

"Scientific name" is corrected by changing "*Etheostoma (Catonotus) sp.*" to read *Etheostoma chienense*".

Dated: January 7, 1993.

Richard N. Smith,

Director, Fish and Wildlife Service.

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50 CFR Part 17

RIN 1018-AB83

Endangered and Threatened Wildlife and Plants: Proposal to Delist *Echinocereus triglochidiatus* var. *inermis* (spineless hedgehog cactus)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The U.S. Fish and Wildlife Service (Service) proposes to remove *Echinocereus triglochidiatus* var. *inermis* (spineless hedgehog cactus) from the list of Endangered and Threatened Plants. This action is based on a review of all available data, which indicate that this plant is not a discrete and valid taxonomic entity and does not meet the definition of a species (which includes subspecies and varieties of plants) as defined by the Endangered Species Act of 1973, as amended, and therefore was listed in error. *E. t.* var. *melanacanthus* is really a sporadically occurring spineless form of *E. t.* var. *melanacanthus* is a common variety with a widespread distribution from northern Utah and Colorado south to the states of Durango and San Luis Potosi in central Mexico. If made final, this proposed rule would eliminate Federal protection of the Endangered Species Act, as amended. Comments from the public regarding this proposed rule are sought.

DATES: Comments from all interested parties must be received by March 15, 1993. Public hearing requests must be received by March 1, 1993.

ADDRESSES: Comments and materials concerning this proposal should be sent to the Colorado State Supervisor, U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement, 730 Simms Street, room 290, Golden, Colorado 80401; or to the U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement, Western Colorado Suboffice, 529-25½ Road, suite B-113, Grand Junction, Colorado 81505-6199. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above addresses.

FOR FURTHER INFORMATION CONTACT: Ms. Lucy Jordan, botanist, at the above Grand Junction address (Phone: 303/243-2778).

SUPPLEMENTARY INFORMATION:

Background

The spineless hedgehog cactus has been known for nearly 100 years. It was first collected in the La Sal Mountains of Utah by the German botanist Carl Albert Purpus and published by Karl Schuman in 1986 as *Echinocereus phoeniceus* Engelm var. *inermis* K. Schuman (Taylor 1985). The Purpus type collection is not available for study since it was destroyed during World War II.

Throughout its history, the spineless hedgehog cactus has generally not been recognized as taxonomically valid. For instance, in the first and only complete flora of Colorado, Harrington (1954) considered it only as a form. The current attention to the spineless hedgehog cactus began in the early 1970's when Gerald Arp conducted graduate work at the University of Colorado on the cacti of Colorado. Arp (1973) made the combination *Echinocereus triglochidiatus* Engelm. var. *inermis* (Schum.) G.K. Arp to bring the spineless hedgehog into alignment with the current taxonomic treatment of the genus. Although he recognized that the spineless hedgehog had not been considered taxonomically valid, Arp (1973) based his taxonomic recognition of it on its existence " * * * as a distinct and identifiable population." His taxonomic recognition of the spineless hedgehog cactus coincided with the passage of the Endangered Species Act (Act) of 1973 and its new provisions for the protection of endangered and threatened plants. Despite vigorous debate among Arp, Lyman Benson (a national authority on the Cactaceae), and Colorado botanists concerning the taxonomic validity of the spineless hedgehog cactus, the Fish and Wildlife Service (Service) took a conservative approach and listed it as endangered on November 7, 1979 (44 FR 64744), to provide interim protection from the primary threat of collecting. The debate was based on the taxonomic significance of the single difference of spinelessness and the existence of distinct populations in nature.

The subsequent recovery plan (U.S. Fish and Wildlife Service 1986) called for further studies to resolve this taxonomic question. In the recovery plan, a possible microsite difference in habitat between spineless plants on flat mesa tops or ridge tops and spined plants on adjacent sideslopes within a

local area was noted, suggesting the possibility of populational integrity. However, these different microsites are only separated by short distances (as little as 15 m (50 ft), and the plants are essentially intermingled anyway. Subsequent inventories in the 13 years since the listing have found that, in fact, even this slight difference in microhabitat does not usually exist in nature, and both spined and spineless plants are found on either flats or slopes (James Ferguson, Bureau of Land Management, pers. comm., 1985). Also, spineless plants have been found in much more widely scattered areas.

At the time of listing, only four populations were known. Now, spineless hedgehog cacti have been found at over 20 sites, 160 km (100 mi) to the west (Heil and Porter 1989) and 40 km (25 mi) to the east and south (James Ferguson, pers. comm., 1986) of the original area. Thus, the spineless hedgehog cactus has been found to be only a form widely interspersed within the range of the spined var. *melanacanthus* in southeast Utah and southwest Colorado, over an area approximately 320 km (200 mi) by 160 km (100 mi) wide. Even in the light of the Service's listing of the spineless hedgehog cactus, subsequent taxonomic treatments have recognized it as a form only. These treatments include Benson (1982), Taylor (1985), Weber (1987), and Welsh et al. (1987). The consensus of scientific opinion thus supports its recognition as a form only, and not a taxonomic entity eligible for recognition under the Act.

In addition, attempts by cactus nurserymen to breed spineless plants from mature, 15-year-old stock have yielded a mixture of spined and spineless progeny. Thus, the spineless hedgehog plants apparently do not breed true, providing another line of evidence that they are simply forms (Steven Brack, cactus horticulturist, Belen, New Mexico, pers. comm., 1991).

The final rule stated that another reason for taxonomic recognition was that it was recognized as a distinct entity by cactus collectors. Cactus taxonomy is well-known for the notorious splitting of narrowly defined morphological variants of horticultural interest to collectors, but with no populational integrity in nature. The spineless hedgehog is one more case in point. Horticultural recognition is not necessarily the same as scientific recognition of a valid taxonomic entity in nature, and, hence, a reason for listing.

Dated: September 28, 1992.

Richard N. Smith.

Director, Fish and Wildlife Service.

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