



sommerfeltia

4

H. B. Gjørnum & P. Sunding

Flora of Macaronesia.
Checklist of rust fungi (Uredinales).

1986



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This is the first checklist of rust fungi in Macaronesia (the Azores, the Madeira archipelago, the Salvage Islands, the Canary Islands, and the Cape Verde Islands). One hundred and thirty-four rust taxa are recorded, making more than four hundred rust-host combinations. Names on rust and host species used in the literature are listed, with references to the names used in the checklist.

Keywords: Macaronesia, Azores, Madeira, Salvage Islands, Canary Islands, Cape Verde Islands, Uredinales.

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INTRODUCTION

The present checklist of Macaronesian rust fungi (Uredinales) is compiled on the basis of extensive field work and from the literature available to us. The concept and nomenclature of the rust species mainly follow those used by Jørstad (1959, 1962, 1966), the basic publications on rust fungi in the Canary Islands. In his first publication he also listed rusts from the other groups of islands in Macaronesia as well. The host names mainly follow Hansen & Sunding (1985).

As both rust species and host plants have been published under different names, synonyms are listed separately with references to the names used in the main list.

The first author (H.B.G.) is responsible for all mycological data presented, whereas host plant identifications and host plant nomenclature have been the latter's (P.S.) responsibility.

We thank Mrs. Rannveig Ødegaard, Norwegian Plant Protection Institute, who has typed and corrected the manuscript several times. The Norwegian Research Council for Science and the Humanities has given financial support to the authors' field work in Macaronesia.

The abbreviations used in the head of the table correspond to those used by Hansen & Sunding (1985):

Azores archipelago

A: Azores in general
S: Santa Maria
M: São Miguel
T: Terceira
G: Graciosa
P: Pico
J: São Jorge
F: Faial
L: Flores
C: Corvo

Madeira archipelago

M: Madeira
D: Desertas
P: Porto Santo

Salvage Islands

S: Salvage Islands

Canary Islands archipelago

L: Lanzarote
F: Fuerteventura
C: Gran Canaria
T: Tenerife
G: Gomera
H: Hierro
P: La Palma

Cape Verde Islands archipelago

A: Santo Antão
V: São Vicente
L: Santa Luzia
N: São Nicolau
S: Sal
B: Boavista
M: Maio
T: Santiago
F: Fogo
R: Brava

Aecidium asperifolii Pers.

Echium hypertropicum Webb

Cerotelium fici (Butl.) Arth.

Ficus carica L.

Coleosporium tussilaginis (Pers.) Berk.

Allagopappus dichotomus (L.fil.) Cass.

Campanula erinus L.

Dittrichia viscosa (L.) Greuter

Kleinia neriifolia Haw.

Odontites holliana (Lowe) Benth.

Pericallis appendiculata (L.fil.) B. Nord.

aurita (L'Hér.) B. Nord.

cruenta (L'Hér.) Bolle

echinata (L.fil.) Bolle

lanata (L'Hér.) B. Nord.

murrayi (Bornm.) B. Nord.

papyracea (DC.) B. Nord.

steetzii (Bolle) B. Nord.

tussilaginis (L'Hér.) D. Don

webbii (Sch. Bip.) Bolle

sp.

Senecio bollei Sund. & Kunk. var. bollei

cf. incrassatus Lowe

mikanoides Otto ex Walp.

sylvaticus L.

teneriffae Sch. Bip.

vulgaris L.

Dicheirinia canariensis Urries

Chamaecytisus proliferus (L.fil.) Link

proliferus (L.fil.) var.

perezii (Hutch.) Kunk.

Teline canariensis (L.) Webb & Berth.

microphylla (DC.) Gibbs & Dingw.

Dicheirinia maderensis Gjarum

Teline maderensis Webb & Berth.

Frommeëllea duchesneae (Arth.) Yohem, Cunn. & Gilb.

Duchesnea indica (Andr.) Focke

Frommeëllea tormentillae (Fuck.) Cunn. & Y. Hirats.

Potentilla anglica Laich.

erecta (L.) Rausch.

Hyalopora adianti-capilli-veneris Syd.

Adiantum capillus-veneris L.

Kuehneola uredinis (Link) Arth.

Rubus inermis Pourr.

Melampsora epitea Thüm.

Salix canariensis Chr. Sm. ex Link

Melampsora euphorbiae (Schub.) Cast.

- Euphorbia anachoreta Svent. cult.
 atropurpurea (Brouss.) Webb & Berth.
 azorica Seub.
 exigua L.
 helioscopia L.
 mellifera Ait.
 obtusifolia Poir.
 peplus L.
 pterococca Brot.
 pubescens Vahl
 terracina L.
 tuckeyana Steud. ex Webb
 Ricinus communis L.

Melampsora hypericorum Wint.

- Hypericum canariense L.
 coadunatum Chr. Sm. ex Link
 foliosum Ait.
 cf. glandulosum Ait.
 grandifolium Choisy
 humifusum L.
 cf. reflecum L.f.

Melampsora lini (Ehrenb.) Lév.

- Linum bienne Mill.
 strictum L.

Melampsora populnea (Pers.) Karst.

- Populus alba L.

Milesina blechni (Syd.) Syd.

- Blechnum spicant (L.) Roth

Milesina kriegeriana (P. Magn.) P. Magn.

- Dryopteris azorica (Christ) Alston

Miyagia pseudosphaeria (Mont.) Jørst.

- Babcockia platylepis (Webb) Boulos
 Prenanthes pendula Sch. Bip.
 Sonchus acaulis Dum.-Cours.
 asper (L.) Hill
 brachylobus Webb & Berth.
 canariensis (Sch. Bip.) Boulos
 congestus Willd.
 daltonii Webb
 gummifer Link
 hierrensis (Pit.) Boulos
 oleraceus L.
 var. lacerus Walk.
 palmensis (Sch. Bip.) Boulos
 radicans Ait.
 tenerrimus L.
 sp.

Taeckholmia pinnata (L.fil.) Boulos

Phakopsora gossypii (Arth.) Hirats.f.
Gossypium hirsutum L.

Phakopsora zizyphi-vulgaris Diet.
Zizyphus mauritianus Lam.

Phragmidium bencomiae Syd.
Bencomia caudata (Ait.) Webb & Bert.

Phragmidium bulbosum (Str.) Schlecht.
Rubus inermis Pourr.
Rubus sp.

Phragmidium mucronatum (Pers.) Schlecht.
Rosa sp. cult.

Phragmidium sanguisorbae (DC.) Schroet.
Marcetella moquiniana (Webb & Berth.) Svent.
Sanguisorba minor Scop. ssp.
magnolii (Spach) Briq.

Phragmidium tuberculatum J. Müll.
Rosa sp. cult.

Phragmidium violaceum (C.F. Schultz) Wint.
Rubus bollei Focke
inermis Pourr.
sp.

Puccinia acetosae Körn.
Rumex acetosella L.

Puccinia addita Syd.
Phalaris brachystachys Link

Puccinia allii Rud. s.lat.
Allium ampeloprasum L.
cepa L.
paniculatum L.
porrum L.
roseum L.
sativum L.
subhirsutum L.
vineale L. var. *compactum*
(Thuill.) Boreau
sp.

Puccinia antirrhini Diet. & Holw.
Antirrhinum majus L.

Puccinia arenariae (Schum.) Wint.
Sagina apetala And.
procumbens L.

- Sagina sp.
Stellaria media (L.) Cyr.
- Puccinia asphodeli Moug. & Duby**
Asphodelus aestivus Brot.
fistulosus L.
- Puccinia atropae Mont.**
Withania aristata (Ait.) Pauq.
- Puccinia behenis Otth**
Silene vulgaris (Moench) Garcke
- Puccinia brachypodii Otth var. brachypodii**
Brachypodium sylvaticum (Huds.) PB.
Trachynia distachya (Hasselq. ex L.) Link
- Puccinia brachypodii Otth var. arrhenatheri**
(Kleb.) Cumm. & H.C. Greene
Arrhenatherum elatius (L.) PB. ssp. bulbosum
(Willd.) Schübl. & Mart.
Hordeum cf. bulbosum L.
- Puccinia brachypodii Otth var. poae-nemoralis**
(Otth) Cumm. & H.C. Greene
Pipthaterum caerulescens (Desf.) PB.
Poa annua L.
pratensis L.
sp.
Vulpia bromoides (L.) S.F. Gray
myurus (L.) C.C. Gmel.
- Puccinia buxi DC.**
Buxus sempervirens L.
- Puccinia cacao McAlp.**
Hamarthria altissima (Poir.) Stapf &
C.E. Hubb.
- Puccinia calcitrapae DC.**
Carduus clavulatus Link
tenuiflorus Curt.
Carlina salicifolia (L.fil.) Cav.
Centaurea calcitrapa L.
melitensis L.
Cirsium latifolium Lowe
Cheirolophus canariensis (Brouss. ex Willd.)
Holub
Volutaria lippii (L.) Cass.
- Puccinia cancellata Sacc. & Roum.**
Juncus acutus L.
- Puccinia caricina DC.**
Carex canariensis Kük.

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S. sp.
S. med.

P. asp.
A. aes.
A. fis.

P. atr.
W. ari.

P. beh.
S. vul.

P. bra.
B. syl.
T. dis.

P. bra.
A. ela.
H. bul.

P. bra.
P. cae.
P. ann.
P. pra.
P. sp.
V. bro.
V. myu.

P. buxi
B. sem.

P. cac.
H. alt.

P. cal.
C. cla.
C. ten.
C. sal.
C. cal.
C. mel.
C. lat.

C. can.
V. lip.

P. can.
J. acu.

P. car.
C. can.

Carex punctata Gaud.
sp.

***Puccinia cesatii* Schroet.**

Bothriochloa pertusa (L.) A. Camus var.
panormitanus (Parl.) Maire & Weill.

***Puccinia chrysanthemi* Roze**

Chrysanthemum sp.cult.

***Puccinia cnici-oleracei* Pers. ex Desm.**

Artemisia thuscula Cav.
Galactites tomentosa Moench

***Puccinia conclusa* Thuem.**

Cyperus longus L. s.lat.

***Puccinia conii* Fuck.**

Conium maculatum L.

***Puccinia coronata* Cda.**

Frangula azorica V. Grubov
Rhammus crenulata Ait.
Agrostis canina L.
 castellana Boiss. & Reut.
Arrhenatherum elatius (L.) PB. ex J. & C.
 Presl ssp. *bulbosum* (Willd.)
 Schübl. & Mart.
Avena barbata Pott. ex Link (incl. cf.
 barbata)
 occidentalis Dus. (incl. cf.
 occidentalis)
 sativa L.
 sterilis L.

Briza minor L.
Bromus diandrus Roth
Elytrigia repens (L.) Nevski
Festuca sp.
Holcus lanatus L.
 mollis L.
Lamarckia aurea (L.) Moench
Lolium multiflorum Lam.
 perenne L.
Phalaris aquatica L.
 caerulescens Desf.
 minor Retz
Polypogon fugax Nees ex Steud.
 monspeliensis (L.) Desf.
 viridis (Gouan) Breistr.
Vulpia sp.

***Puccinia crepidis* Schroet.**

Crepis canariensis (Sch. Bip.) Babc.
capillaris (L.) Wallr.

Crepis coronopifolia Desf.
foetida L.
vesicaria L. ssp. *andryaloides*
 (Boiss.) Babç.
 ssp. *haenseleri*
 (Boiss.) Sell

***Puccinia cynodontis* Lacroix**

Cynodon dactylon (L.) Pers.
Eragrostis barrelieri Daveau

***Puccinia cyperi-tagetiformis* Kern**

Cyperus esculentus L.
 s.lat. sp.
Pycreus polystachyus (Rottb.) PB.

***Puccinia difformis* Kze. & Schm.**

Galium aparine L.

***Puccinia dioicae* P. Magn.**

Carex tumidicarpa Ands. ssp.
cedercreutzii Fagerstr.
vulcani Hochst. in Seub.

***Puccinia epilobii* DC.**

Epilobium obscurum Schreb.
tetragonum L. ssp. *tetragonum*

***Puccinia frankeniae* Link**

Frankenia ericifolia Chr. Sm. ex DC.
laevis L. (as *F. hirsuta* in
 Viennot-Bourgin 1939)
pulverulenta L.
 sp.

***Puccinia graminis* Pers. s.lat.**

Anthoxanthum odoratum L.
Dactylis glomerata L.
Deschampsia foliosa Hack.
Hordeum murinum L.
 vulgare L.
Poa pratensis L.
Secale cereale L.
Triticum aestivum L.

***Puccinia heldreichiana* Diet.**

Asphodelus tenuifolius Cav.

***Puccinia heterospora* Berk. & Curt.**

Sida urens L.
Wissadula amplissima (L.) R.E.Fr. var.
rostrata (Schum. & Thonn.) R.E.Fr.

Puccinia hieracii* Mart. var. *hieracii

Cichorium endivia L. ssp. *divaricatum*
 (Schousb.) P.D. Sell

Hyoseris radiata L.
 Leontodon hirtus L.
 hispidus L.
 taraxacoides (Vill.) Mérat
 Taraxacum officinale Web. s.lat.
 sp.

Puccinia hieracii Mart. var. chlorocrepidis (Jacky) Jørst.

Andryala glandulosa Lam. cf. ssp.
 varia (Lowe & DC.) R. Fern.
 pinnatifida Ait.
 Tolpis barbata (L.) Gaertn.
 laciniata (Sch. Bip. ex Webb &
 Berth.) Webb
 lagopoda Chr. Sm. in Buch
 webbii Sch. Bip. ex Webb & Berth.

Puccinia hieracii Mar. var. hypochoeridis (Oud.) Jørst.

Hypochoeris glabra L.
 radicata L.
 sp.
 Launaea nudicaulis (L.) Hook. fil.

Puccinia hordei Otth

Holcus lanatus L.
 Hordeum murinum L. s. lat.
 vulgare L.
 Lolium canariense Steud.
 multiflorum Lam.
 temulentum L.
 Lophochloa cristata (L.) Hyl.
 Trisetaria panicea (Lam.) Maire
 Vulpia bromoides (L.) S.F. Gray
 myurus (L.) C.C. Gmel.
 sp.

Puccinia hyparrheniicola Jørst. & Cum.

Hyparrhenia hirta (L.) Stapf

Puccinia iridis (DC.) Wallr.

Iris sp.

Puccinia jasminii DC.

Jasminum odoratissimum L.

Puccinia lagenophorae Cooke

Senecio bollei Sund. & Kunk.
 crassifolius Willd.
 glaucus L. ssp. coronopifolius
 (Maire) Alexander
 sp

Puccinia lagunensis Jørst.

Cyperus longus L.

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H. rad.
 L. hir.
 L. his.
 L. tar.
 T. off.
 T. sp.

P. hie.

A. gla.
 A. pin.
 T. bar.
 T. lac.
 T. lag.
 T. web.

P. hie.

H. gla.
 H. rad.
 H. sp.
 L. nud.

P. hor.

H. lan.
 H. mur.
 H. vul.
 L. can.
 L. mul.
 L. tem.
 L. cri.
 T. pan.
 V. bro.
 V. myu.
 V. sp.

P. hyp.

H. hir.

P. iri.

I. sp.

P. jas.

J. odo.

P. lag.

S. bol.
 S. cra.
 S. gla.
 S. sp.

P. lag.

C. lon.

- Puccinia levis (Sacc. & Bizz.) Magn. var. tricholaena**
(H. & P. Syd.) Ramachar & Cumm.
Rhynchelytrum sp.
- Puccinia lapsanae (Schultz) Wint.**
Lapsana communis L.
- Puccinia lojkaiana Thuem.**
Ornithogalum cf. narbonense L.
- Puccinia magnusiana Körn.**
Arundo donax L.
Phragmites australis (Cav.) Trin.
- Puccinia malvacearum Bert. ex Mont.**
Abutilon grandifolium (Willd.) Sweet
Alcea rosea L.
Lavatera cretica L.
Malva nicaeënsis All.
 parviflora L. (incl. cf. parviflora)
 sp.
Malvaceae indet.
- Puccinia marquesii Roll**
Hypochoeris glabra L. x radicata L.
- Puccinia menthae Pers.**
Bystropogon canariensis (L.) L'Hér.
 organifolius L'Hér.
 plumosus (L.fil.) L'Hér
Calamintha nepeta (L.) Savi
 sylvatica Bromf. ssp.
 ascendens (Jordan) P.W. Ball
Clinopodium vulgare L.
Mentha aquatica L.
 longifolia (L.) Huds.
 rotundifolia (L.) Huds.
 spicata L.
 suaveolens Ehrh.
 x piperita L. var. citrada
 (Ehrh.) Briq.
 suaveolens Ehrh. x M. aquatica L.
 (M. x tutinii P. Silva)
 sp.
Micromeria hyssopifolia Webb & Berth.
 varia Benth. ssp. hierrensis Pérez
Origanum vulgare L. (incl. O.
 virens H. & K.)
- Puccinia mesnieriana Thuem.**
Rhamnus crenulata Ait.
- Puccinia oahuensis Ell. & Ev.**
Digitaria ciliaris (Retz.) Koel.

Digitaria nodosa Parlatores
nuda Schum.

***Puccinia obscura* Schroet.**

Ebingeria elegans (Lowe) Chrtek & Križa
Luzula multiflora (Retz.) Lej.
forsteri (Sm.) DC.

***Puccinia oxalidis* Diet. & Ellis**

Oxalis corymbosa DC.
purpurea L.
 sp.

***Puccinia pelargonii-zonalis* Doidge**

Pelargonium x hortorum Bailey

***Puccinia polygoni-amphibii* Pers. var.**

***convolvuli* (Alb. & Schw.) Arth.**
Bilderdykia convolvulus (L.) Dumort.

***Puccinia punctata* Link**

Galium mollugo L.
productum Lowe
scabrum L.

***Puccinia purpurea* Cooke**

Sorghum halepense (L.) Pers.

***Puccinia recondita* Rob. ex Desm.**

Cynoglossum creticum Mill.
Aegilops ovata L.
Agrostis castellana Boiss. & Reut.
Bromus diandrus Roth
hordeaceus L.
lanceolatus Roth
madritensis L.
rigidus Roth
rubens L.
tectorum L.
Elytrigia repens (L.) Nevski
Polypogon viridis (Gouan) Breistr.
Secale cereale L.
Triticum aestivum L.
 Gramineae indet.

***Puccinia rubiivora* P. Magn.**

Rubia fruticosa Ait.

***Puccinia rumicis-scutati* Wint.**

Rumex maderensis Lowe s.lat.

***Puccinia saniculae* Grev.**

Sanicula azorica Guthn. ex Seub.

***Puccinia sorghi* Schw.**

| A | S | M | T | G | J | P | F | L | C | M | D | P | S | L | F | C | T | G | H | P | A | V | L | N | S | B | M | T | F | R | |
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D. nod.
D. nud.

P. obs.
E. ele.
L. mul.
L. for.

P. oxa.
O. cor.
O. pur.
O. sp.

P. pel.
P. hor.

P. pol.
B. con.

P. pun.
G. mol.
G. pro.
G. sca.

P. pur.
S. hal.

P. rec.
C. cre.
A. ova.
A. cas.
B. dia.
B. hor.
B. lan.
B. mad.
B. rig.
B. rub.
B. tec.
E. rep.
P. vir.
S. cer.
T. aes.
Gra.

P. rub.
R. fru.

P. rum.
R. mad.

P. san.
S. azo.

P. sor.

Zea mays L.

***Puccinia stenotaphri* Cum.**

Stenotaphrum secundatum (Walt.) O. Kuntze

***Puccinia striiformis* West.**

Bromus rigidus Roth

Secale cereale L.

Triticum aestivum L.

***Puccinia tanacetii* DC.**

Argyranthemum adauctum (Link) Humphr. ssp.
canariense (Sch. Bip.) Humphr.
broussonetii (Pers.) Humphr.
callichrysum (Svent.) Humphr.
frutescens (L.) Sch. Bip.
hierrense Humphr.
pinnatifidum (L.fil.) Lowe
 ssp. *pinnatifidum*
 ssp. *succulentum* (Lowe) Humphr.
webbii Sch. Bip.
 sp.

Artemisia thuscula Cav.

Gonospermum elegans (Cass.) DC.

fruticosum (Buch) Less.

gomeræ Bolle

Lugoa revoluta (Chr. Sm. in Buch) DC.

***Puccinia tuyutensis* Speg.**

Cressa cretica L.

***Puccinia unica* Holw. var. *bottomleyae* (Doidge)**

Cum. & Husain

Aristida adscensionis L.

cardosoi Coutinho

***Puccinia venosa* Syd.**

Scilla haemorrhoidalis Webb & Berth.

latifolia Willd.

***Puccinia versicolor* Diet. & Holw.**

Andropogon gayanus Kunth

Heteropogon contortus (L.) PB. ex Roem. &
 Schult.

***Puccinia vincae* Berk.**

Vinca difformis Pourr.

major L.

***Puccinia violae* DC.**

Viola odorata L. var. *maderensis* (Lowe) Webb

paradoxa Lowe

riviniana Rchb.

***Pucciniastrum agrimoniae* (Diet.) Tranz.**

Agrimonia eupatoria L.

Pucciniastrum epilobii Otth

Epilobium sp.

Pucciniastrum guttatum (Schroet.) Hyl., Jørst. & Nannf.

Galium aparine L.
parisienne L.

Pucciniastrum vaccinii (Wint.) Jørst.

Vaccinium padifolium J.E. Sm. ex Rees

Tranzschelia discolor (Fuck.) Tranz. & Litv.

Prunus communis (L.) Fritsch
domestica L.
persica (L.) Batsch.

Uredo narnoxaiae Speg.

Patellifolia patellaris (Moq.) S., F.-L. & W.
procumbens (Chr. Sm. ex
Hornem.) S., F.-L. & W.

Uromyces anthyllidis Schroet.

Euphorbia peplus L.
Astragalus hamosus L.
Cicer arietinum L.
Hippocrepis multisiliquosa L.
Lotus angustissimus L.
arenarius Brot.
argenteus Lowe
brunneri Webb
campylocladus Webb & Berth.
coronillaefolius Webb
creticus L.
cf. dumetorum Webb ex Murr.
glaucus Ait.
glinoides Delarb.
hillebrandii Christ
lancerottensis Webb & Berth.
ornithopodioides L.
purpureus Webb
sessilifolius DC.
suaveolens Pers.
cf. suaveolens Pers.
sp.
Lupinus albus L.
luteus L.
Medicago laciniata (L.) Mill.
littoralis Rhode ex Loisel.
lupulina L.
minima (L.) Bartal.
orbicularis (All.) Bartal.
polymorpha L.
truncatula Gaertn.
Ononis christii Bolle

Ononis laxiflora Desf.
 natrix L. var. ramosissima
 (Desf.) Batt.
 Trigonella stellata Forssk.

Uromyces appendiculatus

Phaseolus vulgaris L.

Uromyces armeriae Lév.

Armeria maderensis Lowe

Uromyces behenis (DC.) Unger

Silene vulgaris (Moench) Garcke

Uromyces betae (Pers.) Tul.

Beta maritima L.
 vulgaris L.

Uromyces bidenticola Arth.

Bidens pilosa L.

Uromyces blainvilleae Berk.

Blainvillea gayana Cass.

Uromyces chenopodii (Duby) Schroet.

Salsola kali L.
 Suaeda vera Forssk. ex J.F. Gmel.

Uromyces dactylidis Otth var. poae (Rabenh.) Cumm.

Poa trivialis L.

Uromyces dianthi Niessl

Dianthus caryophyllus L.

Uromyces ervi West.

Vicia disperma DC.
 hirsuta (L.) S.F. Gray

Uromyces euphorbiae Cke. & Peck

Euphorbia prostrata Ait.

Uromyces ferulae Juel

Ferula linkii Webb

Uromyces geranii (DC.) Fr.

Geranium molle L.
 rotundifolium L.

Uromyces graminis (Niessl) Diet.

Melica ciliata L.
 canariensis Hempel

Uromyces junci (Desm.) Tul.

Juncus articulatus L.

- Uromyces laburni (DC.) Otth**
 Chamaecytisus proliferus (L.fil.) Link
 Cytisus scoparius (L.) Link
 Genista tenera (Jacq. ex Murr.) O. Kuntze
 virgata Willd.
 Teline canariensis (L.) Webb & Berth.
 stenopetala (Webb & Berth.) Webb & Berth.
- Uromyces limonii (DC.) Lév.**
 Limonium macrophyllum (Brouss.) O. Kuntze
 pectinatum (Ait.) O. Kuntze
 vulgare Mill.
- Uromyces linearis Berk. & Br.**
 Panicum repens L.
- Uromyces maireanus P. & H. Syd.**
 Dipcadi serotinum (L.) Med.
- Uromyces muscari (Duby) Graves**
 Leopoldia comosa (L.) Parl.
- Uromyces ornithopodioides Gonz. Frag.**
 Ornithopus compressus L.
- Uromyces pisi (DC.) Otth**
 Lathyrus sativus L. cult.
 Pisum sativum L.
- Uromyces polygoni-avicularis (Pers.) Karst.**
 Polygonum aviculare L.
 Rumex acetosella L. ssp. angiocarpus
 (Murb.) Murb.
 maderensis Lowe
- Uromyces rumicis (Schum.) Wint.**
 Rumex crispus L.
 conglomeratus Murr.
 pulcher L.
- Uromyces savulescui T. Rayss**
 Limonium cf. sinuatum (L.) Mill.
- Uromyces scrophulariae Fuck.**
 Scrophularia sp.
- Uromyces setariae-italicae Yosh.**
 Setaria adhaerens (Forssk.) Chiov.
 glauca (L.) PB.
 viridis (L.) PB.
- Uromyces striatus Schroet.**
 Lotus subbiflorus Lag.
 Medicago lupulina L.
 polymorpha L.

| A S M T G J P F L C | M D P | S | L F C T G H P | A V L N S B M T F R | |
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| | | | CT | | U. lab. |
| | M | | | | C. pro. |
| | M | | | | C. sco. |
| | M | | | P | G. ten. |
| | | | T | | G. vir. |
| | | | | P | T. can. |
| | | | | | T. ste. |
| M | | | T? | | U. lim. |
| | | | T H | | L. mac. |
| | | | | | L. pec. |
| | M | | | | L. vul. |
| | | | C | | U. lin. |
| | | | | | P. rep. |
| | | | | | U. mai. |
| | | | | | D. ser. |
| | | | | | U. mus. |
| | | | CT | P | L. com. |
| T | | | | | U. orn. |
| | | | | | O. com. |
| | | | | | U. pisi |
| | | | L | | L. sat. |
| | | | L | | P. sat. |
| | M | | T | | U. pol. |
| | | | | | P. avi. |
| | | | CT | P | R. ace. |
| | M | | | | R. mad. |
| | | | | | U. rum. |
| S | | | T | | R. cri. |
| | M | | | | R. con. |
| M | M | | CTGH P | | R. pul. |
| | | | | | U. sav. |
| | | | T | | L. sin. |
| | | | | | U. scr. |
| | M | | | | S. sp. |
| | | | | | U. set. |
| | M | | | V N | S. adh. |
| M | M | | T | P | S. gla. |
| | M | | | | S. vir. |
| | | | | | U. str. |
| | C | | | | L. sub. |
| | | | | | M. lup. |
| T | | | | | M. pol. |
| T | | | | | |

Uromyces thellungii Maire

Rumex simpliciflorus Murb. var.
rhodophycea Ball.

Uromyces tingitanus P. Henn.

Rumex bipinnatus L.fil.

Uromyces trifolii-repentis Liro

Trifolium incarnatum L.
repens L.
resupinatum L.
stellatum L.

Uromyces tuberculatus Fckl.

Euphorbia exigua L.

Uromyces viciae-fabae (Pers.) Schroet.

Lens culinaris Med.
Vicia angustifolia (L.) Reich.
benghalensis L.
bithynica (L.) L.
faba L. cult.
hirsuta (L.) S.F. Gray
monantha Retz.
sativa L.
ssp. nigra (L.) Ehrh.
sp.

| A | S | M | T | G | J | P | F | L | C | M | D | P | S | L | F | C | T | G | H | P | A | V | L | N | S | B | M | T | F | R | | |
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U. the.

R. sim.

U. tin.

R. bip.

U. tri.

- T. inc.
- T. rep.
- T. res.
- T. ste.

U. tub.

E. exi.

U. vic.

- L. cul.
- V. ang.
- V. ben.
- V. bit.
- V. fab.
- V. hir.
- V. mon.
- V. sat.
- V. sp.

INDEX TO SYNONYMS OF RUSTS

| | |
|---|--|
| <i>Aecidium cressae</i> DC. | see <i>Puccinia tuyutensis</i> |
| <i>Coleosporium campanulae</i> (Pers.) Lév. | " <i>Col. tussilaginis</i> |
| <i>Coleosporium inulae</i> Rabh. | " <i>Col. tussilaginis</i> |
| <i>Coleosporium kleiniae</i> P. Magn. | " <i>Col. tussilaginis</i> |
| <i>Coleosporium seneconis</i> (Pers.) Fr. | " <i>Col. tussilaginis</i> |
| <i>Frommea obtusa</i> auct. non (Str.) Arth. | " <i>Frommeëlla</i> <i>tormentillae</i> |
| <i>Kuehneola duchesneae</i> Arth. | " <i>Frommeëlla</i> <i>duchesneae</i> |
| <i>Kuehneola ficis</i> Bull. | " <i>Cerotelium ficis</i> |
| <i>Melampsora aecidioides</i> Schroet. | " <i>Mel. populnea</i> |
| <i>Melampsora gelmi</i> Bres. | " <i>Mel. euphorbiae</i> |
| <i>Melampsora helioscopiae</i> (Pers.) Wint. | " <i>Mel. euphorbiae</i> |
| <i>Melampsora ricini</i> Pass. ex Noronha | " <i>Mel. euphorbiae</i> |
| <i>Melampsorella ricini</i> (Biv.-Bern.) de Toni | " <i>Mel. euphorbiae</i> |
| <i>Peristemma pseudosphaeria</i> (Mont.) Jørst. | " <i>Miyagia pseudo-</i> <i>sphaeria</i> |
| <i>Phragmidium disciflorum</i> James | " <i>Phr. mucronatum</i> |
| <i>Phragmidium potentillae</i> (Pers.) Karst. | " also <i>Frommeëlla</i> <i>tormentillae</i> |
| <i>Phragmidium subcorticium</i> (Schr.) Wint. | " <i>Phr. mucronatum</i> |
| <i>Physopella ficis</i> Arth. | " <i>Cerotelium ficis</i> |
| <i>Puccinia agrostidis</i> Plowr. | " <i>P. recondita</i> |
| <i>Puccinia andropogonis-hirtae</i> Beltr. | " <i>P. hyparrheniae</i> |
| <i>Puccinia andryalae</i> Poir. | " <i>P. hieracii</i> var. <i>chlorocrepidis</i> |
| <i>Puccinia barbeyi</i> (Roum.) Magn. | " <i>P. heldreichiana</i> |
| <i>Puccinia barkhausiae-rhoeadifoliae</i> Bub. | " <i>P. crepidis</i> |
| <i>Puccinia blasdalei</i> Diet. & Holw. | " <i>P. allii</i> |
| <i>Puccinia bottomleyae</i> Doidge | " <i>P. unica</i> var. <i>bottomleyae</i> |

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|--|---|
| <i>Puccinia canariensis</i> Syd. | " <i>P. hieracii</i> var. <i>hieracii</i> |
| <i>Puccinia cirsii</i> Lasch | " <i>P. calcitrapae</i> |
| <i>Puccinia coronifera</i> Kleb. | " <i>P. coronata</i> |
| <i>Puccinia crepidicola</i> Syd. | " <i>P. crepidis</i> |
| <i>Puccinia cressae</i> Lagh. | " <i>P. tuyutensis</i> |
| <i>Puccinia gonospermi</i> P. Magn. | " <i>P. tanacetii</i> |
| <i>Puccinia hieracii</i> Mart. | " also <i>P. crepidis</i> |
| <i>Puccinia holcina</i> | " <i>P. recondita</i> |
| <i>Puccinia hordei-murini</i> Buchw. | " <i>P. hordei</i> |
| <i>Puccinia hypochoeridis</i> Oud. | " <i>P. hieracii</i> var. <i>hypochoeridis</i> |
| <i>Puccinia leontodontis</i> Jacky | " <i>P. hieracii</i> |
| <i>Puccinia lugoeae</i> P. Magn. | " <i>P. tanacetii</i> |
| <i>Puccinia maydis</i> Bereng. | " <i>P. sorghi</i> |
| <i>Puccinia poae-nemoralis</i> Otth | " <i>P. brachypodii</i> var. <i>poae-nemoralis</i> |
| <i>Puccinia poae-sudeticae</i> (West.) Jørst. | " <i>P. brachypodii</i> var. <i>poae-nemoralis</i> |
| <i>Puccinia polygoni</i> Alb. & Schw. | " <i>P. polygoni-amphibii</i> var. <i>convolvuli</i> |
| <i>Puccinia porri</i> (Sow.) Wint. | " <i>P. allii</i> |
| <i>Puccinia pseudomyuri</i> Kleb. | " <i>P. schismi</i> |
| <i>Puccinia rimosa</i> (Link.) Wint. | " <i>P. cancellata</i> |
| <i>Puccinia rubigo-vera</i> DC. | " <i>P. recondita</i> |
| <i>Puccinia silvatica</i> Schroet. | " <i>P. dioicae</i> |
| <i>Puccinia sonchi</i> Rob. | " <i>Miyagia pseudo-</i> <i>sphaeria</i> |
| <i>Puccinia tagananensis</i> P. Magn. | " <i>Miyagia pseudo-</i> <i>sphaeria</i> |
| <i>Puccinia taraxaci</i> Plow. | " <i>P. hieraci</i> var. <i>hieracii</i> |
| <i>Rostrupia addita</i> (Syd.) Viennot- Bourgin | " <i>Puccinia addita</i> |
| <i>Thekopsora galii</i> (Link) de Toni | " <i>Pucciniastrum</i> <i>guttatum</i> |

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|---|---------------------------------|
| Tranzchelia pruni-spinosae (Pers.) Diet. | " T. discolor |
| Uredo betivora P. Magn. | " U. marmoxaiae |
| Uredo cosmeae Lowe | " Urom. bidenticola |
| Uredo frankeniae Mont. | " Puccinia frankeniae |
| Uredo helioscopiae DC. | " Mel. euphorbiae |
| Uredo herneriae Torrend [sic] | " Urom. bidenticola |
| Uredo iridis Duby | " Puccinia asphodeli |
| Uredo microcelis Mont | " Urom. limonii |
| Uredo rubigo-vera DC. | " Puccinia recondita |
| Uromyces betae (Pers.) Lév. | " Uredo marmoxaiae |
| Uromyces bidentis Lagh. | " Urom. bidenticola |
| Uromyces caryophyllinus | " Urom. dianthi |
| Uromyces euphorbiicola Tranz. | " Urom. euphorbiae |
| Uromyces fabae de Bary | " Urom. viciae-fabae |
| Uromyces genistae-tinctoriae Wint. | " Urom. laburni |
| Uromyces guerkeanus P. Henn. | " Urom. anthyllidis |
| Uromyces leptodermus H. & P. Syd. | " Urom. setariae- italicae |
| Uromyces lupini | " Urom. anthyllidis |
| Uromyces natrassii Cumm. | " Urom. savulescui |
| Uromyces polygona (Pers.) Fuck. | " Urom. polygona- avicularis |
| Uromyces poae Rabh. | " Urom. dactylidis var. poae |
| Uromyces proëminens Lév. | " Urom. euphorbiae |
| Uromyces renovatus P. & H. Syd. | " Urom. anthyllidis |
| Uromyces scillarum (Grev.) Lév. | " Urom. muscari |

INDEX TO SYNONYMS OF HOSTS

| | |
|----------------------------------|-----------------------------------|
| Agropyron repens | see Elytrigia repens |
| Agrostis semiverticillata | " Polypogon viridis |
| Allium pallens | " A. paniculatum |
| trifoliatum | " A. subhirsutum |
| Althaea rosea | " Alcea rosea |
| Amygdalus persica | " Prunus persica |
| Andryala cheiranthifolia | " A. glandulosa var. varia |
| Artemisia canariensis | " A. thuscula |
| Asphodelus microcarpus | " A. aestivus |
| ramosus | " A. aestivus |
| Avena fatua auct. macar., non L. | " A. occidentalis |
| Beta patellaris | " Patellifolia patellaris |
| procumbens | " procumbens |
| Brachypodium distachyum | " Trachynia distachya |
| Bromus villosus | " B. rigidus |
| Bystropogon maderensis | " B. canariensis |
| plumosus | " B. organifolius |
| punctatus | " B. canariensis |
| Calamintha clinopodium | " Clinopodium vulgare |
| Carex vulcanica | " C. vulcani |
| Chrysanthemum broussonetii | " Argyranthemum broussonetii |
| canariense | " Argyranthemum adauctum |
| frutescens | ssp. canariense |
| indicum | " Argyranthemum frutescens |
| webbii | " C. sp. cult. |
| Cichorium pumilum | " Argyranthemum webbii |
| | " Cichorium endivia |
| | ssp. divaricatum |
| Crepis foetida ssp. glandulosa | " C. foetida |
| hieracioides | " C. vesicaria |
| | ssp. andryaloides |
| lowei | " C. canariensis |
| virens | " C. capillaris |
| | ssp. haenseleri |

| | | |
|--|---|------------------------------------|
| <i>Cynoglossum pictum</i> | " | <i>C. creticum</i> |
| <i>Cytisus congestus</i> | " | <i>Teline microphylla</i> |
| <i>proliferus</i> | " | <i>Chamaecytisus proliferus</i> |
| <i>stenopetalus</i> | " | <i>Teline stenopetala</i> |
| <i>Dryopteris dilatata</i> ssp. <i>azorica</i> | " | <i>D. azorica</i> |
| <i>Ervum parviflorum</i> | " | <i>Vicia disperma</i> |
| <i>Euphorbia chamaesyce</i> | " | <i>E. prostrata</i> |
| <i>granulata</i> var. <i>hirtella</i> | " | <i>E. prostrata</i> |
| <i>Festuca myuros</i> | " | <i>Vulpia myurus</i> |
| <i>sciuroides</i> | " | <i>Vulpia bromoides</i> |
| <i>Galium ellipticum</i> | " | <i>G. scabrum</i> |
| <i>rotundifolium</i> | " | <i>G. scabrum</i> |
| <i>Gonospermum revolutum</i> | " | <i>Lugoia revoluta</i> |
| <i>Herneria pilosa</i> [sic] | " | <i>Bidens pilosa</i> |
| <i>Hordeum leporinum</i> | " | <i>H. murinum</i> |
| <i>Hypericum</i> cf. <i>reflexum</i> | " | <i>H. glandulosum</i> |
| <i>Hypochoeris glabra</i> var. <i>balbisii</i> | " | <i>H. glabra</i> x <i>radicata</i> |
| <i>Inula viscosa</i> | " | <i>Dittrichia viscosa</i> |
| <i>Juncus lamprocarpus</i> | " | <i>J. articulatus</i> |
| <i>Koeleria phleoides</i> | " | <i>Lophochloa cristata</i> |
| <i>Leontodon nudicaulis</i> ssp. <i>rothii</i> | " | <i>L. taraxacoides</i> |
| <i>saxatilis</i> ssp. <i>rothii</i> | " | <i>ssp. longirostris</i> |
| | " | <i>L. taraxacoides</i> |
| | " | <i>ssp. longirostris</i> |
| <i>Linum angustifolium</i> | " | <i>L. bienne</i> |
| <i>Lolium italicum</i> | " | <i>L. multiflorum</i> |
| <i>Lotus arabicus</i> | " | <i>L. glinoides</i> |
| <i>hispidus</i> | " | <i>L. subbiflorus</i> |
| <i>trigonelloides</i> | " | <i>L. glinoides</i> |
| <i>Lupinus ternis</i> | " | <i>L. albus</i> |
| <i>Lupsia tomentosa</i> | " | <i>Galactites tomentosa</i> |
| <i>Luzula elegans</i> | " | <i>Ebingeria elegans</i> |
| <i>Medicago hispida</i> | " | <i>M. polymorpha</i> |
| <i>Mentha viridis</i> | " | <i>M. spicata</i> |
| <i>Muscari comosum</i> | " | <i>Leopoldia comosa</i> |
| <i>Oryzopsis caerulescens</i> | " | <i>Pipthatherum caerulescens</i> |
| <i>Phragmites communis</i> | " | <i>P. australis</i> |

| | | |
|---|---|--|
| <i>Phalaris altissima</i> | " | <i>P. aquatica</i> |
| <i>Polygonum convolvulus</i> | " | <i>Bilderdykia convolvulus</i> |
| <i>Polypogon elongatus</i> auct. canar., non HBK | " | <i>P. fugax</i> |
| <i>Potentilla procumbens</i> | " | <i>P. anglica</i> |
| <i>Rhamnus latifolia</i> | " | <i>Frangula azorica</i> |
| <i>Rubus rusticanus</i> | " | <i>R. inermis</i> |
| <i>Rubus ulmifolius</i> | " | <i>R. inermis</i> |
| <i>Rumex vesicarius</i> | " | <i>R. simplicifolius</i> var. <i>rhodophycea</i> |
| <i>Sanguisorba verrucosa</i> | " | <i>S. minor</i> var. <i>magnolii</i> |
| <i>Satureja calamintha</i> | " | <i>Calamintha sylvatica</i> ssp. <i>ascendens</i> |
| <i>Senecio appendiculatus</i> | " | <i>Pericallis appendiculata</i> |
| <i>bollei</i> var. <i>bollei</i> | " | <i>Pericallis bollei</i> var. <i>bollei</i> |
| <i>cruentus</i> | " | <i>Pericallis cruenta</i> |
| <i>echinatus</i> | " | <i>Pericallis echinata</i> |
| <i>gomeraeus</i> | " | <i>Pericallis steetzii</i> |
| <i>heritieri</i> | " | <i>Pericallis lanata</i> |
| <i>maderensis</i> | " | <i>Pericallis aurita</i> |
| <i>murrayi</i> | " | <i>Pericallis murrayi</i> |
| <i>papyraceus</i> | " | <i>Pericallis papyracea</i> |
| <i>rhombifolius</i> | " | <i>S. bollei</i> |
| <i>tussilaginis</i> | " | <i>Pericallis tussilaginis</i> |
| <i>vulgaris</i> | " | also <i>S. teneriffae</i> |
| <i>webbii</i> | " | <i>Pericallis webbii</i> |
| <i>Silene cucubalus</i> | " | <i>S. vulgaris</i> |
| <i>Sonchus gandogeri</i> | " | <i>S. hierrensis</i> |
| <i>jacquini</i> | " | <i>S. congestus</i> |
| <i>jacquini</i> var. <i>hierrensis</i> | " | <i>S. hierrensis</i> |
| <i>leptocephalus</i> | " | <i>Taeckholmia pinnata</i> |
| <i>pinnatus</i> | " | <i>S. palmensis</i> |
| <i>platylepis</i> | " | <i>Babcockia platylepis</i> |
| <i>Statice limonium</i> | " | <i>Limonium vulgare</i> |
| <i>Thrinchia hispida</i> | " | <i>Leontodon nudicaulis</i> |
| <i>nudicaulis</i> | " | <i>Leontodon nudicaulis</i> |

| | |
|-----------------------|----------------------|
| Tolpis crinita | " T. barbata |
| Trisetum paniceum | " Trisetaria panicea |
| Triticum vulgare | " T. aestivum |
| Vicia atropurpurea | " V. benghalensis |
| Viola reichenbachiana | " V. riviniana |
| Zizyphus jujuba | " Z. mauritiana |

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