

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AB38

Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for *Spigelia Gentianoides*

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The Service proposes to determine *Spigelia gentianoides* (gentian pinkroot), a plant belonging to the logania family, to be an endangered species pursuant to the Endangered Species Act of 1973 (Act), as amended. Three populations of this plant are presently known from Jackson and Calhoun Counties in northwestern Florida. Historically, it was found in several adjacent counties. Proximity to recreational activities threatens one population, and habitat alteration by forestry practices threatens the others. This proposal, if made final, would implement the protection and recovery provisions afforded by the Act for gentian pinkroot. The Service seeks data and comments from the public on this proposal.

DATES: Comments from all interested parties must be received by May 14, 1990. Public hearing requests must be received by April 30, 1990.

ADDRESSES: Comments and materials concerning this proposal should be sent to the Field Supervisor, Jacksonville Field Office, U.S. Fish and Wildlife Service, 3100 University Boulevard South, Suite 120, Jacksonville, Florida 32216. Comments and materials received will be available for public inspection, by appointment; during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: David J. Wesley, Field Supervisor, at the above address (telephone: 904/791-2580 or FTS 946-2580).

SUPPLEMENTARY INFORMATION:**Background**

Spigelia gentianoides (gentian pinkroot) is a perennial herb belonging to the plant family Loganiaceae (logania or strychnine family). Dr. Alvan (sic) Wentworth Chapman of Apalachicola, Florida discovered the plant in May 1837 during a trip to perform an amputation. He distributed herbarium specimens of the plant under the name *Spigelia floridana*, but later settled on *Spigelia gentianoides*, the name that Alphonse de Candolle (1845) published for Chapman. The holotype specimen (which passed from Chapman to Asa

Gray to Edmond Boissier de Candolle) is in the herbarium at Geneva, Switzerland (K. Wurdack, Beltsville, Maryland, *in litt.* 1988).

Spigelia gentianoides has a single, erect, sharply ridged stem approximately 10–30 centimeters (4–12 inches) tall. The leaves are opposite and sessile, 3–5 centimeters (1–2 inches) long, with the largest at the top of the stem. Flowers are borne in a short, few-flowered, terminal, spikelike raceme. The flowers, mounted on very short stalks, point upward. Sepals are 4–6 millimeters long. The corolla is 2.5–3.0 centimeters long, consisting of a narrow tube about 1 centimeter long, broadening to a wider tube with five lobes, each 5–6 millimeters long. The corolla is pale pink, slightly darker at the margins of the lobes. The stamens stay inserted within the flower (Kral 1983). The corolla lobes tend to stay nearly closed, with five slits opening between the lobes. Rogers (1988b) suspected that "a moth effects pollination when it inserts its proboscis into the slits probing for nectar." Recently he observed flowers that were completely open (George Rogers, Missouri Botanical Garden, pers. comm. 1989). The flower resembles those of gentians, which is the reason for the plant's name. Flowering is in May and June.

The closest relative of *Spigelia gentianoides* is pinkroot, *Spigelia marilandica*, which grows in clumps rather than as single stems and has brighter flowers (Kral 1983). In the nineteenth century, pinkroot, a widespread species, was a popular folk cure for worms in the southern states, although it has been blamed for killing patients (Rogers 1986). *Spigelia gentianoides* has not been tested for potential drug uses.

Wurdack (*in litt.* 1988) has seen nine of Chapman's collections of *Spigelia gentianoides*. The type collection is from the west side of the Apalachicola River, probably in Jackson County. One specimen is labeled "Quincy, 1836, not seen since," but the date is incorrect, so the locality is unreliable. Ferdinand Rugel collected the plant near Mount Vernon (now Chattahoochee, Gadsden County) in 1843 (K. Wurdack, *in litt.* 1988).

Kral (1983) thought that *Spigelia gentianoides* had been observed only twice since Chapman, in Jackson County. He was apparently unaware of three specimens at the University of Florida that have been verified by Rogers (pers. comm. 1989), two from Chipley, Washington County (collected by C.E. Pleas, 1940 and 1941), and one from 8 miles north of Wewahitchka,

Calhoun County (collected by E.S. Ford, 1954). Harry Ahles and David Boufford found one locality in Jackson County in 1973 (Wunderlin et al. 1980). A specimen from Gulf Hammock (Levy County), labelled by its collectors as *Spigelia gentianoides*, has been determined to be *S. loganioides* (R. Wunderlin, University of South Florida, pers. comm. 1988). Godfrey (1979) included Liberty County, Florida in the distribution of this plant.

Recently, Gary Knight, Robert Kral, Angus Gholson, Jr., Wilson Baker, and Kenneth Wurdack relocated one population and found two more (Rogers 1988a, 1988b; Gholson, pers. comm. 1989). Rogers and others revisited the populations in 1989. One population, in Jackson County, had about 30 plants in 1988, one fifth as many as it had 12 years earlier. The second, near the Jackson-Bay County line, has no more than 10 plants (Rogers, pers. comm. 1988). The third and largest, in Calhoun County south of Blountstown, is in a pineland with wiregrass, somewhat drier than flatwoods. The site's trees were cut in 1988 and the landowner will plant pines in 1989. The plants flowered in 1989, indicating that, at least in the short term, they tolerate full sun (Rogers, pers. comm. 1989).

The two sites where Kral (1983) found *Spigelia gentianoides* were in light to heavy shade of oak-pine woods containing mixed loblolly and longleaf pines, water oaks, laurel oaks, southern red oaks and blackgum, and an understory that included flowering dogwood and blueberries. Neither site showed any sign of having been cultivated, and Kral could not find the plant in clearcut areas adjacent to the populations. Angus Gholson now suspects that one currently known site may have been cultivated. Thorough searches would probably find additional populations of *Spigelia gentianoides* in the five counties with records of the species, but the paucity of specimens collected since 1837 and the few sites found recently by experienced field botanists strongly indicates that the plant was never widespread and that it is extremely rare today.

Section 12 of the Endangered Species Act of 1973 directed the Secretary of the Smithsonian Institution to prepare a report on plants considered to be endangered, threatened, or extinct. This report, designated as House Document No. 94-51, was presented to the Congress on January 9, 1975. On July 1, 1975, the Service published a notice in the **Federal Register** (40 FR 27823) of its acceptance of the report as a petition in the context of section 4(c)(2) (now section 4(b)(3)) of the Act, as amended,

and of its intention to review the status of the plant taxa contained within. On June 16, 1976, the Service published a proposed rule (41 FR 24524) to determine some 1,700 U.S. vascular plant species recommended by the Smithsonian report to be endangered species pursuant to Section 4 of the Act. This proposal was withdrawn in 1979 (44 FR 12382).

Spigelia gentianoides was included in the Smithsonian Report; the July 1, 1975 notice; the June 16, 1976 proposal; and the 1979 withdrawal.

On December 15, 1980, the Service published a notice of review for plants (45 FR 82480), which included *Spigelia gentianoides* as a category 1 candidate (a taxon for which data in the Service's possession indicates listing is warranted). A supplement to the notice of review published on November 28, 1983 (48 FR 53640) changed the *Spigelia gentianoides* to a category 2 candidate (a taxon for which data in the Service's possession indicate listing is possibly appropriate). No one had seen this species in the field since 1973, and confirmation was needed that it was extant. An updated notice of review published September 27, 1985 (50 FR 39526) retained *Spigelia gentianoides* as a category 2 candidate. In 1985, Gary Knight, then a graduate student at Florida State University, discovered a population of the plant. Subsequent field work by several botanists confirms that the plant persists in the wild (Rogers 1988a, 1988b; Rogers, pers. comm. 1988; A. Gholson, Chattahoochee, Florida, pers. comm. 1989).

Section 4(b)(3)(B) of the Act, as amended in 1982, requires the Secretary to make findings on certain pending petitions within 12 months 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. This was the case for *Spigelia gentianoides* because the Service had accepted the 1975 Smithsonian report as a petition. In each October of 1983 through 1989, the Service found that the petitioned listing of this species was warranted but precluded by other listing actions of a higher priority, and that additional data on vulnerability and threats were still being gathered. Publication of this proposal constitutes the final petition finding required for *Spigelia gentianoides*.

Summary of Factors Affecting the Species

Section 4(a)(1) of the Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act set forth the

procedures for adding species to the Federal lists. A species may be determined to be endangered or threatened due to one or more of the five factors described in Section 4(a)(1). These factors and their application to *Spigelia gentianoides* Chapm. ex A. DC. (gentian pinkroot) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* The currently known populations of *Spigelia gentianoides* occur in mixed upland pine-oak forest, and in an upland pineland where the species is part of a fire-maintained understory dominated by wiregrass (*Aristida stricta* and other grasses). Kral's (1983) appraisal that "certainly the *Spigelia* would not survive mechanical site preparation * * * involved with pine monoculture" was based on his inability to find *Spigelia* in clearcut areas adjacent to a population on an area with no history of cultivation. Kral's views may need to be modified because the largest known *Spigelia gentianoides* population appears to be surviving cutting and replanting, but in this case, the landowner was aware of the presence of the rare plant, had the cutting done with relatively little site disturbance, and is having replanting done by hand (Gholson, pers. comm. 1989). Gholson suspects that the site of one population may have been cultivated at one time, although the site is adjacent to land that would never have been cultivated. *Spigelia gentianoides* was probably extirpated from some areas by cultivation in the nineteenth and early twentieth centuries; conversion of much of the upland forest land in these counties to pulpwood plantations had possibly extirpated more populations.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* Other species of the genus have been in demand for their medicinal and/or poisonous properties. "Collecting for medicines has reduced *Spigelia* populations substantially, particularly the striking *S. marilandica*, or pinkroot" (Rogers 1988a). Collecting by botanists or those interested in medicinal plants could easily destroy the very small known populations (Robert Kral, Vanderbilt University, Pers. comm., 1989).

C. *Disease or predation.* None apparent.

D. *The inadequacy of existing regulatory mechanisms.* *Spigelia gentianoides* is listed as endangered by the Preservation of Native Flora of Florida Act (Section 581.185-187, Florida Statutes), which regulates taking, transport, and sale of plants but does

not provide habitat protection. The Endangered Species Act will add Federal penalties to violations of Florida law, will add additional sanctions against taking of plants from Federal land, and will offer additional protection against taking through Sections 7 and 9, and through recovery planning.

E. *Other natural or manmade factors affecting its continued existence.* The one population on publicly owned land is easily accessible and is vulnerable to inadvertent or deliberate damage by human activities. Another population declined from about 150 plants to 30 in twelve years, for unknown reasons (Rogers 1988a, 1988b). The rarity of *Spigelia gentianoides*, its limited geographic range, and extensive alteration of its habitat, exacerbate the risks posed by the preceding four factors, making it likely that the species could become extinct throughout its entire range in the absence of organized conservation efforts.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by *Spigelia gentianoides* in determining to propose this rule. Based on this evaluation, the preferred action is to list *Spigelia gentianoides* as endangered. Its limited geographic range, alteration of its known and potential habitat, the small sizes of the three known populations, and the possibility that the largest known population will be adversely affected by site preparation for pine planting indicate that the species is in danger of extinction throughout its range, and therefore fits the Act's definition of endangered.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, the Secretary designate any habitat of a species that is considered to be critical habitat at the time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for *Spigelia gentianoides* at this time. Federal agencies, particularly the agency that owns the site of one population, can be alerted to the presence of this species without the publication of critical habitat descriptions and maps. Because of the small sizes of the known populations and the potential for collectors to exterminate this plant, publication of critical habitat maps would increase the threat from taking or vandalism.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against taking are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a species is subsequently listed, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

The Environmental Protection Agency (EPA) is establishing a national system to prevent the use of herbicides (including herbicides used in forestry) from jeopardizing endangered and threatened species; the State of Florida's Department of Agriculture and Consumer Services is establishing its own herbicide regulatory system that is expected to be approved by the EPA. Herbicide restrictions, if they are adopted to protect gentian pinkroot, may affect private landowners in this area. The population of gentian pinkroot on land owned by the U.S. Army Corps of Engineers and managed by the Florida Department of Natural Resources would require attention from those agencies to ensure that the management and use of the site does not jeopardize the continued existence of the species.

These agencies are aware of the presence of the plant.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62, and 17.63 set forth a series of general trade prohibitions and exceptions that apply to all endangered plants. All trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61, would apply. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export any endangered plant, transport it in interstate or foreign commerce in the course of a commercial activity, sell or offer to sell it in interstate or foreign commerce, or remove it from areas under Federal jurisdiction and reduce it to possession. In addition, for endangered plants, the 1988 amendments to the Act (Pub. L. 100-478) prohibit their malicious damage or destruction on Federal lands, and their removal, cutting, digging up, or damaging or destroying in knowing violation any State law or regulation, including State criminal trespass law. Certain exceptions can apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.62 and 17.63 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered species under certain circumstances. The Service anticipates few requests for permits because there is currently no commercial trade in *Spigelia gentianoides*. Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, P.O. Box 3507, Arlington, Virginia 22203-3507 (703/358-2104).

Public Comments Solicited

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, any comments or suggestions from the public or other concerned governmental agencies, the scientific community, industry, or any other interested party concerning any aspect of this proposal are hereby solicited. Comments particularly are sought concerning:

(1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to *Spigelia gentianoides*;

(2) The location of any additional populations of this species and the reasons why any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act;

(3) Additional information concerning the range and distribution of this species; and

(4) Current or planned activities in the range and habitat of this species and their possible impacts on it.

Final promulgation of the regulation on *Spigelia gentianoides* will take into consideration the comments and any additional information received by the Service, and such communications may lead to adoption of a final regulation that differs from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if requested. Requests must be filed within 45 days of the date of the proposal. Such requests must be made in writing and addressed to the Field Supervisor, U.S. Fish and Wildlife Service, 3100 University Boulevard South, Suite 120, Jacksonville, Florida 32216.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the *Federal Register* on October 25, 1983 (48 FR 49244).

References Cited

- de Candolle, Alphonse. 1845. *Prodromus systematis naturalis regni vegetabilis* 9:5.
- Godfrey, R.K. 1979. Pink-root. *Spigelia loganioides*, in Ward, D.B., ed., *Rare and endangered biota of Florida*. Vol. 5. Plants. Univ. Presses of Fla., Gainesville. xxxix + 175 pp.
- Kral, R. 1983. A report on some rare, threatened, or endangered forest-related vascular plants of the South. USDA Forest Service, Technical Publication R8-TP 2. x + 1305 pp.
- Rogers, G.K. 1986. The genera of Loganiaceae in the Southeastern United States. *Jour. Arnold Arboretum* 67:143-185.
- Rogers, G.K. 1988a. *Spigelia gentianoides*—a species on the brink of extinction. *Plant Conservation* 3(3):1.8.
- Rogers, G.K. 1988b. Gardening at the Garden: A species that nearly disappeared. *Missouri Bot. Gard. Bull.* 76(5):7.
- Wunderlin, R.P., D. Richardson, and B. Hansen. 1980. Status report on *Spigelia gentianoides*. Unpublished report submitted to U.S. Fish and Wildlife Service, Jacksonville, Florida. 13 pp.

Author

The primary author of this proposed rule is David Martin (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Fish, Marine mammals, Plants (agriculture).

Proposed Regulation Promulgation

PART 17—[AMENDED]

Accordingly, it is hereby proposed to

amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

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

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1543; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

2. It is proposed to amend § 17.12(h)

by adding the following, in alphabetical order under the family Loganiaceae to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

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(h) * * *

SPECIES		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Loganiaceae—Logania family:						
<i>Spigelia gentianoides</i>	Gentian pinkroot	U.S.A. (FL)	E		NA	NA

Dated: February 1, 1990.
 Richard N. Smith,
 Acting Director, Fish and Wildlife Service.
 [FR Doc. 90-5835 Filed 3-13-90; 8:45 am]
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