

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; 90-day Finding on a Petition To List Nine Bexar County, TX, Invertebrates

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of petition finding and initiation of status review.

SUMMARY: The U.S. Fish and Wildlife Service (Service) announces a 90-day finding for a petition to amend the List of Endangered and Threatened Wildlife and Plants. The petition has been found to present substantial information indicating that listing nine Bexar County, Texas, invertebrates (*Batrisesodes venyivi*, *Cicurina baronia*, *Cicurina madla*, *Cicurina venii*, *Cicurina vespera*, *Neoleptoneta microps*, *Rhadine exilis*, *Rhadine infernalis*, and *Texella cokendolpheri*) as threatened or endangered may be warranted. A status review is initiated on these nine species.

DATES: The finding announced in this notice was made on November 16, 1993. Comments and information from all interested parties should be submitted by January 3, 1994.

ADDRESSES: Information, comments, or questions should be submitted to the State Administrator, U.S. Fish and Wildlife Service, Ecological Services Field Office, 611 East 6th Street, room 407, Austin, Texas 78701. The petition, finding, supporting data, and comments will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Ruth Stanford, Ecologist, at the above address (512/482-5436).

SUPPLEMENTARY INFORMATION:**Background**

Section 4(b)(3)(A) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*), requires that the Service make a finding on whether a petition to list, delist, or reclassify a species presents substantial scientific or commercial information indicating that the petitioned action may be warranted. To the maximum extent practicable, this finding is to be made within 90 days of receipt of the petition, and the finding is to be published promptly in the Federal Register. If the finding is positive, the Service is also required to promptly commence a status review of the species.

Patricia K. Cunningham of the Helotes Creek Association and individuals representing the Balcones Canyonlands Conservation Coalition, the Texas Speleological Association, the Alamo Group of the Sierra Club, and the Texas Cave Management Association submitted a petition to the Service to add nine invertebrates from Bexar County, Texas, to the List of Threatened and Endangered Wildlife. The petition was dated January 9, 1992, and received by the Service on January 13, 1992.

The petitioned invertebrates are all obligate cave-dwelling species (trogllobites) of local distribution in dry caves in Bexar County. They include five spiders, one harvestman, and three beetles. These species are probably predaceous on the eggs, larvae, or adults of other cave invertebrates. Trogllobites are subterranean, inconspicuous, and difficult to study (Mitchell and Reddell 1971). However, there is biological information available on the Bexar County invertebrates in that we know all of these species are obligate cave-dwellers and that their continued existence depends on the ecological stability of the cave environments in which they are found. Although there is little specific information available on their microhabitat requirements, their macrohabitat requirement (caves and possibly interstitial spaces associated with caves) is known.

Cicurina baronia, *Cicurina madla*, *Cicurina venii*, *Cicurina vespera*, and *Neoleptoneta microps* are all small, eyeless, or essentially eyeless, trogllobitic spiders. *Texella cokendolpheri* is a small, eyeless harvestman. *Rhadine exilis* and *Rhadine infernalis* are small, essentially eyeless ground beetles. *Batrisesodes venyivi* is a small, eyeless mold beetle. All four *Cicurina*, the *Texella*, and the *Batrisesodes* did not have formal species names in the petition, but taxonomic descriptions and names have since been published (Chandler 1992, Gertsch 1992, Ubick and Briggs 1992).

The entire ranges of these species occur in north and/or northwest Bexar County. The species and their habitat may be threatened by a number of factors including destruction and/or deterioration of habitat by commercial, residential, and road construction; filling of caves; loss of permeable cover; potential contamination from such things as septic effluent, sewer leaks, runoff, and pesticides; predation by and competition with non-native fire ants (*Solenopsis invicta*); and vandalism.

Fire ants: Fire ants are a major threat to the cave invertebrates. The significance of this threat and the difficulty of controlling fire ants should

not be underestimated. Fire ants are voracious predators and there is evidence that overall arthropod diversity drops in their presence (Vinson and Sorenson 1986, Porter and Savignano 1990). Even in the unlikely event that fire ants do not affect the proposed species directly, their presence in and around caves could have a drastic detrimental effect on the cave ecosystem through loss of species, inside the cave and out, that provide nutrient input and critical links in the food chain.

Controlling fire ants once they have invaded the cave and vicinity is difficult. Chemical control methods have some effectiveness but the effect of these agents on non-target species is unclear. Consequently, use of chemicals to control fire ants in and around caves is not advisable. Currently, the Service recommends only boiling water treatment for control of fire ant colonies near caves inhabited by listed invertebrates in Travis and Williamson counties. This method is labor intensive and only moderately effective. Presently, the burden of carrying out such practices is not a designated or mandated duty of any agency, individual, or organization. This type of control will likely be needed indefinitely or until a long-term method of fire ant control is developed.

Destruction/deterioration of habitat. Destruction of caves in Bexar County and throughout central Texas is common (Elliott 1990, Veni 1991). Veni (1991) estimates that, at present, 26 percent of known caves in Bexar County have been destroyed through filling with dirt, rocks, concrete, or other materials; capping or covering by roads or buildings; and "blasting out of existence" by construction and quarrying operations. He anticipates that the total number of caves will continue to decrease as discovery of new caves decreases and more known caves are destroyed.

The northwest quadrant of Bexar County has a high potential for development. Information in the petition refers to existing, ongoing, and proposed developments and the likelihood of future growth in north and northwest Bexar County. The Edwards Underground Water District (1993) presents data suggesting that the Edwards Aquifer recharge zone in northwest Bexar County is "poised for explosive development as the economy rebounds." Most of the caves containing the petitioned invertebrates are located within the Edwards Aquifer recharge zone.

While the important cave entrances may themselves not be in imminent

danger from development, cave environments can be negatively impacted by runoff, chemical spills, sewer leaks, pesticide use, and septic effluent associated with development on nearby properties within the karst zone. The caves are situated within the porous limestone that forms the Edwards Aquifer and are susceptible to contamination originating on property where the cave entrance lies, as well as on properties that lie above and adjacent to subterranean reaches of the cave. Dramatic evidence that contaminants can move through cavernous limestone is presented by Russell (1987).

Parameters of the cave environment include a relatively constant, high humidity and stable temperature, and low energy input (Howarth 1983, Holsinger 1988, Elliott and Reddell 1989). Nutrient availability and moisture are critical limiting factors in cave environments (Barr 1968). Adaptations to the high relative humidity and low nutrient availability typical of caves are common among troglobites (Mitchell 1967, Barr 1968, Howarth 1983), and the invertebrates in question exhibit many of these adaptations (Barr 1960, Barr 1974, Gertsch 1974). Nearly all food energy in caves must be imported from the exterior (Holsinger 1988). Energy enters areas near the cave entrance via species that move between the surface and the cave and via organic matter that washes into the caves. In deeper reaches of the cave, the primary input of energy is through water containing dissolved organic matter, percolating through the karst through fissures and solution features (Howarth 1983, Holsinger 1988, Elliott and Reddell 1989). Rapid, uncontrolled urbanization in northern Bexar County would likely result in a dramatic increase in impermeable cover in areas surrounding many of the caves. An increase in impermeable cover could result in decreased percolation of water into the caves via the karst and have a detrimental effect on the moisture regime and nutrient input critical to cave-dwelling species.

After a review of the petition and other available information, the Service has found that the petition presented substantial information that listing *Batrissodes venyivi*, *Cicurina baronia*, *Cicurina madla*, *Cicurina venii*, *Cicurina vespera*, *Neoleptoneta microps*, *Rhadine exilis*, *Rhadine infernalis*, and *Texella cokendolphi* as threatened or endangered species may be warranted. This finding initiates a status review for these invertebrates as required under section 4(b)(3)(A) of the Act. Within one year from the date the petition was received, the Service is

required under section 4(b)(3)(B) of the Act to make a finding as to whether the petitioned action is warranted.

The Service would appreciate any additional data, information, or comments from the public, government agencies, the scientific community, industry, or any other interested party concerning the status of these nine species, including specific information on threats and distribution. Comments should be submitted by January 31, 1994, to be considered in the 12-month petition finding.

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Author

This notice was prepared by Ruth Stanford and Alisa Shull, (See ADDRESSES).

Authority

The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1544).

List of Subjects in 50 CFR Part 17

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

Dated: November 16, 1993.

Bruce Blanchard,

Acting Director, Fish and Wildlife Service.

[FR Doc. 93-29399 Filed 11-30-93; 8:45 am]
BILLING CODE 4310-65-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 650

[I.D. No. 112293B]

Atlantic Sea Scallop Fishery; Public Hearing

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.