

A list of fungi new to Cyrenaica (Libya).

By Jürgen Kranz¹⁾.

Cyrenaica, the eastern province of Libya, consists of Cyrenaica proper surrounded by a pre-desert region, and a large stretch of the Libyan desert from the shores of the Mediterranean Sea to the rocks of the Tibesti.

Cyrenaica proper is essentially the tertiary limestone formation of the Gebel Akhdar (Green Mountains) which rises up to an altitude of nearly 900 m, and a narrow litoral plain. Climate and vegetation are predominately mediterranean in character. The average annual rainfall ranges from 200 to 600 mm and is confined to the period October—April. Temperature reaches its maximum in July and August with a mean of about 30 — 33° C. Irrigation is common in the litoral and the oasis, where hardly any precipitation occurs, but is also practised at some places in the Gebel. The prevailing soil type in Cyrenaica proper is terra rossa.

The plant diseases and fungi in the following list were collected from November 1959 to March 1961. Only fungi not previously recorded from Cyrenaica are included.

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Phycomycetes.

Peronosporales.

1. *Peronospora spinaciae* Laubert. — On *Spinacia oleracea* (spinach), downy mildew on leaves; Barce, 2. 1. 1961, slight attack; C 242, IMI 84632²⁾ as *P. farinosa* Fr.

2. *Peronospora sisymbrii-officinalis* Gäum. — On *Sisym-*

¹⁾ Formerly Expanded Technical Assistance Programme of the Food and Agriculture Organization of the United Nations (FAO), Libya Missions.

²⁾ A number preceded by a C refers to the herbarium in the Plant Protection Section of the Nazaret of Agriculture & Forests, Benghazi/Libya, IMI to the herbarium in the Commonwealth Mycological Institute, Kew, Surrey, England.

brium irio, downy mildew on leaves; Exp. Stat. Fuehat I (Benghazi), 27. 12. 1960; infrequent and slight; C 235, IMI 84630 as *P. parasitica* Fr.

Mucorales.

3. *Rhizopus stolonifer* (Ehrenb. ex Fr.) Lind. — On *Lycopersicon esculentum* (tomato) fruits, cut and exposed to sun for curing; oasis Jalo, January 1961; C 286, IMI 84607b. On *Citrus sinensis* (orange), rotting roots; Derna, January 1960. On *Carica papaya* (Pawpaw), mummified fruits; Exp. Stat. Fuehat (Benghazi), 1. 9. 1961; IMI 83408c. — This fungus seems to be widespread as it easily occurred in isolations and in humid chambers.

4. *Mortierella baineri* Cost. — On *Sorghum vulgare*, together with *Fusarium solani* (Mart.) App. & Wr.; on rotting heads; Tobruk, 4. 7. 1960; C 144, IMI 83793b.

Ascomycetes.

Erysiphales.

5. *Erysiphe graminis* DC. — On *Hordeum vulgare* (barley); Derna and Barce, March 1960; very slight attack. — On *Triticum aestivum* (wheat); Safsaf, May 1960; in a varietal trial, some var. were slightly, others severely attacked; but the neighbouring barley remained free. Perithecia have been seen.

Myriangiales.

6. *Elsinöe piri* (Woron.). — On *Pirus malus* (apple), on leaf spots in its conidial (*Sphaceloma*) stage; Om Gdeih, 27. 7. 1960; very rare; C 154, IMI 82651.

Sphaeriales.

7. *Eudarlucula australis* Speg. — On *Puccinia* ? *nakanishikii* Diet. on leaves of a grass sp; Wadi Glaa, 13. 2. 1961; IMI 85429b.

8. *Glomerella cingulata* (Stonem.) Spauld. & Schenk. — On *Citrus sinensis* (orange), associated with die-back of twigs and leaf anthracnosis; Barce, November 1959; C 30, IMI 82043. This fungus appears to be widespread in Cyrenaica in its *Colletotrichum* stage, but its rôle as a pathogen is uncertain.

9. *Physalospora obtusa* (Schw.) Cooke. — On *Pirus communis* (pear), mummified fruits, Zorda, October 1959; C 1. — On *Cydonia vulgaris* (quince), mummified fruits, Zorda, October 1959. — On *Mespilus germanica* (medlar), mummified fruits, Zorda, October 1959. — *P. obtusa* occurred in its conidial form *Botryodiplodia malorum* (Berk.) Petr. et Syd. in a grove consisting of these fruit trees, growing on dry land.

10. *Sordaria destruens* (Shear) Hawker (= *Melanospora destruens* Shear). — On *Cydonia vulgaris* (quince) leafspots; Zorda, 17. 11. 1959; C 3, IMI 82633.

11. *Trichometasphaeria turcica* Lutrell (as *Helminthosporium turcicum* Pass.). — On *Sorghum sudanense* (Sudan grass), leafspots; Exp. Stat. Fuehat I (Benghazi), 13. 9. 1960; C 194, IMI 83411.

Pseudosphaeriales.

12. *Pleospora betae* Björling (as *Phoma betae* (Oud.) Frank.) — On *Beta vulgaris* var. *cicla* (Swiss chard), leafspots, severe attack; Exp. Stat. Fuehat I (Benghazi), July 1959.

13. *Pleospora* sp. — On *Rosmarinus officinalis* (rosemary), twig canker, rare; Ex-Villa Balbo near Ras el Hilal, February 1961; IMI 82427. — This is probable the same fungus as Fabre called *Teichospora rosmarini* (Dr. Ellis, CMI).

Hypocreales.

14. *Gibberella zeae* (Schw.) Petch (as *Fusarium sambucinum* Fuckel). — On *Zea mays* (maize), cob rot; Fuehat (Benghazi), 13. 9. 1960; the disease seems to be rare; C 193, IMI 83415.

15. *Polystigma fulvum* (DC.) Lév. — On *Prunus amygdalus* (almond), leaf blotch; Zorda, July 1959, slight; Giresola (Barce), 8. 8. 1960, severe, conducive to remarkable leaf fall.

Basidiomycetes.

Polyporales.

16. *Stereum hirsutum* (Willd. ex Fr.) Fr. — On *Acacia cyanophylla*, trunks of living and decaying trees, Cyrene, 15. 1. 1961; frequent; IMI 84628.

Agaricales.

17. *Boletus* sp. — In a forest of *Pinus halepensis*; Cyrene, between crossroad and village, February 1961, very rare.

18. *Clitocybe* sp. near *C. inversa* (Scop. ex Fr.) Quel. — In a forest of *Pinus halepensis*; Cyrene, between crossroad and village, 15. 1. 1961, very rare; IMI 84617 & 84624.

19. *Clitocybe* sp. found together with No. 18, being more frequent; IMI 84621 & 84622.

20. *Tricholoma terreum* (Schaeff. ex Fr.) Kummer. — In a forest of *Pinus halepensis*; Cyrene, between crossroad and village, 15. 1. 1961; abundant, sometimes in rings around trees; IMI 84620.

Ustilaginales

21. *Ustilago cynodontis* (Pass.) P. Henn. — On *Cynodon dactylon* (Bermuda grass) along an irrigation canal near the sea; in the inflorescences; Latrun, 12. 11. 1960; C 215, IMI 83794.

22. *Ustilago maydis* (DC) Corda. — On *Zea mays* (maize), Derna, November 1959, very rare.

23. *Tilletia foetida* (Wallr.) Liro (= *T. laevis* Kühn). — On *Triticum aestivum* (wheat). Zorda, November 1959; this fungus appears to be less frequent than the following sp.

24. *Tilletia tritici* (Bjerk.) Wint. — On *Triticum aestivum* (wheat), widespread throughout Cyrenaica proper.

Uredinales.

25. *Melampsora euphorbiae* (Schub.) Cast. — On *Euphorbia helioscopia*, leaves and stems; Om Gdeih, 31. 1. 1960, severe; C 39, IMI 82645.

26. *Melampsora ricini* Pass. — On *Ricinus communis* (castor bean), leaves; Cyrene, near the Museum and the Forum, 25. 5. 1960; only a few shrubs were found infested; C 135, IMI 82060.

27. *Puccinia coronata* Corda. — On *Avena sativa* (oat); Om Gdeih, 4. 4. 1960, severe.

28. *Puccinia cynodontis* Lacroix ex Desm. — On *Setaria viridis*, leaves; Latrun, near an irrigation canal, 28. 7. 1960; not very severe; IMI 83788. — On *Cynodon dactylon* (Bermuda grass), leaves; Oasis Augila, near an irrigation canal; severe, 25. 1. 1961; IMI 84611.

29. *Puccinia graminis* Pers. — On *Triticum aestivum* (wheat); from May onwards, widespread throughout Cyrenaica proper and severe in some places, particularly in the upper Gebel. — On *Lolium* sp.; Ain Mara, June 1960; a single plant severely affected.

30. *Puccinia* ? *nakanishikii* Diet. — On leaves of a grass sp. parasitized by *Eudarluca australis*; Wadi Glau, 13. 2. 1961; IMI 85429c.

31. *Puccinia notobasidis* Frag. — On *Notobasis* ? *syriaca*; Om Gdeih, February 1960; Cyrene crossroad, April 1960; Messa, July 1960; IMI 82062.

32. *Puccinia allii* Rud. (*P. porri* Wint.). — On *Allium cepa* (onion); Tobruk, 25. 5. 1960; slight; IMI 82058. This specimen represents the one extreme (*P. porri*) in the variable species *P. allii* (Laundon, CMI).

33. *Puccinia sorghi* Schw. — On *Zea Mays* (maize); Om Gdeih, October 1959; most of the plants were slightly attacked; C 91, IMI 82055.

34. *Puccinia recondita* Rob. (*P. tritici* Erikss.) — On *Triticum aestivum* (wheat); Safsaf, 5. 5. 1960; severe on some varieties. Ain Mara, May 1960, severe, Cyrene, May 1960, slight.

35. *Uromyces ciceris-arietini* (Grogn.) Jacz. et Boy. — On

Cicer arietinum (chick pea); Messa, 27. 6. 1960; C 139, IMI 82061. This rust occurred throughout the chick pea growing area in the Gebel Akhdar between Messa and Gubba, being strongest around Messa.

36. *Uromyces leptodermus* Syd. — On grass. sp., leaves; Derna, 27. 7. 1960; the densely growing grass in a banana grove was severely affected. C 156, IMI 83787. — On *Setaria* sp., leaves; Exp. Stat. Fuehat I (Benghazi), 13. 9. 1960; slight and scattered along an irrigation canal; IMI 83789.

37. *Uromyces limonii* (DC) Lev. — On *Statice sinuata*, leaves and stems; Exp. Stat. Fuehat I (Benghazi) and surrounding area, severe; 1. 4. 1960; C 84, IMI 82051.

38. *Uromyces ? silenens-ponticae* Const. — On *Silene succulenta*, on leaves; Lathama, 5. 1. 1961; strong, uredospores only; IMI 84604.

Fungi imperfecti.

Sphaeropsidales.

39. *Ascochyta pisi* Lib. — On *Vicia sativa* (vetch), stems leaves and pods; Zorda, 30. 5. 1960, severe on a single plant; IMI 82054. — On *Vicia faba* (broad bean), stems and leaves; Zorda, February 1961; severe on most of the varieties under test; IMI 83436 and 85438.

40. *Camarosporium* sp. — On *Sesbania sesban*; on twigs, associated with wither tip, but pycnidia of the fungus occur also in greyish, irregular lesions on otherwise healthy and vigorous parts of the twigs, suggesting that the fungus may be parasitic. Frequent and severe; Zorda, 29. 2. 1960; IMI 82048.

41. *Diplodia* sp. — On *Prunus armeniaca* (apricot); associated with wither tip of young trees; Labrag, February 1960; IMI 82049.

42. *Dothiorella phaseoli* (Maubl.) Petr. et Syd. — Isolated from seeds of cucumber grown at Derna.

43. *Phleospora* sp. — On *Ceratonia siliqua* (carob), leaf spots; Beida, 8. 7. 1960; IMI 82647. Although leaf spots are frequent on carob trees there is rarely any fungal fructification to be found.

44. *Phoma foveata* Foister. — On *Solanum tuberosum* (potato), gangrene of tubers; intercepted on seed potatoes shipped from Scotland.

45. *Phoma hispalensis* Bubak & Frag. — On *Phlomis floccosa*, on dead stems and sepals; Ras el Hilal, 13. 2. 1961; apparently common; IMI 58428.

46. ? *Phyllosticta viciae* (Lib.) Cooke on *Vicia faba* (broad bean), on leaf spots; El Aweilia, School garden, 14. 1. 1960; IMI 82044.

47. *Phyllosticta* spp. — On *Ficus carica* (fig), leaf necrosis; Zorda, Nov. 1959. — On *Pistacia vera* (pistacio tree), as above.

48. *Phyllostictina solieri* (Mont.) Petr. et Syd. — On *Asphodelus microcarpus*, grey lesions with reddish-brown margin on still

living stems; Ex-Villa Balbo, Ras el Hilal, 11. 3. 1961; only a few plants were affected; IMI 85431.

49. *Selenophoma everhartii* (Sacc. et Syd.) Sprague & Johnson. — On *Hordeum vulgare* (barley), leafspots; Safsaf, 7. 5. 1960; Frequent on lower leaves; C 104, IMI 82646.

50. *Septoria convolvuli* Desm. — On *Convolvulus arvensis*, leaf spots; Om Gdeih, 28. 11. 1959. In a maize crop.

51. *Septoria iridis* Massal. — On *Iris* sp., leaf spots; Cyrene, Museum, 11. 3. 1961; frequent and severe; IMI 58434.

52. *Septoria pisi* West. — On *Pisum sativum* (peas), leafblotch, on stems, leavens and pods; Safsaf, May 1960; All varieties under test were attacked, some severe; C 99, IMI 82052.

53. *Stagonospora meliloti* (Lasch) Petr. — On *Medicago sativa* (lucerne), stem and leaves; Zorda, 30. 4. 1960; IMI 82634; as *Phoma herbarum* West. var. *medicaginis* West. ex Rabh this fungus caused black stem and severe leaf fall.

Melanconiales.

54. *Colletotrichum circinans* (Berk.) Vogl. — On *Allium porrum* (leek), smudge; Lathama, 19. 1. 1960.

55. *Colletotrichum graminicola* (Ces.) Wilson. — On grass sp., leaf anthracnose; Wadi Glaa, 13. 2. 1961; severe in an irrigated field; IMI 85429a.

Moniliales.

Hyphomycetae.

56. *Botrytis cinerea* Pers. ex Fr. — On *Arum cyrenaicum*, leaf spots; Cyrene, Hotel, March 1960; together with *Ramularia ari*, very few; IMI 82080. — On *Lycopersicon esculentum* (tomato), some rotting fruits lying on ground in a single irrigated garden; Oasis Augla 25. 1. 1961; IMI 84612.

57. *Cephalosporium* sp. — Developing in humid chambers on leaves of *Ceratonia siliqua* (carob) from Beida, 8. 7. 1960.

58. *Gliocladium roseum* Bainier. — Isolated from irrigated soil terra rossa; Exp. Stat. Fuehat I (Benghazi), March 1960.

59. *Oidium ceratoniae* Comes. — On *Ceratonia siliqua* (carob), powdery mildew on leaves; around Messa, July 1960; common and very severe, particularly on the lower side of the leaves, apparently causing necrosis and leaf fall.

60. *Oidium* spp. — Powdery mildew is very common throughout Cyrenaica affecting a wide range of cultivated and wild plants, sometimes causing severe damage. Perithecia, however, are extremely rare if not absent. Although *Erysiphe cichoracearum* and *E. polygoni* have been reported from this province by Italian authors; their actual

prevalence as well as a possible occurrence of *Sphaerotheca fuliginea* remain uncertain. The conidial stage of *Erysiphaceae* has been collected on:

Acacia sp.; Apricot IMI 82653; *Astragalus hamosus*, IMI 82065; *Brassica arvensis*, IMI 82046; *Citrullus vulgaris*; (water melon) *Cucumis melo* (sweet melon); *Cucurbita maxima* (pumpkin); *Convolvulus arvensis*; *Daucus carota* (carrot), IMI 82650; *Hibiscus esculentus* (okra), IMI 82652; *Medicago truncatula*, IMI 82064; *Melilotus* ? *alba*, IMI 82045; *Solanum melongena* (eggplant), IMI 82654; *Zinnia* sp.

61. *Ovularia obliqua* (Cooke) Oudem. — On *Rumex* sp., circular brown leaf spots; Cyrene, 11. 3. 1961; frequent and strong; IMI 85435.

62. *Penicillium* ? *digitatum* (Fr.) Sacc. — On *Citrus sinensis* (orange), fruit rot on ground; Exp. Stat. Fuehat I (Benghazi), January 1960; rare.

63. *Penicillium italicum* Wehmer. — On *Citrus sinensis*, *C. medica* and *nobilis* (orange, lemon, and mandarine), blue mold; common, frequent after sufficient rain as in winter 1960/61, otherwise rare; from December onwards.

64. *Ramularia ari* Fautr. — On *Arum cyrenaicum*, brown, well defined leafspots up to 20 mm in diameter with a dark brown center which tends to drop; Cyrene, Hotel, 14. 3. 1960, common at this place; IMI 82080a.

65. *Ramularia parietariae* Passer. — On *Parietariae diffusa* (det. Royal Bot. Gard. Kew), in well defined, circular leafspots up to 5 mm in diameter; Cyrene, Sanctuary, wintertime. The host is prevalent in ancient canal and caves, where the disease widely and sometimes severely occurs.

66. *Verticillium theobromae* (Turc.) Mason & Hughes. — On *Musa* spp. (bananas), cigar-end rot; Derna; common, but negligible.

Dematiaceae.

67. *Alternaria sonchi* Davis. — On *Sonchus arvensis*, leaf spots with concentric rings; Benina, 27. 7. 1960; IMI 82648; common and severe, particularly along irrigation canals.

68. *Alternaria tenuissima* (Nees. ex Fr.) Witshire. — On *Daucus carota* (carrot), on leaf necrosis; Benina, together with con. *Pleospora herbarum*, 24. 7. 1960; frequent and severe, IMI 82656b. On *Lycopersicon esculentum* (tomato), fruit rot together with con. *Pleospora herbarum*; Oasis Jalo, 25. 1. 1961; this rot is frequent in all the irrigated tomato crops; IMI 84606a. — On *Solanum melongena* (eggplant), circular leaf spots with concentric rings; Oasis Jalo, 25. 1. 1961; very rare; IMI 84608. On *Carica papaya* (pawpaw), on mummified fruits; Exp. Stat. Fuehat I (Benghazi), 13. 9. 1960; rare; IMI 83408a.

69. *Alternaria* sp. — On *Solanum melongena* (eggplant), fruit rot; Benina, 24. 7. 1960; very rare; IMI 82635.

70. *Cercospora beticola* Sacc. — On *Beta maritima* var. *vulgaris*, leafspots; Exp. Stat. Fuehat II (Benghazi), February/March 1961; common and severe; IMI 85437.

71. *Cercospora capparidis* Sacc. — On *Capparis spinosa*, leaf spots; Cyrene, sanctuary and necropolis, 29. 9. 1960; C 206, IMI 83413. Frequent and severe, also at Derna on a slope towards the sea.

72. *Cercospora euphorbiae-pubescentis* Unam. — On *Euphorbia* sp., brown, small and circular leaf spots; Lamluda, 11. 3. 1961; IMI 85433; only a few plants were affected, particularly the lower leaves, which turn yellow and drop.

73. *Cercospora petroselini* (Sacc.) Sacc. — On *Petroselinum hortense* (parsley), leaf blight; Benghazi, 1. 3. 1960; IMI 82056. Derna, 27. 7. 1960; IMI 82655. — This species is very close to, and certainly congeneric with, *Passalora depressa* (Berk. & Br.) Höhnelt.

74. *Cercospora rubro-tincta* Ell. et Ev. — On *Prunus amygdalus* (almond) a leaf spot similar to shot hole disease (*Clasterosporium carpophyllum*); conductive to leaf fall; common, severe at places; C 172, IMI 82658 which, according to Mr. Deighton, CMI, „matches the type of *Cercospora guliana* Sacc. on *Prunus amygdalus* from Malta“, which Chupp considers a synonym of *C. rubro-tincta* Ell. & Ev.

75. *Cercospora zonata* Wint. — On *Vicia faba* (broad beans), zonate leaf spots; Om Gdeih, 31. 1. 1960; C 38, IMI 82047; abundant on lower leaves.

76. *Cladosporium cladosporioides* (Fresen.) De Vries. — On *Capsicum annuum* (sweet pepper), isolated from bacterial rot; Lathama; August 1960; IMI 82880.

77. *Cladosporium macrocarpum* Preuss. — On *Zea mays* (maize), greenish sooty mold on dead leaves; Benina, 7. 7. 1960; C 189, IMI 82662.

78. *Cladosporium sphaerospermum* Penzig. — On *Carica papaya* (pawpaw), mummified fruits; Exp. Stat. Fuehat I (Benghazi), 13. 9. 1960; rare; IMI 83408b.

79. *Cladosporium* spp. — On *Arum cyrenaicum*, on leaf spots caused by *Ramularia ari*; Cyrene; IMI 82080b. — On *Lycopersicon esculentum* (tomato), on sliced fruits exposed to sun for curing; frequent; Oasis Jalo, 25. 1. 1961; IMI 84607a. — On *Olea europea*, sooty mold, leaves and twigs; common. — On *Ricinus communis*, leaves, Oasis Augila, 25. 1. 1961; IMI 84610; does not match up with description of *Cladosporium densum* Sacc. (Dr. Ellis, CMI). — On *Pistacia lentiscus*, in leaf spots; Cyrene; IMI 84636. — On *Thapsia garganica*, on leaves; Cyrene; IMI 85424a. — On *Pelargonium* sp., in leaf spots; Cyrene; IMI 85425b. — On *Ricinus communis* leaves; Derna; IMI 83792.

80. *Helminthosporium (Spondylocladium) atrovirens* (Harz) Mason & Hughes. — On *Solanum tuberosum* (potato) silver scurf of tubers; Exp. Stat. Fuehat I (Benghazi), 3. 7. 1960. Infection most probably from severely infected imported seed tubers.

81. *Stemphylium solani* Weber. — On *Lycopersicum esculentum* (tomato), leaf spots similar to early blight (*Alternaria solani*); Lathama, 27. 8. 1960; severe on lower leaves of these tomatoes grown in dune sand under irrigation; C 174, IMI 82659. — On *Capsicum annuum* (sweet pepper), isolated from small (1–5 mm), circular leaf spots; Lathama, 10. 8. 1960; IMI 82638.

Tuberculariaceae.

82. *Fusarium caeruleum* (Lib.) Sacc. — Intercepted on tubers of *Solanum tuberosum* (potato) shipped from Scotland.

83. *Fusarium* ? *lateritium* Nees var. *minus* Wr. — On *Pisum sativum* (peas), associated with root rot; Gubba.

84. *Fusarium javanicum* Koord. var. *radicicola* Wr. — On *Pisum sativum* (peas) associated with root rot; Gubba.

85. *Fusarium moniliiforme* Sheld. var. *minus* Wr. — On *Musa* spp. (bananas), fruit rot; Derna, 31. 1. 1960; C 42. This fungus was isolated from charcoal-like young fruits, the abundant white mycelium of which developed in humid chambers. The rot in its initial stage progressed when the fruits were kept in a humid chamber at 25–28° C room temperature.

86. *Fusarium oxysporum* Schl. emend. Snyder & Hausen. — On *Ceratonia siliqua* (carob), pre- and post emergence damping - off and lesions on cotyledons; considerable losses; Derna, January 1960. — On *Cicer arietinum* (chick peas), root rot and subsequent wilt; May/June 1960; common and severe at places. — On *Eucalyptus* sp., root rot of seedlings, Exp. Stat. Fuehat I (Benghazi), August 1959. — On *Hibiscus esculentum* (okra), crown and root rot; causes considerable losses when plants about a hand high; Coefia, 25. 5. 1960; C 131. — On *Solanum tuberosum* (potato), on rotting tuber, November 1959. On *Solanum tuberosum* (potato), associated with wilt; December 1960.

87. *Fusarium oxysporum* Schl. f. *lycopersici* (Sacc.) Snyder & Hansen. — On *Lycopersicum esculentum* (tomato), wilt; widespread and severe at places; occurs under irrigation as well as under rainfed conditions. Commences by the end of June.

88. *Fusarium sambucinum* Fuck. — On *Musa* sp. (banana), associated with fruit rot; Derna, January 1960; C 42. — On *Vicia faba* (broad bean), associated with black root rot; Zorda, March 1961; IMI 84635. This root rot is common in all Cyrenaica.

89. *Fusarium scirpi* Lamb. & Fautr. — On *Citrus nobilis* (mandarin), associated with fruit rot; Derna, September 1959; very rare. — On *Pisum sativum* (peas), associated with root rot; Gubba,

31. 1. 1960. — On *Musa* sp. (banana), isolated from fruit rot and rapidly progressing leaf spot; Exp. Stat. Fuehat I (Benghazi), January 1960. — On *Citrus* sp., isolated from rotting roots; Derna.

90. *Fusarium solani* (Mart.) Appel & Wr. — On *Citrus* sp., isolated from rotting roots; Exp. Stat. Fuehat I (Benghazi), October 1959.

91. *Fusarium equiseti* (Cda) Sacc. var. *bullatum* (Sherb.) Wr. — On *Solanum tuberosum* (potato), isolated from potato stems; Exp. Stat. Fuehat I (Benghazi), December 1960.

Mycelia sterilia.

92. *Rhizoctonia solani* Kühn = *Pellicularia filamentosa* (Pat.) Rogers. — On *Solanum tuberosum* (potato); Fuehat (Benghazi), not very severe. At Derna a single plant with the perfect stage has been found, January 1960.

93. *Sclerotium cepivorum* Berk. — On *Allium sativum* (garlic), white rot; Derna, March 1960; rare.

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