

A Review of Fungi Reported from the Mariana Islands

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The occurrence of fungi in Guam and some of the other Mariana Islands has been reported in several early publications (Persoon, 1826–30; Montagne, 1843, 1856; Schumann and Lauterbach, 1901; Safford, 1905; Graff, 1914, 1917). As pointed out by Graff (1914) the lists by Schumann and Lauterbach and Safford were based on the publications by Persoon and Montagne and contain no new reports. Graff's publications in 1914 and 1917 summarize the species reported up to that time and present several new occurrences. A publication by Kobayasi in 1937 summarizes the reports up through the time of Graff's publications.

The substrate on which the fungi occurred was mentioned in very few of the reports through 1917, and most of the emphasis was on species growing on soil or debris, rather than those actively causing plant diseases. Plant diseases were mentioned in some of the reports of the Guam Agricultural Experiment Station prior to 1918 (Thompson, 1914, 1915; Hartenbower, 1917), but the causal agents were not specified. Weston made a survey of vegetable diseases in Guam, and listed a number of fungi pathogenic on plants in Guam in the Report of the Guam Agricultural Experiment Station for 1917 (Weston, 1918).

Fungal plant pathogens and plant diseases were mentioned in many of the subsequent reports of the Guam Agricultural Experiment Station, but the only listings of fungi that had not been reported previously were by Guerrero (1926) and Vandenberg (1929). Other new reports of the occurrence of fungal pathogens were by Briggs in 1922 and LaPlante in 1958 in bulletins relating to specific crops.

During this period Japanese workers published on fungi in the Mariana Islands but did not indicate hosts or substrates for new species identified. Imazeki (1941) reported the occurrence of *Ganoderma boninense* Pat. and *Hirneola polytricha* Mont. in Saipan. Adachi (1941a, 1941b) reported on microbiological soil studies in Tinian and Saipan but did not mention any fungal species.

Ling and Jenkins (1951) included Guam among locations in which the fungus causing sweet potato scab occurs. Zaiger isolated several fungi from breadfruit in Guam, and his list was published by the South Pacific Commission in 1966. The only other report of a fungus from Guam up to 1968 was one by Adair (1968).

A summary of all initial reports of fungi identified to genus or species on each island in the Marianas up to 1968 is presented in Table 1. The only exceptions

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Table 1. Reports of the Occurrence of Fungi in the Marianas Islands

Fungus	Host or Substrate	Island	Author, Date
Phycomycetes			
<i>Albugo ipomeoae panduranae</i> (Schwein.) Swingle	<i>Ipomoea batatas</i> Lam. (sweet potato)	Guam	Weston, 1918
<i>Phytophthora palmivora</i> Butl. ¹	<i>Cocos nucifera</i> L. (coconut)	"	Vandenberg, 1929
<i>Pseudoperonospora cubensis</i> (Berk. & Curt.) Rostow ²	<i>Cucumis sativus</i> L. (cucumber)	"	Weston, 1918
<i>Pythium acanthicum</i> (Drech.)	<i>Dactyloctenium aegyptium</i> (L.) Richt. rhizosphere	"	Adair, 1968
Ascomycetes			
<i>Calonectria</i> sp.	<i>Artocarpus communis</i> Forst. (breadfruit)	"	Zaiger, 1966
<i>Elsinoë batatas</i> (Saw.) (Jenkins & Viegas)	<i>Ipomoea batatas</i> Lam. (sweet potato)	"	Ling & Jenkins, 1951
<i>Mycosphaerella musicola</i> Leach ³	<i>Musa sapientum</i> L. (banana)	"	Weston, 1918
<i>Phyllachora afzeliae</i> Syd.	<i>Intsia bijuga</i> (Colebr.)	"	Graff, 1917
Basidiomycetes			
<i>Auricularia ornata</i> Pers. ex. Gaud.	dead tree branch	"	Persoon, 1826-30
<i>Coprinus hemerobius</i> Fr.	?	"	Graff, 1917
<i>Corticium salmonicolor</i> Berk. & Br.	<i>Citrus</i> sp.	"	Weston, 1918
<i>Fomes lineatus</i> (Pers.) Graff	?	"	Persoon, 1826-30
<i>F. nubilus</i> Fr. var. <i>albo-limbatus</i> Kalchbr.	?	"	Graff, 1914
<i>F. scabrosus</i> (Pers.) Fr.	?	"	Persoon, 1826-30
<i>Ganoderma boninense</i> Pat.	?	Saipan	Imazeki, 1941
<i>Hexagonia bivalvis</i> (Pers.) Bres. var. <i>pulchella</i> (Lev.) Bres.	?	Guam	Graff, 1914
<i>Hirneola ampla</i> (Pers.) Fr. ⁴	?	"	Persoon, 1826-30
<i>H. auricula-judae</i> (L.) Berk.	?	"	Graff, 1914
<i>H. nigricans</i> (Hook.) Graff	?	"	Graff, 1917
<i>H. polytricha</i> Mont.	?	Saipan	Imazeki, 1941
<i>Laschia philippinensis</i> Graff	dead twigs	Guam	Graff, 1917
<i>Lentinus velutinus</i> Fr.	?	"	Persoon, 1826-30
<i>Marasmius semiustus</i> (Berk. & Curt.) Sing.	<i>Musa sapientum</i> L. (banana)	"	Weston, 1918
<i>Naucoria pusiola</i> Fr.	?	"	Graff, 1917
<i>Polyporus fiji</i> Lloyd	?	"	Imazeki, 1941
<i>P. mariannus</i> Pers. ex Gaud.	?	"	Persoon, 1826-30
<i>P. affinis</i> (Nees) Fr.	?	"	Graff, 1914
<i>P. occidentalis</i> (Kl.) Fr.	?	"	Graff, 1914
<i>P. sanguineus</i> (L.) Fr.	wood	"	Persoon, 1826-30
<i>P. xanthopus</i> Fr.	?	"	Persoon, 1826-30
<i>Polystictus xanthopus</i> Fr. var. <i>florideus</i> (Berk.) Bres.	?	"	Graff, 1917
<i>Schizophyllum commune</i> Fr.	?	"	Graff, 1914
<i>Sphacelotheca sorghi</i> (Lk.) Clint.	<i>Holcus sorghum</i> L. (sorghum)	"	Briggs, 1922

(Table 1, continued)

Fungus	Host or Substrate	Island	Author, Date
(Basidiomycetes)			
<i>Trametes corrugatus</i> (Pers.) Bres.	?	Guam	Persoon, 1826-30
<i>Uromyces appendiculatus</i> (Pers.) Link	<i>Phaseolus</i> sp.	"	Weston, 1918
<i>U. phaseoli typica</i> Arthur	<i>Phaseolus</i> sp.	"	La Plante, 1958
Fungi Imperfecti			
<i>Aspergillus</i> sp.	<i>Zea mays</i> L. (corn)	"	Weston, 1918
<i>Botryodiplodia</i> sp.	<i>Solanum chacoense</i> Bitter (naranjilla)	"	Weston, 1918
<i>Cephalosporium</i> sp.	<i>Artocarpus communis</i> Forst. (breadfruit)	"	Zaiger, 1966
<i>Cercospora personata</i> (Berk. & Curt.) Ell.	<i>Arachis hypogaea</i> L. (peanut)	"	Weston, 1918
<i>C. clemensiae</i> Graff	<i>Eragrostis tenella</i> L. (R. & S.)	"	Graff, 1914
<i>C. fasciculatum</i> Corda	<i>Dactyloctenium aegyptiacum</i> Willd.	"	Graff, 1914
<i>Cladosporium herbarum</i> Link. var. <i>citricola</i> Fawcett & Burger ⁵	<i>Citrus</i> sp.	"	Weston, 1918
<i>Colletotrichum gloeosporioides</i> Penz.	<i>Persea americana</i> Mill. (avocado)	"	Weston, 1918
<i>C. gossypii</i> Southworth	<i>Gossypium</i> sp.	"	Weston, 1918
<i>Cylindrosporium bakeri</i> Sydow	<i>Ipomoea purpurea</i> Lam. ⁶	"	Weston, 1918
<i>Fusarium</i> sp.	<i>Zea mays</i> L. (corn)	"	Weston, 1918
<i>Gloeosporium musarum</i> Cke. & Mass.	<i>Musa sapientum</i> L. (banana)	"	Weston, 1918
<i>G. piperatum</i> Ellis & Everh.	<i>Capsicum</i> spp.	"	Weston, 1918
<i>Macrophomina phaseoli</i> (Maubl.) Ashby ⁷	<i>Hibiscus esculentus</i> L. (okra)	"	Weston, 1918
<i>Macrosporium</i> sp. ⁸	<i>Capsicum</i> spp.	"	Weston, 1918
<i>Penicillium</i> sp.	<i>Carica papaya</i> L. (papaya)	"	Vandenberg, 1929
<i>Pestalotia palmarum</i> Cke.	<i>Cocos nucifera</i> L. (coconut)	"	Weston, 1918
<i>Phoma lusitanica</i> Thüm.	<i>Glossogyne tenuifolia</i> (Less.) Cass.	"	Graff, 1914
<i>Phomopsis</i> sp.	<i>Artocarpus communis</i> Forst. (breadfruit)	"	Zaiger, 1964
<i>Phyllosticta hortorum</i> Speg.	<i>Solanum melongena</i> L. (eggplant)	"	Weston, 1918
<i>Rhizoctonia</i> sp.	<i>Lycopersicon esculentum</i> Mill. (tomato)	"	Guerrero, 1926
<i>Sclerotium rolfsii</i> Sacc.	<i>Cucumis melo</i> L. (melon)	"	Weston, 1918

¹ listed as *Phytophthora faberi* in original.² listed as *Plasmopara cubensis* in original.³ listed as *Mycosphaerella musae* in original.⁴ many *Hirneola* species have been transferred to *Auricularia*.⁵ listed as *Cladosporium citri* in original.⁶ listed as *Ipomoea congesta* in original.⁷ listed as *Phoma okra* in original.⁸ *Macrosporium* spp. are now classified as *Alternaria* spp. or *Stemphylium* spp.

are human and other animal pathogens which may have been reported in medical or veterinary literature. The host plant or substrate when available is listed, and the publication in which the first report was made is indicated. The species have been listed in the form in which they were originally reported, although several of them have been transferred to other genera in current literature. In some cases the species combinations reported in the original publications were unknown in available literature and apparently in error. The correct combinations have been used in these cases with the originals noted in footnotes.

This list is intended to serve as a reference against which future collections or reports of fungi can be compared. An attempt has been made to include reports of fungi from various literature sources which were not indexed or were not easily accessible.

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