Materials for a *Cercospora*-Flora of the Kanto District. (1)

By

Shigetaka KATSUKI*

Introduction

The species of *Cercospora* occurring in the Kanto district have been described by P. HENNINGS, P. & H. SYDOW, N. NAMBU, T. YOSHINAGA, etc.. In their publications, more than 20 species including 11 new were reported. The new species are as follows:—

Cercospora Fatouae P. HENN., *C. Litseae* P. HENN., *C. Hibisci-Manihotis* P. HENN., *C. Araliae* P. HENN., *C. Punicae* P. HENN., *C. Miyakei* P. HENN., *C. brassicicola* P. HENN., *C. Vitis-heterophyllae* P. HENN., *C. Achyranthis* SYD., *C. obtegens* SYD., *C. Zeakowae* HORI.

The writer is intending to reconsider the species of *Cercospora* in this district, standing on the current acceptance of classification of the genus. In this first report, 16 species are enumerated, of which *C. Togashiana* KATSUKI et URASAWA is ascertained to be new to science.

The writer wishes to express his hearty thanks to Dr. K. TOGASHI, Yokohama National University and Dr. H. YOSHII, Kyushu University for their valuable suggestions and kind guidance, and also Mr. Yoshihisa URASAWA, Iwatsuki Industrial Senior High School, Saitama Pref., for his kind help in collection of the materials examined.

(1) *Cercospora Achyranthis* SYDOW Ann. Mycol. 7: 171, 1909; SACC., Syll. Fung. 22: 1429, 1931; SOLHEIM and STEVENS, Mycologia 23: 378, 1931; TAI, Bull. Chinese Bot. Soc. 2 (2): 45, 1936; KATSUKI, Bull. Agric. Improv. Sect. Econ. Dept. Fukuoka 1: 3, 1949.

On *Achyranthes japonica* (Intokozuchi). Iwatsuki-machi, Saitama Pref. (June 17, 1950, S. KATSUKI).

(2) *Cercospora Apii* FRESSENIUS Beitr. Myk. 3: 91, 1863; ELLIS et EVERHART, Jour. Myc. 1: 36, 1885; SACC., Syll. Fung. 4: 442, 1886; SAWADA, Cat. Formosan Fung. 2: 140, 1923; SOLHEIM, Illinois Bio. Monog. 12(1): 34-35, 1929; CHUPP & DODGE, Bothalia 4(4): 881, 1948; THIRUMALACHAR & CHUPP, Mycol. 40: 353, 1948.

Syn. *Cercospora penicillata* var. *Apii* FCKL.,

Hedwigia 2: 132-136, 1863.

On *Apium graveolens* (Oranda-mitsuba). Ageomachi, Saitama Pref. (Nov. 17, 1949, H. SEKINE).

(3) *Cercospora beticola* SACC. Nuovo Giorn. Bot. Ital. 8: 189, 1876; SACC., Syll. Fung. 4: 456, 1886; ATKINSON, Jour. Elisha Mitchell Scient. Soc. 8: 14, 1891; N. Nambu, Bot. Mag. Tokyo, 18: 1-3, 1904; CHUPP & DODGE, Bothalia 4(4): 882, 1948; KATSUKI, Bull. Agric. Improv. Sect. Econ. Dept. Fukuoka 1: 5, 1949.

Syn. *Cercospora flagelliformis* ELL. et HALSTED, N. Jersey Ann. Rept. for 1890, P. 355, 1891.

Cercospora Spinaciae OUD., Nederl. Kruidk. Arch. 3(2): 314, 1900. *Cercosporina spinacicola* SACC., Nuov. Giorn. Bot. Ital. N. S. 22: 73, 1915.

On *Beta vulgaris* var. *Rapa* (Sato-daikon). Iwatsukimachi, Saitama Pref. (June 17, 1950, S. KATSUKI).

(4) *Cercospora Bolleana* (THÜM.) SPEGAZZINI Mich. 1: 475, 1879; ATKINSON, Jour. Elisha Mitchell Scient. Soc. 8: 29-30, 1891; SOLHEIM, Illinois Biol. Monog. 12(1): 41, 1929; MURATA, Jour. Plant Prot. 2: 149, 1915.

On *Ficus Carica* (Ichiziku). Iwatsuki-machi, Saitama Pref. (July 11, 1950, H. SKINE).

(5) *Cercospora carotae* (PASSERINI) SOLHEIM Illinois Biolog. Monog. 12(1): 43-44, 1929.

Syn. *Cercospora apii* FRES. var. *carotae* PASS. Mem. R. Acad. Linnei, Roma, 4(6): 469, 1890; SACC., Syll. Fung. 10: 624, 1892; v. HÖHNEL, Ann. Myc. 1: 530, 1903; LINDAU, Rabenhorst's Kryptogamen-Flora 9: 125, 1910; MURATA, Jour. Plant. Prot. 8: 185-186, 8: 233-237, 1921. *Cercospora*

carotae (PASS.) KAZNOWSKII & SIEMASZKO, Centralbl. für. Bakt., Ab. 2, LXXVIII, 1-7, pp. 113-116, 1929; Rev. Appl. Myc. 8: 630, 1929.

On *Daucus Carota* var. *sativa* (Ninjin). Iwatsuki-machi, Saitama Pref. (June 17, 1950, S. KATSUKI).

The fungus occurring on carrot has hitherto been identified to *C. apii* FRES. var. *carotae* PASS. in Japanese literature, but the writer is of opinion that *C. carotae* (PASS.) SOLHEIM is correct. The fungus under consideration is distinctly different

* Agr. Improv. Sect. Fukuoka pref, Govnt.

from the several forms of *C. apii* FRES., in having by the former with light yellowish-brown and continuous conidiophores and with cylindrical or obclavate conidia.

(6) *Cercospora Chenopodii* FR. Beitr. Myk. 3: 92, 1863; TOGASASHI, Jap. Jour. Bot. 2(2): 99, 1924; TAI, Bull. Chinese Bot. Soc. 2(2): 49, 1936.

Syn. *Cercospora dubia* (RISS.) WINT. Hedwigia 22: 10, 1883; SYDOW, Ann. Myc. 7: 171, 1909; KATSUKI, Bull. Agric. Improv. Sect. Econ. Dept. Fukuoka 1: 12, 1949.

On *Chenopodium album* var. *centrorubrum* (AKAZA). Iwatsukimachi, Saitama Pref. (June 12, 1950, Y. URASAWA).

(7) *Cercospora Chloranthi* TOGASHI et KATSUKI Trans. Sapporo Nat. Hist. Soc. 17: 96-97, 1942; KATSUKI, Bull. Agric. Improv. Sect. Econ. Dept. Fukuoka 1: 83, 1949.

On *Chloranthus serratus* (Futari-shizuka). Iwatsukimachi, Saitama Pref. (July 22, 1950, Y. URASAWA).

(8) *Cercospora Dispori* TOGASHI et MAKI Trans. Sapporo Nat. Hist. Soc. 17: 98-99, 1942; KATSUKI, Bull. Agric. Improv. Sect. Econ. Dept. Fukuoka 1: 12, 1949.

On *Disporum sessile* (Hochakuso). Iwatsukimachi, Saitama Pref. (July 20, 1950, Y. URASAWA).

This species was first described in 1942 by Dr. TOGASHI, and *Disporum sessile* is a new host plant to this fungus.

(9) *Cercospora Fatouae* P. HENNINGS Fng. Bot. Jahrb. 32: 45, 1902; Hedwigia 43: 146, 1904; SACC., Syll. Fung. 18: 610, 1906; N. NAMBU, Bot. Mag. Tokyo 18: 3, 1904; KATSUKI, Bull. Agric. Improv. Sect. Econ. Dept. Fukuoka 1: 14, 1949.

On *Fatoua japonica* (Kuwakusa). Niiwa-mura, Saitama Pref. (Sept. 22, 1949, Y. URASAWA).

This species was first described in 1902 by P. HENNINGS, basing on the material collected by N. NAMBU in the vicinity of Tokyo.

(10) *Cercospora Nandinae* NAGATOMO Kyoiku-shiryo (Materials for Education, Kyoto Pref.) No. 3, 1932; —, Forsch. Geb. Pflanzenkrankh. 3: 110-114, 1937; KATSUKI, Bull. Agric. Improv. Sect. Econ. Dept. Fukuoka 1: 17, 1949.

Syn. *Cercospora Nandinae* FUKUI, Bull. Imp. Coll. Agric. and Forest. Mie 3: 14-15, 1933.

On *Nandiana domestica* (Nanten). Iwatsukimachi, Saitama Pref. (June 17, 1950, S. KATSUKI).

(11) *Cercospora Paederiae* TAI Bull. Chinese Bot. Soc. 2(2): 56, 1936; KATSUKI, Bull. Agric. Improv. Sect. Econ. Dept. Fukuoka 1: 17, 1949.

On *Paederia Chinesis* (Hekuso-kazura). Iwatsukimachi, Saitama Pref. (June 17, 1949, S. KATSUKI).

(12) *Cercospora Hydrocotyles* ELL. et EV. Jour. Myc. 3: 16, 1887; SACC., Syll. Fung. 10: 624, 1892; ATKINSON, Jour. Elisha Mitch. Scient. Soc. 8: 23, 1892.

On *Hydrocotyle sibthorpioides* (Chidome-gusa). Iwatsuki-machi, Saitama Pref. (June 17, 1950, S. KATSUKI).

(13) *Cercospora Togashiana* KATSUKI et URASAWA sp. nov. Maculis indefinitis, supra nonnihil pallide flavidis, infra griseis dein sordidis; caespitulis hypophyllis, stroma fuis vel nigricantibus, 22-30 μ diam.; conidiophoris hypophyllis raro epiphyllis, fasciculatis, griseo-bruneis, simplicibus vel ramulosis, rectis vel flexuosis, raro geniculatis, distincte multiseptatis, 60-150 $\times$ 3.7-5 μ ; conidiis cylindraceis vel obclavato-cylindraceis, ad apicem leniter acutis, raro rectis, 4-8-septatis, ad septa interdum constrictis, 55-92 $\times$ 3.7-5 μ hyalinis.

Fig. 1. *Cercospora Togashiana* KATSUKI et URASAWA sp. nov.

a. Conidiophores b. Conidia

On *Ophiopogon japonicus* (Janohige). Niiwa-mura, Minamisaitama, Saitama Pref. (July 1, 1950, Y. URASAWA-Type 1)

This species differs from *Cercospora Liriopes* TAI (Bull. Chinese Bot. Soc. 2: 55, 1936; Sci Rept. Nation. Tsing Hua Univ. Ser. B, 2: 431, 1937.) occurring on *Liriope graminifolia* in having mostly hypophyllous, branched, longer, more septate conidiophores and hyaline conidia. The symptom is also different from that of *C. Liriopes* TAI.

(14) *Cercospora zebrina* PASS. Hedwigia 16: 124, 1877; JAAP, Ann. Myc. 15: 124, 1917; SACC., Syll. Fung. 4: 437, 1886; HORSFALL, Mycologia 21: 304-312, 1929.

Syn. *Cercospora helvola* SACC. Fungi Ital. pl. 667, 1881. C. Davissi ELLIS et EVERH. Proc. Acad. Nat. Sci. Phila. 43: 89, 1891. C. Medicaginis ELL. et EV. Proc. Acad. Nat. Sci. Phila. 43: 91, 1891. C. Stolziana P. MAGN. Flora Tirol 3: 558, 1905. *Cercosporina ZEBRINA* (Pass.) MATSUURA, Jour. Plant. Prot. 17: 1-5, 1930.

On *Trifolium repens* (Shirotsune-gusa). Iwatsuki-machi, Saitama Pref. (June 6, 1950, Y.

URASAWA).

(15) *Cercospora Zelkowae* HORI, NAMBU, Jour. Plant Prot. 8: 492, 1921; KATSUKI, Bull. Agric. Improv. Sect. Econ. Dept. Fukuoka 1: 26, 1949.

On *Zelkova serrata* (keyaki). Hodogaya, Kanagawa Pref. (June 19, 1950, S. KATSUKI).

(16) *Cercospora zonata* WINT. SACC., Syll. Fung. 4: 437, 1886.

Syn. *Cercospora Fabae* FAUTR. SACC., Syll. Fung. 10: 621, 1892.

On *Vicia Faba* (Soramame). Iwatsuki-machi, Saitama Pref. (May 17, 1950, Y. URASAWA).

〔雜 報〕

植物感染學

Ernst GÄUMANN: Pflanzliche Infektionslehre, Verlag Birkhäuser, Basel, Schweiz. 611 S., 311 Abbild., 90 Tab., 1946.

Dr. GÄUMANN は、且つては Vergleichende Morphologie der Pilze (1928) を著わし、これは直に英譯されたほどに名聲噴々たるものがあつた。そればかりでなく、*Peronospora* のモノグラフ、土壌湿度・温度・湿度と病害の發生、近頃では氏及びその共同研究者との Antibiotik の研究、さては森林生態學についての優秀な澤山な業績は、われわれにも極めて馴染深い。最近では、また “Die Pilze” を出版されたが、もう一つ表記のような大著を筆者のもとに恵贈して下さい。

わが國でも、流行病學 (Epidemiology) なる言葉をよく耳にするようになったが、氏の體系づけた “Infektionslehre” 感染學は更に廣範なものを見てよい。緒言にいつてゐるように、この著書は Zürich の Eidgenössische Technische Hochschule における 20 年來の訓義をまとめられたものであるが、微書實驗生物學の第 1 巻でもある。

本書は次の 6 章からなつてゐる。

1. Die Infektion (感染)——病原は如何にして寄生體内に侵入するか。

2. Die Infektketten (感染連鎖)——病原は如何にして寄主に到達し傳播するか。

3. Die parasitische Eignung der Erreger (病原の寄生適性)——病氣になるのはどういふことから、病原の側から見てどうか。

4. Die Krankheitsbereitschaft der Wirte (寄主の病氣になり易い状態——寄主の側から見て病氣になるのは、どういふことからか。

5. Die Erkrankung (發病)——寄生關係は如何ように變化するか。

6. Die Bekämpfung der pflanzlichen Infektionskrankheiten (植物感染病の防除)——感染病は如何に對處し除くことができるか。

以上のような骨子と構想のもとに詳述されてあるが、最も強く印象づけられたことは、動物の病氣、ことに人體醫學とあらゆる事象を對照し、それと相關理念のもとに論議されてゐることである。この事が本書の最も大きな特徴であるといえよう。なかでも主力を注いでゐるのは第 4 章の寄主の病氣になり易い状態についてであり、文献・索引を除いた 571 頁のうち、214 頁がこれに費されている。寄主の免疫・抵抗・回避を形態的・生理的・生態的に解明し、環境要素の他に、Wuchsstoff, Antibiotik, Lysine, Bakteriophage を大きく取入れてゐることも、他の類書に見られない新しい論議とみなせるであろう。

通讀してもの淋しく感じた一つは、わが國の學者の業績がほとんど引用されておらず、わずかに神戸博士の馬鹿苗病、藪田博士の Gibberellin、廣江博士の突然變異に関するもの位である。

ともあれ、Dr. GÄUMANN は植物病理學界の最高峯であり、この著 “植物感染學” は斯學に貢献すること甚だ大なるものと信ずるし、アメリカ科學にむしろ中傷の傾にあるわが國の研究者には、コカコラの如くならぬ、新しい清涼劑となることを疑わぬ。(富樫浩吾)