

A SYNOPSIS OF THE SPECIES OF RAVENELIA ON MEXICAN LEGUMES¹

By GEORGE B. CUMMINS²

RESUMEN

Se proporciona una sinopsis de las especies *Ravenelia* sobre leguminosas mexicanas, reconociéndose 54 especies y variedades. Para cada especie se cita el holo o lectotipo, y su rango de distribución. Se añade una lista de sinónimos para taxones previamente empleados para las especies mexicanas pero no aceptados aquí.

INTRODUCTION

Listed here are the species of *Ravenelia* known to parasitize the Leguminosae in Mexico. Collections made by the author and by J. F. Hennen in recent years indicate clearly that the records will increase significantly as more extensive collecting is done. Most collections, before those by Cummins and by Hennen, were made by E. W. D. Holway around 1900. The North American Flora Vol. 7, pt. 2 & 10, 1907 & 1927 provides the records as of those dates.

LIST OF SPECIES

Ravenelia acaciae-pennatulae Diet. Bot. Centrbl. Beih. 20 (2): 373. 1906.
Holotype: on *Acacia pennatula* Benth., Etlá, Oaxaca, Holway s.n.
(S.) Occurs from Sinaloa southward to Guatemala, mainly on *A. pennatula*.

¹ University of Arizona, Agricultural Experiment Station Journal Article Nº 2553.

² Visiting Research Professor, Department of Plant Pathology, University of Arizona, Tucson, AZ 85721.

- Ravenelia alamosensis** Cumm. & J. W. Baxt. Mycotaxon 2:200. 1975.
Holotype: on *Pithecellobium tortum* Mart., Alamos, Sonora, Cummins 70-106 (PUR 63539).
Occurs also in Sinaloa.
- Ravenelia arizonica** Ellis & Ever. Bull. Torrey Bot. Club 22: 363. 1895.
Holotype: on *Prosopis glandulosa* Torr. (*P. juliflora* auct.) Tucson, Arizona, Toumey N° 37 (NY).
Occurs southward to Jalisco.
- Ravenelia aurea** Cumm. & J. W. Baxt. Mycotaxon 2: 195-196. 1975.
Holotype: on *Acacia pringlei* Rose, Mex highw. 190, Km 786 west of Tehuantepec, Oaxaca, Barr N° 63-51 (PUR 63746). Known only from the type.
- Ravenelia australis** Diet. & Neger Bot. Jahrb. 24: 161. 1897.
Holotype: on *Acacia cavenia* Hook. & Arn., Concepcion, Chile, Neger (S).
Occurs in Nayarit on *A. smallii* Isley and *A. pennatula* (Schl. & Cham.) Benth. *vel aff.*
- Ravenelia bajacalensis** Cumm. & J. W. Baxt. Mycotaxon 2: 199. 1975.
Holotype: on *Lysiloma candida* Brand., Los Encinos, Sierra Giganta, Baja California Sur, Gentry N° 4263 (PUR 64928). Known only from the type.
- Ravenelia bifenestrata** Mains Carnegie Inst. Wash. Publ. 461: 97. 1935.
Holotype: on *Pithecellobium platylobum* (Spreng.) Urban, Tuxpeña, Campeche, Lundell N° 1296A (MICH). One other collection from the area is known.
- Ravenelia brogniartiae** Diet. & Holw. in Holway Bot. Gaz. 24: 35. 1897.
Holotype: on *Brogniartia* sp., Cuernavaca, Morelos, Holway *s.n.* (S).
Occurs in central and southern Mexico on *B. spp.*
- Ravenelia berkeleyi** Mund. & Thir. Imp. Mycol. Inst. Kew Mycol Papers 16-19-20. 1946.
Holotype: on *Cassia abusus* L., Damboul, Ceylon, Thwaites *s.n.* (PDA 517).
Known in Jalisco and Oaxaca. Occurs also on *C. hispidula* Vahl. Perhaps no more than a variety of *R. cassiaeicola* Atk.
- Ravenelia cassiaeicola** Atk. Bot. Gaz. 16: 331 1891.
Lectotype: on *Cassia nictitans*, Auburn, Ala., Atkinson (CUP-A).
Known in Mexico only from Vera Cruz.
- Ravenelia caulicola** Arth. N. Amer. Flora 7 (2): 143. 1907.
Holotype: on *Tephrosia cinerea* (L.) Morong, Bahamas, Britton & Millspaugh N° 2807 (PUR 6408).
Known from one collection on *T. leiocarpa* Gray in central Sonora.

- Ravenelia corbula** J. W. Baxt. *Mycologia* 58: 336. 1966.
 Holotype: on *Caesalpinia eriostachya* Benth., Pueblo Viejo, south of Culiacan, Sinaloa, Cummins N° 63-740 (PUR 59937).
 Recorded only from Sinaloa.
- Ravenelia cumminsii** J. W. Baxt. *Mycologia* 56: 285. 1964.
 Holotype: on *Acacia willardiana* Rose, Guaymas, Sonora, Cummins N° 62-57 (PUR 59932).
 Occurs only in west central Sonora. The host is limited to the same region.
- Ravenelia echinata** Lagerh. & Diet. var. *ectypa* (Arth. & Holw.) comb. nov. *Ravenelia ectypa* Arth. & Holw. in *Arthur Mycologia* 10: 120. 1918.
 Holotype: on *Calliandra gracilis* Klotsch, San Jose, Costa Rica, Holway N° 296 (PUR 6160).
 Occurs on *C. formosa* (Kunth) Benth. and *C. penduliflora* Rose from Sinaloa and Tamaulipas to Colima.
Ravenelia echinata Lagerh. & Diet. var. *echinata* is not known in North America.
- Ravenelia entadae** Lager. & Diet. in *Dietel Hedwigia* 33: 62. 1894.
 Holotype: on *Entada polystachia* DC.: Panama, Lagerheim s.n. (S).
 Occurs from Sinaloa to Chiapas on the type host.
- Ravenelia epiphylla** (Schw.) Diet. *Hedwigia* 33: 27. 1894.
 Holotype: on *Tephrosia virginiana* (L.) Pers., North Carolina (PH).
 Occurs on *T. purpurea* (L.) Pers. in Sonora and on *T. talpa* Wats. in Durango.
- Ravenelia expansa** Diet. & Holw. in *Holway Bot. Gaz.* 24: 35. 1897.
 Holotype: on *Acacia tequilana* Wats., Guadalajara, Jalisco, Holway s.n. (S).
 Occurs from Sonora south to Baja California Sur and Colima.
- Ravenelia fragrans** Long *Bot. Gaz.* 35: 123. 1903.
 Holotype: on *Mimosa borealis* Gray (*M. fragrans*), Austin, Texas, Long N° 142 (BPI).
 The species, including var. *evernia* (Syd.) J. W. Baxt., occurs on *Mimosa* spp. from San Luis Potosi and Sinaloa northward.
- Ravenelia gracilis** Arth. *Bot. Gaz.* 39: 393. 1905.
 Holotype: on undet. Mimosaceae (undoubtedly *Pithecellobium*), Cardenas, San Luis Potosí, Holway N° 3144 1/2 (PUR 6171).
 Recorded also in Oaxaca.
- Ravenelia hermosa** Cumm. & J. W. Baxt. *Mycotaxon* 2: 198. 1975.
 Holotype: on *Leucaena palmeri* Britt. & Rose, Alamos, Sonora, Cummins N° 70-142 (PUR 63574).
 Occurs also in Sinaloa and Nayarit and on *L. lanceolata* Wats.

- Ravenelia humphreyana** P. Henn. Hedwigia 37: 278. 1898.
Occurs on *Caesalpinia caladenia* Standl., *C. palmeri* Wats. and *C. pulcherrima* from central Sonora southward.
Holotype: on *Cassia* (now considered to be *Caesalpinia pulcherrima* (L.) Sw.), Kingston, Jamaica, Humphrey s.n. (B).
- Ravenelia inconspicua** Arth. Bot. Gaz. 39: 395. 1905.
Holotype: on *Cassia* (or *Caesalpinia*) sp. (considered here to be *Caesalpinia* sp.), Zapotlán, Jalisco, Holway N° 5135 (PUR 6352).
Not otherwise known.
- Ravenelia indigoferae** Tranz. in Dietel Hedwigia 33: 369. 1894.
Holotype: on *Indigofera palmeri* Wats., Guadalajara, Jalisco, Pringle s.n. (S).
Occurs on *Indigofera* spp. from Durango southward.
- Ravenelia irregularis** Arth. N. Amer. Flora 7 (2): 142-143. 1907.
Holotype: on *Tephrosia macrantha* Robin & Greenm., Etzalan, Jalisco, Holway N° 5100 (PUR 6407). Not otherwise known.
- Ravenelia laevis** Diet. & Holw. in Holway Bot. Gaz. 24: 35. 1897.
Lectotype: on *Indigofera* sp., Eslava, near Mexico City, Holway s.n. (S). Occurs from southern Sonora and San Luis Potosí to Oaxaca.
- Ravenelia leucaenae** Long Bot. Gaz 35: 126. 1903.
Holotype: on *Leucaena diversifolia* Benth., Etna, Oaxaca, Holway N° 3826 (BPI).
Occurs from Jalisco to Oaxaca on *Leucaena* spp.
- Ravenelia linda** Cumm. & J. W. Baxt. Mycotaxon 2: 196. 1975.
Holotype: on *Calliandra tapirorum* Standley, Ojo de Agua, Dept. El Paraiso, Honduras, Standley, Williams and Molina N° 1254 (PUR 51702).
Known in Chiapas on *Calliandra* sp.
- Ravenelia lonchocarpicola** Speg. var *mera* (Cumm.) J. W. Baxt. Mycologia 60: 43. 1968.
Holotype: on *Lonchocarpus michelianus* Pitt., Jutiapa, Guatemala, Standley N° 75109 (PUR 50340).
The variety *mera* occurs on *Lonchocarpus* spp. from southern Sonora and Nayarit to southern Tamaulipas.
- Ravenelia lysilomae** Arth. Bot. Gaz. 39: 392. 1905.
Holotype: on *Lysiloma tergemina* Benth., Iguala, Guerrero, Holway N° 5317 (PUR 6140).
Occurs on *Lysiloma* spp. from Sonora and Tamaulipas to Guerrero, Jalisco and Baja California Sur.

- Ravenelia mainsiana** Arth. & Holw. in Arthur Amer. J. Bot. 5: 426. 1918.
 Holotype: on *Mimosa albida* H. B. K., Guatemala City, Guatemala, Holway N^o 13 (PUR 6291).
 Occurs on *M. albida* and *M. manzanilloana* Rose in Chiapas, Sinaloa and Jalisco.
- Ravenelia mesillana** Ellis & Barth. in Ellis and Everhart Bull. Torrey Bot. Club 25: 508. 1898.
 Holotype: on *Cassia bahinioides* Gray, near Mesilla, New Mexico, Wooton s.n. (NY).
 Occurs from central Sonora and southern Nuevo Leon northward on *Cassia covessi* Gray.
- Ravenelia mexicana** Tranz. in Dietel Hedwigia 33: 370. 1918.
 Holotype: on *Calliandra grandiflora* (L'Her.) Benth., mountains near Chapala, Jalisco, Pringle s.n. (LE?).
 Occurs in west central Mexico on *C. anomala* (Kunth) Macbr. the original host is probably this species) and *C. houstoniana* (Will.) Standl.
- Ravenelia mimosae-sensitivae** P. Henn. Hedwigia 35: 246. 1896.
 Holotype: on *Mimosa sensitiva* L., Tucuman, Argentina, Lorentz s.n. (B).
 Occurs on *Mimosa* spp. and *Schrankia distachya* Moc. & Sess. from Sinaloa southward.
- Ravenelia multispinosa** Cumm. & J. W. Baxt. Mycotaxon 2: 200-201. 1975.
 Holotype: *Pithecellobium tortum* Mart.: east of El Fuerte, Sinaloa, Cummins N^o 71-612 (PUR 64165).
 Occurs also in Baja Balifornia Sur and Sonora.
- Ravenelia papillifera** H. Syd. & P. Syd. Ann. Mycol. 1: 330. 1903.
 Holotype: on *Cassia lindheimeriana* Scheele, Austin, Texas, Long? (S).
 Occurs on *C. bahinioides*, *C. covessi* Gray, *C. lindheimeriana*, *C. vogeliana* Schl. from Zacatecas northward. Perhaps only a variety of *R. spinulosa*.
- Ravenelia piscidiae** Long. J. Mycol. 12: 234. 1906.
 Holotype: on *Piscidia erythrina* L., Miami, Florida, Holway s.n. (BPI).
 Occurs on *Piscidia mollis* Rose in Sonora and Sinaloa and on *P. sp.* in Colima, Chiapas, Tamaulipas and Veracruz.
- Ravenelia pithecolobii** Arth. Bot. Gaz. 39: 394. 1905.
 Holotype: on *Pithecellobium dulce* (Roxb.) Benth., Guadalajara, Jalisco Holway N^o 505 (PUR 6112).
 Occurs from southern Sonora to Jalisco and in southern Tamaulipas.

Ravenelia pringlei Cumm. Mycologia 67: 1043. 1975.

Holotype: on *Acacia greggii* Gray, north of Bahia Kino, Sonora, Cummins N° 71-685 (PUR 64070).

Occurs from central Sonora northward. This is *R. versatilis* auct, not Dietel (which see).

Ravenelia roemerianae Long Bot. Gaz. 64: 59. 1917.

Holotype: on *Acacia roemeriana* Scheele, San Marcos, Texas, Long N° 5498 (BPI).

Occurs in Nuevo Leon.

Ravenelia rubra J. W. Baxt. Mycologia 57: 83. 1965.

Holotype: on *Brogniartia* sp., Mex. hgw. 40, 11 miles east of highw. 15, Sinaloa, Cummins N° 63-674 (PUR 59931).

Occurs on *B. glabrata* Hook & Arn. in Nayarit and Sinaloa.

Ravenelia similis (Long) Arth. Bot. Gaz. 39: 396. 1905.

Holotype: on *Brogniartia* sp., Guadalajara, Jalisco, Holway N° 3145 (BPI).

Recorded only from Jalisco.

Ravenelia sp. nov. Cumm. & J. W. Baxt. N. Y. Bot. Gard. Mem. (in press).

Holotype: on *Acacia greggii* Gray, Nuri, Sonora, Cummins N° 75-12 (PUR 65068).

Occurs also on *A. occidentalis* Rose in the same area.

Ravenelia sp. nov. Cumm. & J. W. Baxt. N. Y. Bot. Gard. Mem. (in press).

Holotype: on *Cassia emarginata* L., Alamos, Sonora, Cummins N° 70-110 (PUR 63578).

Occurs also on *C. atomaria* L. This species is common in central and southern Mexico.

Ravenelia spegazziniana Lindq. Bol. Soc. Argent. Bot. 1: 300. 1946.

Holotype: on *Acacia aroma* Gill., La Plata, Argentina, Lindquist s.n. (LPS 12604).

Occurs in Oaxaca on *A. smallii* Isley (*A. farnesiana* auct.) and perhaps in Sonora on *A. sp.*

Ravenelia spinulosa Diet. & Holw. in Holway Bot. Gaz. 31: 336. 1901 var. *spinulosa*.

Holotype: on *Cassia multiflora* Mart. & Gal. non Vog. (= *C. holwayana* Rose), Oaxaca, Oaxaca, Holway N° 3675 (S).

Occurs on *Cassia* spp., specially *C. biflora* L., probably throughout Mexico.

Ravenelia stevensii Arth. Mycologia 7: 178. 1915.

Holotype: on *Acacia riparia* H. B. K., Guayanilla, Puerto Rico, Stevens N° 5881 (PUR 6216).

Occurs on *Acacia* aff. *riparia* in San Luis Potosí, Sinaloa and Jalisco.

- Ravenelia striatispora** Cumm. & J. W. Baxt. Mycotaxon 2: 202. 1975.
Holotype: on *Pithecellobium mexicanum* Rose, Comanito, Sinaloa, Gentry N° 5927 (PUR 64929). Not otherwise known.
- Ravenelia talpa** (Long) Arth. Bot. Gaz. 39: 396. 1905.
Holotype: on *Tephrosia talpa* Wats., Oaxaca, Oaxaca, Holway N° 3679 (BPI).
Occurs also in Jalisco on the same host.
- Ravenelia texensis** Ellis & Gall. ex Dietel Hedwigia 33: 63. 1894 var. **texensis**.
Holotype: on *Desmanthus* sp., Texas, Brunk s.n. (S).
Occurs on *Calliandra humilis* (Schl.) Benth. and *C. reticulata* Gray in Durango.
- Ravenelia texensis** Ellis & Gall. par. **morongiae** comb. nov.
Ravenelia morongiae Long Bot. Gaz. 61: 418. 1916.
Holotype: on *Schrankia uncinata* Willd., Austin, Texas, Long N° 5474 (BPI).
Occurs in Colima on *S. diffusa* Rose.
- Ravenelia thornberiana** Long. Bot. Gaz. 61: 420. 1916.
Holotype: on *Acacia constricta* Benth. var. *paucispina* Woot. & Standl., El Paso, Texas, Long N° 5506 (BPI).
Occurs on *A. constricta* from Zacatecas northward.
- Ravenelia verrucata** Cumm. & J. W. Baxt. Mycotaxon 2: 202-203. 1975.
Holotype: on *Mimosa spirocarpa* Rose, Mex. highw. 15, Km 41 north of Mazatlan, Sinaloa, Cummins N° 71-591 (PUR 64152).
Occurs also on *M. guatemalensis* (Hook. & Arn.) Benth. in Nayarit.
- Ravenelia verrucosa** Cooke & Ellis Grevillea 5: 112. 1887.
Holotype: on *Lecania* sp.? (now known to be *Leucaena lanceolata* Wats.), Mexico, Pringle N° 6? (K). Not otherwise known.
- Ravenelia versatilis** Diet. Hadwigia 33: 64. 1894 non auct.
Lectotype: on *Acacia anisophylla* Wats., Jimulco, Coahuila, Pringle s.n. (S).
Occurs also in San Luis Potosi and Tamaulipas and on *A. berlandieri* Benth. and *A. micrantha* Benth. Also see *R. pringlei*.

LIST OF SYNONYMS

- Ravenelia bizonata* Arth. see *R. mexicana*.
Ravenelia ectypa Arth. & Holw. see *R. echinata* var. *ectypa*.
Ravenelia farlowiana Diet. see *R. versatilis*.
Ravenelia hieronymi Speg. Mexican records are considered to be *Spumula heteromorpha* J. W. Baxt.

- Ravenelia igualica* Arth. see *R. expansa*.
Ravenelia indica auct. non Berk. see *R. berkeleyi*.
Ravenelia leucaenae-microphylli Diet. see *R. lysilomae*.
Ravenelia lonchocarpicola Speg. var. *robusta* J. W. Baxt. see *R. lonchocarpicola* var. *mera*.
Ravenelia mimosae-albida Diet., *R. mimosae-caeruleae* Diet., *R. mimosicola* Arth. see *F. mimosae-sensitivae*.
Ravenelia morongiae Long see *R. texensis* var. *morongiae*.
Ravenelia piscidiae Long var. *rugosa* Hennen & Cumm. see *R. piscidiae*.
Ravenelia siliquae Long see *R. spegazziniana*.
Ravenelia versatilis auct. non Dietel see *R. pringlei*.