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ON SOME SPECIES OF SEPTORIA COLLECTED IN SOUTHERN SAGHALIEN

BY

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(With 2 text figures)

Southern Saghalien is an interesting region from the mycological point of view, because up to the present time very little attention has been paid to fungi except rust fungus. During a period from 1929 to 1932, the writer took service in the Saghalien Central Experiment Station and collected many specimens of parasitic fungi in the district. Based upon these specimens, a report of the fungi parasitic on the important agricultural plants has previously been prepared. In the present paper, the intention is to note some interesting species of *Septoria* among them. The present work has been carried out in the Botanical Institute, Faculty of Agriculture, Hokkaido Imperial University in Sapporo.

The writer wishes to express here his sincere gratitude to Profs. S. ITO and Y. TOCHINAI for their valuable suggestions and he also thanks Prof. K. MIYAKE, director of the Saghalien Central Experiment Station.

Septoria consimilis ELL. et MART., Jour. Myc. I, p. 100, 1885; SACC., Syll. Fung. X, p. 363, 1892; ALLESCHER, Die Pilze, VI, p. 800, 1901.

Hab. on leaves of *Lactuca sibirica* BENTH. (*Yezo-murasakinigana*).

Prov. Toyohara: Konuma (July 19, 1931).

Distrib. Japan & N. America.

Remarks. The present fungus differs from *Sept. Lactucae* by the lesions in regular shape and by the slightly larger spores. The species is new to Japan and *Lactuca sibirica* is a new host plant to it. The general characters of this fungus are as follows:—

Lesions circular or angular, grayish brown in the centre, dark brown at the margin, provided with an indistinct border. Pycnidia epiphyllous, sparsely scattered, globose, brown, with pseudoparenchymatous wall, buried in the tissue, 64–96 μ , mostly 80 μ in diam., provided with a circular ostiole. Pycnosporos

filiform, obtuse at the ends, straight or curved, hyaline, containing many granules, 0-3-septate, mostly 1-septate, $25-42.5 \times 2.0-2.5 \mu$, mostly $32.5-37.5 \times 2.5 \mu$.

***Septoria Picridis* sp. nov.** (Text fig. 1, a-b)

Maculis epiphyllis, rotundatis vel ellipticis, 2-5 mm. diam., ochraceobrunneis vel cinereis, fusco-marginatis, saepe confluentibus; pycnidiiis epiphyllis, numerosis, immersis, globoso-depressis, $64-80 \mu$ latis, contextu parenchymatico fusco-brunneo, poro apertis; sporulis filiformibus, utrinque acutatis, curvulis, hyalinis, homogenis, 3-7-septatis, $37.5-67.5 \times 1.5-2.0 \mu$, plerumque $45-57.5 \times 1.5 \mu$.

Hab. in foliis *Picridis japonicae* THUNB. (*Kôzorina*).

Prov. Toyohara: Konuma (Oct. 12, 1930).

Distrib. Endemic!

Remarks. As far as the writer is aware, the present fungus is a only species of *Septoria* parasitic on *Picris*.

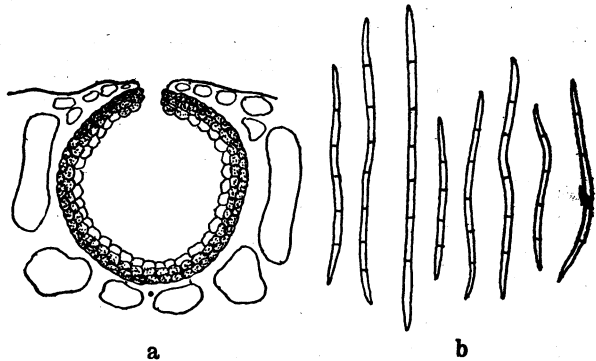


Fig. 1 *Septoria Picridis* sp. nov.

a. Pycnidium ($\times 300$). b. Pycnosyores ($\times 500$)

***Septoria Galeopsidis* WESTEND**, Bull. Acad. Roy. Belg. ser. II, Bd. XII, no. 7; SACC., Syll. Fung. III, p. 539, 1884; ALLESCHER, Die Pilze, VI, p. 785, 1901, DIEDICKE, Die Pilze, VII, p. 458, 1915.

Hab. on leaves of *Galeopsis tetrahit* L. (*Chishima-odorikosô*).

Prov. Toyohara: Konuma (Oct. 5, 1929).

Distrib. Japan, Europe & N. America.

Remarks. SACCARD¹⁾ stated that the lesions of *Sept. Galeopsidis* are hypophyllous, but they occur on the upper surface in the present specimens. Excepting this point, one can not find any distinct difference between them. For the present. the writer classified the fungus in question as *Sept. Galeopsidis* WESTEND. This species is new to Japan and its general characters are as follows:—

Lesions angular, limited by the nerves, purplish brown in color, provided with an indistinct border and prominent blackish dots in the centre. Pycnidia densely scattered on the upper surface, dark brown in color, with pseudo-

1) Syll. Fung. X, p. 530.

parenchymatous wall, erumpent, globose to subglobose or depressed-globose, $112-190 \times 112-160 \mu$ in diam., provided with a circular ostiole. Pycnosporos filiform, somewhat olive colored in mass, with homogenous cell content, 3-7-septate mostly 4-5-septate, $35-67.5 \times 1-2 \mu$, mostly $45-50 \times 1.5 \mu$.

Septoria lamiicola SACC., Mich. I, 170 & Syll. Fung. III, p. 538, 1884; ALLESCHER, Die Pilze, VI, p. 801, 1901.

Hab. on leaves of *Galeopsis tetrahit* L. (*Chishima-odorikosô*).

Prov. Toyohara: Konuma (Oct. 5, 1929).

Distrib. Japan & Europe.

Remarks. The present fungus is readily distinguished from the preceding species *Sept. Galeopsidis* WESTEND by the nature of the lesion which is white in the centre and distinctly surrounded by a dark brown border, as well as by the size of the pycnidia ($48-96 \mu$).

This species is new to Japan and *Galeopsis tetrahit* is a new host plant to the present fungus. The general characters of this fungus are as follows:—

Lesions amphigenous, circular, 2-5 mm. in diam., grayish white in the centre, surrounded by a dark brown border. Pycnidia epiphyllous, sparsely scattered, brown in color, with pseudoparenchymatous wall, globose or depressed globose, $48-96 \mu$, mostly $64-80 \mu$ in diam., provided with a circular ostiole. Pycnosporos filiform, somewhat acute at the ends, curved or straight, hyaline, with homogenous content, 1-5-septate, mostly 3-septate, $35.0-60.0 \times 1.0-2.0 \mu$, mostly $45-50 \times 1.5 \mu$.

Septoria gentianicola sp. nov. (Text fig. 2, a-b.)

Maculis epiphyllis, orbicularibus vel ellipticis, 3-10 mm. diam., ochraceis demum centro cinerescentibus, saepe confluentibus; pycnidiis epiphyllis, numerosis,

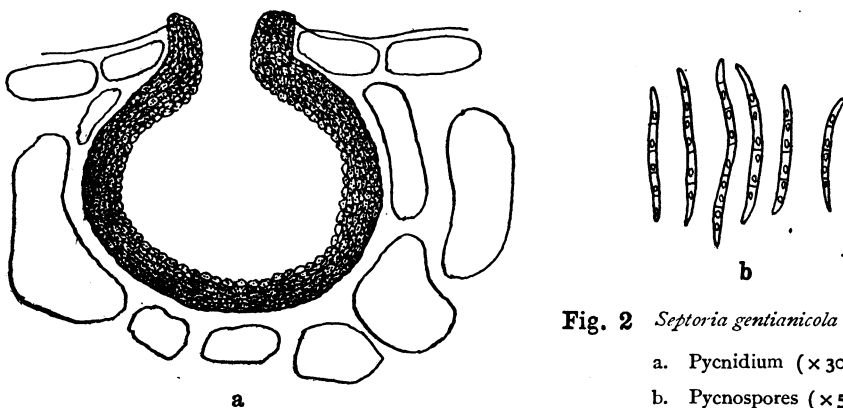


Fig. 2 *Septoria gentianicola* sp. nov.

a. Pycnidium ($\times 300$).

b. Pycnosporos ($\times 500$).

subglobosis, erumpentibus, 64-128 μ , plerumque 80-90 μ diam., contextu minute parenchymatico, nigrescente, ostiolo papillari, rotundato, ca. 24 μ diam.; sporulis filiformibus, curvulis vel rectis, utrinque acutiusculis, hyalinis, guttulis, 2-5-septatis, plerumque 3-septatis, 27.5-50.0 $\times$ 1.5-2.0 μ , plerumque 35-40 $\times$ 1.5 μ .

Hab. in foliis *Gentianae axillariflorae* LEV. et. VNT. (*Yezorindô*).

Prov. Toyohara: Konuma (Sept. 27, 1931).

in foliis *Gentianae triflorae* PALL. (*Hosoba-yezorindô*).

Prov. Shikka: Shikka (Aug. 7, 1930, H. OHTANI & Y. IMAI).

Distrib. Endemic!

Remarks. Up to the present time, four species of *Septoria* parasitic on *Gentiana* spp. have been described. The present fungus is clearly different from these species in the morphological characters. The morphological differences of these five species of *Septoria* are shown in the following table.

fungi	lesions	pycnidia	pycnospores	hosts
<i>S. microspora</i> SPEG. ¹⁾	cinnamon in color	hypophyllous, blackish, 40-50 μ diam., beaked ostiole	filiform, somewhat acute at the ends, pluri-guttulate, pluri-septate, hayline, 20 $\times$ 1 μ	<i>G. asclepiades</i>
<i>S. Gentianae</i> THÜM. ²⁾	pale dark brown	epiphyllous, subconical	fusiform, acute at the ends, 3-5-guttulate, 1-septate, hyaline, 28 $\times$ 3 μ	<i>G. adscendentis</i> & <i>G. macrantha</i>
<i>S. raphidospora</i> C. MASS. ³⁾	pale dark brown	globose, black, 60-80 μ diam., somewhat papillate ostiole	filiform, guttulate, non-septate, hyaline, 18-24 $\times$ 1 μ	<i>G. utriculosa</i>
<i>S. montana</i> TRAV. ⁴⁾	circular, ochreous	amphygenous, globose, black, 60-75 μ	cylindrical, non-septate, hayline, 20-25 $\times$ 1 μ	<i>G. acaulis</i>
<i>S. Gentianicola</i> T. ISHIYAMA	circular or elliptical, ochreous later dark brown at the margin	epiphyllous, subglobose, black, 64-128 μ , papillate ostiole	filiform, somewhat acute at the ends, guttulate, 3-septate, hyaline, 27.5-50 $\times$ 1.5-2.0 μ	<i>G. axillariflora</i> & <i>G. triflora</i>

1) SACC. Syll. Fung. III, p. 541.

2) THÜMEN, Pilzfl. Sibir. no. 118.

3) SACC. Syll. Fung. X, p. 376.

4) TRAVERSO, Ann. Myc. I, p. 314.

As shown in the above table, the fungus under consideration is readily distinguished from other species in several important morphological characters, especially in respect to its far longer pycnospores.

Septoria Trientalis (LASCH.) SACC., Bull. Soc. Myc. Fr. V, p. 121, 1889 & Syll. Fung. X, p. 361, 1892; ALLESCHER, Die Pilze, VI, p. 868, 1901; DIEDICKE, Pilze, VII, p. 517, 1915.

Hab. on leaves of *Trientalis europaea* L. (*Tsumatorisô*).

Prov. Ohdomari: Rûtaka (Aug. 2, 1932, N. SHIRASAKA).

Distrib. Japan & Europe.

Remarks. The present fungus is new to Japan and its general characters are as follows:—

Lesions at first angular in shape and purplish brown, later becoming circular or elliptical and grayish white with purplish brown border. The tissue at the centre of the lesion very brittle and provided with prominent blackish dots. Pycnidia amphigenous, densely scattered, globose, blackish brown in color, pseudoparenchymatous, buried in the tissue, 64-117, mostly 80-96 μ in diam., provided with a circular ostiole (ca. 20 μ in diam.). Pycnospores filiform, straight or curved, rounded at the ends, hyaline, homogenous, continuous, 17.5-30.0 $\times$ 1 μ , mostly 25-27.5 $\times$ 1 μ .