

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-A147

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Seven Bexar County, TX, Invertebrate Species**AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), designate critical habitat for seven endangered invertebrate species found in Bexar County, Texas, pursuant to the Endangered Species Act of 1973, as amended (Act). The critical habitat designation totals approximately 431 hectares (1,063 acres) in 22 units. Section 7 of the Act requires Federal agencies to ensure, in consultation with the Service, that actions they authorize, fund, or carry out are not likely to result in the destruction or adverse modification of critical habitat. Section 4 of the Act requires us to consider economic and other impacts when specifying any particular area as critical habitat. We solicited data and comments from the public on all aspects of the proposed rule, including data on economic and other impacts of the designation. As a result of comments and information received, we are not designating critical habitat as originally proposed for two species that occur entirely on State-owned lands that are subject to a conservation plan.

DATES: This rule becomes effective on May 8, 2003.

ADDRESSES: Comments and materials received, as well as supporting documentation used in the preparation of this final rule, are available for public inspection, by appointment, during normal business hours at the Austin Ecological Services Field Office, U.S. Fish and Wildlife Service, 10711 Burnet Road, Suite 200, Austin, Texas 78758.

FOR FURTHER INFORMATION CONTACT: Robert Pine, Supervisor, U.S. Fish and Wildlife Service, Austin Ecological Services Field Office, at the above address (telephone 512/490-0057; facsimile 512/490-0974).

SUPPLEMENTARY INFORMATION:**Background**

The seven species for which we are designating critical habitat in this rulemaking inhabit caves or other features known as karst. The term

“karst” refers to a type of terrain that is formed by the slow dissolution of calcium carbonate from limestone bedrock by mildly acidic groundwater. This process creates numerous cave openings, cracks, fissures, fractures, and sinkholes, and the bedrock resembles a honeycomb.

As a result of climatic changes beginning two million years ago and lasting until ten thousand years ago, invertebrate species colonized caves and other subterranean voids (Barr 1968; Mitchell and Reddell 1971; Elliott and Reddell 1989). Species that dwell exclusively in caves and other subterranean voids are referred to as “troglodites.” Through faulting and canyon downcutting, the karst terrain colonized by these species along the Balcones Fault Zone (a zone approximately 25 kilometers (km) in width, extending from the northeast corner of Bexar County to the western edge of the County) became increasingly dissected, creating “islands” of karst and barriers to dispersal. These “islands” isolated trogloditic populations from each other, probably resulting in further speciation.

The following nine Bexar County, Texas, trogloditic invertebrate species were listed as endangered on December 26, 2000 (65 FR 81419): spider (no common name) (*Cicurina venii*), Robber Baron Cave harvestman (*Texella cokendolphi*), vesper cave spider (*Cicurina vespera*), Government Canyon cave spider (*Neoleptoneta microps*), Madla's cave spider (*Cicurina madla*), Robber Baron cave spider (*Cicurina baronia*), beetle (no common name) (*Rhadine exilis*), beetle (no common name) (*Rhadine infernalis*), and Helotes mold beetle (*Batrissodes ventyivi*). These are karst dwelling species of local distribution in north and northwest Bexar County. They spend their entire lives underground.

Since publication of the listing final rule, the common names for the following six arachnid species have been changed as a result of a meeting of the Committee on Common Names of Arachnids of the American Arachnological Society in 2000. Accordingly, we are changing the common names of the species currently in the list of Endangered and Threatened Wildlife (50 CFR 17.11) as Robber Baron Cave harvestman, Robber Baron cave spider, Madla's cave spider, vesper cave spider, Government Canyon cave spider, and one with no common name (*Cicurina venii*) to Cokendolpher cave harvestman, Robber Baron Cave meshweaver, Madla Cave meshweaver, Government Canyon Bat Cave meshweaver, Government Canyon Bat

Cave spider, and Braken Bat Cave meshweaver, respectively.

Individuals of the listed species are small, ranging in length from 1 millimeter (0.039 inch (in)) to 1 centimeter (0.39 in). They are eyeless, or essentially eyeless, and most lack pigment. Low quantities of food in caves have caused adaptations in these species, including low metabolism, long legs for efficient movement, and loss of eyes, possibly as an energy-saving trade-off (Howarth 1983). Survival may be possible from months to years with little or no food (Howarth 1983). Adult *Cicurina* spiders have survived in captivity without food for about 4 months (James Cokendolpher, Museum of Texas Tech University, pers. comm. 2002).

Although little is known about the life history of listed Texas trogloditic invertebrates, they are believed to live for longer than 1 year. This belief is based, in part, on the amount of time some juveniles have been kept in captivity without maturing (Veni and Associates 1999; James Reddell, Texas Memorial Museum, pers. comm. 2000). For example, James Cokendolpher (Museum of Texas Tech University, pers. comm. 2002) maintained a juvenile trogloditic *Cicurina* spider from May 1999 through April 2002. Reproductive rates of troglodites are typically low (Poulson and White 1969; Howarth 1983). According to surveys conducted by Culver (1986), Elliott (1994a), and Hopper (2000), population sizes of trogloditic invertebrates are typically small, with most species known from only a few specimens (Culver *et al.* 2000).

As described below, the primary habitat requirements of these species include: (1) Subterranean spaces in karst with stable temperatures, high humidities (near saturation), and suitable substrates (for example, spaces between and underneath rocks suitable for foraging and sheltering); and (2) a healthy surface community of native plants and animals that provide nutrient input and, in the case of native plants, act to buffer the karst ecosystem from adverse effects (for example, invasions of nonnative species, contaminants, and fluctuations in temperature and humidity). These karst invertebrates require stable temperatures and constant, high humidity (Barr 1968; Mitchell 1971a) because they are vulnerable to desiccation in drier habitats (Howarth 1983) or cannot detect or cope with more extreme temperatures (Mitchell 1971a). Temperatures in caves typically remain at the average annual surface temperature, with little variation