

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AC01

172-94

Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Plants *Ayenia limitaris* (Texas Ayenia) and *Ambrosia cheiranthifolia* (South Texas Ambrosia)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Fish and Wildlife Service (Service) determines *Ayenia limitaris* (Texas ayenia) and *Ambrosia cheiranthifolia* (South Texas ambrosia) to be endangered species under the authority of the Endangered Species Act (Act) of 1973, as amended. Texas ayenia is known from a single population in Hidalgo County, Texas. South Texas ambrosia has been verified recently from eight populations, four in Nueces County, three in Kleberg County, and one overlapping both counties in Texas. These species are threatened by habitat destruction and fragmentation through alteration and conversion of native plant communities to commercial uses; displacement by invasive nonnative grasses; and low population numbers. This action will implement Federal protection provided by the Act for Texas ayenia and South Texas ambrosia. Critical habitat is not being designated.

EFFECTIVE DATE: September 23, 1994.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the Corpus Christi Ecological Services Field Office, U.S. Fish and Wildlife Service, c/o Texas A&M University at Corpus Christi, Campus Box 338, 6300 Ocean Drive, Corpus Christi, Texas 78412.

FOR FURTHER INFORMATION CONTACT: Angela Brooks, at the above address (telephone 512/994-9005; facsimile 512/994-8262).

SUPPLEMENTARY INFORMATION:**Background**

Texas ayenia, a member of the cacao family, was first collected in Hidalgo County, Texas, by C.G. Pringle in 1888, and was named *Nephropetalum pringlei* by B.L. Robinson and J.M. Greenman in 1896. In 1960, Carmen Cristóbal revised the genus *Ayenia* and described *Ayenia limitaris* as a new species. The previously described *Nephropetalum pringlei* was not mentioned in the

revision. Prior to Cristóbal's description of *Ayenia limitaris* in 1960, South Texas specimens of this species had been identified as *A. berlandieri*, a species of tropical Mexico. In 1986, Laurence Dorr and Lisa Barnett transferred *Nephropetalum pringlei* to the genus *Ayenia* and reduced it to synonymy with *Ayenia limitaris*.

Texas ayenia is a pubescent subshrub approximately 60–150 centimeters (cm) (2–5 feet (ft)) tall, with alternate, simple leaves. The cordate-based leaves are approximately 8 cm (3 inches (in)) long and 3.5 cm (1.4 in) wide. The inflorescences are axillary, up to 4 per node, with each inflorescence supporting two or more perfect flowers. Flower color has been reported as green, pink, or cream. The fruit is a 5-celled, pubescent capsule approximately 8 millimeters (mm) (0.3 in) long, with short, curved prickles (Damude and Poole 1990).

Texas ayenia occurs at low elevations in dense subtropical woodland communities. Previous collectors have found the plant in openings within chaparral and along the edges of thickets (Correll and Johnston 1979). The present site is a Texas Ebony-Anacua (*Pithecellobium ebano-Ehretia anacua*) plant community located within the Arroyo Colorado drainage. This area was once an active floodplain; however, the effect of past flooding on Texas ayenia is unknown.

The Texas Ebony-Anacua plant community, which occurs on well drained, but heavy soils on riparian terraces, once covered much of the Rio Grande delta (Diamond 1990). Canopy cover is close to 95 percent in this climax community type (Damude and Poole 1990). Associated species include la coma (*Bumelia celastrina*), brasil (*Condalia hookeri*), granjeno (*Celtis pallida*), and snake-eyes (*Phaulothamnus spinescens*). The Texas Ebony-Anacua community grades into the Texas Ebony-Snake-eyes community in the drier portions of the woodland habitat (Diamond 1990). Both plant communities have been reduced to discontinuous fragments, often surrounded by agricultural fields, pastures, or urban development, and now cover less than 5 percent of their original area (Jahrsdoerfer and Leslie 1988).

Texas ayenia occurred historically in Cameron and Hidalgo Counties in the United States, and the states of Coahuila, Nuevo Leon, and Tamaulipas in Mexico. The only recent collection in Mexico was from a Tamaulipan population in 1981; however, the present status of this population is unknown (Damude and Poole 1990).

Texas ayenia has not been relocated at any of the historic Cameron County locations since the early 1960s. The status report by Damude and Poole (1990) noted a 1988 observation of six spindly plants at the Hidalgo County site, and the following year only one individual was observed.

Searches were undertaken in 1990 and 1991 by a number of personnel from the Service and Texas Parks and Wildlife Department, but no plants were found. In 1992, Service personnel and Jim Everitt of the U.S. Department of Agriculture located one plant at the Hidalgo County site. In 1994, Joe Ideker (Native Plant Project, McAllen, Texas, pers.comm. 1994) located 20 additional plants at this site. This site, on private property, is the only one recently verified for the species.

South Texas ambrosia was first collected in San Fernando, Tamaulipas, Mexico, by Luis Berlandier in 1835, and was named *Ambrosia cheiranthifolia* by A. Gray in 1859. The first United States collection was made in 1932 by Robert Runyon from an area near Barrera (now Russelltown) in Cameron County, Texas (Turner 1983).

South Texas ambrosia, a member of the aster family, is a herbaceous, erect, silvery to grayish-green, rhizomatous perennial plant, 10–30 cm (0.3–1.0 ft) tall. Its simple leaves are usually opposite on the lower portion of the plant and alternate above. The staminate flower heads are arranged in inconspicuous terminal racemes 5–10 cm (2–4 in) long. The pistillate flower heads are in small clusters in the leaf axils just below the staminate racemes (Turner 1983). Due to its rhizomatous growth, a single plant may be represented by hundreds of clonal stems.

South Texas ambrosia grows at low elevations in open clay-loam to sandy-loam prairies and savannas. Much of the original native habitat for South Texas ambrosia has been converted to agricultural fields, improved pastures, or urban areas. Many savanna areas have been cleared and planted to nonnative grasses, such as buffelgrass (*Cenchrus ciliaris*), which outcompete and eventually displace much of the native vegetation. Other potential prairie habitat may now be invaded by thorny shrub and tree species as a result of fire suppression or overgrazing. South Texas ambrosia does not appear to survive intensive plowing, blading, or disking; however, some lesser soil disturbance may enhance its growth. Associated native grasses found at the existing sites include Texas grama (*Bouteloua rigidiseta*), buffalo grass (*Buchloe dactyloides*), Texas speargrass

(*Stipa leucotricha*), and tobosa (*Hilaria mutica*). Invading nonnative grasses found at the sites include buffelgrass, King Ranch bluestem (*Bothriochloa ischaemum* var. *songarica*), bermuda grass (*Cynodon dactylon*), and St. Augustine grass (*Stenotaphrum secundatum*) (U.S. Fish and Wildlife Service 1988). Associated native woody species found scattered throughout the existing sites include mesquite (*Prosopis glandulosa*), huisache (*Acacia smallii*), huisachillo (*Acacia schaffneri*), brasil (*Condalia hookeri*), granjeno (*Celtis pallida*), and lotebush (*Ziziphus obtusifolia*).

Historically, South Texas ambrosia occurred in Cameron, Jim Wells, Kleberg, and Nueces counties in South Texas, and the state of Tamaulipas in Mexico. The current status of any Mexican populations is unknown. The historic populations in Cameron and Jim Wells counties have not been relocated. Only one location noted in the status report (Turner 1983) is known to be still extant. Three populations, two in Nueces County, and one in Kleberg County, were discovered by Ruth O'Brien (Texas A&M University at Corpus Christi, pers. comm. 1993). Three Nueces County populations were discovered in 1992 and 1993 by William Carr (Texas Parks and Wildlife Department, pers. comm. 1993). The extant populations occur on private land, highway and railroad rights-of-way, and the Kingsville Naval Air Station. Four historic locations for South Texas ambrosia, one extirpated and three extant, also support the endangered slender rush-pea (*Hoffmannseggia tenella*), which was federally listed (50 FR 45624; November 1, 1985) because of threats similar to those affecting South Texas ambrosia. One known location for South Texas ambrosia also supports the endangered black lace cactus (*Echinocereus reichenbachii* var. *albertii*), which was federally listed (44 FR 61918; October 26, 1979) because of habitat destruction and collecting threats.

Federal action on these species began as a result of section 12 of the Endangered Species Act (16 U.S.C. 1531 et seq.), which directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct in the United States. This report, designated as House Document No. 94-51, was presented to Congress on January 9, 1975. On July 1, 1975, the Service published a notice in the **Federal Register** (40 FR 27823) accepting the Smithsonian report as a petition within the context of section 4(c)(2) of the Act, now section 4(b)(3)(A), and giving

notice of its intention to review the status of the plants named therein. *Ambrosia cheiranthifolia* was included as endangered, and *Ayenia limitaris*, then under the name *Nephropetalum pringlei*, was included as extinct in the Smithsonian report and Service notice.

On June 16, 1976, the Service published a proposed rule in the **Federal Register** (41 FR 24523) to determine approximately 1,700 vascular plant species to be endangered. *Ambrosia cheiranthifolia* was included in the June 16, 1976, proposal. The 1978 amendments to the Act required that all proposals over two years old be withdrawn, although a one year grace period was given to proposals already over two years old. In the December 10, 1979, **Federal Register** (44 FR 70796), the Service published a notice withdrawing the June 16, 1976 proposal, along with four other proposals that had expired.

A list of plants under review for listing as endangered or threatened species was published in the December 15, 1980, **Federal Register** (45 FR 82479). *Ambrosia cheiranthifolia* was included in Category 2 of the list and *Nephropetalum pringlei* was included in Category 1*. Category 2 species are those for which there is some evidence of vulnerability, but for which there are insufficient data to support listing proposals at the time. Category 1 species are those for which the Service has on file substantial data on biological vulnerability and threats to support the preparation of listing proposals. Category 1* species are also those whose status in the recent past is known to support listing, but that may have already become extinct.

Section 4(b)(3)(B) of the Act requires the Secretary to make certain findings on pending petitions within one year of their receipt. Section 2(b)(1) of the 1982 amendments further requires that all petitions pending on October 13, 1982, be treated as having been newly submitted on that date. Because the 1975 Smithsonian report was accepted as a petition, all of the plants contained therein, including *Nephropetalum pringlei* (= *Ayenia limitaris*) and *Ambrosia cheiranthifolia*, were treated as being newly petitioned on October 13, 1982. In each year from 1983 through 1992, the Service found that the petitioned action was warranted, but listings of *Ayenia limitaris* and *Ambrosia cheiranthifolia* were precluded by other listing actions of higher priority in accordance with section 4(b)(3)(B)(iii) of the Act.

A status report on South Texas ambrosia was completed May 20, 1983 (Turner 1983). This report provided

sufficient biological information to justify proposing to list South Texas ambrosia as endangered.

Notices revising the 1980 list of plants under review for listing as endangered or threatened species were published in the **Federal Register** on September 27, 1985 (50 FR 39526) and February 21, 1990 (55 FR 6184). *Nephropetalum pringlei* (= *Ayenia limitaris*) was included in Category 2 and *Ambrosia cheiranthifolia* was included in Category 1 of these notices.

A status report on Texas ayenia was completed December 1, 1990 (Damude and Poole 1990). This report provided sufficient biological information to justify proposing to list Texas ayenia as endangered.

The proposed rule to list Texas ayenia and South Texas ambrosia as endangered was published in the **Federal Register** on August 5, 1993 (58 FR 41696). Publication of that proposed rule constituted the final one-year finding for these species.

Summary of Comments and Recommendations

In the August 5, 1993, proposed rule and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Appropriate Federal and State agencies, county governments, scientific organizations, and other interested parties were contacted and requested to comment. Newspaper notices, which invited general public comment, were published in the *Monitor* (McAllen, Texas) and the *Corpus Christi Caller Times* (Corpus Christi, Texas) on August 20, 1993, and August 17, 1993, respectively. Three comments were received. Two commenters supported the listing; one commenter was neutral. Issues raised by commenters are discussed below.

Issue 1—The proposed rule fails to note industrial development as one of the major causes of habitat loss for rare plants.

Service Response—The Service has included industrial development as a threat in this final rule.

Issue 2—From the proposed rule discussion of the taxonomic history of Texas ayenia it is unclear why the correct scientific name is not *Ayenia pringlei* because *Nephropetalum pringlei* is an earlier name than *Ayenia limitaris*.

Service Response—Dorr and Barnett (1986) concluded that the correct placement of this species was within the genus *Ayenia*. However, the specific epithet *pringlei* had already been used

for another species in *Ayenia*. So, although the name *Nephropetalum pringlei* is earlier than *Ayenia limitaris*, the use of *pringlei* as the specific epithet would create two species with the same name, which is not allowed by the rules of botanical nomenclature.

Issue 3—Records for South Texas ambrosia indicate 25 occurrences, with 17 of them extant. Records show 5 occurrences in Nueces County, 11 in Kleberg County, and 1 occurrence overlapping in both counties.

Service Response—The discrepancy between the number of occurrences given in the comment letter and the number of populations reported in the proposed rule is due to the Service considering several of the occurrences to be close enough together to be part of a single population.

Issue 4—One commenter noted that if individuals of either species were present on floodways the plants would not obstruct flows, therefore, vegetation maintenance in the floodways would not affect the plants.

Service Response—While individual plants may not obstruct flood flows, the densely wooded community in which Texas ayenia occurs would. Should this densely wooded community be present, or new areas of appropriate habitat be added to the floodway system, Federal agencies would need to determine the species' absence before conducting floodway vegetation maintenance.

Issue 5—One commenter provided an assessment of the threats of habitat destruction, fragmentation, and loss of genetic variability on both species.

Service Response—The Service appreciates this information.

Issue 6—One commenter offered to coordinate with the Service to protect the species and their habitats.

Service Response—The Service appreciates the need to cooperate and coordinate with Federal, state, and local agencies, private organizations, and citizens to protect and recover these species.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that Texas ayenia and South Texas ambrosia should be classified as endangered species. Procedures found at section 4(a)(1) of the Act and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act were followed. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and

their application to *Ayenia limitaris* Cristóbal (Texas ayenia) and *Ambrosia cheiranthifolia* Gray (South Texas ambrosia) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* Habitat destruction is the primary threat to Texas ayenia and South Texas ambrosia. The past and current practices of converting native South Texas brush and woodlands to agricultural fields, improved pastures, and urban areas, or clearing brush and woodlands for urban water development, industrial development, or flood control have destroyed 95 percent of this native vegetation (Jahrsdoerfer and Leslie 1988). Most native Texas Gulf Coast prairies have been converted to agricultural fields or improved pastures. The amount of conversion of these plant communities in Mexico is similar though not quantified. The remaining remnant native prairie, brush, and woodland tracts are often surrounded by agricultural fields, pastures, or urban development. These modified habitats pose potential threats to the native areas through agricultural chemical drift from aerial spraying; chemical runoff following rains; invasion of nonnative grasses such as buffelgrass, guineagrass (*Panicum maximum*), King Ranch bluestem, and Angleton bluestem (*Dichanthium aristatum*); and trampling and possible collection pressures due to easy accessibility from nearby urban areas. The few remaining populations of the species are vulnerable to extinction if any of their remaining habitat is modified.

Even roadside remnants of native vegetation in South Texas are often bladed, or plowed and seeded with exotic grasses such as buffelgrass and King Ranch bluestem. Herbicides are often used to control vegetation around signs, guard rails, and bridge abutments, and to kill shrubby vegetation encroaching on the right-of-way. Due to the rarity of Texas ayenia and South Texas ambrosia, the likelihood they will be directly impacted by roadway maintenance is small, but almost any impact could lead to extinction of either species.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* No commercial trade is known for either of these species; however, the potential exists for vandalism and collection. Listing these species, with the resulting publicity, will highlight their rarity and may increase their attractiveness to some collectors. Excessive recreational or scientific use is not known or anticipated for either species.

C. *Disease or predation.* Although the Texas ayenia population has shown no evidence of disease or predation, Cristóbal (1960) notes the floral buds of *Ayenia* species are often deformed by Hymenopteran larvae. Cristóbal also notes *Ayenia* fruits can be deformed by Dipteran larvae thus inhibiting seed release. No evidence of grazing or browsing has been observed for Texas ayenia.

No threats of disease or predation are known for South Texas ambrosia; however, damage to stems and rhizomes is possible in situations of severe trampling or grazing.

D. *The inadequacy of existing regulatory mechanisms.* Presently, neither species is protected by Federal or State law. Listing under the Act would provide protection for these species.

E. *Other natural or manmade factors affecting its continued existence.* With only one known verified population, Texas ayenia may have low genetic variability, which could limit its ability to adapt to environmental changes. It is unknown whether past flooding created or maintained habitat for Texas ayenia. However, since the present population occurs within a previously active drainage of the Arroyo Colorado (Damude and Poole 1990), a flood could negatively impact the species. Observers have noted that the population declined during the recent drought in the Lower Rio Grande Valley (J. Everitt, U.S. Department of Agriculture, pers. comm. 1992). The extreme rarity of this species makes it vulnerable to extinction from any number of chance events.

South Texas ambrosia may also be vulnerable to extinction due to lowered genetic variability. Populations are clonal, so despite having many stems, the populations may actually represent very few genetically different individuals. It has been noted that species like South Texas ambrosia that were once more widespread, but are now reduced to low numbers, may be more vulnerable to the detrimental effects of lowered genetic diversity than species that were always rare (Huenneke 1991).

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by these species in determining to make this rule final. Based on this evaluation, the preferred action is to list Texas ayenia and South Texas ambrosia as endangered. The status of endangered is appropriate because of these species' limited distribution, low population numbers, and imminent threats of habitat destruction.

Dorr, L.J., and L.C. Barnett. 1986. The identity of *Nephropetalum* (Sterculiaceae). *Taxon* 35(1):163-164.
 Huenneke, L.F. 1991. Ecological implications of genetic variation in plant populations. In D. Falk and K. Holsinger, eds. *Genetics and Conservation of Rare Plants*. Oxford University Press, New York.
 Jahrsdoerfer, S.E., and D.M. Leslie, Jr. 1988. Tamaulipan brushland of the Lower Rio Grande Valley of South Texas: description, human impacts, and management options. U.S. Fish and Wildlife Service, Biol. Rep. 88(36). 63 pp.
 Turner, B.L. 1983. Status report on *Ambrosia cheiranthifolia*. U.S. Fish and Wildlife Service, Albuquerque, New Mexico.

U.S. Fish and Wildlife Service. 1988. Slender rush-pea (*Hoffmannseggia tenella*) recovery plan. U.S. Fish and Wildlife Service, Albuquerque, New Mexico. 38 pp.

Author

The primary author of this final rule is Angela Brooks (see ADDRESSES section).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, and Transportation.

Regulation Promulgation

Accordingly, part 17, subchapter B of chapter I, title 50 of the Code of Federal

Regulations, is amended as set forth below:

PART 17—[AMENDED]

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361-1407; 16 U.S.C. 1531-1544; 16 U.S.C. 4201-4245; Pub. L. 99-625, 100 Stat. 3500; unless otherwise noted.

2. Section 17.12(h) is amended by adding the following, in alphabetical order under the plant families indicated, to the List of Endangered and Threatened Plants to read as follows:

§ 17.12 Endangered and threatened plants.

* * * * *
 (h) * * *

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Asteraceae—Aster family:						
<i>Ambrosia cheiranthifolia</i>	South Texas ambrosia	U.S.A. (TX), Mexico	E	547	NA	NA
Sterculiaceae—Cacao family:						
<i>Ayenia limitaris</i>	Texas Ayenia	U.S.A. (TX), Mexico	E	547	NA	NA

Dated: July 11, 1994.
 Mollie H. Beattie,
 Director, Fish and Wildlife Service.
 [FR Doc. 94-20789 Filed 8-23-94; 8:45 am]
 BILLING CODE 4310-55-P

50 CFR Part 17
RIN 1018-AB73

Endangered and Threatened Wildlife and Plants; Five Plants From the San Bernardino Mountains in Southern California Determined to be Threatened or Endangered

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The U.S. Fish and Wildlife Service (Service) determines *Erigeron parishii* (Parish's daisy) to be threatened and *Eriogonum ovalifolium* var. *vineum* (Cushenbury buckwheat), *Astragalus albens* (Cushenbury milk-vetch), *Lesquerella kingii* ssp. *bernardina* (San Bernardino Mountains bladderpod), and *Oxytheca parishii* var. *goodmaniana* (Cushenbury oxytheca) to be endangered pursuant to the Endangered

Species Act of 1973, as amended (Act). These five plant species are endemic to the carbonate deposits (limestone and dolomite) of the San Bernardino Mountains, San Bernardino County, California. Most of the carbonate deposits in this mountain range are within actively used mining claims or mining claims that are being maintained for their mineral resources. Limestone, ranging from cement grade to pharmaceutical grade, is currently mined in the area; dolomite is not currently mined. The open or terraced mining techniques that are used, as well as associated overburden dumping and road construction, result in destruction of the plants' habitat. Other threats to the plants include off-highway vehicle use, urban development near the community of Big Bear, expansion of a ski area, and energy development projects. Several of the plants are also threatened with stochastic extinction due to the small numbers of populations or total number of individuals. This rule implements the Federal protection and recovery provisions afforded by the Act for these five plants.

EFFECTIVE DATE: September 23, 1994.

ADDRESSES: The complete file for this rule is available for public inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service, Ventura Field Office, 2140 Eastman Avenue, Suite 100, Ventura, California 93003.

FOR FURTHER INFORMATION CONTACT: Carl Benz at the above address or at (805) 644-1766.

SUPPLEMENTARY INFORMATION:

Background

The San Bernardino Mountains in southern California have been recognized for supporting a wide diversity of natural habitats that have resulted from their geographic position between desert and coastal environments, elevational zonation, and uncommon substrates such as limestone outcrops. The San Bernardino National Forest (Forest), which encompasses most of the San Bernardino Mountains, constitutes less than 1 percent of the land area of the State, yet contains populations of over 25 percent of all plant species that occur naturally in California.

Outcrops of carbonate substrates, primarily limestone and dolomite, occur