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SOME NEW RECORDS OF QUEENSLAND FUNGI

By J. L. ALCORN, B.Sc.

SUMMARY

Records are presented of 20 species of fungi not previously known to occur locally, and of 28 new host-pathogen combinations for Queensland.

Introduction

Since the publication of the "Host Index of Plant Diseases in Queensland" by Simmonds (1966), various new host-pathogen combinations and previously unreported fungi have been examined. These additions to the check list of local fungi are presented here. Unless otherwise indicated, collections were made by the author; assistance of officers of the Commonwealth Mycological Institute in identifying some of the species is indicated by the use of IMI accession numbers in the citation of specimens.

Phycomycetes

Albugo mesembryanthemi S. D. Baker

The host is common on coastal sand dunes. The collection was from plants brought into garden cultivation; the fungus has not been observed on this host in its natural habitat.

Specimen: on *Carpobrotus glaucescens* (Haw.) Schwantes, Kenmore, 13/9/67.

Pythium butleri Subramaniam

This fungus caused a fruit rot in cucumber, and was associated with root rot in potted plants of *Stylosanthes.*

Specimens: on *Stylosanthes guyanensis* (Aubl.) Sw. ssp. *guyanensis,* Gayndah, 7/2/69, P. Stonard; on *Cucumis sativus* L., Eight Mile Plains, 14/11/69, M. Karhula, IMI 145581.

Ascomycetes

Ascobolus geophilus Seaver

Apothecia of this fungus were noted in a petri dish water culture of decayed leaves by Dr. Dorothy E. Shaw during a survey of freshwater hyphomycetes in Queensland, and were kindly put at the writer's disposal. Single ascospore cultures were established, and fructifications produced using a boiled grass leaf technique. The species is not recorded from Australia by van Brummelen (1967), who confirmed this determination.

Specimen: on unidentified decaying leaves, Christmas Creek, 12/1/70, G. D. Elphinstone.

Botryosphaeria ribis Gross. & Dugg.

On papaw the fungus, in its *Dothiorella* conidial state, was associated with a dark, hard, dry rot of ripe fruit, forming wrinkled lesions up to 10 cm in diameter. Flesh below the lesion was irregularly darkened, and the mycelium reached the seed cavity. On *Eucalyptus tetraptera* isolates were obtained from a pale brown leaf blight progressing back from the tip, in some instances reaching the stem where a canker formed. Fruiting bodies of the perfect state formed sparingly in one plate of the isolates from this host.

In laboratory inoculations with cultures from papaw and *E. tetraptera,* a rapidly expanding rot identical with that seen in the field was produced on papaw fruit.

Specimens: on *Carica papaya* L., Ormiston, 9/7/68, IMI 136165; on *Eucalyptus tetraptera* Turcz., Wavell Heights, 1/3/68, F. D. Hockings, IMI 136166.

Chaetothyrina musarum (Speg.) Theiss.

The fungus caused a sooty blotch on unripe banana fruit.

Specimen: on *Musa acuminata* Colla x *M. balbisiana* Colla, Cooroy, 11/6/68, K. G. Pegg.

Leveillula taurica (Lév.) Arn.

Determinations have been made on characteristics of the conidial state, *Oidiopsis taurica* (Lév.) Salm. The different collections showed little variation in morphology, and all are grouped here under *L. taurica* in the wide sense accepted by some authors. No cross infection tests have been performed with local isolates, but lack of host specificity has been demonstrated for some collections elsewhere (Blumer 1967).

Specimens: on *Acacia suaveolens* (Sm.) Willd., Nambour, 13/1/66, K. G. Pegg; on *Kunzea opposita* F. Muell., Nambour, 7/4/66, K. G. Pegg; on *Anigozanthos manglesii* D. Don, Kenmore, 6/2/67; on *A. manglesii,* Anglers Paradise, 27/7/69.

Placoasterella baileyi (Berk. & Br.) Arx

This fungus has been previously recorded only on *Hakea lorea* R. Br. in Queensland.

Specimens: on *Hakea florulenta* Meissn., Sunnybank, 31/12/65; on *H. florulenta,* Coochin Hills, 4/6/67, F. D. Hockings.

Pleospora herbarum (Pers. ex Fr.) Rabenh.

The conidial state was consistently associated with a severe defoliating leaf spot disease of potted seedlings in a glasshouse.

Specimens: on *Leptospermum flavescens* Sm., Indooroopilly, 17/1/68, IMI 136173; on *L. ?juniperinum* Sm., Indooroopilly, 17/1/68.

Rehmiodothis osbeckiae (Berk. & Br.) Theiss. & Syd.

This fungus occurs commonly on *Melastoma polyanthum* in south-eastern Queensland. The identification had been made from the Cooroy collection, and subsequently the much earlier undetermined gathering was located in the Plant Pathology herbarium, Department of Primary Industries.

Specimens: on *Melastoma polyanthum* Bl., Bribie Island, 3/10/1918, H. Tryon; on *M. polyanthum,* Cooroy, 23/8/67.

Sphaerotheca fuliginea (Schlecht. ex Fr.) Poll. sens. lat.

The species has recently been studied by Junell (1966), who restricts the use of this epithet to the powdery mildew on *Veronica* spp. Identification of the collections listed below is based on conidial characters. The fungus is known to have a wide host range (Blumer 1967; Hirata 1966), and lack of host specificity has been reported previously for local collections from cucurbits and various other hosts (Alcorn 1969).

Specimens: on *Glycine wightii* (R. Graham ex Wight & Arn.) Verdc., Beerburrum, 26/7/67; on *Phaseolus panduratus* Mart. ex Benth., Beerburrum, 26/7/67; on *Centrosema* sp., Indooroopilly, 11/3/69; on *Desmodium uncinatum* (Jacq.) DC., Indooroopilly, 19/6/69.

Basidiomycetes

Helicobasidium longisporum Wakef.

In both collections the fungus was investing the basal parts of host stems. Mycelium of *Rhizoctonia crocorum* Fr. sens. lat. was present on the roots, but was not associated with any decay.

Specimens: on *Verbena bonariensis* L., Nanango, 27/2/69; on *V. bonariensis,* Beaudesert, 4/3/69.

Helicobasidium purpureum Pat.

Occurring only in the mycelial state, *Rhizoctonia crocorum* Fr. The collection was made from a trial site where previously *Medicago sativa* L., *Phaseolus atropurpureus* DC., and *Lepidium hyssopifolium* Desv. had been observed as hosts (Jones, Alcorn and Rees 1969).

Specimen: on *Stylosanthes guyanensis* (Aubl.) Sw. ssp. *guyanensis,* Nanango, 5/11/70, R. M. Jones.

Puccinia cnici Mart.

Uredospores mostly globose, yellow to reddish brown, 28-34 x 24-28μ, with an echinulate wall 2-3μ thick. Germ pores three, equatorial, with hyaline thickened caps. Teleutospores not present. The collection is placed under this species on the basis of agreement with the description of the uredial state given by Wilson and Henderson (1966).

Specimen: on *Cirsium vulgare* (Savi) Ten., Beaudesert, 4/3/69.

Uromyces striatus Schroet.

This rust has previously been recorded on *Medicago polymorpha* L. and *M. sativa* L. in Queensland.

Specimen: on *Medicago soleirolii* Duby, Emerald, 14/11/68, D. R. Younger.

Uromyces wedeliae P. Henn.

Uredospores globose, obovoid or ellipsoid, yellow to reddish brown, wall 2-4μ thick, finely and sparsely echinulate, with a single equatorial germ pore, 28-38 x 23-32μ. Teleutospores not present. The collection is identical with a specimen on the same host in Herb. DAR (16948) identified as this species by G. B. Cummins.

Specimen: on *Wedelia biflora* DC., North West Island, 19/8/68, G. McDonald.

Uredo celastri Arth. & Cumm.

Uredospores obovoid or ellipsoid, yellowish brown, 28-36 x 23-30μ, wall 1·5-2μ thick, strongly echinulate except at the proximal end, which is sometimes smooth for about a quarter of the spore length. Germ pores mostly 5, scattered to sub-equatorial. The collection was compared with the type specimen and found to be identical.

Specimen: on *Celastrus subspicatus* Hook., Kilkivan, 13/4/68, J. H. Simmonds.

Fungi Imperfecti

Cephalosporium acremonium Corda

The fungus was isolated from discoloured vascular tissue in roots and stems of wilted choko plants.

Specimens: on *Sechium edule* Sw., Aspley, 25/7/68, IMI 136171; on *S. edule,* Beerburrum, 3/12/69.

Cercospora agharkarii Chiddarwar

The collection appears very similar to one on the type host from the type locality which the writer has examined (MACS 7, on *Grevillea robusta* A. Cunn. ex R. Br., Mahabaleshwar, December 1965, P. G. Patwardhan).

Specimen: on *Grevillea leiophylla* F. Muell. ex Benth., Tewantin, 6/3/66.

Cercospora canescens Ellis & Martin

This species is a synonym of *C. apii* Fres., according to Johnson and Valleau (1949). An isolate from *Desmodium salicifolium* DC. was pathogenic to *Centrosema pubescens* Benth., *Citrullus vulgaris* Schrad., *Clitoria ternatea* L., *Cucumis melo* L., *C. sativus* L., *Desmodium intortum* (Mill.) Urb., *Dolichos uniflorus* Lam., *Glycine max* (L.) Merr., *G. wightii* (R. Graham ex Wight & Arn.) Verdc., *Hibiscus esculentus* L., *Phaseolus atropurpureus* DC., *P. aureus* Roxb., *P. panduratus* Mart. ex Benth., *P. vulgaris* L., *Stizolobium deeringianum* Bort, *Teramnus uncinatus* Sw., *Trifolium repens* L., *Vigna marina* (Burm. f.) Merr., *V. sesquipedalis* (L.) Fruwirth, and *V. sinensis* (L.) Savi ex Hassk.

Specimens: on *Dolichos axillaris* E. Mey., Cooroy, 7/2/67; on *Teramnus uncinatus,* Cooroy, 7/2/67; on *T. volubilus* Sw., Beerburrum, 26/7/67; on *Phaseolus panduratus,* Beerburrum, 26/7/67; on *Desmodium salicifolium,* Samford, 29/4/70.

Cercospora citrullina Cooke

The species has previously been reported from watermelon in Queensland, and is also considered synonymous with *C. apii* by Johnson and Valleau. On choko it occurred on both leaves and fruit.

Specimen: on *Sechium edule* Sw., Beerburrum, 3/8/67.

Cercospora dubia (Riess) Wint.

Specimen: on *Chenopodium murale* L., Beerburrum, 3/8/67.

Cercospora eucalypti Cooke & Massee

In addition to the two collections on *Eucalyptus,* a very similar fungus has also been found on *Melaleuca nesophila* F. Muell.

Specimens: on *Eucalyptus morrisbyi* Brett, Coopers Plains, 29/5/67, F. D. Hockings, IMI 151656; on *E. morrisbyi,* Kenmore, 12/4/70, IMI 151657.

Cercospora formosana Yamamoto

Specimen: on *Lantana camara* L., Kilkivan, 13/4/68, J. H. Simmonds.

Cercospora glycines Cooke

The cultivated tropical pasture species *Glycine wightii* is commonly host to a *Cercospora* of the *canescens* type here. The morphologically distinct *C. glycines,* which also occurs in Victoria (Chupp 1953) and New South Wales (J. Walker, personal communication), has not been observed on this species.

Specimen: on *Glycine tabacina* (Labill.) Benth., Yandina, 7/2/67.

Cercospora macarangae H. & P. Syd.

Specimen: on *Macaranga tanarius* Muell. Arg., Goomboorian, 19/7/67.

Cercospora nasturtii Pass.

Specimen: on *Nasturtium officinale* R. Br., Warwick, 13/4/66, J. H. Simmonds.

Cercospora physalidis Ellis

This is another of the species for which synonymy with *C. apii* has been suggested (Johnson and Valleau 1949).

Specimens: on *Physalis ixocarpa* Brot. ex Hornem., Indooroopilly, 27/1/67; on *P. angulata* L., Nambour, 26/3/70.

Colletotrichum dematium (Pers. ex Fr.) Grove

In the first record the fungus was found associated with a severe pod spotting in the field; pathogenicity was subsequently demonstrated. The second occurrence was as the cause of a cotyledonary lesion in young seedlings raised in a glasshouse.

Specimens: on *Clitoria ternatea* L., Beerburrum, 8/2/67, B. L. Oxenham; on *C. ternatea,* Indooroopilly, 11/3/68.

Cylindrocladium scoparium Morg.

The fungus was isolated from leaf spots on the host and caused identical symptoms when inoculated onto healthy plants. The species is known to have a very wide host range (Thies and Patton 1970). It has been recorded previously on the cultivated rose in Queensland.

Specimens: on *Melaleuca megacephala* F. Muell., The Gap, 12/7/67, W. Tullock; on *M. megacephala,* Coopers Plains, 23/4/70, F. D. Hockings.

Macrophoma macarangae Ramak.

Some spores became septate by a single transverse septum and developed a pale olivaceous colour when allowed to germinate in a drop of water overnight.

Specimens: on *Macaranga tanarius* Muell. Arg., Buderim, 8/4/65, K. G. Pegg; on *M. tanarius,* Nambour, 11/11/70.

Septoria cucurbitacearum Sacc.

The only host previously known locally was *Cucurbita maxima* Duchesne.

Specimens: on *Citrullus vulgaris* Schrad., Glasshouse Mountains, 26/10/66; on *Cucurbita pepo* L., Nambour, 14/8/67, K. G. Pegg.

Septoria erigerontis Peck

Specimen: on *Erigeron floribundus* (HBK.) Schultz-Bip., Nambour, 13/2/68.

Stagonospora chenopodii Peck

Specimen: on *Chenopodium murale* L., Kia-Ora, 19/7/67.

Verticillium dahliae Kleb.

Other cucurbit hosts known here are watermelon and *Trichosanthes anguina* L. (Simmonds 1966).

Specimens: on *Cucumis sativus* L., Sunnybank, 16/11/65; on *C. melo* L., Bowen, P. R. Beal, 2/10/69; on *C. sativus,* Mitchelton, 19/3/70.

Verrucispora proteacearum Shaw & Alcorn

This monotypic genus was erected to accommodate a fungus occurring on *Finschia chloroxantha* Diels in New Guinea and on *Hakea florulenta* Meissn. in Queensland (Shaw and Alcorn 1967). Subsequently the host range has been found to include other species in *Hakea* and four species of *Grevillea.*

Specimens: on *H. petiolaris* Meissn., Coopers Plains, 1/8/67, F. D. Hockings; on *H. petiolaris,* Coopers Plains, 17/3/68; on *Grevillea barklyana* F. Muell., Birkdale, 29/10/68, F. D. Hockings; on *G. laurifolia* Sieb., Moorooka, 10/12/69, M. W. Hodge; on *G. laurifolia,* Birkdale, 24/7/70, F. D. Hockings; on *H. laurina* R. Br., Kenmore, 17/1/71; on *H. salicifolia* (Vent.) B.L. Burtt., Kenmore, 24/1/71; on *G. banksii* R. Br., Kenmore, 24/1/71; on *G. pteridifolia* Knight, Kenmore, 26/1/71.

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The author is an officer of Plant Pathology Branch, Queensland Department of Primary Industries, stationed at the Science Laboratories, Indooroopilly.

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