Fungi Exotici: XXV. Notes on Uganda Fungi. II.: Microfungi

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ROYAL BOTANIC GARDENS, KEW.

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XLVII.—FUNGI EXOTICI: XXV. NOTES ON
UGANDA FUNGI.

II.—MICROFUNGI.

E. M. WAKEFIELD.

The present contribution towards a fungus-flora of Uganda enumerates a number of fungi, chiefly micro-forms, which occur on cultivated and wild plants, many of them as parasites. The list is compiled from records which have accumulated during the past six years, from collections made by Messrs. Dummer, Small, Maitland, and Snowden. A feature of the list is the large number of Uredinales, and it should be mentioned that in addition to those named many uredo-forms have been received which it has not been possible to identify satisfactorily.

The species of *Colletotrichum* on various hosts are listed separately, but as remarked under *C. incarnatum* it is probable that further work will show that many of these are identical. I am indebted to Mr. W. Small for correcting names of localities, and reading proofs.

BASIDIOMYCETES.

Helicobasidium longisporum, Wakef. in *Kew Bull.* 1917, p. 310.

On root of young Cacao, Mvuba, Buganda, *Small* 463.

USTILAGINALES.

Ustilago Cynodontis, Bref. Untersuchungen, XII, p. 105; *U. segetum* var. *Cynodontis*, Henn. in Engl. Bot. Jahrb. XIV, 1891, p. 369.

Fairly common on *Cynodon Dactylon*, Kampala, Jan. 1915, *Small* 166.

U. Digitaliae, Rabh. Fung. Eur. No. 1199.

Fairly common on *Digitalia horizontalis*, Willd. Kampala, *Small* 5.

- U. heterospora**, *P. Henn.* in Engler, Pflanzenwelt Ostaf. 1895, p. 48.
Tilletia Ayresii, Berk. ex Mass. in *Kew Bull.* 1899, p. 146.
 On *Panicum maximum*, Victoria Nyanza region, I. D. Maitland, 1914; on *Setaria aurea*, Nagunga, Dec. 1916, *Dummer* 3052.
- U. Schweinfurthiana**, *Thuem.* in Mycoth. Univ. No. 726.
 On *Imperata arundinacea*, near Nkoko, Dec. 1916, *Dummer* 3057.
- U. tritici** (*Pers.*) *Jens.* in Kell. & Sw., Rep. Kans. Agr. Exp. Sta. II, 1890, p. 262.
 On Wheat, Walasi, Bugishu, J. D. Snowden 529.
- Sphacelotheca Reiliana** (*Kühn*) *Clinton* in Journ. of Mycol. VIII, 1902, p. 141.
 On Millet, S.E. Bugishu, foot-hills of Mount Elgon, *Small* 165.
- S. Sorghi** (*Link*) *Clinton* in Journ. of Mycol. VIII, 1902, p. 140.
 On *Sorghum* sp., Kipayo, Nov. 1914, *Dummer* 1324.
- Cintractia axicola** (*Berk.*) *Cornu* in Ann. Sci. Nat. VI, 15, 1883, p. 279.
 On a Cyperaceous plant, Kijude, *Dummer* 2516.
- Tolyposporium philippinense**, *Syd.* in Ann. Myc. X, 1912, p. 78.
 On *Hyparrhenia cymbaria*, Stapf (= *Andropogon Cymbarius*, L.), Nagoge, Oct. 1916, *Dummer* 3011.
- Schroeteria Cissi** (*DC.*) *de Toni* in Sacc. Syll. VII, p. 501.
 Kirerema, Nov. 1913, *Dummer* 617.

UREDINALES.

- Uromyces Bidentis**, *Lagerh.* in Bull. Soc. Myc. Fr. XI, 1895, p. 213.
 On *Bidens pilosa*, Kipayo, *Dummer* 1101.
- U. Melantherae**, *Cooke* in Grevillea, X, 1882, p. 127.
 On *Melanthera Brownei*, Kipayo, *Dummer* 920; on *Melanthera*, Namanyonyi, Dec. 1915, *Dummer* 2753.
- U. Ipomaeae** (*Thuem.*) *Berk.* in Grevillea XI, 1882, p. 19.
 On Convolvulaceae, Gegede, July 1916, *Dummer* 2874.
- U. Secamones**, *Wakef.* in *Kew Bull.* 1917, p. 311.
 On *Secamone platystigma*, Namanyonyi, Oct. 1916, *Dummer* 3012.
- Uromyces Hyperici-frondosi** (*Schw.*) *Arth.* in Bull. Minnes. Acad. Nat. Sci., XI, 1883, p. 15.
 On *Hypericum Lalandii*, Kirerema, Nov. 1916, *Dummer* 3017.
- U. Polygalae**, *Grove* in *Kew Bull.* 1916, p. 269.
 On *Polygala* sp. Kipayo, *Dummer* 2324.
- U. appendiculatus** (*Pers.*) *Link*, Observ. II, 1816, p. 28.
 On *Vigna sinensis*, Kamuli, 1913, *Small* 1; on *Phaseolus Munga*, Kipayo, *Dummer* 1121.
- U. striatus**, *Schroet.* Abhandl. Schles. Ges. f. vaterl. Cultur, 1869-72, p. 11.
 On cultivated Lucerne, Mulange, Jan. 1920, *Dummer* 4420.

- U. Hypoxydis**, *Cooke* in *Grevillea* X, 1882, p. 127.
 On *Hypoxis* sp., Kijude, *Dummer* 2508.
- U. Aloës** (*Cooke*) *Magn.* in *Ber. deutsch. bot. Ges.* X, 1892, p. 48.
 U. *aloicola*, *P. Henn.* in *Engl. Bot. Jahrb.* XIV, 1891, p. 370.
 On *Aloë* sp., Kipayo, June 1914, *Dummer* 903.
- U. Commelinae**, *Cooke* in *Trans. Roy. Soc. Edinb.*, 1887, p. 342.
 On *Commelina* sp., Kiwafu *Dummer* 919; Mabira Forest, near Mubango, *Dummer* 1331; Kirerema, *Dummer* 164.
- U. Cyathulae**, *P. Henn.* in *Bull. Herb. Boiss.*, I, 1893, p. 107, and *Sydow* in *Ann. Myc.* V, 1907, p. 491.
 On *Cyathula globifera*, Moquin, Kipayo, Sept. 1914, *Dummer* 1109.
- Puccinia Berkheyae**, *Wakef.* in *Kew Bull.* 1917, p. 312.
 On *Berkheya Spekeana*, Namanyonyi, *Dummer* 2752.
- P. Coreopsidis**, *Wakef.* in *Kew Bull.* 1918, p. 209.
 On *Coreopsis* sp., Kipayo, Sept. 1914, *Dummer* 1113.
- P. Kalchbrenneri**, *De Toni* in *Sacc. Syll.* VII, p. 645.
 On *Helichrysum* sp., Kipayo, Nov. 1914, *Dummer* 1192; on *Helichrysum undulatum*, Lumbwa, May 1917, *Dummer* 3233.
- P. Le-Testui**, *Maubl.* in *Bull. Soc. Myc. Fr.* XXXII, 1906, p. 71.
 On *Vernonia* sp., near Nkoko, July 1916, *Dummer* 2858.
- P. pulvinata**, *Rabh.* in *Hedwigia*, 1871, p. 20.
 On *Echinops amplexicaulis*, Lumbwa, Oct. 1916, *Dummer* 3008.
- P. holosericea**, *Cooke* in *Grevillea* X, 1882, p. 126.
 On *Convolvulaceae*, Kivuvu, Dec. 1914, *Dummer* 1319.
- P. lateritia**, *Berk. & Curt.* in *Journ. Acad. Nat. Sci. Philadelphia*, New Ser. II, 1853, p. 281.
 On *Spermacoce Ruelliae*, DC., Kipayo, Dec. 1913, *Dummer* 616; on *Spermacoce* sp., Kirerema, *Dummer* 1470.
- P. Oldenlandiae**, *P. Henn.* in *Engl. Bot. Jahrb.*, XV, 1892, *Beibl.* 33, p. 5.
 On *Oldenlandia* sp., Kipayo, Jan. 1915, *Dummer* 1359.
- P. pentadicola**, *Grove* in *Kew Bull.* 1916, p. 271.
 On *Pentas verticillata* var. *pubescens*, S. Moore, Mubango, *Dummer* 1344.
- P. Pentadis-carneae**, *Wakef.* in *Kew Bull.* 1916, p. 74.
 On *Pentas carnea*, Kipayo, Oct. 1914, *Dummer* 1123.
- P. Thunbergiae-alatae**, *P. Henn.* in *Engler, Pflanzenwelt Ostaf.*, 1895, p. 50.
 Uredo-stage on *Thunbergia alata*, Namanyonyi, Jan. 1916, *Dummer* 2739.
- P. Hoslundiae**, *Syd.*, *Deutsch. Zentr.-Afr. Exped.* 1907-08, II Band, p. 96; *P. Hoslundiae*, *Grove* in *Kew Bull.* 1916, p. 270.
 On *Hoslundia* sp., Magigye, *Dummer* 1312.
- This is the type material of *Grove's* species, but comparison with *Sydow's* description leaves no doubt that the names are synonymous. *Grove* states that the apex of the teleutospores is not thickened, but re-examination of the material shows that it

is sometimes slightly thickened, and this removes the only essential difference in the descriptions by the two authors.

P. leonotidicola, *P. Henn.* in Bot. Ergeb. der Kunene-Sambesi Exped. 1902, p. 3.

On *Leonotis* sp., Kipayo, Sept. 1914, *Dummer* 1108.

P. natalensis, *Diet. & Syd.*, in Hedwigia 1899, p. 130.

On *Lantana trifolia*, L., Kipayo, Nov. 1914, *Dummer* 1191.

P. accedens, *Syd.*, Monogr. Ured. I, 1902, p. 309.

On *Lippia arvensis*, Kipayo, Dec. 1914, *Dummer* 2301.

The mesospores are less numerous than is described in the Brazilian type.

P. necopina, *Grove* in *Kew Bull.* 1916, p. 271.

On *Tristemma* sp., Kipayo, *Dummer* 2325.

Puccinia Gouaniae, *Holway* in Ann. Myc. III, 1905, p. 21.

Uredo stage only, on *Gouania* sp., Kipayo, Jan. 1915, *Dummer* 1340.

P. aequalis, *P. Henn.* in Engler, Pflanzenwelt Ostaf., 1895, p. 50.

On *Antidesma venosum*, Kipayo, Jan. 1915, *Dummer* 2504.

P. Abutili, *Berk. & Br.*, in Journ. Linn. Soc. XIV, 1873, p. 91.

On Malvaceae, Kipayo, Nov. 1914, *Dummer* 1304.

P. heterospora, *Berk. & Curt.* in Journ. Linn. Soc., X, 1868, p. 356.

On *Abutilon* sp., Kipayo, May 1914, *Dummer* 647; on *Sida rhombifolia*, Namilyango, *Dummer* 1488; on *Sida* sp., Lake shore Entebbe, Mar. 1918, *Maitland* 253.

P. exilis, *Syd.*, Monogr. I, p. 481, var. **Hibisci**, *Grove* in *Kew Bull.* 1916, p. 270.

On *Hibiscus* sp., Kirerema, *Dummer* 2326.

P. leptosperma, *Syd.*, Monogr. Ured. I, 1903, p. 557.

On *Drymaria cordata*, Kivuvu, Dec. 1915, *Dummer* 2740.

P. Kraussiana, *Cooke* in *Grevillea* X, 1882, p. 126.

On *Smilax Kraussiana*, Kivuvu, *Dummer* 1116.

P. cymbopogonis, *Mass.* in *Kew Bull.* 1911, p. 224.

On *Cymbopogon citratus*, Kampala, *Small* 7; the type material of this species was from Entebbe.

P. graminis, *Pers.*, Disp. Meth. Fung., 1797, p. 39, and Syn. 1801, p. 228.

On native-grown wheat, Toro, *Small* 28; on wheat, Wazikonya's, Bugishu, *Snowden* 527.

P. triticina, *Eriks.* in Ann. Sci. Nat., Sér. 8, IX, 1899, p. 270.

On wheat, Kampala plantation, June 1920, *Snowden* 662.

P. Sorghi, *Schw.*, Syn. Fung. Amer. Bor., 1834, p. 295; *P. Maydis*, *Bereng.*, in Atti VI Ruin, sc. ital. Milano, 1844, p. 475.

On cultivated maize, Mulange Estate, June 1919, *Dummer* 4163.

Pucciniosira Dissotidis, *Wakef.* in *Kew Bull.* 1917, p. 313.

On *Dissotis* or *Osbeckia* sp., Namanyonyi, July 1916, *Dummer* 2865; on *Dissotis incana*, Kipayo, *Dummer* 2157 (*Aecidium*).

Ravenelia minima, *Cooke* in *Grevillea* X, 1882, p. 128.

On *Albizzia Brownei*, Kipayo, Sept. 1914, *Dummer* 1107.

Hamaspora longissima (*Thuem.*) *Koern.* in *Hedwigia* XVI, 1877, p. 23.

On *Rubus* sp., Mubango, Jan. 1915, *Dummer* 1343.

Hemileia Dioscoreae-aculeatae, *Rac.*, Crypt. paras. Jav. Exs., No. 37. *Uredo Dioscoreae-aculeatae*, *Rac.*, Paras. Alg. u. Pilze Javas I, 1900, p. 30.

On *Dioscorea*, Kirerema, Nov. 1913, *Dummer* 619.

H. Scholzii (*P. Henn.*) *Syd.* in *Engl. Bot. Jahrb.* 45, 1910, p. 260.

On under surface of leaves of *Clerodendron*, Namanyonyi, *Dummer* 2751; Botanic Gardens, Entebbe, *Maitland* 229 partly; *Kampala*, *Small* 415.

H. vastatrix, *Berk. & Br.* in *Gard. Chron.* 1869, p. 1157.

On native and cultivated coffee, *Kampala*, *W. Small*.

Uredo mkusiensis, *P. Henn.* in *Engl. Bot. Jahrb.* 34, 1904, p. 41.

On *Psychotria* sp., Mulange, Mar. 1920, *Dummer* 4424.

This species is probably the uredo-stage of a *Hemileia*.

U. Pycnostachydis, *Kalchbr.* in *Grevillea* XI, 1882, p. 25.

On *Pycnostachys Dawei*, N.E. Br., Mugomba, May 1914, *Dummer* 648.

U. Gossypii, *Lagerh.*, in *Journ. of Mycol.* VII, 1891, p. 48.

On cultivated cotton, native garden, Kipayo, *Dummer* 2183.

U. Erythrinae, *P. Henn.* in *Ann. Mus. du Congo*, II, fasc. 3, 1908, p. 224.

On *Erythrina tomentosa*, Nov. 1914, Kipayo, *Dummer* 1311.

U. Zorniae, *Diet.* in *Hedwigia* 38, 1899, p. 257.

U. Zorniae, *Berk. ex Cooke* in *Grevillea* XX, 1892, p. 110 (*nomen nudum*).

On *Zornia* sp., Lumbwa, Sept. 1916, *Dummer* 3007.

U. Achyranthis, *P. Henn.* in *Engler, Pflanzenwelt Ostaf.* p. 51.

On *Achyranthes* sp., Kipayo, Jan. 1914, *Dummer* 1332.

U. Fici, *Cast.*, *Cat. Pl. Marseill.* II, p. 87.

On leaves of *Ficus* sp., Kipayo, Jan. 1915, *Dummer* 1334; Lumbwa, July 1916, *Dummer* 2870.

U. Dioscoreae, *P. Henn.* in *Hedwigia*, 1896, p. 255.

On *Dioscorea* sp., Lumbwa, June-July, 1916, *Dummer* 2856.

U. cypericola, *P. Henn.* in *Engler, Pflanzenwelt Ostaf.*, p. 52.

On *Mariscus* sp., and *Mariscus Sieberianus* Nees, Kipayo, Oct. 1914, *Dummer* 1120, 1152.

U. digitariaecola, *Thuem.*, *Mycoth. Univ.* No. 2041.

On *Digitaria* sp., Kipayo, Aug. 1914, *Dummer* 949; on *D. digitata*, *Stapf*, Terinyi, Bukedi, Oct. 1917, *Snowden* 536.

Accidium Vangueriae, *Cooke* in *Grevillea* X, 1882 p. 124.

On leaves of a Rubiaceae shrub, Bupoto, Bugishu, Nov. 1916, *J. D. Snowden* 490; on *Vangueria* sp., Bulago, Mount Elgon, July, 1917, *Snowden* 521.

A. flavidum, *Berk. et Br.* in *Journ. Linn. Soc.* XIV, 1873, p. 95.

On *Pavetta* sp., Mbarara, near Kivuvu, *Dummer* 3250.

- A. acanthacearum**, Cooke in Grevillea X, 1882, p. 124.
 On *Justicia uncinulata*, Oliv. var. *tenuicarpa*, C.B. Cl., *Small* 18; Kipayo, *Dummer* 649; on *Justicia* sp., *Small* 19; Kipayo, *Dummer* 900, 902.
- A. Leonotidis**, P. Henn. in Engler, Pflanzenwelt Ostaf., 1895, p. 52.
 On *Leonotis* sp., Magigye, *Dummer* 1482.
- A. Phyllanthi**, P. Henn. in Engl. Bot. Jahrb., XV, 1892, Beibl. 33, p. 6.
 On *Phyllanthus* sp., Mulange, April 1919, *Dummer* 4022; Namanyonyi, Dec. 1916, *Dummer* 3055.
 The spores in these specimens average rather smaller than those of the type form.
- A. erythrobasis**, Berk. & Br., in Journ. Linn. Soc., XIV, 1873, p. 94.
 On cultivated *Hibiscus* sp., Mugomba, Jan. 1915, *Dummer* 1346.
- A. Glycines**, P. Henn. in Engler, Pflanzenwelt Ostaf., 1895, p. 52.
 On *Glycine javanica*, Kipayo, Aug. 1914, *Dummer* 926; *Dummer* 1193.
- A. Crotalariae**, P. Henn. in Engler, Pflanzenwelt Ostaf., 1895, p. 52.
 On *Crotalaria* sp., Kampala, May 1915, *Small* 330.
- A. Vignae**, Cooke in Grevillea VIII, 1879, p. 71.
 On *Pueraria phaseoloides*, *Vigna sinensis*, and *Vigna Catjang*, all imported from Java, Kampala plantation, *Small* 127, 128, 171 partly; on *Vigna* sp., *Small* 250 partly.
- A. cookeanum**, De Toni, in Sacc. Syll. Fung. VII, p. 822.
 A. *Loranthi*, Cooke in Grevillea XIV, p. 13.
 On *Viscum* sp., Kangage Forest, Mar. 1915, *Maitland* 122.

PERISPORIALES.

- Erysiphe Polygoni**, DC., Fl. Fr. 2, 1805, p. 273.
 On *Tephrosia paniculata*, Kipayo, *Dummer* 924; on *Vigna?*, Kipayo, *Dummer* 1105; on *Pisum sativum*, Mulange, Jan. 1920, *Dummer* 4417.
- Eurotium herbariorum** (Wigg.) Link. Spec. Plant. I, p. 79.
 Ascigerous stage on leaves, *Small* 124.
- Meliola clavulata**, Wint. in Hedwigia 25, 1886, p. 98.
 On *Convolvulaceae*, Magigye, *Dummer* 1483.
- M. Molleriana**, Wint. in Hedwigia 25, 1886, p. 98.
 On *Hibiscus* sp., Kirerema, *Dummer* 1471.
- M. bicornis**, Wint. in Hedwigia 25, 1886, p. 99.
 On *Glycine javanica*, Kipayo, *Dummer* 918; Kampala, *Small* 123; on *Teramnus labialis*, Lumbwa, July 1916, *Dummer* 2869.
- M. clerodendricola**, P. Henn. in Hedwigia 37, 1898, p. 288.
 On leaves of *Clerodendron*, Botanic Garden, Entebbe, *Maitland* 229 partly, *Small* 461; on *Clerodendron capitatum*, Entebbe, 1919, *Maitland* 271.
- M. Melastomacearum**, Speg., Fung. Puigg. 1889, p. 116.
 On *Dissotis* sp., Kipayo, Sept. 1914, *Dummer* 1103.

M. palmicola, Wint. in Hedwigia 26, 1887, p. 31.

On dead *Phoenix reclinata* pinnae, Kipayo, Aug. 1914, *Dummer* 916.

M. Pazschkeana, Gaill., Le Genre Meliola, 1892, p. 95.

On *Markhamia platycalyx*, Nagunga, Sept. 1914, *Dummer* 1112.

This form agrees with Gaillard's description, except that it has somewhat smaller spores than the type.

M. stenospora, Wint. in Hedwigia 25, 1886, p. 97.

On *Convolvulaceae*, Kirerema, *Dummer* 618; on *Piper* sp., Kipayo, *Dummer* 2168.

Parodiella melioloides (B. & C.) Wint. in Hedwigia 24, 1885, pp. 108, 257; Pat. in Bull. Soc. Myc. Fr., 8, 1892, p. 129.

On leaves of an unnamed plant, *Dummer* 159, 1117.

There is no doubt that *Exosporium lateritium*, Syd., described in Ann. Myc. XI, 1913, p. 407, represents the conidial stage of this plant. These specimens contained mostly conidia, but a few perithecia were found intermixed. The conidial stage was figured by Patouillard.

P. perisporoides (B. & C.) Speg., Fung. Arg., Pug. I, 1880, p. 178.

Common on various *Leguminosae*. On *Crotalaria* sp., Kipayo, *Dummer* 1124; on *Indigofera subulata*, Namilyango, *Dummer* 1491; on unnamed legume, *Dummer* 1490; on *Vigna* sp., Kipayo, *Dummer* 1306; on *Tephrosia linearis*, Namanyonyi, *Dummer* 2749.

Corynelia uberata, Fr., Syst. Myc. II, p. 535.

On leaves of seedling *Podocarpus nulangianus*, Entebbe, June 1917, *Maitland* 228.

SPHAERIALES.

Ceratosphaeria lampadophora (B. & Br.) Niessl. in Verh. naturforsch. Ver. Brunn, XIV, 1876, p. 43.

Associated with *Hypoxyylon* sp., Wakigu Forest, Feb. 1915, *Maitland* 95.

Eutypella corynostoma (B. & Rav.) Sacc., Syll. I, p. 156.

On dead branch of *Albizzia moluccana*, Kampala, June 1915, *Maitland* 199.

Mycosphaerella conferta (Speg.) Wakef. Comb. Nov.

Sphaerella conferta Speg., Fung. Guar. Pug. I, 1883, p. 88.

On *Allophylum* sp., Mulange, Jan. 1920, *Dummer* 4416.

Mycosphaerella depazeaeformis (Ces. & de Not.) Wakef. Comb. Nov.

Sphaerella depazeaeformis Ces. & De Not. Schem. Sfer. ital. in Comm. Soc. Critt. ital. I, part 4, 1863, p. 64.

On *Oxalis corniculata*, forma, Kipayo, Jan. 1915, *Dummer* 1333.

Mycosphaerella Erythrinae, Koord., Bot. Unters. 1907, p. 189.

Common on *Erythrina tomentosa*, Kampala, Oct. 1914, *Small* 167.

Leptosphaeria Protearum, Syd., in Ann. Myc. X, 1912, p. 441.

On *Protea madiensis*, Lumbwa, July 1916, *Dummer* 2863.

L. Sacchari, v. *Breda*, in *Meded. v. Het. Proefstat. v. Suikerr.* in West Java, 1892, p. 25.

On sugar-cane, common, *Small* 13.

Gibberidea Zingiberacearum, *Rac.* in *Bull. Ac. Sc. Cracovie*, 1909, p. 385.

On leaves of *Amomum* sp., Entebbe, *Maitland* 270.

Engleromyces Goetzei, *Henn.* in *Engl. Bot. Jahrb.* XXVIII, 1900, p. 327; *Colletomanginia paradoxa*, Pat. in *Bull. Soc. Myc. Fr.* Bamboo-zone, Mount Elgon, Dummer-Maclennan Exped. Jan. 1918, No. 3448.

This extraordinary plant has been received at Kew previously from the Aberdare Mountains, British East Africa, also on Bamboo. This is the first record from Uganda.

Rosellinia asperata, *Mass.* ex *Wakef.* in *Kew Bull.* 1918, p. 209.

On wood, Kampala, *Small* 315.

Ustulina vulgaris, *Tul.*, *Sel. Fung. Carp.* II, p. 23.

On dead stump of *Phoenix reclinata*, *Maitland* 306; *Dummer* 629.

U. zonata (*Lév.*) *Sacc.*, *Syll. Fung.* I, p. 352.

Mount Elgon, Dec. 1914, *Small* 136, 215; Namampe, May 1915, *Maitland* 192; Kipayo, *Dummer* 1453.

DOTHIDEALES.

Auerswaldia examinans (*Mont. & Berk.*) *Sacc.*, *Syll.* II, p. 626.

Mount Elgon, Dec. 1914, *Small* 135.

Dothidina disciformis, *Theiss. & Syd.* in *Ann. Myc.* XIII, 1915, p. 304; *Auerswaldia disciformis*, *Wint.*

On *Myrica* sp., Gegede, Mar. 1916, *Dummer* 2832.

Catacauma repens (*Cd.*) *Theiss. & Syd.* in *Ann. Myc.* XIII, 1915, p. 383.

Phyllachora repens (*Cd.*) *Sacc.*, *Syll.* II, p. 597.

On *Ficus* sp., Kipayo, Aug. 1914, *Dummer* 917.

C. ulcerata (*Mass.*) *Theiss. & Syd.* in *Ann. Myc.* XIII, 1915, p. 399.

Phyllachora ulcerata, *Mass.*

On *Ficus ovata*, *Vahl.*, leaves, Kampala, *Small* 17.

Phyllachora Desmodii, *P. Henn.* in *Engler, Pflanzenwelt Ostaf.* 1895, p. 34.

On *Desmodium* sp., Lumbwa, Mar.-April, 1916, *Dummer* 2841.

P. graminis (*Pers.*) *Fckl.*, *Symb. Myc.* p. 216.

On *Panicum* sp., Naminyama Hill, July 1916, *Dummer* 2889.

HYPOCREALES.

Nectria flavo-lanata, *Berk. & Br.* in *Journ. Linn. Soc.* XIV, 1873, p. 114.

On dead Cacao stem, Mabira Forest Plantation, Chagwe, July 1917, *Maitland* 227.

N. flavo-lanata resembles *N. tjibodensis*, *Penz. & Sacc.* in habit, but has broader (5-6 μ) and distinctly striate spores. Mixed with

the normal form in this material is a variety with spores $20-24 \times 7-8 \mu$.

Petch has pointed out (Ann. Roy. Bot. Gard., Peradeniya, VII, 2, 1920, p. 103), that the spores of this species are subject to considerable variation. He thinks it probable that *N. flocculenta*, v. Hoehn., which only differs in the smaller spores, may be referred here. As the striation of the spores may also vary, it seems possible that *N. tjiobodensis* may eventually be found to be also a form of the same species.

Nectria stigme, *Rehm* in *Hedwigia* XLIV, 1904, p. 2.

On *Ustulina zonata*, Kipayo, *Dummer* 629.

The spores of this specimen are slightly longer than those described, $5-8 \times 4 \mu$.

N. Rickii, *Rehm* in *Hedwigia* XLIV, 1904, p. 2.

On *Hypoxylon* sp. on a tree-trunk serving as a bridge, Kisubi Forest, Aug. 1918, *Maitland* 310.

Spores $12 \times 6-7 \mu$. In Saccardo's *Sylloge* Vol. XVII, p. 796 the descriptions of this and of the preceding species are transposed. In both the spores are brownish and warted when mature, but those of *N. Rickii* are larger. Probably they are merely forms of one species.

Calonectria guarapiensis, *Speg.*, *Fung. Guar.*, Pug. I, 1883, p. 102.

On *Acalypha fruticosa*, Sai, Jan. 1915, *Dummer* 1336.

Megalonectria pseudotrichia, *Speg.*, *Fung. Arg.*, Pug. IV, 1880, p. 82.

Common. Kipayo, *Dummer* 641, 1144; Kampala, *Small* 4, 292; Nakinyika Forest, *Maitland* 144; Namampe Forest, *Maitland* 188.

PHYCOMYCETES.

Rhizopus stolonifer (*Ehrenb.*) *Lind.*, *Danish Fungi*, 1913, p. 72.

On an *Asclepiad*, Kipayo, Nov. 1914, *Dummer* 1199.

SPHAEROPSIDAE.

Phyllosticta Crotalariae, *Sacc.*, *Syll.* XXII, p. 1291.

The conidial stage of *Sphaerella Crotalariae*, Petch? See Petch in Ann. Roy. Bot. Gard. Peradeniya III. 1906, p. 2.

On *Crotalaria* sp., Kampala, May 1915, *Small* 329.

Phoma Heveae, *Petch* in Ann. Roy. Bot. Gard. Peradeniya, III, 1906, p. 5.

On dead twigs of *Hevea brasiliensis*, Kampala, 1913, *Small* 3.

Ascochyta phaseolorum, *Sacc.* in *Michelia* I, p. 164.

On leaves of *Vigna Catjang* imported from Java, and on *Vigna* sp., associated with *Aecidium Vignae*, Cooke, Kampala, *Small* 171, 250 partly.

Darluka Filum (*Biv.*) *Cast.*, *Cat. Pl. Marseill.* Sup. p. 53.

On *Imperata arundinacea*, Masindi, *J. D. Snowden*, 530.

Aschersonia Zenkeri, *P. Henn.* in *Engl. Bot. Jahrb.* XXIII, p. 541.

On *Fluggea microcarpa*, Nagoge, Jan. 1917, *Dummer* 3061 partly.

A. crenulata, *Pat. & Har.* in Journ. de Bot. XIV, 1900, p. 244.
A. tephrosiicola, *P. Henn.* in Ann. Mus. Congo II, fasc. 3, 1908, p. 228.

On *Fluggea microcarpa*, Nagoge, Jan. 1917, *Dummer* 3061 party.

Associated with the preceding species on the same leaves.

Septoria Chenopodii, *West.* in Bull. Acad. Sc. Bruxelles, XVIII, 1851, p. 396.

On cultivated *Chenopodium album*, Mulange, Feb. 1919, *Dummer* 3943. The spores are a little smaller than those of the European form.

S. Coffeae, *Wakef.* in *Kew Bull.* 1918, p. 210.

On leaves of coffee injured by hail, Kampala, *Small* 480.

S. nesodes, *Kalchbr.* in *Grevillea* IX, 1880, p. 20.

On *Hydrocotyle asiatica*, Kipayo, *Dummer* 1338, 1478.

Botryodiplodia Theobromae, *Pat.* in Bull. Soc. Myc. Fr., VIII, 1892, p. 136.

On fruits of a palm (*Raphia* sp.?), Wallasi, Bugishu, Oct. 1916, *J. D. Snowden*, 478, 482; on petiole of palm leaf, Kitibulu Forest, Dec. 1918, *Maitland* 392.

The specimens on palm fruits are the strongly-marked *Lasiodiplodia* form. Exactly the same form has been received from the Portuguese Congo on fruits of *Sclerospora Mannii*.

Hendersonia Protearum, *Wakef.* in *Kew Bull.* 1918, p. 210.

On leaves of *Protea madiensis*, Oliv., Lumbwa, July 1916, *Dummer* 2866.

Colletotrichum gloeosporioides (*Penz.*) *Sacc.*, Syll. III, p. 735.

On lemon leaves and twigs, Kampala, *T. D. Maitland*.

C. Camelliae, *Mass.* in *Kew Bull.* 1899, p. 91.

On leaves, twigs and seed-vessels of tea, Kampala, *T. D. Maitland*.

C. coffeanum, *Noack* in Zeitschr. f. Pflanzenkr., 1901, p. 202.

On twigs, leaves and berries of *Coffea arabica*, *C. robusta*, and *Coffea* sp., Kampala, *Maitland*; on coffee twigs, Toro, *Small* 532. Pure cultures of this species produce a *Glomerella* which is indistinguishable from *G. cingulata*, *S. & v. Schr.*

C. incarnatum, *Zimm.* in Centralbl. f. Bakt. u. Paras. 1901, p. 143.

On cocoa pods, causing hardening, Kampala, *Small* 481.

This species is supposed to be characterised by a blue coloration of the basal tissue when treated with iodine. In the present case this reaction was found to be not at all constant, and it is very probable that this and the following species are identical. Moreover, *Small* has found that *Colletotrichum coffeanum* from coffee will infect cocoa, and conversely. It seems probable that all these *Colletotrichums* of tropical economic plants may be forms of the ubiquitous *Glomerella cingulata*.

Colletotrichum theobromicola, *Del.* in Bull. Soc. Myc. Fr., XXI, 1905, p. 191.

On stems of Cacao, Kampala, *Maitland*.

HYPHOMYCETES.

- Beniowskia Penniseti**, Wakef. in *Kew Bull.* 1916, p. 75.
On *Pennisetum purpureum*, Schum., and *Sorghum vulgare*, Small 251.
- Cercosporella Gossypii**, Speg., Fung. Guar., Pug. I, 1883, p. 162.
On cultivated cotton, native garden, Kipayo, Dummer 1335.
- Periconia byssoides**, Pers., Syn. Fung. p. 686.
On coffee twigs, Small 29 partly, 31.
- Helminthosporium Ravenelii**, Curt. in *Grevillea* III, 1875, p. 102.
On *Eragrostis* sp., Lumbwa, Oct. 1916, Dummer 3005.
- Cercospora personata** (B. & C.) Ell. in *Journ. of Mycol.* I, 1885, p. 63.
Septogloeum Arachidis, Rac. in *Zeitschr. für Pflanzenkr.* 1898, p. 66.
On cultivated ground-nut, Kipayo, 1914, Dummer 1301; on cultivated *Cassia corymbosa*, Mukono, 1914, Dummer 1302.
- C. sapiicola**, Speg., Myc. Arg. V, p. 442, in *Ann. Mus. Nac.* Buenos Aires XX, 1910.
On *Sapium Mannianum*, Mulange, Jan. 1920, Dummer 4413.
- C. cannabina**, Wakef. in *Kew Bull.* 1917, p. 314.
On cultivated Indian Hemp, Kipayo, Dec. 1914, Dummer 1320.
- C. Cearae**, Petch in *Ann. Roy. Bot. Gar. Peradeniya*, III, 1906, p. 10.
On cultivated Ceara rubber, Kipayo, Dummer 1495.
- C. Henningsii**, Allesch. ex P. Henn. in Engler, *Pflanzenwelt Ostaf.*, I, p. 35.
Common on *Manihot utilisima*, Kampala, Oct. 1914, Small 170; Kipayo, Jan. 1915, Dummer 1348.
- Cercospora coffeicola**, Berk. & Cooke in *Grevillea* IX, 1881, p. 99.
On leaves of *Coffea stenophylla* and *Coffea* sp., Kampala, Small 322, 323, and 332; on nursery seedlings of coffee, Kampala, Maitland.
- C. Chevalieri**, Sacc. Syll. XXII, p. 1431.
C. Amorphophalli, Pat. & Har. in *Bull. Soc. Myc. Fr.* XXIV, 1908, p. 15.
On *Amorphophallus* sp. Namanyonyi, July 1916, Dummer 2879.
- C. Raciborskii**, Sacc. & Syd., Syll. XVI, p. 1070.
On native-grown tobacco, Kampala, Small 15.
- Macrosporium Brassicae**, Berk. in *Smith, Engl. Flor.* V, p. 338.
On leaves of cabbage, Kampala, Small 324; Kipayo, Dummer 1499.
- M. Solani**, Ell. & Mart. in *Amer. Nat.* 1882, p. 1003.
On *Datura Stramonium*, Kampala, Oct. 1914, Small 173.
- Tubercularia versicolor**, Sacc. Fung. ital. tab. 961.
On the healing surface of tapped *Hevea*, Mubango, Dec. 1916, J. D. Snowden, 489.

The spores average slightly broader than those of the European form.

Tuberculina persicina (*Ditm.*) *Sacc.*, *Fung. ital.* tab. 964.

On *Cissus Afzelii*, with *Aecidium* sp., Kimerema, *Dummer* 2747.

Fusarium coffeicola, *P. Henn.* in *Engl. Bot. Jahrb.* XXII, 1895, p. 82.

On coffee twigs, Kampala, *Small* 29 partly.

F. heterosporum, *Nees*, in *Nov. Act. Cur.* IX, 1818, p. 235.

On *Panicum maximum*, common, Kampala, *Small* 8, 174; Kipayo, *Dummer* 1468.

Epicoccum vulgare, *Cd.*, *Icon. Fung.* I, p. 5.

Kipayo, *Dummer* 608.

STERILE MYCELIA.

Sclerotium Rolfsii, *Sacc.*

Associated with a wilt of Carnations, Kampala, May 1919, *Small* 534.

XLVIII.—CONTRIBUTIONS TO THE FLORA OF SIAM.

ADDITAMENTUM XI.

W. G. CRAIB.

Buettneria siamensis, *Craib* [Sterculiaceae-Buettnerieae]; species nova foliis haud lobatis, sepalis facie neutra glabris, petalorum appendicibus glabris, corona dorso haud rostrata cognoscenda.

Caules lignosi, volubiles, primo pilis stellatis brevibus ferrugineis sat dense instructi, mox puberuli, cortice brunneo vel rubro-brunneo tenuiter longitudinaliter striato obtecti. *Folia* ovata vel elliptico-ovata, rarius rotundato-ovata, apice caudato-acuminata, basi cordata, ad 20 cm. longa et 14 cm. lata, chartacea, supra ad costam nervosque laterales parce pubescentia, infra puberula nisi in nervorum axillis pilosa, e basi 7-nervia nervis duobus infimis intramarginalibus tentioribus et brevioribus, nervis lateralibus (e costa ortis) utrinque 6, nervis omnibus supra conspicuis subtus prominentibus, nervis transversis numerosis supra conspicuis subtus prominulis, nervulis rete supra mox sat conspicuum efficientibus, margine integra, petiolo ad 11·5 cm. longo apice et basi incrassato subterete pilis stellatis brevibus parce vel subdense instructo striatulo suffulta, pulvino in ramulis brevibus valde prominente; stipulae cito deciduae, lineari-lanceolatae, pubescentes, circa 7 mm. longae. *Inflorescentia* axillaris, pedunculo communi circa 2·5 cm. longo suffulta, multiflora, pedicellis ad 8 mm. longis cum alabastris dense breviter griseo-puberulis. *Calyx* vix ad basem in segmenta 5 late lanceolata apicem versus gradatim angustata acuta 4·5 mm. longa 1·75 mm. lata divisus. *Petala* subviridia (ex *Kerr*), 2 mm. longa, appendice 3·5 mm. longa glabra instructa. *Antherae* filamentis brevibus suffultae.

Doi Suteh, 900 m., evergreen jungle, *Kerr* 3252.