec.

Text-fig. 1. a & b. *Skierka Agallocha* RAC. on *Excoecaria Agallocha* var. *genuina*—a. Teleutospores; b. Uredospores. c & d. *Uromyces Tairae* HIRATSUKA, f. on *Messerschmidia argentea*—a. Teleutospores. b. Uredospores. e. Teleutospores of *Puccinia levis* (SACC. et BIZZ.) MAGNUS on *Digitaria Henryi*.

Soris uredosporiferis amphigenis, sparsis, rotundatis vel irregularibus, minutis, mox nudis, pulverulentis, castaneo-brunneis vel atro-brunneis; uredosporis subglobosis, obovatis vel ellipsoideis, echinulatis, $22-30 \times 17-25 \mu$; episporio $1.5-2.4 \mu$ crasso, flavo-brunneis; poris germinationis 3 (rarius 2 vel 4) sparsis praeditis. Teleutosporis immixtis, subglobosis vel obovatis, apice rotundatis, rarius etiam truncatis, valde incrassatis ($5-10 \mu$), basi rotundatis vel rarius attenuatis, levibus, brunneis, $25-38 \times 20-28 \mu$; pedicello persistenti, hyalino, usque 70μ longo.

Hab. On *Messerschmidia argentea* JOHN. (*Monpa-no-ki*) (*Borraginaceae*). Okinawa Isl.: Mabuni-mura (*Shimajiri-gun*) (March 2, 1940, Y. TAIRA, no. 372, type!).

Unfortunately teleutosori were not found and only a few teleutospores were present in the uredosori examined.

61. **Puccinia Absinthii** (HEDW. f.) DE CANDOLLE, Fl. franç. VI, p. 56, 1815.

Syn. *Uredo (Puccinia) Absinthii* HEDWIG, f. in POIR. in LAM., Encycl. Bot. VIII, p. 245, 1808.

On *Artemisia dubia* WALL. (*Yomogi*). Okinawa Isl.: Haneji-mura (Kunigami-gun) (April 8, 1940, Y. TAIRA, no. 424); Chinen-mura (Shimajiri-gun) (Jan. 20, 1940, HIRATSUKA, f., no. 144).

On *Artemisia japonica* THUNB. (*Otoko-yomogi*). Okinawa Isl.: Haneji-mura (Kunigami-gun) (Jan. 15, 1940, HIRATSUKA, f., no. 279). New to Riukiu Islands!

62. **Puccinia anomala** ROSTRUP in THÜMEN in Flora, LXI, p. 92, 1878.

On *Hordeum sativum* JESS. var. *hexastichon* HACK. (*Ô-mugi*) (cultivated). Amami-ôshima Isl.: Nase-machi (Dec. 10, 1929, T. TAMOTSU). Okinawa Isl.: Haneji-mura (Kunigami-gun) (April 8, 1940, Y. TAIRA, no. 428). New to Riukiu Islands!

63. **Puccinia filipodia** CUMMINS in Ann. Myc. XXXV, p. 98 & text-fig. 7, 1937.

On *Heteropogon contortus* BEAUV. (*Andropogon contortus* L.) (*Aka-hige-gaya*). Okinawa Isl.: Urazoe-mura (Nakagami-gun) (March 13, 1940, Y. TAIRA, nos. 388 & 389). Only uredospores are present in this collection. The present species is new to Japan.

64. **Puccinia graminis** PERSOON in Neues Mag. Bot. I, p. 119, 1794; Syn. Fung. p. 228, 1801.

On *Hordeum sativum* JESS. var. *hexastichon* HACK. (*Ô-mugi*) (cultivated). Okinawa Isl.: Urazoe-mura (Nakagami-gun) (March 13, 1940, Y. TAIRA, no. 394).

On *Triticum vulgare* VILL. (*Ko-mugi*) (cultivated). Okinawa Isl.: Yontanzen-mura (Nakagami-gun) (March 8, 1940, Y. TAIRA, no. 384). New to Riukiu Islands!

65. **Puccinia levigata** HIRATSUKA, f. in HIRATSUKA, f. & YOSHINAGA in Mem. Tottori Agric. Coll. III, p. 315, 1935.

Syn. *Diorchidium levigatum* SYDOW et BULTER in Ann. Myc. V, p. 500, 1907.

On *Oplismenus compositus* BEAUV. (*Edauchi-chijimizasa*). Okinawa Isl.: Shuri-shi (Nov. 27, 1898, HIRATSUKA; Feb. 19, 1940, Y. TAIRA, nos. 349 & 478).

66. **Puccinia levis** (SACC. et BIZZ.) MAGNUS in Ber. Deutsch. Bot. Ges. IX, p. 190 & pl. IX, figs. 28-37, 1891.

Syn. *Diorchidium leve* SACCARDO et BIZZIZERO in Michelia, II, p. 648, 1882.

On *Digitaria Henryi* RENDLE (*Mehishiba*). Okinawa Isl.: Nishihara-mura (Nakagami-gun) (Jan. 20, 1940, HIRATSUKA, f., nos. 168, 169 & 173).

On *Digitaria timorensis* BALANSA (*Chimôru-mehishiba*). Okinawa Isl.: Nishihara-mura (Nakagami-gun) (Jan. 20, 1940, HIRATSUKA, f., no. 174).

This species is a new addition to the mycological flora of Japan.

67. **Puccinia Miyoshiana** DIETEL in ENGL. Bot. Jahrb. XXVII, p. 569 & pl. VII, figs. 16 & 17, 1899.

On *Eccoilopus cotulifer* A. CAMUS (*Abura-susuki*). Okinawa Isl.: Mt. Katsuu-dake (Kunigami-gun) (April 17, 1940, Y. TAIRA, no. 464). New to Riukiu Islands!

68. **Puccinia Phragmitis** (SCHUM.) KÖRNICKE in Hedwigia, XV, p. 179, 1876.

Syn. *Uredo Phragmitis* SCHUMACHER, Enum. Pl. Saell. II, p. 231, 1803.

On *Phragmites prostrata* MAKINO (*Tsuru-yoshi*). Okinawa Isl.: Tomigusuku-mura (Shimajiri-gun) (Feb. 24, 1940, Y. TAIRA, no. 363). New to Riukiu Islands!

69. **Puccinia Pollinae-imberbis** HIRATSUK, f. in Jour. Jap. Bot. XIII, p. 248 & text-fig. 1, 1937.

Syn. *Uredo Pollinae-imberbis* ITO in Jour. Coll. Agric. Tohoku Imp. Univ. III, p. 246 & pl. XII, fig. 11, 1909.

On *Microstegium ciliatum* A. CAMUS var. *Wallichianum* HONDA (*Ôsasagaya*). Okinawa Isl.: Tomigusuku-mura (Shimajiri-gun) (Feb. 24, 1940, Y. TAIRA, no. 364). New to Riukiu Islands!

70. **Puccinia Ploygoni-amphibii** PERSOON, Syn. Fung. p. 227, 1801.

On *Pleuropterus multiflorus* TURCZ. (*Tsuru-dokudami*). Okinawa Isl.: Nawa-shi (March 24 & May 21, 1940, Y. TAIRA, nos. 413 & 480). New to Riukiu Islands!

71. **Puccinia taiwaniana** HIRATSUKA, f. et HASHIOKA in Transact. Tottori Soc. Agric. Sci. VI, p. 240, 1935.

On *Panicum patens* L. (*Hime-chigozasa*). Okinawa Isl.: Haneji-mura (Kunigami-gun) (Jan. 13, 1940, HIRATSUKA, f., nos. 94 & 95). New to Riukiu Islands!

72. **Aecidium Lysimachiae-japonicae** DIETEL in ENGL. Bot. Jahrb. XXXIV, p. 590, 1905.

On *Lysimachia japonica* THUNB. (*Ko-nasubi*). Okinawa Isl.: Mt. Katsuu-dake (Kunigami-gun) (April 17, 1940, Y. TAIRA, no. 465); Motobumura (Kunigami-gun) (April 18, 1940, Y. TAIRA, no. 467). New to Riukiu Islands!

73. **Uredo Alocasiae** SYDOW; Monogr. Ured. IV, p. 521, 1924.

On *Alocasia macrorrhiza* SCHOTT. (*Kuwazu-imo*). Okinawa Isl.: Shuri-shi (Jan. 10, 1940, HIRATSUKA, f., nos. 2 & 4); Nawa-shi (Jan. 22, 1940, HIRATSUKA, f., nos. 325 & 326). New to Riukiu Islands!

74. **Uredo Arthraxonis-ciliaris** HENNINGS in Hedwigia, XLVIII, p. 251, 1908.

On *Arthraxon hispidus* MAKINO (*Kobunagusa*). Okinawa Isl.: Kane-gusuku-mura (Shimajiri-gun) (Jan. 21, 1940, HIRATSUKA, f., no. 309); Ôsato-mura (Shimajiri-gun) (Jan. 20, 1940, HIRATSUKA, f., no. 165); Takamine-mura (Shimajiri-gun) (Jan. 21, 1940, HIRATSUKA, f., no. 192); Shuri-shi (March 25, 1940, Y. TAIRA, no. 451). New to Riukiu Islands!

75. **Uredo Crepidis-integrae** LINDROTH in Acta Soc. pro Fauna et Flora fennica, XXII, no. 3, p. 11, 1902.

On *Crepidiastrum lanceolatum* NAKAI (*Heranaren*). Okinawa Isl.: Chinen-mura (Shimajiri-gun) (Jan. 20, 1940, HIRATSUKA, f., nos. 145, 146 & 147); Takamine-mura (March 19, 1940, Y. TAIRA, no. 405); Yontan-zan-mura (Nakagami-gun) (March 8, 1940, Y. TAIRA, no. 380). New to Riukiu Islands!

76. **Uredo taiwaniana** HIRATSUKA, f. et HASHIOKA in Bot. Mag. Tokyo, XLVIII, p. 239, 1934.

On *Epipremnum mirabile* SCHOTT. (*Habu-kazura*). Okinawa Isl.: Shuri-shi (March 12, 1940, Y. TAIRA, no. 397). New to Riukiu Islands!

Additional hosts.

5. **Phakopsora Artemisiae** HIRATSUKA, f.

On *Artemisia japonica* THUNB. (*Otoko-yomogi*). Okinawa Isl.: Urazoe-mura (Nakagami-gun) (March 13, 1940, Y. TAIRA, no. 390).