

## DEPARTMENT OF THE INTERIOR

## Fish and Wildlife Service

## 50 CFR Part 17

RIN 1018-AB56

## Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for Five Puerto Rican Trees

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

**SUMMARY:** The Service determines *Callicarpa ampla* (capá rosa), *Styrax portoricensis* (palo de jazmin), *Ternstroemia luquillensis* (palo colorado), *Ternstroemia subsessilis* (no common name) and *Ilex sintenisii* (no common name) to be endangered species pursuant to the Endangered Species Act (Act) of 1973, as amended. These species are endemic to Puerto Rico, with one possible exception, and are currently found only in the Luquillo Mountains within the Caribbean National Forest. All are extremely rare and potentially threatened by forest management practices, construction of communication facilities on high peaks, road construction and maintenance, hurricane damage, and collection. This final rule will implement the Federal protection and recovery provisions afforded by the Act for *Callicarpa ampla*, *Styrax portoricensis*, *Ternstroemia luquillensis*, *T. subsessilis* and *Ilex sintenisii*.

EFFECTIVE DATE: May 22, 1992.

**ADDRESSES:** The complete file for this rule is available for inspection, by appointment, during normal business hours at the Caribbean Field Office, U.S. Fish and Wildlife Service, P.O. Box 491, Boquerón, Puerto Rico 00622; and at the Service's Southeast Regional Office, suite 1282, 75 Spring Street SW., Atlanta, Georgia 30303.

**FOR FURTHER INFORMATION CONTACT:** Ms. Marelisa Rivera or Ms. Susan Silander at the Caribbean Field Office address (809/851-7297), or Mr. Dave Flemming at the Atlanta Regional Office address (404/331-3583 or FTS 841-3583).

**SUPPLEMENTARY INFORMATION:****Background**

The Luquillo Mountains are found in the extreme northeastern part of Puerto Rico. The majority of the area (11,300 hectares) is managed by the U.S. Forest Service as the Caribbean National Forest. Four forest associations have been identified in these mountains: tabonuco, palo colorado, dwarf and

sierra palm. The five species that are the subject of this rule are restricted to the palo colorado and/or the dwarf forests. The palo colorado association is found at elevations greater than 600 meters and covers approximately 17 percent of the Caribbean National Forest. It derives its name from the palo colorado tree (*Cyrilla racemiflora*) which is dominant in this forest type. The dwarf or elfin association is found on the summits of mountains at elevations greater than 750 meters and covers only 2 percent of the Forest. This forest is composed of dense stands of short, small diameter, twisted trees and shrubs and the forest floor is covered with mosses and epiphytes. Relative humidity ranges from 95 to 100 percent and annual precipitation from 313 to 450 centimeters. Temperatures range from 11.5° to 32.5° C throughout the year, with a mean annual temperature of 21° C (Brown et al., 1983).

*Callicarpa ampla* (capá rosa) was described by Schauer in 1847 from specimens collected in 1827 by Wydler at an unknown location in Puerto Rico (Schauer, 1847). Since then it has been collected only seven times: Six specimens are from Puerto Rico and one reportedly came from St. Thomas, U.S. Virgin Islands (Vivaldi and Woodbury, 1981). However, whether or not the specimen indicated as having been collected from St. Thomas actually came from there is questionable (Vivaldi and Woodbury, 1981). In Puerto Rico, this species has been collected in Barranquitas, Adjuntas, Utuado, Cayey, and the Luquillo Mountains. At present, the species is known only from the palo colorado forest association in the Luquillo Mountains. Only 14 trees in 5 sites have been located. In addition, 15 seedlings were observed at one population site during post-Hurricane Hugo surveys (C. Laboy, pers. comm.).

*Callicarpa ampla* is an evergreen tree which may grow to 50 feet (15 meters) tall. The young twigs are 4-sided and whitish. Leaves are opposite, entire, broadest at the middle and taper to both ends. They are 4 to 10 inches (10 to 25 centimeters) long, 1½ to 3 inches (3.3 to 7 centimeters) wide, green on the upper surface, densely white scurfy below, and borne on a petiole about 1 inch (2.2 centimeters) in length. The inflorescence is branched and has numerous, small, whitish flowers each with a 4-lobed corolla about ¼ inch (.3 centimeters) long. Fruits are white when young but become purplish upon maturity, and are ¼ inch (.5 centimeter) in diameter, with the calyx attached at the base (Vivaldi and Woodbury, 1981).

*Styrax portoricensis* (palo de jazmin) was collected for the first time in 1885

from the eastern mountains of Puerto Rico by Paul Sintenis and described by Krug and Urban in 1892 from those same specimens. Collected only twice, in 1935 and 1954, it was thought to be extinct until rediscovered by Roy Woodbury in November 1982 (George Proctor, pers. comm.). Only one immature tree is presently known and occurs in the palo colorado forest association of the Luquillo Mountains. It suffered slight damage from Hurricane Hugo in September 1989 due to wind-thrown trees. The trees that had fallen on it were subsequently removed by the U.S. Forest Service (Carlos Laboy, pers. comm.).

*Styrax portoricensis* is an evergreen tree which may reach 66 feet (20 meters) in height. Leaves are alternate, without stipules, entire with margins turned under, 2½ to 4 inches (6 to 10 centimeters) long and 1¼ to 2 inches (2.75 to 4.4 centimeters) wide, tapered at both ends and widest at the middle. They are shiny dark green above, pale green below, hairless, but occasionally with scattered star-shaped scales. The inflorescence is a 3 to 6 flowered raceme, each flower being borne on a curved pedicel ¾ to ¾ (.8 to 1.4 centimeter) long. Fruits are a one-seeded elongated drupe, about ½ inch (1.1 centimeter) in diameter, densely covered with scales and maintaining the cup-shaped calyx at the base (Vivaldi et al., 1981a).

*Ternstroemia luquillensis* (palo colorado) was described by Krug and Urban in 1896 on the basis of three specimens, two collected by Paul Sintenis and one collected by Eggers. It is known from both the palo colorado and dwarf forests of the Luquillo Mountains; however, two populations previously reported from the dwarf forest are no longer present. The largest was destroyed by the construction of communication towers on El Yunque peak, and the other nearby population was destroyed by a hurricane. Only six individuals in four locations, three of which are in the colorado forest type and one in the dwarf forest of Pico del Este, are presently known to occur (Vivaldi et al., 1981b). However, the two individuals of one population near Road #191 have not been relocated recently and indeed may have originally been misidentified.

*Ternstroemia luquillensis* is an evergreen tree reaching 60 feet (18 meters) in height. The leaves are alternate, thick and leathery, and wide at the middle but acute at both ends. They are up to 4 inches (10 centimeters) long and about 3 times longer than wide. Both surfaces are green and the

underside is black punctate. The flowers are showy, approximately 1 inch (2.5 centimeters) in diameter and the 5 petals are white or cream colored and concave. Fruits are ovoid capsules which are terminated by the persistent style. Seeds are red and about 3 millimeters in length (Vivaldi et al., 1981b).

*Ternstroemia subsessilis* was first collected in 1914 by J.A. Shaffer in the Luguillo Mountains and again in 1923 by Britton and Brunner at the summit of El Yunque. Although collected in the Maricao Forest in 1960 by Roy O. Woodbury, it is now apparently restricted to the palo colorado and dwarf forests of the Luquillo Mountains (Vivaldi et al., 1981c). One dwarf forest population was destroyed by the construction of communication facilities on El Yunque peak. Thirty-seven individuals in four populations, one in the dwarf forest near Pico del Este, are currently known (C. Laboy, pers. comm.).

*T. subsessilis* is an evergreen shrub or small tree which may reach 17 feet (5 meters) in height. Leaves are alternate, entire, stiffly coriaceous, obovate or oblanceolate, 1/4 to 3 inches (3 to 7 centimeters) long and 1/4 to 1 inch (1.5 to 2.8 centimeters) wide. Both leaf surfaces are dull green but the lower surface is black punctate. Flowers are solitary, white, 1/2 inch (1 centimeter) in diameter, sessile, and axillary at the ends of the branches. The fruit is an ovoid-conical capsule about 10 millimeters long and tapering to a sharp point. Ripe fruits were observed in May 1991.

*Ilex sintenisii* was first discovered by Paul Sintenis in the upper elevations of the Luquillo Mountains. This Puerto Rican endemic is found only in the Luquillo Mountains where it is restricted to the dwarf or elfin forest. The dwarf forest covers only approximately 225 hectares or 2 percent of the Caribbean National Forest. It is threatened by the potential for further construction and expansion of communication facilities on these high peaks. A total of 150 individuals in three populations have been reported.

*I. sintenisii* is a shrub or small tree which may reach 15 feet (4.5 meters) in height and 3 inches (7.6 centimeters) in diameter. Leaves are alternate, glabrous, obovate to elliptic, coriaceous, 3/8 to 1 1/2 inch (1 to 2.5 centimeters) long and 1/4 to 3/4 inch (.6 to 1.9 centimeters) wide, and notched at the apex with the edges turned under. The bark is gray, smooth, and usually covered with mosses and liverworts. The flowers are white, axillary on pedicels 1/4 to 3/8 inch (.6 to 1 centimeter) long, and 4 to 5 parted. Fruits and drupes and green when immature.

*Callicarpa ampla*, *Styrax portoricensis* and *Ternstroemia luquillensis*, and *T. subsessilis* were recommended for Federal listing by the Smithsonian Institution (Ayensu and DeFilippis, 1979). These tree species were included among the plants being considered as endangered or threatened by the Service, as published in the Federal Register (45 FR 82480) dated December 15, 1980; the November 28, 1983 update (48 FR 53680) of the 1980 notice; and revised of September 27, 1985 (50 FR 39526) and February 21, 1990 (55 FR 6184). These species were designated category 1 (species for which the Service has substantial information supporting the appropriateness of proposing to list them as endangered or threatened) in each of the four notices. *Ilex sintenisii* has been ranked as likely to go extinct in 5 to 10 years (Priority B) by the Center for Plant Conservation. It is considered to be a critical plant by the Natural Heritage Program of the Puerto Rico Department of Natural Resources.

In a notice published in the Federal Register on February 15, 1983 (48 FR 6752), the Service reported the earlier acceptance of the new taxa in the Smithsonian's 1978 book as under petition within the context of section 4(b)(3)(A) of the Act, as amended in 1982. The Service subsequently found that listing *Callicarpa ampla*, *Styrax portoricensis*, *Ternstroemia luquillensis*, and *T. subsessilis* was warranted but precluded by other pending listing actions of a higher priority, and that additional data on vulnerability and threats were still being gathered. The Service proposed listing these five species on April 19, 1991 (56 FR 16059), constituting the final finding under the petition process.

#### Summary of Comments and Recommendations

In the April 19, 1991, proposed rule and associated notifications, all interested parties were requested to submit factual reports of information that might contribute to the development of a final rule. Appropriate agencies of the Commonwealth of Puerto Rico, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. A newspaper notice inviting general public comment was published in the San Juan Star on May 10, 1991. Four letters of comment were received and are discussed below. A public hearing was neither requested nor held.

The U.S. Army Corps of Engineers, Jacksonville District, reported that they did not have any actions proposed or under consideration that might affect any of these five species and did not

have any additional information on their status.

The Secretary of the Puerto Rico Department of Natural Resources supported the listing of the species. The Department's Terrestrial Ecology Division concurred with the determination and provided more accurate collection information for *Styrax portoricensis* and *Ternstroemia subsessilis*. Information for the final rule has been revised accordingly.

The U.S. Forest Service supported the listing of all five species and provided supplemental information based on recent survey and management activities conducted for these species. This additional information has been incorporated into the final rule as appropriate.

#### Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that these five trees should be classified as endangered species. Procedures found at section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 et seq.) and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act were followed. 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 *Callicarpa ampla* Schauer, *Styrax portoricensis* Krug & Urban, *Ternstroemia luquillensis* Krug & Urban, *T. subsessilis* (Britton) Kubuski, and *Ilex sintenisii* (Urban) Britton are as follows:

#### A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

Although all five of these species are found only within the Caribbean National Forest, which is managed by the U.S. Forest Service, forest management practices such as the establishment and maintenance of plantations, selective cutting, trail and road construction and maintenance, and shelter construction may affect these trees unless their protection is given adequate consideration. The destruction of the dwarf or elfin forests for the construction and/or expansion of communication facilities by the U.S. Navy and private entities also continues to be a potential problem. A proposal for expansion of the Navy facilities on Pico del Este is currently under consideration. Individual of *Callicarpa ampla* are found along Road #191, proposed for reconstruction and

reopening in the near future with funds from the Federal Highway Administration. In addition, the extreme rarity of all these species make the loss of any one individual even more critical. The Service notes, however, that the U.S. Forest Service has stated (*in litt.*, 1991) that it is Forest Service policy to protect these species from possible effects associated with any proposed land management activity. Recent survey and management actions by the Forest Service for these species further indicate a definite commitment to their conservation.

#### B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes.

Plant collecting is prohibited in the Caribbean National Forest; however, remote areas are difficult to monitor on a regular basis. The ornamental potential of these species may result in taking in the future.

#### C. Disease or Predation

Disease and predation have not been documented as factors in the decline of this species.

#### D. The Inadequacy of Existing Regulatory Mechanisms

The Commonwealth of Puerto Rico has adopted a regulation that recognizes and provides protection for certain Commonwealth listed species. However, *Callicarpa ampla*, *Styrax portoricensis*, *Ternstroemia luquillensis*, *T. subsessilis*, and *Ilex sintenisii* are not yet on the Commonwealth list. Federal listing would provide immediate protection and, if the species are ultimately placed on the Commonwealth list, would enhance their protection and possibilities for funding needed research.

#### E. Other Natural or Manmade Factors Affecting Its Continued Existence

Probably the most important factor affecting *Callicarpa ampla*, *Styrax portoricensis*, *Ternstroemia luquillensis*, *T. subsessilis*, and *Ilex sintenisii* in Puerto Rico is their limited distribution. Hurricane Hugo recently devastated the Caribbean National Forest, causing defoliation and breaking branches on numerous individuals. Because so few individuals are known to occur, the risk of extinction is extremely high.

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 propose this rule. Based on this evaluation, the preferred action is to list *Callicarpa*

*ampla*, *Styrax portoricensis*, *Ternstroemia luquillensis*, *T. subsessilis*, and *Ilex sintenisii* as endangered. Forest management practices such as establishment of recreation areas and plantations, road construction and maintenance, selective cutting, trail construction and maintenance have the potential to dramatically affect all these species. The impacts of hurricane damage could be devastating. The expansion of communication facilities would result in elimination of individual plants. Therefore, endangered rather than threatened status seems an accurate assessment of the species' condition. The reasons for not proposing critical habitat for this species are discussed below in the "Critical Habitat" section.

#### Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that, to the maximum extent prudent and determinable, the Secretary propose critical habitat at the time the species is proposed to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for these species at this time. The number of individuals of *Callicarpa ampla*, *Styrax portoricensis*, *Ternstroemia luquillensis*, *T. subsessilis*, and *Ilex sintenisii* are sufficiently small that vandalism and collection could seriously affect the survival of these species. Publication of critical habitat descriptions and maps in the Federal Register would increase the likelihood of such activities. The Service believes that Federal involvement in the areas where these plants occur can be identified without the designation of critical habitat. All involved parties have been notified of the location and importance of protecting these species' habitats, and the U.S. Forest Service, the only involved landowner, already has ongoing activities intended to conserve and protect these species. Protection of these species' habitats will also be addressed through the recovery process and through the section 7 jeopardy standard.

#### 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, Commonwealth, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the Commonwealth,

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 certain activities involving listed plants 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 its 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)(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.

Potential Federal involvement for these five trees relates to activities to be conducted by the U.S. Forest Service, the U.S. Navy and the Federal Highway Administration in the Caribbean National Forest. A conference was conducted between the Federal Highway Administration and the Fish and Wildlife Service in order to evaluate the possible impacts of the reconstruction and reopening of Road #191 through the Caribbean National Forest. Additional surveys were conducted and measures were developed to minimize impacts and protect individuals known to be located close to the road.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62, and 17.63 set forth a series of general 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, 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 a commercial activity, sell or offer it for sale 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 (Pub. L. 100-478) to the Act prohibit the removal, cutting, digging up, or damaging or destroying of endangered plants in knowing violation of any State (Commonwealth) law or regulation, including State

(Commonwealth) criminal trespass law. Certain exceptions apply to agents of the Service and Commonwealth 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.

It is anticipated that few trade permits for these five species will ever be sought or issued, since the species are not known to be in cultivation and are uncommon in the wild. Requests for copies of the regulations on listed plants and inquiries regarding Federal prohibitions and permits may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, 4401 Fairfax Drive, room 432, Arlington, Virginia 22203 (703/358-2104).

**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**

Ayensu, E.S., and R.A. Defilippis. 1978. Endangered and threatened plants of the United States. Smithsonian Institution and World Wildlife Fund. Washington. D.C. xv + 403 pp.

Brown, S., A.E. Lugo, S. Silander, and L. Liegel. 1983. Research history and opportunities in the Luquillo Experimental Forest. General Technical Report SO-44. U.S. Department of Agriculture, Forest Service, Southern Forest Experiment Station, New Orleans. Louisiana. 128 pp.

Little, E.L., Jr., R.O. Woodbury, and F.H. Wadsworth. 1974. Trees of Puerto Rico and the Virgin Islands, second volume. Agriculture Handbook No. 449. U.S. Department of Agriculture, Forest Service, Washington, D.C. 1024 pp.

Liogier, H.A., and L.F. Martorell. 1982. Flora of Puerto Rico and adjacent islands: a systematic synopsis. University of Puerto Rico, Río Piedras, Puerto Rico. 342 pp.

Vivaldi, J.L., and R.O. Woodbury. 1981. Status report on *Callicarpa ampla* Shauer. Submitted to U.S. Fish and Wildlife Service, Atlanta, Georgia. 41 pp.

Vivaldi, J.L., R.O. Woodbury, and H. Diaz-Soltero. 1981a. Status report on *Styrax portoricensis* Krug & Urban. Submitted to U.S. Fish and Wildlife Service, Atlanta, Georgia. 28 pp.

Vivaldi, J.L., R.O. Woodbury, and H. Diaz-Soltero. 1981b. Status report on *Ternstroemia luquillensis* Krug & Urban. Submitted to U.S. Fish and Wildlife Service, Atlanta, Georgia. 39 pp.

Vivaldi, J.L., R.O. Woodbury, and H. Diaz-Soltero. 1981c. Status report on *Ternstroemia subsessilis* (Britton) Kobuski. Submitted to U.S. Fish and Wildlife Service, Atlanta, Georgia. 41 pp.

**Authors**

The primary authors of this final rule are Ms. Marelisa Rivera and Ms. Susan Silander. Caribbean Field Office, U.S. Fish and Wildlife Service, P.O. Box 491, Boqueron, Puerto Rico 00622 (809/851-7297).

**List of Subjects in 50 CFR Part 17**

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

**Regulations 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. Amend § 17.12(h) by adding the following, in alphabetical order under Aquifoliaceae, Styracaceae, Theaceae, and Verbenaceae, to the List of Endangered and Threatened Plants:

**§ 17.12 Endangered and threatened plants.**

- \* \* \* \* \*
- (h) \* \* \*

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Aquifoliaceae—Holly family:						
<i>Ilex sintenisii</i>	None	U.S.A. (PR)	E	461	NA	NA
Styracaceae—Styrax family:						
<i>Styrax portoricensis</i>	Palo de jazmín	U.S.A. (PR)	E	461	NA	NA
Theaceae—Tea family:						
<i>Ternstroemia luquillensis</i>	Palo colorado	U.S.A. (PR)	E	461	NA	NA
<i>Ternstroemia subsessilis</i>	None	U.S.A. (PR)	E	461	NA	NA
Verbenaceae—Verbena family:						
<i>Callicarpa ampla</i>	Capá rosa	U.S.A. (PR)	E	461	NA	NA

(Final: Five Puerto Rican trees—endangered)

Dated: April 14, 1992.

Richard N. Smith,

Director, Fish and Wildlife Service.

[FR Doc. 92-9392 Filed 4-21-92; 8:45 am]

BILLING CODE 4310-55-M