TRANSACTIONS
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Fifth Supplement to the Uredinales and Ustilaginales of New Zealand.

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Since the publication of the fourth Supplement, the following matter has come to hand.

UREDINALES.

ADDITIONAL SPECIES.

UROMYCES DIANTHI (Persoon) Niessel, *Verh. Nat. Ver. Bruenn*, vol. 10, p. 162, 1872.

Uredo Dianthi Pers., *Syn. Meth. Fung.*, p. 222, 1801.

Caeoma Dianthi Link, Willd., *Sp. Pl.*, vol. 6, p. 26, 1825.

Uromyces caryophyllinus Wint., in Rabbh. *Krypt. Fl.*, vol. 1, p. 149, 1881.

Nigredo caryophylla (Schrank) Arth., *N. Am. Fl.*, vol. 7, p. 246, 1912.

II. Uredosori amphigenous, less frequently caulicolous, scattered, usually elliptical, bullate, soon naked and pulverulent, cinnamon-brown, often seated on pallid spots. Spores globose, ovate or elliptical, 20-28 x 20-26 mmm; epispore delicately and sparsely echinulate, 2. 5-3 mmm thick, pallid brown, with 3-5 scattered, conspicuous, papillate germ-pores.

III. Teleutosori usually confluent, when elliptical, linear or circinate, pulverulent, dark brown, partly covered by the epidermis which is fissured longitudinally. Spores subglobose to shortly elliptical, 18-25 x 18-22 mmm; apex with a flattened hyaline papilla; base rounded; epispore densely and finely verruculose, 2. 5-3 mmm thick; rich chestnut-brown; pedicel short, hyaline, deciduous; germ-pore apical, conspicuous.

Host: *Dianthus caryophyllinus* L. On leaves and stems. II-III. Napier, Hawke's Bay, May, 1926, *J. Anderson!*

Distribution: Europe; North America; Asia; South Africa; Australia; New Zealand.

In Europe this species is considered to be heteroecious, the aecidium occurring on *Euphorbia Gerardiana* Jacq.; but as there is some doubt as to whether the aecidium really occurs in the cycle, certain workers failing to infect *Dianthus* spp. with aecidiospores, a description of this stage is not given here.

The species is generally known as *Uromyces caryophyllinus* (Schrank) Wint., but as this specific name is taken from a publication antedating the starting point of modern nomenclature, it cannot be used; so Persoon's specific name *Dianthi* is used in its stead.

The teleutospores are usually described as being smooth, but are distinctly though finely verruculose under the oil immersion.

Mr. Anderson informs me that this has been a troublesome disease of carnations in his glasshouses for many years; yet strangely enough it has not been collected hitherto.

UREDO SCARIOSUS (Berkeley) n. comb.

Uromyces scariosus Berk., *Fl. N.Z.*, vol. 2, p. 195, 1855.

II. Uredosori hypophyllous and on petioles, sparse, scattered, orbicular or lenticular, up to 2 mm. diam., usually less, pulverulent, ferruginous, seated on pallid spots, surrounded by the ruptured epidermis. Spores subglobose, ovate or elliptical, 24-30 x 22-26 mmm; epispore pallid chestnut, 3 mmm thick, finely and sparsely echinulate, spines about 3 mmm apart; with two equatorial, conspicuous germpores.

Host: *Geranium dissectum* L. On leaves and petioles. Day's Bay, Wellington, Apl. 1925, *E. H. Atkinson!*

This species was described originally by Berkeley from *Geranium dissectum* and *G. microphyllum* Hook. f. (=*G. potentilloides* Hook f.) collected in Hawke's Bay by Colenso. The abundant collections brought in by Mr. Atkinson show abundance of uredospores, but no teleutospores. Berkeley's description could equally well be applied to these, consequently until teleutospores are found the species will be considered as an *Uredo*.

ADDITIONAL HOSTS.

HAMASPORA ACUTISSIMA Syd. (*Trans. N.Z. Inst.*, vol. 55, p. 22, 1924).

Host: *Rubus Schmidelioides* x *australis*. Feilding, Wellington, Oct. 1926. *H. H. Allan!*

Dr. Allan informs me that he has noted this rust only on this hybrid, and not on true *R. australis*. That such is not always the case, however, is evident from the fact that several of the collections in my herbarium are on *R. australis*.

Melampsora Lini Desm. (*l.c.*, p. 27).

Linum usitatissimum L. On leaves and stems. Canterbury, Jan., 1926, *F. E. Ward!*

This is the first time that this rust has been collected in New Zealand on cultivated linseed. But now that this host is being so widely grown (12,000 acres being sown in Canterbury last season) it may prove a troublesome disease.

Puccinia coronata Cda. *(Ibid.,* vol. 54, p. 641.)

Host: *Holcus mollis* L. On leaves. Highbank, Methven, Canterbury, Mar., 1927, *A. H. Cockayne!*

Corrections.

Puccinia tasmanica Diet. (l.c., p. 689.)

Syn.: *P. Erechtitis* McAlp., *Proc. Roy. Soc. Vic.,* vol. 7, p. 216, 1894.

As the result of the examination of numerous recent collections of "*Puccinia Erechtitis McAlp.*" on *Erechtites prenanthoides* (A. Rich.) DC. I can now find no difference between this form on this host and *Puccinia tasmanica* on *Senecio vulgaris.* Consequently I am of the opinion this is but a synonym of *P. tasmanica* Diet.

Puccinia Pelargonii-zonalis Doidge, *Bothalia,* vol. 2, p. 98, 1926.
Mis. det.: *P. granularis* Kalch. et Cke.

In a former paper (*Trans. N.Z. Inst.,* vol. 54, p. 659, 1923) *Puccinia granularis* was recorded as occurring on *Pelargonium zonale* l'Herit. In a recent monograph on the rusts of South Africa Dr. Doidge has shown that the rust on *Pelargonium zonale* is not *P. granularis,* the type of which occurs in South Africa, but is a species which was found to be underscribed and accordingly named *P. Pelargonii-zonalis* Doidge. This name should therefore replace that of *P. granularis* for the species on this host. It is separated from *P. granularis,* which is confined to South Africa, in that no aecidium occurs in the cycle, and in the thinner wall of the uredospore (2–2.5 mmm), that of the former species being 3–3.5 mmm.

Dr. Doidge states that *Puccinia Morrisoni* McAlp. (on *Pelargonium inodorum* Willd.) is a very closely related species and questions whether it is distinct from *P. granularis.* I have compared specimens of these two species and find that the uredospores serve to separate them, those of *P. Morrisoni* differing in their usually ovate shape, much thinner wall (2 mmm), and smaller germ-pores. In other respects they are very similar.

Puccinia ruizensis Eug. Mayor, *Mem. de la Soc. neuchateloise des Sci. Nat.,* vol. 5, p. 486, 1913.

Syn.: *P. Oreomyrrhidis* G. H. Cunn., *Trans. N.Z. Inst.,* vol. 54, p. 669, 1923.

Dr. Eug. Mayor has drawn my attention to the fact that in his "Uredinees de Colombie" (*l.c.*) he has previously described as *P ruizensis* a species on *Oreomyrrhis andicola* (H.B.K.) Endl. which he considered the same as the rust I had named *P. Oreomyrrhidis.* He has kindly forwarded type material which on comparison I find closely resembles the New Zealand form. While there are certain points of difference these are not sufficient to enable separation to be effected, consequently *P. Oreomyrrhidis* must be considered as a synonym of *P. ruizensis.*

I am indebted to Dr. Mayor for calling my attention to this matter, for the donation of type material of *P. ruizensis,* and for a copy of his monograph "Uredinees de Colombia."

The locality, Colombia, South America, should be added to the distribution of this species.

USTILAGINALES.

Additional Host.

Ustilago bullata Berk. (Ibid., vol. 55, p. 413).

Host: *Agropyron scabrum* (Lab.) Beauv. Hawarden, Canterbury, Jan. 1925, *F. E. Ward; G.H.C.* Seddon, Marlborough, Dec. 1926, *J. C. Neill; G.H.C.*

This smut is abundant on this grass on roadsides throughout these districts. Hitherto it has been collected in New Zealand only by Colenso, so that my published description was drawn up from Australian material.

Correction.

Ustilago Kolleri Wille, *Bot. Notiser,* p. 3, 1893.

Syn.: *U. levis* Magn.

This species was first separated as the variety *levis* from *Ustilago Avenae* by Kellerman and Swingle (*Second. Rept. Kansas State Agr. Coll.* for 1889, p. 259, 1890); in 1896 Magnus (*Abh. Bot. Ver. Prov. Brand.,* vol. 37, p. 69, 1896) raised it to specific rank. Wille (*l.c.*) independently named it *U. Kolleri.* This name was the first given to the plant as a species, *levis* being but the name of a variety. Therefore in accordance with Article 49 of the International Rules of Botanical Nomenclature the name for this species must be *Ustilago Kolleri,* as the combination *U. levis* (Kell. et Sw.) Magn. was proposed at a later date.

I am indebted to Dr. G. H. Pethybridge, Mycologist, Ministry of Agriculture and Fisheries, England, for supplying me with particulars as to the correct name for this smut.