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New Species of Parasitic Fungi—I

By

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1. *Irene alpina* TOGASHI et MENTZER sp. nov.

Fig. 1–2

Coloniis minutis, epiphyllis, raro hypophyllis et petiolicolis, sparsis, usque 4 mm. diam., saepe confluentibus, nigricantibus, leniter velutinis; mycelium ex hyphis densiasime intertextis valde ramosis septatis (articulis 30–45μ longis) obscure brunneis 5–8μ crassis compositum; hyphopodia capitata modice numerosa, valde irregularia, cruciato-lobata, angulato-lobata vel sublobata, cellula superiore

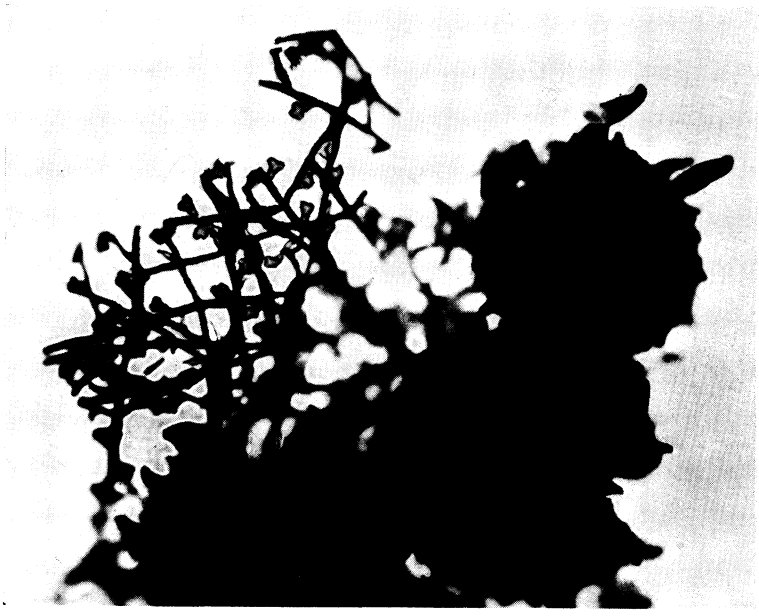

Fig. 1. *Irene alpina* TOGASHI et MENTZER
Perithecia and mycelia, showing appendages and hyphopodia (Enlarged).
(Photo Dr. W. N. TAKAHASHI).

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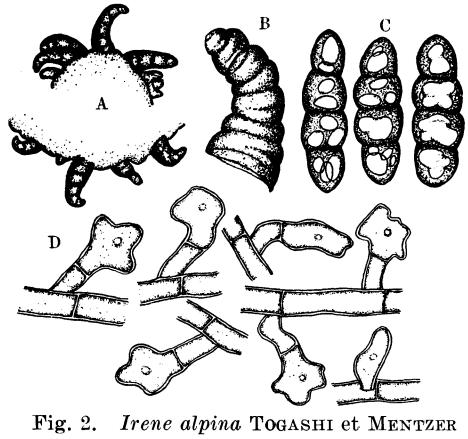

Fig. 2. *Irene alpina* TOGASHI et MENTZER
a. Appendages on the perithecia (×100).
b. An appendage (×400).
c. Ascospores (×400).
d. Different forms of hyphopodia (×400).

maxima inferiore brevi stipitiformi, obscure brunnea, tota 22–35μ longa, superne 15–25μ lata, basi 6–8μ lata, alternantia; setae nullae; perithecia in centro plagularum pauca conferta, globosa, atra, 160–270μ diam., appendicibus numerosis, vermiformibus, sursum curvatis, obscure brunneis, 40–80μ longis, usque 110μ, ad basim 20–36μ latis; ascis jam resorptis; sporidiis ellipsoideo-cylindraceis, utrimque rotundatis, fuligineis, 3-septatis, ad septa contrictis, 27–48×11–16μ.

Hab. in foliis visis *Coptidis trifoliatae* SALISB. in Japonia (Mounte Iwate, Pref. Iwate: Aug. 5, 1935, N. HIRATSUKA & K. TOGASHI–typus).

2. *Claviceps yanagawaensis*

TOGASHI sp. nov.

Fig. 3–4

Sclerotiis depresso-cylindraceis, utrimque attenuatis, acuminatis vel rotundatis, curvatis, primum pallide flavido-viridis et granuloso-asperulis, maturis nigrescentibus, rubescenti-violaceis vel atro-violaceis, levibus, intus albidis, 1.5–15 mm. longis, 0.55–1.3 mm. latis, plerumque 3.5–7.5×0.75–1.0 mm.; stromatibus solitariis, binatis vel ternatis, usque hexatis, carnosis; capitulo subgloboso, inferne applanato subtus excavato, ab ostiolis prominulis obscurioribus punctulatis, primum pallide rufo-brunneis, dein atro-purpureis vel brunneo-nigricantibus, 0.3–1.0 mm. altis, 0.4–1.5 mm. latis, longissime stipitatis; stipite cylindrico, gracili flexuoso, concolo, 0.7–6.2 mm.

Fig. 3. Sclerotia of *Claviceps yanagawaensis* TOGASHI (Somewhat enlarged).

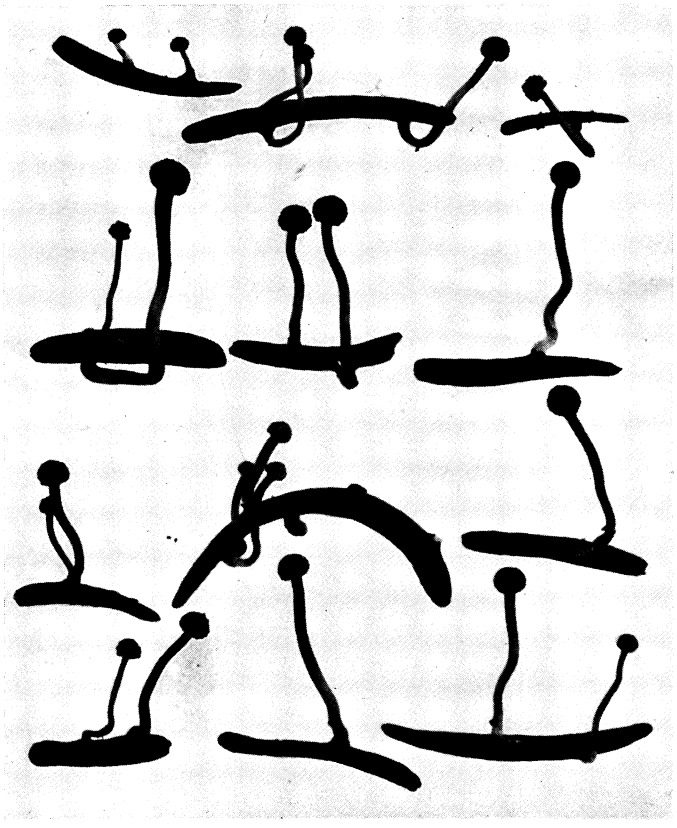

Fig. 4. Germinating sclerotia of *Claviceps yanagawaensis* TOGASHI (Somewhat enlarged).

longo, 0.4–1.5 mm. lato; peritheciis numerosis, immersis, dens stipatis, elongato-obovatis, ostiolis papillae-formibus, 180–320×70–190μ; ascis cylindraceis, linearibus, gracillimis, apice attenuatis, subhemisphaerico-incrassatis, 2.5–4.5μ crassis, ad basin attenuatis, curvatis, hyalinis, 8-sporis, 85–165×4.0–8.0μ; sporidiis filiformibus, parallele dispositis, curvatis vel rectis, continuis vel uni-septatis, hyalinis, pluriguttulatis, 75–135×1.0–2.25μ.

Hab. in caryopsidis vivis *Zoysiae japonicae* STEUD. in Japonia. (Yanagawa-mura Pref. Iwate: Oct. 2, 3, 16, Nov. 4, 1934, K. TOGASHI; Maio 12, Junio 11, Julio 17, Aug. 16, Sept. 27, Oct. 12, 19, 1935, K. TOGASHI).

The sclerotia of this new fungus are depressed and light yellowish green when they are young. By these macroscopical characteristics it may be easily distinguished from the other graminicolous species of *Claviceps*.

3. ***Mycosphaerella yanagawaensis*** TOGASHI sp. nov.

Fig. 5

Peritheciis epiphyllis vel stipiticolis, sparsis vel subgregariis, parenchymati innatis, minutis, sphaeroidies, vix prominulis, ostiolis minutis hiantibus (latit. circiter 10–15μ), fuligineis, circa ostiolum nigricantibus, 70–150μ diam., plerumque 90–120μ; ascis paucis, fasciculatis, cylindraceo-subclavatis, brevissime pedicellatis, in pedicellum brevem attenuatis, leniter curvulis vel rectis, aparaphysatis, octosporis, 48–86×16–23μ, plerumque 50–65×18–20μ; sporidiis subdistichis, fusiformibus, leniter curvulis vel subrectis, uniseptatis, ad septum vix constrictis, hyalinis, 18–27×7–12μ, plerumque 20–24×8–10μ.

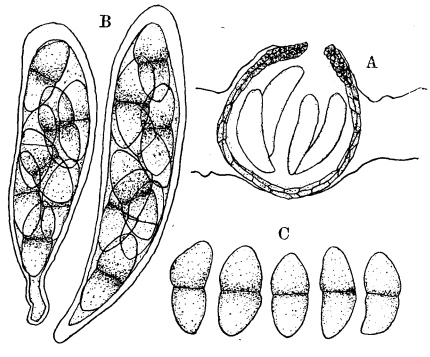

Fig. 5. *Mycosphaerella yanagawaensis* TOGASHI
a. Perithecium (×275).
b. Asci (×600).
c. Ascospores (×600).

Hab. in foliis et stipitiis vivis *Pteridii aquilini* KUHN. var. *japonici* NAKAI in Japonia. (Yanagawa-mura, Pref. Iwate: Aug. 6, 1934–typus K. TOGASHI; Julio 17, 1935, K. TOGASHI).

Nine species and one variety of *Mycosphaerella* and *Sphaerella* are described as occurring on *Pteridium aquilinum*. Among them *S. prominula* SPEG. seems to be closely related to the fungus under consideration, but both the asci and ascospores of the former are much narrower than those of the latter. *M. Pteridis* (DESM.) VESTERGR. and *S. Tyrolensis* AUERSW. also have the elongated asci and ascospores.

4. ***Phyllosticta Lespedezae*** TOGASHI sp. nov.

Maculis amphigenis, irregularibus, angulatis, nervis limitatis, dispersis vel gregariis, supra atro-brunneis, infra dilutioribus, 2–5 mm. latis, interdum confluentibus, demum partes amplas foliorum occupantibus; pycnidiis plerumque hypophyllis, saepe amphigenis, numerosissimis laxe gregariis, subepidermicis, globosis, 35–75μ in diam., plerumque 40–50μ, contextu atro-brunneis, membranaceo-parenchymaticis; conidiis minutis, bacillaribus, rectis, utrimque rotundatis, hyalinis, continuis, 3–6×0.8–1.2μ.

Hab. in foliis vivis *Lespedezae bicoloris* TURCZ. var. *japonicae* NAKANI in Japonica (Yanagawa-mura, Pref. Iwate: Oct. 1,–typus, Oct. 2, 1934, K. TOGASHI).

5. ***Phyllosticta Yanagawana*** TOGASHI sp. nov.

Maculis amphigenis, sparsis, circularibus vel subcircularibus, medio albo-

griseis, arescentibus, rubro-brunneo-marginatis, plerumque 5–15 mm. latis, saepe confluentibus, tunc magnitudine formaque irregularibus, demum tota lamina foliorum destruitur; pycnidiis amphigenis, sparsis, fere superficialibus, brunneo-atris, globoso-depressis vel globosis, 100–220μ, plerumque 140–170μ diam., contextu tenui, parenchymatico, flavo-brunneis, ostiolo minuto pertusis, 15–20μ latis, sporulis numerosis, oblongis vel cylindraceis, rectis, utrimque rotundatis, continuis, hyalinis, 3.5–7.5×1.8–3.0μ, plerumque 5.0–7.0×2.0–2.5μ, rarius usque ad 11μ longis.

Hab. in foliis vivis *Hostae Sieboldianae* ENGL. in Japonia (Yanagawa-mura, Pref. Iwate: Aug. 5, 1934; Julio 16–typus, 17, Aug. 16, 1935, K. TOGASHI).

The present fungus differs from *Phyllosticta Funkiae* FERRARIS in its larger pycnidia and smaller spores.

6. ***Septoria Cardiocrini*** TOGASHI sp. nov.

Maculis in foliis amphigenis, supra brunneolis vel atro-brunneis, infra brunneis vel ochraceo-brunneis, rotundatis, oblongis vel irregularibus, indeterminatis vel fusco-marginatis, 10–25 mm. latis, subinde confluentibus, tunc majorem folii partem denique occupantibus; pycnidiis epiphyllis, numerosis, densiuscule sparsis, diu epidermide tectis, denique erumpentibus, globosis vel subglobosis, atro-brunneis, 60–130μ, rarius usque ad 150μ diametris, contextu minute parenchymatico, ostiolis latis 20–40μ diametris; sporulis filiformibus, cylindraceis vel elongato-subclavatis, utrimque acutiusculis, curvulis vel varie flexuosis, raro rectis, 1–6 plerumque 3–5 septatis, hyalinis, raro guttulatis, 24–54×1.0–2.0μ, plerumque 36–42μ longis.

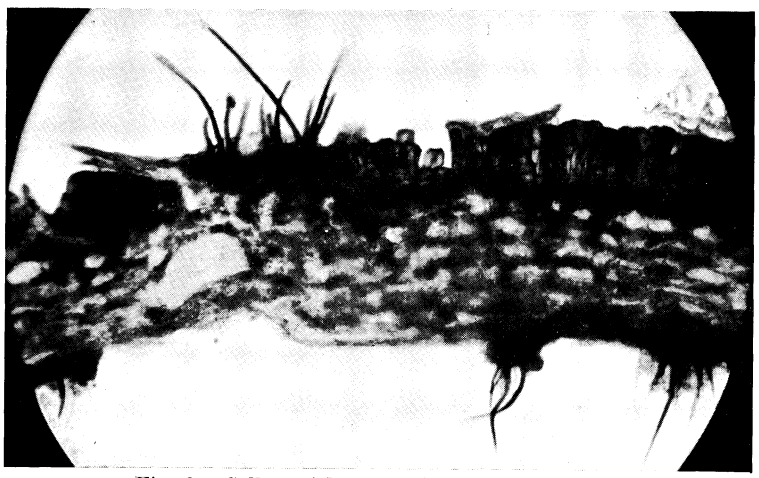

Fig. 6. *Colletotrichum pucciniophilum* TOGASHI on the teleuto-sori of *Puccinia Funkiae* DIET. (Enlarged).

Hab. in foliis vivis *Cardiocrini cordati* MAK. in Japonia (Yanagawa-mura, Pref. Iwate: Aug. 5, 1934, K. TOGASHI; Junio 11, 12–typus, 13, 1935, K. TOGASHI).

7. ***Colletotrichum pucciniophilum*** TOGASHI sp. nov.

Fig. 6–7

Acervulis sub soris *Puccinia Funkiae* DIET., amphigenis, praecipue epiphyllis, sparsis, atris, 60–130μ latis; setulis copiosis, simplicibus rigidis, subrectis, quandoque subflexuosis, atro-brunneis, basi subinflatulis, sursum tenuatis, dilutioribus, non vel 1–4 septatis, 30–190×3–8μ, plerumque 50–80×4–7μ; conidiis falcatis, utrimque acutis, hyalinis, continuis, 12–24×2.5–4.5μ, plerumque 17–20×2.5–3.5μ.

Hab. in foliis vivis *Hostae Sieboldianae* ENGL., socio *Pucciniae Funkiae* DIET. in Japonia (Yanagawa-mura, Pref. Iwate: Aug. 5, 1934–typus, K. TOGASHI).

Recently Tehon (Mycologia **25**, 4, p. 254, 1933) in Illinois described a species of *Colletotrichum, C. aeciicolum,* found on the aecidia of *Puccinia Asterum* KERN. This seems to be the only record that *Colletotrichum* or *Gloeosporium* occurs intimately on rust sori. The fungus in question, however, is distinctly different from *C. aeciicolum* in its morphological characters.

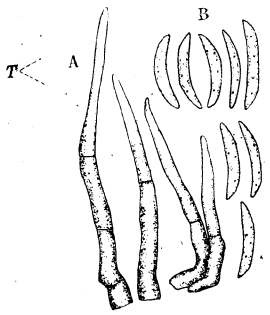

Fig. 7. *Colletotrichum pucciniophilum* TOGASHI
a. Setae (×600).
b. Conidia (×600).

The writer wishes to express here his sincere thanks to Dr. LEE BONAR and Miss. VERA P. MENTZER, Botany Department of the University of California, for their kind advice and for the allowance of free use of the herbarium materials and literature.

October 12, 1936
Harbarium of the University of California, Berkeley