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SOME CERCOSPORAE OF MACON CO., ALABAMA.

BY GEORGE W. CARVER.

The wide distribution and the economic importance of the *Cercospora* in this county has prompted the writing of this paper. This list by no means represents all of the species of this county, as no special effort has been made to collect *Cercospora* only. These collections were made while passing hurriedly to and from other duties. With few exceptions, the species were collected in the immediate vicinity of Tuskegee.

The exceedingly warm and humid atmosphere, together with the very remarkable fluctuations of climate and the rapid development of fungus diseases under these favorable conditions, has made the study doubly interesting. It is quite apparent that from year to year, by careful co-operation, much valuable information will be brought to light. None of our imperfect fungi have been worked over more carefully than the *Cercosporae*. I have consulted the following works, Ellis and Everhart*, whose work includes all of the North American species known to them when their work was written. Kellerman and Swingle† for the descriptions of several new species. There are also descriptions of other species in the same journal. Full descriptions of many Alabama species occur in Prof. George F. Atkinson's paper on the *Cercosporae*‡ of Alabama. Saccardo§ in his great work on fungi described all of the species known to him. Descriptions of new and interesting southern species were made by Underwood and Earle. || Numerous local lists of fungi also record species from various localities. The following are some of the more important: Trelease,¶ Davis,¹ Webber,² Tracy and Earle,³ Hal-

* Jour. Myc. 1:17, 33, 49, 61. 4:1.

† Jour. Myc. 5:74.

‡ Some *Cercospora* from Alabama, from the Journal of Elisha Mitchell. Sci. Soc. 8: Separate.

§ Sylloge Fungorum.

|| Bull. Ala. Agr. Exp. Sta. 80:141.

¶ Wis. Acad. Sci., Arts and Letters 6:106.

1 A supplementary list of Parasitic fungi of Wis. Acad. Sci., Arts and Letters 9:166.

2 Webber Cat. Fl. Neb.

3 Tracy and Earle Bull. of Miss. Agr. Ex. Sta. 34:116-120 Bulletin 36:150-153.

sted.* I am also indebted to Prof. L. H. Pammel who has kindly examined some of the specimens for me.

In studying this group one easily separates it into three divisions; true parasites, forming distinct spots in living tissues, saphrophytic forms which seem to attack only dead, or languid foliage; facultative, which accommodate themselves to both living and dead tissues. The spores of the second division are somewhat abnormally long and hyaline giving a frosty appearance to the host when present in large numbers. I have arranged the specimens alphabetically. Quite a number have not been definitely determined. Some of these may prove new.

C. acalyphæ, Peck. On leaves of *Acalypha ostrycefolia* and *A. gracilens*. No. 89.

C. agrostidis, Atks. On leaves of *Eupatorium verbenacifolium*. No. 18.

C. alabamensis, Atks. Abundant and destructive to the foliage of *Ipomœa purpurea* No. 67.

C. althæina, Sacc. Abundant and destructive to leaves of *Althea rosea*. No. 66.

C. ampelopsidis, Pk. On leaves of *Ampelopsis quinquesfolia*. No. 32.

C. apii, Fres., *Var. pastinacæ*, Farl. Very abundant and destructive, completely destroying the foliage of *Pastinaca sativa*. No. 5.

C. asclepidora, Ell. & Kell. Frequent on the leaves of *Asclepias tuberosa*. No. 80.

C. atromaculans, E. & E. On the leaves, stems and fruit of *Sassia tora*. No. 94.

C. asiminea, E. & K. Abundant and destructive to leaves of *Asimina sp.* No. 62.

C. beticola, Sacc. Destructive to leaves of *Beta vulgaris*. No. 43.

C. boleana, (Thuem.) Speg. Seriously injuring the leaves of *Ficus carica*. No. 3.

C. brunckii, Ell & Gall. Abundant on leaves of *Pelargonium graveolens*. No. 99.

C. callicarpæ, Cke. Abundant and destructive to leaves of *Callicarpa americana*. No. 15.

C. canescena, E. & M. Very abundant on the leaves, stems and fruit of *Phaseolus vulgaris*. No. 13.

* Halsted, Bull Dept. of Bot. Ia, State Coll. 1888: 102-117.

- C. canescens*, E. & M. Common on leaves of *Phaseolus lunatus*. No. 52.
- C. caulicola*, Wint. Does serious injury to leaves and stems of *Asparagus officinalis*. No. 127.
- C. cercidicola*, Ell. Very abundant on leaves of *Cercis canadensis*. No. 31.
- C. cerasella*, Sacc. Common on leaves of *Prunus cerasus*. No. 33.
- C. clitoria*, Atks. Common on leaves of *Clitoria virginiana*. No. 57.
- C. consociata*, Wint. Common on leaves of *Ruellia ciliosa*. No. 66.
- C. crotonifolia*, Cke. Abundant on leaves of *Croton glandulosus*. No. 92.
- C. cruciferarum*, E. & E. Common on leaves of *Raphanus sativa*, and dead leaves of *Brassica oleracea* (Collard & Cabbage). This seems to be a strongly developed form of this polymorphic species. No. 74.
- C. cucurbitæ*, E. & E. Abundant on leaves of watermelon, cushaw, dipper gourd, flat gourd, pie melon and citron. During the past season this fungus seriously affected the foliage of all these plants. No. 1.
- C. davidsii*, E. & E. Very destructive to foliage of *Melilotus alba*. No. 69.
- C. diodiæ*, Cke. Abundant on the foliage of *Diodia teres*. No. 81.
- C. diospyri*, Thuem. Very abundant and destructive to the leaves of young plants of *Diospyrus virginiana*. The leaves curl up similar to the curling caused by powdery mildew of the cherry. No. 60.
- C. dolichi*, E. & E. Completely defoliates the plants of dolichos in poorly cultivated soil. No. 87.
- C. elaphantopodis*, E. & E. Abundant on leaves of *Elaphantopus carolinianus* and *E. nudatus*. No. 25.
- C. eupatoria*, Pk. Not uncommon on leaves of *Eupatorium rotundifolium*. No. 35.
- C. erythrogena*, Atks. Common on leaves of *Rhexia mariana*. No. 64.
- C. fuscovireus*, Sacc. Very abundant and destructive to leaves of *Passiflora incarnata* and *P. lutea*. No. 46.
- C. flagellaris*, E. & M. On leaves of *Phytolaca decandra*. No. 29.

C. glandulosa, Ell & Kell. Common on young plants of *Ailanthus glandulosus*. No. 21.

C. gossypina, Cke. Very abundant and destructive to the leaves, stems and fruit of *Gossypium herbaceum* especially in fields where the plants were poorly nourished. No. 6.

C. granuliformis, Ell. & Hal. Common on leaves of *Viola cucullata*. No. 38.

C. hibisci, F. & E. Abundant on languid leaves of *Hibiscus esculentus*. This seems to be closely allied to *C. gossypina*. No. 73.

C. hydrangeæ, E. & E. Common on leaves of cultivated *Hydrangea*. No. 71.

C. Hydrocotyles, E. & E. Common and destructive to the foliage of *Hydrocotyle canbyi* and *H. americana*. No. 41.

C. Hydropiperis, (Thuen.) Speg. Abundant and destructive to leaves of *Polygonum pennsylvanicum*. No. 37.

C. Iliscis, Ell. Common on foliage of *Ilex glabra*. No. 125.

C. Jatrophæ, Atk. Abundant and destructive to foliage of *Onidoscolus stimulosus*. No. 51.

C. Liquidambaris, C. & E. Abundant and destructive to the foliage of *Liquidambar styraciflua*. No. 23.

C. lucosticta, E. & E. Common on leaves of *Melia azedarach*. No. 7.

C. mali, E. & E. Very abundant and destructive to foliage of *Pyrus arbutifolia* Var. *erythrocarpa*. No. 55.

C. moricola, Cke. Abundant on leaves of *Morus rubra*. No. 110.

C. occidentalis, Cke. Very destructive to foliage of *Cassia occidentalis*. No. 86.

C. olivacea (B. & K.), Ell. Locally abundant and destructive to leaves of *Gleditschia triacanthos*. No. 123.

C. passaloraides, Winter. Abundant on leaves of *Amorpha fruticosa*. No. 65.

C. personata (B. & C.), Ell. Seriously injuring the foliage and stems of *Arachis hypogea*. No. 8.

C. plantaginis, Sacc. Common on leaves of *Plantago lanceolata*. No. 44.

C. populina, Ell. & E. V. Completely defoliates young trees of *Populus dilatata*. No. 2.

C. prenanthis, Ell. & Kell. Common on *Prenanthes* sp. No. 50.

C. prunicola, Ell. & E. V. Common on leaves of *Prunus americana*. No. 79.

C. rhuina, C. & E. Abundant on leaves of *Rhus copallina*, *R. pumila*, *R. toxicodendron*, *R. glabra*, and *R. aromatica*. No. 22.

C. richardicola, Atks. Common on potted plants of *Richardia africana*. No. 90.

C. ricinella, Sacc. & Berl. Quite abundant on fading leaves of *Ricinus communis*. No. 4.

C. rosicola, Pass. Frequent on leaves of cultivated roses. No. 124.

C. rubi, Sacc. Abundant on leaves of *Rubus canadensis*. No. 28.

C. sagittariæ, E. & K. Abundant on leaves of *Sagittaria variabilis*. No. 30.

C. serpentaria, Ell. & E. V. Not uncommon on leaves of *Aristolochia serpentaria*. No. 53.

C. smilacis, Thuem. This species does serious injury to the foliage of several species of wild smilax. No. 36.

C. sordida, Sacc. Very abundant on leaves of *Tecomia radicans*. No. 106.

C. sorghi, E. & E. Very abundant, seriously affecting the foliage, stems and sheaths of *Sorghum vulgare*, and the blades and sheaths of *Zea mais*. No. 16.

C. stylismæ, T. & E. Abundant on *Bueweria humistrata*. No. 59.

C. truncatella, Atks. Common on the leaves of *Passiflora incarnata*. No. 115.

C. tuberosa, E. & K. Abundant and destructive to the foliage of *Apoise tuberosa*. No. 84.

C. verbenicola, Ell. & E. Abundant on leaves of *Verbena carolina*. No. 61.

C. vernoniæ, E. & K. Common on leaves of *Vernonia angustifolia*. No. 119.

C. violæ, Sacc. Abundant on leaves of *Viola odorata*. No. 70.

C. viticola (Ces.), Sacc. Completely defoliates in late fall, the vines of *Vitis labrusca* and *V. rotundifolia*. Also found on other species of wild grapes.

AN ABNORMAL FERMENTATION OF BREAD.

BY C. H. ECKLES.

During the past summer my attention was called to a peculiar abnormal condition which the bread baked in the