

A PROVISIONAL LIST OF UREDINALES OF FUJIAN PROVINCE, CHINA

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ABSTRACT 150 species of rust fungi collected from Fujian province are listed together with their hosts and the districts where the specimens were collected. All specimens are deposited in the Herbarium Mycologicum Instituti Microbiologici Academiae Sinicae, Beijing.

KEY WORDS Fujian; rust fungi

INTRODUCTION

The present paper is to enumerate the rust fungi from Fujian province mostly collected by the author personally in the Wuyi Mountains region. 29 genera and 150 species are listed. All specimens are deposited in the Herbarium Mycologicum Instituti Microbiologici Academiae Sinicae, Beijing.

In this paper the names of species are given, together with their hosts and the districts where the specimens were collected. An asterisk preceding the name of a rust or a host indicates a new species or a new record for Chinese rust-flora or a new host for the species concerned.

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Fam. MELAMPSORACEAE

Uredinopsis Magnus

1. *Uredinopsis athyrii* Kamei, *Trans. Sapporo Nat. Hist. Soc.* **12**:163. 1932.

On *Athyrium* sp.: Chong-an (崇安) (HMAS** 41871).

2. *Uredinopsis pteridis* Diet. et Holw., *Ber. Deutsch. Bot. Ges.* **13**:331. 1895.

On *Pteridium aquilinum* (L.) Kuhn var. *latiusculum* (Desv.) Underw.: Chong-an (HMAS 41872).

Hyalopsora Magnus

1. *Hyalopsora hakodatensis* Hirats. in Hiratsuka & Uemura, *Trans. Tottori Soc. Agr. Sci.* **4**:(20), 25. 1932.

On **Osmunda* sp.: Chong-an (HMAS 41580); on **Phegopteris decursive-pinnata* Fée: Jianyang (建阳) (HMAS 41581).

** "HMAS" is abbreviated from "Herbarium Mycologicum Instituti Microbiologici Academiae Sinicae"

***Pucciniastrum* Orth**

1. ***Pucciniastrum agrimoniae*** (Schw.) Tranz., *Scripta Bot. Hort. Univ. Petrop.* 4: 301. 1895.

On *Agrimonia eupatoria* L.: Chong-an (HMAS 41837); on *A. pilosa* Ledeb.: Chong-an (HMAS 41839).

2. ***Pucciniastrum castaneae*** Diet., *Hedwigia* 41: 178. 1902.

On *Castanea mollissima* Bl.: Chong-an (HMAS 41841).

3. ***Pucciniastrum hydrangeae-petiolariidis*** Hirats., *Jour. Facul. Agr. Hokkaido Imp. Univ.* 21:27, 93. 1927.

On **Hydrangea paniculata* Sieb.: Chong-an (HMAS 41844, 41845, 41846).

***Melampsora* Castagne**

1. ***Melampsora coleosporioides*** Diet., *Engl. Bot. Jahrb.* 32:50. 1903.

On *Salix* sp.: Chong-an (HMAS 41592).

2. ***Melampsora idesiae*** Miyabe in Hiratsuka, *Bot. Mag. Tokyo* 11: 45. 1897.

On *Idesia polycarpa* Maxim.: Chong-an (HMAS 41594); Jianyang (HMAS 41595).

3. ***Melampsora yezoensis*** Miyabe et Matsumoto, *Trans. Sapporo Nat. Hist. Soc.* 6:29. 1915.

On *Salix dunnii* Schneid.: Chong-an (HMAS 41605), Longyan (龙岩) (HMAS 41606); on *Salix tetrasperma* Raxb.: Longyan (HMAS 41607).

4. ***Melampsora yoshinagai*** P. Henn., *Hedwigia* 42: 108. 1903.

On *Wikstroemia indica* (L.) C. A. Mey.: Chong-an (HMAS 41609).

***Ochropsora* Dietel**

1. ***Ochropsora ariae*** (Fuck.) Sydow, *Monogr. Ured.* 3:661.

On *Pyrus xerophila* Yü: Pucheng (浦城) (HMAS 41611).

***Coleosporium* Léveillé**

1. ***Coleosporium asterum*** (Diet.) Syd., *Ann. Myc.* 12: 109. 1914.

On *Aster ageratoides* Turcz.: Chong-an (HMAS 41491, 41483, 41484), Jianyang (HMAS 41481), Pucheng (HMAS 41482); on *Aster senecioides* Franch.: Chong-an (HMAS 41485), Pucheng (HMAS 41486); on *Aster turbinatus* S. Moore: Chong-an (HMAS 41490); on *Kalimeris indica* (L.) Sch. -Bip.: Chong-an (HMAS 41492), Nanjing (南京) (HMAS 41493).

2. ***Coleosporium campanulae*** (Pers.) Lév., *Ann. Sci. Nat.* 3. Ser. 8. p. 273. 1847.

On *Adenophora coronopifolia* Fisch.: Chong-an (HMAS 41496); on *Lobelia melliana* Wimm.: Chong-an (HMAS 41499), Jianyang (HMAS 41500), Pucheng (HMAS 41501); on *Lobelia* sp.: Chong-an (HMAS 41502, 41503).

3. ***Coleosporium carpesii*** Sacc., *Riv. Acc. di Padova* 24: 208. 1874.

On *Carpesium cernuum* L.: Chong-an (HMAS 41504); on *Carpesium divaricatum* Sieb. et Zucc.: Chong-an (HMAS 41505, 41506).

4. ***Coleosporium cheoanum*** Cumm., *Mycologia* 42:788. 1950.

On *Coleus pumilus* Blanco: Chong-an (HMAS 41508, 41509), Nanjing (HMAS 41507).

5. **Coleosporium choerospondiatis* Wang et J. Y. Zhuang, *Acta Mycol. Sin.* **2**:4. 1983.

On *Choerospondias axillaris* (Roxb.) Burtt. et Hill.: Jianyang (HMAS 41460, TYPUS).

6. *Coleosporium clematidis-apiifoliae* Diet., *Bot. Jahrb.* **28**: 287. 1910.

On *Clematis apiifolia* DC: Jianyang (HMAS 41512).

7. *Coleosporium eupatorii* Arth., *Bull. Torr. Bot. Club* **33**: 31. 1906.

On *Ainsliaea* sp.(?): Chong-an (HMAS 41513).

The identification of the host plant is uncertain but the fungus is somewhat like *Coleosporium eupatorii*. The collection is referred to this species provisionally.

8. *Coleosporium evodiae* Diet. emend Hirats. *Sci. Bull. Agr. Home Econ. Eng. Div. Univ. Ryukyus* **7**: 213. 1960.

On **Evodia fargesii* Dode: Chong-an (HMAS 41515, 41516); on *Evodia meliaeifolia* Benth.: Jianyang (HMAS 41517), Pucheng (HMAS 41518).

9. **Coleosporium myripnoidis* Wang et J. Y. Zhuang, *Acta Mycol. Sin.* **2**: 5. 1983.

On *Myripnois dioica* Bunge: Chong-an (HMAS 41461 TYPUS).

10. *Coleosporium perillae* Syd., *Hedwigia* **38**: 141. 1899.

On *Agastache rugosus* (Fisch. et Meyer) O. Ktze: Chong-an (HMAS 41520); on *Keiskea elsholtzioides* Merr.: Chong-an (HMAS 41522); on *Orthodon diantherus* (Buch.-Ham.) Hand.-Mazz.: Chong-an (HMAS 41521), Jianyang (HMAS 41529); on *Orthodon punctulatum* Thunb.: Chong-an (HMAS 41530); on *Perilla frutescens* (L.) Britt.: Chong-an (HMAS 41523, 41525), Jianyang (HMAS 41524, 41527), Nanjing (HMAS 41526); on *Perilla frutescens* (L.) Britt. var. *crispa* Decne: Pucheng (HMAS 41528).

11. *Coleosporium phellodendri* Komar., *Fungi Ross. exs. no.* 274. 1899.

On **Phellodendron sinense* var. *glabriusculum* Schneid Chong-an (HMAS 41533).

12. *Coleosporium plectranthi* Barcl., *Jour. Asiat. Soc. Bengal* **59**: 89. 1890.

On *Elsholtzia ciliata* (Thunb.) Hyland: Chong-an (HMAS 41534); on *Isodon amethystoides* (Benth.) C. Y. Wu et Hsuan: Chong-an (HMAS 41536); on *Plectranthus nervosus* Hemsl.: Chong-an (HMAS 41538).

13. *Coleosporium saussureae* Thüm., *Beitr. Pilzflora Sibir.* **4**: 212. 1880.

On *Saussurea bullockii* Dunn.: Chong-an (HMAS 41544); on *Saussurea dutaillyana* Franch.: Chong-an (HMAS 41545).

14. *Coleosporium solidaginis* Thüm., *Bull. Torr. Bot. Club* **6**: 216. 1878.

On *Solidago decurrens* Lour.: Chong-an (HMAS 41552, 41553); on *Solidago virga-aurea* L.: Chong-an (HMAS 41555); on *Solidago* sp.: Shanghang (上杭) (HMAS 41556).

15. *Coleosporium vernoniae* Berk. et Curt. in Berkeley, *Grevillea* **3**: 57. 1874.

On *Vernonia* sp.: Chong-an (HMAS 41557).

Phakopsora Dietel

1. *Phakopsora artemisiae* Hirats., *Jap. Jour. Bot.* **3**: 298. 1927.

On *Chrysanthemum indicum* L.: Jianyang (HMAS 41612).

2. *Phakopsora ehretiae* Hirats., *Bot. Mag. Tokyo* **14**: 92. 1900.

On *Ehretia thyrsoiflora* (Sieb. et Zucc.) Nakai: Chong-an (HMAS 41613).

3. *Phakopsora fici-erectae* Ito et Otani in Ito & Murayama, *Trans. Sapporo Nat. Hist. Soc.* **18**: 85. 1949.

On *Broussonetia* sp.: Chong-an (HMAS 41614).

Ph. fici-erectae does not seem to differ essentially from *Ph. nishidana* Ito and *Ph. hengshanensis* Tai. The present writer inclines to consider *Ph. fici-erectae* and *Ph. hengshanensis* as synonyms of *Ph. nishidana*. Their relations need further study.

4. ***Phakopsora incompleta*** (Syd.) Cumm., *Mycologia* 42: 786. 1950.

On *Ischaemum ciliare* Retz.: Phinghe (平和) (HMAS 34270).

5. ***Phakopsora nishidana*** Ito, *Trans. Sapporo Nat. Hist. Soc.* 15: 117. 1938.

On *Ficus pandurata* Hance: Chong-an (HMAS 41616); on *Ficus variolosa* Lindl.: Chong-an (HMAS 41618); on *Ficus stenophylla* Hemsl.: Chong-an (HMAS 41617); on *Ficus chlorocarpa* Benth.: Chong-an (HMAS 41615).

6. ***Phakopsora pachyrhizi*** Syd., *Ann. Myc.* 12: 108. 1914.

On *Pueraria pseudo-hirsuta* Tang et Wang: Chong-an (HMAS 41621); on *Glycine max* (L.) Merr.: Long-yan (HMAS 41619), Chong-an (HMAS 41620).

***Physopella* Arthur**

1. ***Physopella ampelopsidis*** (Diet. et Syd.) Cumm. et Ramachar, *Mycologia* 50: 741. 1958.

On *Ampelopsis delavayana* (Franch.) Planch.: Jianyang (HMAS 41644), Pucheng (HMAS 41643); on **Cayratia corniculata* (Benth.) Gagnep.: Jianyang (HMAS 41645); on *Cissus modecoides* Planch.: Chong-an (HMAS 41646, 41647, 41648), Pucheng (HMAS 41649); on *Cissus* sp.: Chong-an (HMAS 41650); on *Parthenocissus heterophylla* (Bl.) Merr.: Chong-an (HMAS 41651); on **Tetrastigma hypoglaucum* Planch.: Shaowu (邵武) (HMAS 41604, 41653); on *Vitis romanetii* Roman: Chong-an (HMAS 41654).

***Pucciniostele* Tranzschel & Komarov**

1. ***Pucciniostele hashikoi*** (Hirats.) Cumm., *Mycologia* 42: 790. 1950.

On *Ampelopsis* sp.: Chong-an (HMAS 41850); on **Tetrastigma hypoglaucum* Planch.: Chong-an (HMAS 41848, 41849.)

***Cronartium* Fries**

1. ***Cronartium quercuum*** Miyake ex Shirai, *Bot. Mag. Tokyo* 13: 74. 1899.

On *Quercus fabri* Hance: Pucheng (HMAS 41540).

The teliospores of Fujian's form have thinner walls and longer measurements, usually acuminate at both ends; no uredia have been observed in connection with them.

***Gambleola* Massee**

1. ***Gambleola cornuta*** Massee, *Bull. Miscell. Inform. Kew* 1898: 115. 1898.

On *Mahonia japonica* (Thunb.) DC.: Chong-an (HMAS 41558).

Fam. PUCCINIACEAE

***Gerwasia* Raciborski**

1. ***Gerwasia rosae*** Tai, *Farlowia* 3: 103. 1947.

On *Rosa laevigata* Michx.: Chong-an (HMAS 41559, 41560), Jianyang (HMAS 41561).

2. ***Gerwasia rubi*** Racib., *Bull. Acad. Sci. Cracovie. Cl. Sci. Math. et Nat.* p. 271. 1909.

On *Rubus amphidarys* Focke: Nanjing (HMAS 41563, 41564, 41565), Jianyang (HMAS 41562); on *Rubus buergeri* Miq.: Jianyang (HMAS 41566, 41567); on *Rubus reflexus* Ker-Gawl.: Chong-an (HMAS 41568, 41569, 41570).

Pileolaria Castagne

1. *Pileolaria klugkistiana* Diet., *Ann. Myc.* **19**:301. 1921.

On *Rhus chinensis* Mill.: Chong-an (HMAS 41656), Longyan (HMAS 41655).

2. *Pileolaria shiraiana* (Diet. et Syd.) Ito, *Jour. Coll. Agr. Hokkaido Imp. Univ.* **11**:273. 1922.

On *Rhus succedanea* L.: Chong-an (HMAS 41852), Nanjing (HMAS 41657, 41658); on *Rhus verniciflua* Stokes: Chong-an (HMAS 41659, 41660), Pucheng (HMAS 41661).

Kuehneola Magnus

1. *Kuehneola callicarpae* Syd., *Ann. Myc.* **26**:420. 1928.

On *Callicarpa dichotoma* (Lour.) K. Koch.: Jianyang (HMAS 41583), Chong-an (HMAS 41584); on *Callicarpa cathayana* H. T. Chang: Chong-an (HMAS 41582).

2. *Kuehneola japonica* Diet., *Ann. Myc.* **10**: 205. 1912.

On *Rosa laevigata* Michx.: Chong-an (HMAS 41585).

The teliospores of Fujian's specimen are smaller than those as originally described, in addition, the telia hypophyllous, not amphigenous.

Tranzschelia Arthur

1. *Tranzschelia pruni-spinosae* (Pers.) Diet., *Ann. Myc.* **20**: 31. 1922.

On *Prunus persica* (L.) Batsch.: Longyan (HMAS 41865).

Leucotelium Tranzschel

1. *Leucotelium pruni-persicae* (Hori) Tranz., *Sov. Bot. No.4*. p.83. 1935.

On *Prunus persicae* (L.) Batsch.: Chong-an (HMAS 41586).

Hamaspora Koernicke

1. *Hamaspora acutissima* Syd., *Monogr. Ured.* **3**: 80. 1915.

On *Rubus parkeri* Hance: Chong-an (HMAS 41575).

2. *Hamaspora sinica* Tai et Cheo, *Bull. Chinese Bot. Soc.* **3**: 54. 1937.

On *Rubus buergeri* Miq.: Jianyang (HMAS 41576, 41577), Pucheng (HMAS 41578); on *Rubus* sp.: Chong-an (HMAS 41579).

Phragmidium Link

1. *Phragmidium papillatum* Diet., *Hedwigia* **29**: 25. 1890.

On *Potentilla kleiniana* Wight et Arn.: Chong-an (HMAS 41626).

The rust is present as uredia and thus is only tentatively referred to this species.

2. *Phragmidium rosae-multiflorae* Diet., *Hedwigia* **44**: 132, 345. 1905.

On *Rosa sertata* Rolfe: Chong-an (HMAS 41639); on *Rosa cymosa* Tratt.: Chong-an (HMAS 41637).

3. **Phragmidium rubi-idaei* (DC.) Karst., *Myc. Fenn.* **4**: 52. 1879.

On *Rubus adenophorus* Rolfe: Jianyang (HMAS 41642), Chong-an (HMAS 41641).

Sphaerophragmium Magnus

1. *Sphaerophragmium acaciae* (Cooke) Magnus, *Ber. Deut. Bot. Ges.* **9**: 121. 1891.

On *Albizzia kalkora* (Roxb.) Prain.: Nanjing (HMAS 03561, 41857).

Ravenelia Berkeley

1. *Ravenelia japonica* Diet. et Syd., *Hedwigia* **37**: 216. 1898.

On *Albizzia kalkora* (Roxb.) Prain.: Chong-an (HMAS 41853).

2. *Ravenelia millettiae* Hirats. et Hash., *Bot. Mag. Tokyo* **48**: 236. 1934.

On **Milletia heterocarpa* Chun: Chong-an (HMAS 41854); on *Milletia reticulata* Benth.: Pucheng (HMAS 41855).

Nothoravenelia Dietel

1. *Nothoravenelia japonica* Diet., *Ann. Myc.* **8**: 310. 1910.

On "Euphorbiaceae": Dehua (德化) (HMAS 10395).

Maravalia Arthur

1. *Maravalia achroa* (Syd.) Arth. et Cumm., *Philipp. Jour. Sci.* **61**: 468. 1936.

On *Dalbergia hupeana* Hce.: Chong-an (HMAS 41587, 41588, 41589), Pucheng (HMAS 41590).

Gymnosporangium Hedwig f.

1. *Gymnosporangium haraeaeum* Syd., *Ann. Myc.* **10**: 405. 1912.

On *Pyrus pyrifolia* (Burm. f.) Nakai: Chong-an (HMAS 41573); on *Pyrus calleryana* Dcne.: Xiamen (Amoy) (厦门) (HMAS 41572).

Coleopuccinia Patouillard

1. **Coleopuccinia idei* (Hirats.) J. Y. Zhuang, comb. nov.

Coleopuccinia idei Hirats. in sched.

Coleopucciniella idei Hirats., *Jour. Jap. Bot.* **13**: 245. 1937.

On *Raphiolepis* sp.: Chong-an (HMAS 41519).

This transfer is made in accordance with Cummins' treatment (Illustrated Genera of Rust Fungi p. 123 1959) of *Coleopucciniella* as a synonym of *Coleopuccinia*.

Uromyces Link

1. *Uromyces alopecuri* Seym., *Proc. Bost. Soc. Nat. Hist.* **24**: 186. 1889.

On *Alopecurus aequalis* Sobol.: Fuzhou (Foochow) (福州) (HMAS 41886).

2. *Uromyces appendiculatus* (Pers.) Unger, *Einfl. Bodens* p. 216. 1836.

On *Phaseolus vulgaris* Linn.: Longyan (HMAS 41889, 41890); on *Phaseolus radiatus* L.: Chong-an (HMAS 41887, 41888).

3. ***Uromyces commelinae*** Cooke, *Trans. Roy. Soc. Edinb.* p. 342. 1887.

On *Commelina communis* L.: Chong-an (HMAS 41891, 41892); on *Pollia japonica* Thunb.: Chong-an (HMAS 41893, 41894).

4. ***Uromyces coronatus*** Miyabe et Nishida in Dietel, *Bot. Centralbl.* **105**: 495. 1905.

On *Zizania caduciflora* (Turcz.) Hand. Mazz.: Guangze (光泽) (HMAS 36679), Jianning (建宁) (HMAS 38610).

5. ***Uromyces digitariae-adscendentis*** Wang, *Acta Phytotax. Sin.* **10**: 296—297. 1965.

On *Digitaria violascens* Link: Longyan (HMAS 41895).

6. ***Uromyces fabae*** (Pers.) de Bary, *Ann. Sci. Nat.* 4 ser. **20**: 72. 1863.

On *Vicia faba* L.: Chong-an (HMAS 35431).

7. ***Uromyces geranii*** Fries, *Summa Vag. Scand.* p. 514. 1849.

On *Geranium wilfordii* Maxim.: Chong-an (HMAS 41898).

8. ***Uromyces inaequaltus*** Lasch. in Rabenh., *Fungi Eur.* no. 94. 1859.

On *Silene frutunei* Vis.: Pucheng (HMAS 41900).

9. ***Uromyces itoanus*** Hirats. in Hiratsuka & Tobinaga, *Ann. Phytopath. Soc. Jap.* **4**: 161. 1935.

On *Kummerowia striata* (Thunb.) Schindl.: Longyan (HMAS 41901, 41902), Chong-an (HMAS 41903, 41904), Pucheng (41905).

10. ***Uromyces lespedezae-procumbentis*** (Schw.) Curt., *Cat. Pl. N. Carolina* p. 123. 1867.

On *Lespedeza davidii* Franch.: Chong-an (HMAS 41909, 41910, 41911, 41912), Pucheng (HMAS 41914).

11. ***Uromyces linearis*** Berk. et Br., *J. Linn. Soc. London.* **14**: 92. 1875.

On **Panicum trypheron* Schult.: Longyan (HMAS 41916).

12. ***Uromyces setariae-italicae*** Yosh., *Bot. Mag. Tokyo* **20**: 247. 1906.

On *Setaria glauca* Hock.: Longyan (HMAS 41917).

13. ***Uromyces tenuicutis*** McA Ip., *Rust of Austr.* p. 87. 1906.

On *Sporobolus elongatus* R. Br.: Longyan (HMAS 41918).

14. ***Uromyces vignae*** Barcl., *Jour. Asiat. Soc. Bengal* **60**: 211. 1891.

On *Vigna cylindrica* (L.) Skeels: Chong-an (HMAS 41923), Pucheng (HMAS 41574); on *Vigna sinensis* (L.) Savit: Longyan (HMAS 41925).

***Puccinia* Persoon**

1. ****Puccinia aecidii-laucanthemi*** Fisher, *Bull. Herb. Boiss.* **4**: 11. 1898.

On *Carex wui* Chü Nanjing (HMAS 41662).

The author cannot assure that this specimen is correctly identified since he has no material for comparison and this specimen bears uredia only, however, the urediospores agree well with the original description of his species.

2. ***Puccinia ainsliaeae*** Syd., *Monogr. Ured.* **1**: 6. 1904.

On *Ainsliaea fragrans* Champ.: Chong-an (HMAS 41663); on *Ainsliaea macroclinidioides* Hay: Pucheng (HMAS 41664).

3. *Puccinia allii* (DC.) Rudolphi, *Linnaea* 4: 392. 1829.
On *Allium fistulosum* L.: Longyan (HMAS 41665).
4. *Puccinia angustata* Peck, *Bull. Buffalo Soc. Nat. Sci.* 1: 67. 1873.
On *Carex* sp.: Chong-an (HMAS 41669).
5. *Puccinia arachidis* Speg., *An. Soc. Cient. Argent.* 17: 90. 1884.
On *Arachis hypogaea* L.: Longyan (HMAS 41670).
6. *Puccinia arthraxonis* Syd. & Butl., *Ann. Mycol.* 5: 499. 1907.
On *Arthraxon* sp.: Longyan (HMAS 41672).
7. *Puccinia arthraxonis-ciliaris* Cum., *Uredineana* 4: 16. 1953.
On *Arthraxon hispidus* (Thunb.) Mak. var. *centrasiaticus* Honda: Nanjing (HMAS 34115, 34117).
8. *Puccinia arundinellae* Barcl., *J. Asiatic Soc. Bengal* 58: 245. 1889.
On *Arundinella hirta* (Thunb.) Tanaka: Pucheng (HMAS 41674).
9. *Puccinia arundinellae-anomalae* Diet., *Bot. Jahrb.* 37: 100. 1905.
On **Arundinella barbinodis* Keng: Pucheng (HMAS 41675); on *Arundinella hirta* (Thunb.) Tanaka: Chong-an (HMAS 41673, 41679, 41680), Jianyang (HMAS 41678); on *Arundinella* sp.: Jianyang (HMAS 41681).
10. *Puccinia benokiyamensis* Hirats., *Trans. Sapporo Nat. Hist. Soc.* 17: 25. 1941.
On *Polygonum caespitosum* Bl.: Chong-an (HMAS 41683, 41684); on *Polygonum nepalense* Meisn.: Longyan (HMAS 41685), Jianyang (HMAS 41686, 41687); on *Polygonum* sp.: Longyan (HMAS 41688).
11. *Puccinia canaliculata* (Schw.) Lagerh., *Transö Mus. Aarsh.* 17: 51. 1894.
On *Cyperus orthostachyus* Franch: Pucheng (HMAS 41690).
The present collection agree closely with *Puccinia canaliculata* except that the urediospores are larger than those given in the original diagnosis.
12. *Puccinia caricis* Rebert., *Fl. Neomarch.* p. 365. 1804.
On **Lysimachia fortunei* Maxim.: Chong-an (HMAS 41693) (O.I.).
13. *Puccinia caricis-gibbae* Diet., *Ann. Myc.* 4: 305. 1906.
On *Carex* sp.: Pucheng (HMAS 41694).
The present specimen may not be this rust species since the walls of urediospores are thicker but other characteristics agree with the original diagnosis of *P. caricis-gibbae* Diet.
14. **Puccinia centellae-asiaticae* Wang et J. Y. Zhuang, *Acta Mycol. Sin.* 2: 5—6. 1983.
On *Centella asiatica* (L.) Urban: Pucheng (HMAS 41464 TYPUS).
On the same host, *Puccinia centellae* Chen has been recently collected and described from Tibet by Chen Mo-mei (Wang et al., 1980). *Puccinia centellae-asiaticae* is quite different from *P. centellae* Chen which the teliospores are ellipsoid, rounded and not thickened above and the wall deep-colored.
15. *Puccinia cesatii* Schroet., *Cohn Beitr. Biol. Pflanzen* 3: 70. 1879.
On *Bothriochloa ischaemum* (L.) Keng: Xiamen (HMAS 41698).
16. *Puccinia chrysanthemi* Roze, *Bull. Soc. Myc. Fr.* 17: 92. 1900.
On *Chrysanthemum indicum* L.: Jianyang (HMAS 41699).
17. *Puccinia cnici-oleracei* Pers. ex Desm., *Cat. Pl. Omis.* p. 24. 1823.
On *Artemisia vulgaris* Linn.: Jianyang (HMAS 41702).
18. *Puccinia congesta* Berk. et Br., *J. Linn. Soc.* 11: 91. 1871.
On **Polygonum caespitosum* Bl.: Chong-an (HMAS 41704), Pucheng (HMAS 41705); on *Polygonum*

suffultum Maxim.: Chong-an (HMAS 41706); on *Polygonum* sp.: Chong-an (HMAS 41707).

19. ***Puccinia cynodontis*** Lacroix ex Desm., Pl. Crypt. Ser.3. no. 655. 1859.

On *Cynodon dactylon* (L.) Pers.: Longyan (HMAS 41714, 41715).

20. ***Puccinia dieteliana*** Syd. in Dietel, *Hedwigia* 37: 215. 1898.

On **Lysimachia barystachys* Bunge: Jianyang (HMAS 41716); on **Lysimachia stenosepala* Hemsl.: Chong-an (HMAS 41717).

21. ***Puccinia dioicae*** Magn., Tageblatt d. Naturf. Vers. zu München p. 200. 1877.

On *Carex* sp.: Chong-an (HMAS 41721).

22. ***Puccinia duthiae*** Ell. et Tracy in Ellis & Everhart, *Bull. Torr. Bot. Club* 24: 283. 1897.

On *Bothriochloa intermedia* (R. Br.) A. Camus: Longyan (HMAS 41725).

23. ***Puccinia elytrariae*** P. Henn., *Hedwigia* 34: 320. 1895.

On *Justicia procumbens* L.: Jianyang (HMAS 41728); on *Justicia* sp.: Shanghang (HMAS 41729).

24. ***Puccinia erythropus*** Diet., *Bot. Jahrb.* 37: 101. 1905.

On *Miscanthus floridulus* (Labill.) Warb.: Pucheng (HMAS 41732); on *Miscanthus sacchariflorus* (Maxim.) Benth.: Shanghang (HMAS 41733), Chong-an (HMAS 41731, 41734, 41735).

25. ***Puccinia ferruginea*** Lév. in Vaillant Voyage de la Bonite, *Fungi* p. 204. 1846.

On *Smilax arisanensis* Hay.: Jianyang (HMAS 41736); on *Smilax bracteata* Presl.: Longyan (HMAS 41737); on *Smilax china* L.: Longyan (HMAS 41738, 41739), Chong-an (HMAS 41740); on *Smilax ferox* Wall. ex Kunth: Chong-an (HMAS 41742); on *Smilax lanceifolia* Roxb. var. *opaca* A. DC.: Chong-an (HMAS 41743, 41744); on *Smilax sieboldii* Miq.: Longyan (HMAS 41745).

26. ****Puccinia fukienensis*** Wang et J. Y. Zhuang, *Acta Mycol. Sin.* 2: 6. 1983.

On *Scleria terrestris* (L.) Foss.: Jiang (HMAS 41465 TYPUS).

There are several species of rusts on *Scleria*. The Fujian's collection does not agree with any of them because of the larger colourless urediospores and the indistinct germ pores.

27. ***Puccinia hemerocalidis*** Thüm., *Beitr. Pilzflora Sibir.* 3: 81. 1880.

On *Hemerocallis fulva* L.: Chong-an (HMAS 41749).

28. ***Puccinia horiana*** P. Henn., *Hedwigia* 40: 25. 1901.

On *Chrysanthemum indicum* L.: Chong-an (HMAS 41751).

29. ***Puccinia hyalina*** Diet., *Bot. Jahrb.* 37: 99. 1905.

On *Carex* sp.: Pucheng (HMAS 41752).

30. ***Puccinia infra-aequatorialis*** Jørst., Study on Kamtch. Ured. p. 132. 1933.

On *Cirsium japonicum* DC.: Chong-an (HMAS 41753).

31. ***Puccinia kusanoi*** Diet., *Bot. Jahrb.* 27: 568. 1900.

On **Deutzia setchuenensis* Franch.: Chong-an (HMAS 41754) (O.I).

32. ***Puccinia lactucae-debilis*** Diet., *Ann. Myc.* 6: 225. 1908.

On *Ixeris laevigata* (Blume) Sch.-Bip.: Chong-an (HMAS 41763), Pucheng (HMAS 41764).

33. ***Puccinia lactucae-denticulatae*** Diet., *Bot. Jahrb.* 37: 103. 1905.

On *Ixeris denticulata* (Houtt.) Stebb.: Jianyang (HMAS 41760), Chong-an (HMAS 41761), Pucheng (HMAS 41762).

34. ***Puccinia limosae*** Magn., *Tegebl. Nat. Vers. München* 50: 199. 1877.

On **Lysimachia heterogenea* Klatt.: Chong-an (HMAS 41766) (O.I).

35. *Puccinia littoralis* Rostr. in Thüm., Myc. Univ. no. 327. 1876.
On *Juncus* sp.: Chong-an (HMAS 41767).
36. *Puccinia lophatheri* (Syd.) Hirats., *J. Jap. Bot.* 14: 36. 1938.
On **Centotheca latifolia* (Osbeck) Tran.: Nanjing (HMAS 41768).
37. *Puccinia melanocephala* Syd. in Sydow & Butler, *Ann. Myc.* 5:500. 1907.
On *Miscanthus sinensis* Anders.: "Fujian" (HMAS 34336).
38. *Puccinia microspora* Diet., *Bot. Jahrb.* 27: 101. 1905.
On *Imperata cylindrica* var. *major* (Nees) C. E. Hubb.: Longyan (HMAS 41770, 41771), Shanghang (HMAS 41772).
39. *Puccinia minusensis* Thüm., *Beitr. Pilzflora Sibir.* 2: 214. 1878.
On *Lactuca tatarica* (L.) C. A. Mey.: Chong-an (HMAS 41773).
40. *Puccinia miscanthi* Miura, *Fl. Manch. & E. Mong.* 3:302. 1928.
On *Miscanthus floridulus* (Labill.) Warb.: Shanghang (HMAS 41776); on *Miscanthus sacchariflorus* (Maxim.) Benth.: Chong-an (HMAS 41778); on *Miscanthus Sinensis* Anders.: Longyang (HMAS 41779); on *Miscanthus* sp.: Fuzhou (HMAS 41780).
41. *Puccinia miyoshiana* Diet., *Bot. Jahrb.* 27: 569. 1899.
On *Spodiopogon sibiricus* Trin.: Chong-an (HMAS 41781).
42. *Puccinia nanbuana* P. Henn., *Hedwigia* 40: 26. 1901.
On *Angelica* sp.: Chong-an (HMAS 41783).
43. *Puccinia oenantes-stoloniferae* Ito in Tranzsch. *Consp. Ured.* USSR. p. 229. 1939.
On *Oenantes javanica* (Bl.) DC.: Longyan (HMAS 41785).
44. *Puccinia oxalidis* Diet. et Ell., *Hedwigia* 34: 291. 1895.
On *Oxalis corymbosa* DC.: Xiamen (HMAS 41786).
45. *Puccinia pachycephala* Diet., *Ann. Myc.* 4: 305. 1906.
On *Veratrum atrovioleaceum* Loef. f.: Chong-an (HMAS 41788).
46. *Puccinia paspalina* Cumm., *Bull. Torr. Bot. Club* 72: 211. 1945.
On *Paspalum thunbergii* Kunth ex Steud.: Longyan (HMAS 41790); on *Paspalum longifolium* Roxb.: Chong-an (HMAS 41789).
47. *Puccinia patriniae* P. Henn., *Bot. Jahrb.* 28: 261. 1901.
On *Patrinia villosa* Juss.: Chong-an (HMAS 41791, 41792).
48. *Puccinia phyllostachydis* Kusano, *Bull. Coll. Agr. Tokyo Imp. Univ.* 8: 2. 1908.
On *Bambusa stenostachya* Hackel: Chong-an (HMAS 41793).
49. *Puccinia pogonatheri* Petch, *Ann. Roy. Bot. Gard. Peradeniya* 5: 235. 1912.
On *Pogonatherum crinitum* (Thunb.) Kunth: Longyan (HMAS 41794).
50. *Puccinia polygonii-amphibii* Pers., *Sys. Meth. Fung.* p.227. 1801.
On *Polygonum cuspidatum* Sieb. et Zucc.: Chong-an (HMAS 41802, 41803), Jianyang (HMAS 41795, 41804).
51. *Puccinia polygonii-weyrichii* Miyake in Kawai & Otani, *Trans. Sapporo Nat. Hist. Soc.* 9: 234. 1931.
On *Antenoron filiforme* (Thunb.) Roberty et Vautier: Jianyang (HMAS 41805), Pucheng (HMAS 41806).

52. *Puccinia pygmaea* Eriks., *Bot. Centralbl.* **64**: 381. 1895.
On *Calamagrostis* sp.: Shanghang (HMAS 41807).
53. *Puccinia recondita* Rob. ex Desm., *Bull. Soc. Bot. France* **4**: 798. 1857.
On *Triticum aestivum* L.: Fuzhou (HMAS 41815).
54. *Puccinia romagnoliana* Maire et Sacc., *Ann. Myc.* **1**: 220. 1903.
On *Cyperus michelianus* (L.) Link: Longyan (HMAS 41810).
55. *Puccinia smilacis* Auct., non Schw. in Tai, *Syll. Fung. Sin.* p. 682. 1979.
On *Smilax arisanensis* Hay.: Jianyang (HMAS 41818).
56. *Puccinia smilacis- sempervirentis* Wang, *Bull. Mus. Paris*, 2 Ser. **10**: 523. 1938.
On *Smilax ocreata* A. DC.: Chong-an (HMAS 41819).
No material is available for comparison and only the uredia are present in this collection, therefore, the identification is with some doubt. However, the uredia and urediospores of this collection appear to be quite the same with those of *Puccinia smilacis- sempervirentis* Wang.
57. *Puccinia smilacis- sieboldii* Hirats., *Bot. Mag. Tokyo* **56**: 377. 1942.
On *Smilax ferox* Wall. ex Kunth.: Chong-an (HMAS 41820); on *Smilax glabra* Roxb.: Pucheng (HMAS 41821); on *Smilax microphylla* C. H. Wright: Chong-an (HMAS 41822).
58. *Puccinia subhyalina* Tranz., *Acta Inst. Bot. Acad. USSR*. 1938. Ser. 2. (Pl. Crypt.) p. 331. 1940.
On *Carex* sp.: Jianyang (HMAS 41823).
59. *Puccinia taiwaniana* Hirats. et Hash., *Trans. Tottori Agr. Sci.* **5**: 240. 1935.
On *Panicum brevifolium* L.: Nanjing (HMAS 41824).
60. *Puccinia tenuis* Burr., *Bot. Gaz.* **9**: 188. 1884.
On *Eupatorium* sp.: Chong-an (HMAS 43716) (O, I).
61. *Puccinia tokyensis* Syd., *Monogr. Ured.* **1**: 377. 1904.
On *Cryptotaenia japonica* Hassk. Chong-an (HMAS 41829).
62. *Puccinia yunnanensis* Tai, *Farlowia* **3**: 123. 1947.
On *Fagopyrum tataricum* (L.) Gaertn.: Jianyang (HMAS 41560).
63. **Puccinia zingiberis* Ramakr., *Proc. Ind. Acad. Sci. S. B.* **44**: 117. 1956.
On *Zingiber* sp.: Chong-an (HMAS 41833).
The urediospores of Fujian's specimen are smaller and the teliospores much narrower than those given in the original description.
64. *Puccinia zoysiae* Diet., *Bot. Jahrb.* **32**: 48. 1903.
On *Paederia scandens* (Lour.) Merr.: Chong-an (HMAS 41834, 41835) (O, I); on *Paederia scandens* var. *tomentosa* (Bl.) Hand.-Mazz.: Xiamen (HMAS 41836) (O, I).

UREDINALES IMPERFECTI

Aecidium Persoon

1. *Aecidium elasagni* Diet., *Hedwigia* **37**: 212. 1898.
On *Elaeagnus loureirii* Champ.: Jianyang (HMAS 41469).
2. *Aecidium enkianthi* Diet., *Bot. Jahrb.* **32**: 631. 1903.
On *Enkianthus* sp.: Chong-an (HMAS 41470).

3. *Aecidium fraxini-bungeanae* Dict., *Bot. Jahrb.* **32**: 630. 1903.

On *Fraxinus retusa* Champ.: Chong-an (HMAS 41471).

4. **Aecidium holboelliae* Wang et J. Y. Zhuang, *Acta Mycol. Sin.* **2**:7. 1983.

On *Holboellia fargesii* Reaub.: Chong-an (HMAS 41457, TYPUS).

This *Aecidium* differs from *Aecidium akebiae* P. Henn. on *Akebia* in having much narrower peridial cells and smaller aeciospores.

5. *Aecidium hydrangiicola* P. Henn., *Bot. Jahrb.* **28**: 264. 1901.

On *Hydrangea umbellata* Rehd.: Chong-an (HMAS 41472).

6. *Aecidium machili* P. Henn., *Hedwigia* **41**: 21. 1902.

On *Lindera communis* Hemsl.: Chong-an (HMAS 41473).

7. *Aecidium neolitseae* Wang et J. Y. Zhuang, *Acta Mycol. Sin.* **2**:8. 1983.

On *Neolitsea confertifolia* (Hemsl.) Merr.: Nanjing (HMAS 41459, TYPUS).

8. *Aecidium raphiolepidis* Syd., *Ann. Myc.* **20**: 61. 1922.

On *Raphiolepis* sp.: Yongtai (永泰) (HMAS 33353).

Caeoma Link

1. *Caeoma warburgianum* P. Henn., *Monsunia* **1**:5. 1899.

On *Rosa hugonis* Hemsl.: Chong-an (HMAS 41476, 41477, 41478); on *Rosa bracteata* Wendl.: Xiamen (HMAS 41475).

Uredo Persoon

1. **Uredo caricis-incisae* Ito in Ito & Murayama, *Trans. Sapporo Nat. Hist. Soc.* **17**: 170. 1943.

On *Carex* sp.: Longyan (HMAS 41874).

2. *Uredo cassiae-glaucae* Syd., *Ann. Myc.* **1**:331. 1903.

On *Cassia suffruticosa* Koen. ex Roth.: Shanghang (HMAS 41875); on *Cassia surattensis* Burm. f.: Xiamen (HMAS 41876).

3. *Uredo cystopteridis* Hirats., *Trans. Myc. Soc. Jap.* no. 5. p. 3. 1957.

On *Dryopteris* sp.: Chong-an (HMAS 41877).

4. *Uredo gardeniae-floribundae* (Saw.) Hirats., *Sci. Bull. Agr. Home Econ. Eng. Div. Univ. Ryukyus* **7**: 279. 1960.

On *Gardenia jasminoides* Ellis: Nanjing (HMAS 41873).

5. *Uredo ignava* Arth., *Bull. Torr. Bot. Club* **46**: 121. 1919.

On *Sinocalamus latiflorus* (Munro) McClure: Longyan (HMAS 41879); on *Sinocalamus* sp.: Puzhou (HMAS 41880), Nanjing (HMAS 41881).

6. *Uredo iyoensis* Hirats. et Yosh., *Mem. Tottori Agr. Coll.* **3**:334. 1935.

On *Viola diffusa* Ging: Chong-an (HMAS 41882); on *Viola triangulifolia* W. Beck: Chong-an (HMAS 41883), Jianyang (HMAS 41884).

7. **Uredo prodigiosa* Wang et J. Y. Zhuang, *Acta Mycol. Sin.* **2**: 10. 1983.

On *Rubus reflexus* Ker-Gawl.: Pucheng (HMAS 41467, TYPUS).

This species differs from other rusts on *Rubus* spp. in the basket-like uredia with peripheral paraphyses maturing above the level of the epidermis. On account of the similarity of the sori one would have denoted this rust as a species of *Olivea*, but since the uredia alone are present on this collection, the rust is kept in the form genus *Uredo* tentatively.

SPECIES NOT STUDIED

The following species recorded by F. L. Tai in his "Sylloge Fungorum Sinicorum" (1979) have not been studied by the author: *Aecidium akebiae* P. Henn., *Aecidium mori* Barcl., *Coleosporium clerodendri* Diet., *Crossopora antidesmae-dioicae* (Syd.) Arth. et Cum., *Phakopsora ziziphi-vulgaris* (P. Henn.) Diet., *Poliotelium hyalospora* (Saw.) Mains, *Puccinia asparagi-lucidi* Diet., *Puccinia brachypodii* Otth var. *poae-nemoralis* (Otth) Cum. et Greene, *Puccinia jagopyri* Barcl., *Puccinia graminis* Pers., *Puccinia hordei* Otth, *Puccinia liberta* Kern, *Puccinia longicornis* Pat. et Hariot, *Puccinia nakanishikii* Diet., *Puccinia polliniae-imberbis* (Ito) Hirats., *Puccinia rufipes* Diet., *Puccinia striiformis* West., *Teloconia kamtschatskiae* (Anders.) Hirats.

福建锈菌初步名录

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摘要 本文报告福建省的锈菌 29 属 150 种, 它们包括无柄锈科 (Melampsoraceae) 11 属 36 种, 柄锈科 (Pucciniaceae) 15 属 98 种以及半知锈 (Uredinales Imperfecti) 3 属 16 种; 其中无柄锈科的拟夏孢锈属 (*Uredinopsis*)、明痂锈属 (*Hyalopsora*)、膨痂锈属 (*Pucciniastrum*)、栅锈属 (*Melampsora*)、赭痂锈属 (*Ochropsora*)、两型锈属 (*Pucciniostele*) 和柱锈属 (*Cronartium*), 柄锈科的不眠多胞锈属 (*Kuehneola*)、不休白双胞锈属 (*Leucotelium*)、戟孢锈属 (*Hamaspora*)、多胞锈属 (*Phragmidium*)、伞锈属 (*Ravenelia*)、不眠单胞锈属 (*Maravalia*) 和鞘柄锈属 (*Coleopuccinia*) 以及半知锈的夏孢锈属 (*Uredo*) 在福建首次发现。文中对每个种列出学名、寄主、采集地及标本号。某些种附加了讨论。所有标本保藏在中国科学院微生物研究所真菌标本室。

关键词 福建; 锈菌