# U.S. FISH AND WILDLIFE SERVICE SPECIES ASSESSMENT AND LISTING PRIORITY ASSIGNMENT FORM

| SCIENTIFIC NAME: | Paronychia congesta  |
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COMMON NAME: Bushy whitlow-wort

LEAD REGION:

INFORMATION CURRENT AS OF: June 2004

STATUS/ACTION

\_\_\_\_ Initial 12-month Petition Finding: \_\_\_\_ not warranted

2

\_\_\_\_ warranted

warranted but precluded (also complete (c) and (d) in

section on petitioned candidate species- why action is precluded) Species assessment - determined species did not meet the definition of endangered or

threatened under the Act and, therefore, was not elevated to Candidate status New candidate

X Continuing candidate

\_ Non-petitioned

X Petitioned - Date petition received: January 9, 1975 was the date Congress received a report from the Smithsonian containing a list of plants which included the bushy whitlow-wort, Paronychia congesta. On July 1, 1975, the Service published the notice (40 FR 27823) accepting the Smithsonian report as a petition. On June 16, 1976 (41 FR 24523), the Service published a proposed rule to determine approximately 1,700 vascular plants as endangered. The 1978 amendments to the ESA required withdrawal of all proposals over two years old, so on December 10, 1979 (44 FR 70796), the Service published a notice withdrawing the June 1976 proposal. On December 15, 1980 (45 FR 82823), the Service published a list of plants under review for listing as threatened or endangered and included P. congesta as a Candidate Category 3 instead of a Category 1, a publication mistake. Paronychia congesta remained classified as C3 in the 1983 Notice of Review supplement (48 FR 229) resulting in a continuation of the original error in the species' candidate category. This error in classification was corrected in 1985 (50 FR 00040) when it became a Category 1 Candidate. All of the plants included in the Smithsonian report were treated as newly petitioned on October 13, 1982. From 1985 onward the Service found the petitioned action warranted but precluded for P. congesta. Paronychia congesta was repetitioned on May 11, 2004.

\_\_ 90-day positive - FR date: \_\_\_

X 12-month warranted but precluded - FR date: 50FR 00040 1985\_\_\_

\_ Is the petition requesting a reclassification of a listed species?

\_\_\_\_ Listing priority change

Former LP: \_\_\_\_

New LP: \_\_\_\_

Latest Date species became a Candidate: 1985

\_\_\_ Candidate removal: Former LP: \_\_\_\_

- A Taxon is more abundant or widespread than previously believed or not subject to the degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status.
- \_\_\_\_ F Range is no longer a U.S. territory.
- I Insufficient information exists on biological vulnerability and threats to support listing.
- \_\_\_\_ M Taxon mistakenly included in past notice of review.
- \_\_\_\_ N Taxon may not meet the Act's definition of "species."
- \_\_\_\_ X Taxon believed to be extinct.

ANIMAL/PLANT GROUP AND FAMILY: Flowering Plants Family: Caryophyllaceae

HISTORICAL STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Texas/U.S.A.

CURRENT STATES/ COUNTIES/TERRITORIES/COUNTRIES OF OCCURRENCE: Texas/Jim Hogg County/U.S.A.

LEAD REGION CONTACT: Susan Jacobsen, 505-248-6641

LEAD FIELD OFFICE CONTACT: Corpus Christi Ecological Services FO, Robyn Cobb, 361-994-9005

**BIOLOGICAL INFORMATION** 

#### **Species Description**

*Paronychia congesta* is a densely pubescent perennial in the carnation family. It grows 0.5-2 dm (2-8 inches) tall from a woody base. The linear, pointed leaves are opposite, overlapping, usually appressed to the stem, and 5-6 mm (0.2 in.) long with membranous stipules that give the plant a desiccated appearance. The flowers are clustered at the tips of the branches, lack petals, and are characterized by spine-tipped yellow sepals. Each bladder-like fruit contains one seed.

#### **Taxonomy**

*Paronychia congesta* was first collected in Jim Hogg County, Texas, by D. S. Correll in 1963. In 1966, Correll described the species and named it *P. congesta*. Turner recognized this species in his treatment of Texas *Paronychia* (Turner, B. L. 1983a).

#### <u>Habitat</u>

*Paronychia congesta* occurs in full sun openings in blackbrush shrublands. The species grows in shallow soils on xeric caliche or calcareous outcrops of the Bordas Escarpment along the Rio Grande Plains. Population sites occur on soils classified as Zapata soils, which are characterized as well-drained, calcareous, shallow soils with a low available water capacity forming over caliche (Sanders, et al. 1974).

#### Historical Range/Distribution

The bushy whitlow-wort is endemic to Jim Hogg County in southern Texas (Damude and Poole 1990), known from two sites in this county. The two sites occur within two miles of each other, and are within the drainage of two tributaries of the Arroyo Grande. The species was historically known from only the type locality, having been collected in 1963 by Correll at this site. The species was not collected again until 1983 when B. L. Turner relocated four plants at the type locality while conducting a study of *Paronychia* species in Texas (Turner 1983). In 1987, Poole located 2,000 individuals at the type locality and discovered a second population of 100 individuals two miles north-northeast of the type locality (Damude and Poole 1990).

#### Current Range/Distribution

The data available suggests that the current range and distribution of *Paronychia congesta* has not changed from the historical range described above.

#### Population Estimates/Status

As stated above, Poole found 2,000 individual plants at the type locality and 100 individual plants at the second population site. These two populations occupy small areas, totaling approximately 5 and 15 acres. The type locality population was found to be dissected by a natural gas pipeline right-of-way, and the second, smaller population dissected by a highway right-of-way (Damude and Poole 1990). No seedlings or juveniles have been seen, although the plants have been seen in fruit and in flower. No quantitative data has been collected; thus it is unknown whether populations have been expanding or contracting. This information on population size is the only available data for this species.

#### THREATS

A. The present or threatened destruction, modification, or curtailment of its habitat or range. Threats believed to adversely affect the bushy whitlow-wort include destruction, modification and fragmentation of the habitat. Destruction of habitat for this species is anticipated when habitat is converted from rangeland to residential development. However, this part of southern Texas is not undergoing rapid residential or industrial development, thus the threat from this type of activity is likely to be considered low. Other activities that could modify the habitat of bushy whitlow-wort include conversion of native plant communities to improved monoculture pastures; increased petroleum and natural gas exploration, production and transportation; and highway and infrastructure improvements. Modification of habitat occurs when chemical or mechanical brush clearing is undertaken and non-native grasses, such as buffelgrass (Pennisetum ciliare) are planted into cleared areas. Habitat fragmentation results from blading, or disking and reseeding with erosion-control seed mixtures. The current potential threats to this species includes displacement or destruction of individual plants by construction activities associated with highways, pipeline installation, oil and gas exploration, and well-pad construction. Right-of-way maintenance procedures could also potentially have a negative effect on these plants. Herbicides used on highway, utility, and pipeline rights-of-way are another potential impact that can contribute to the destruction of the species and its habitat. Highway and pipeline construction most likely destroyed plant individuals and current pipeline ROW maintenance procedures may

negatively affect the plants. These types of activities would primarily affect those individual plants in the footprint of the proposed action, as opposed to the entire population at either site. At this time, we do not know the status of oil and gas exploration and production activities in this area. With regard to highway construction and maintenance, the closest highway is a Farm/Ranch road that has not recently been expanded or rebuilt. Fire suppression in this region has drastically changed the surrounding plant community. Sanders et al (1974) noted the suitability of soils in this area as a source of caliche and noted that mining of caliche might pose a threat to *Paronychia congesta*'s habitat. However, the primary land use on Zapata soils is rangeland.

B. <u>Overutilization for commercial, recreational, scientific, or educational purposes</u>. There is no data to indicate that this species is collected for commercial, recreational, scientific or education purposes.

# C. Disease or predation.

Although grazing or browsing predation has not been observed, the possibility exists that this species could be threatened by grazing since it is not thorny or spiny and does not appear to be aromatic (Damude and Poole, 1990). According to Turner (1983b), the type locality was intensively grazed by goats in the distant past and is currently grazed by cattle. This region of the state is known to have experienced habitat degradation due to heavy grazing pressures upon the very arid environment. The impacts of cattle grazing to *Paronychia congesta* are unknown.

# D. The inadequacy of existing regulatory mechanisms.

This species occurs only on private land and is not protected by Federal and/or State regulations.

E. <u>Other natural or manmade factors affecting its continued existence</u>. In 1990, Poole noted that the number of individuals, and the apparent vigor of the plants in the second, smaller population, was reduced due to two consecutive years of drought and freezes (Damude and Poole 1990). Due to the small range, limited habitat, and low numbers of populations and individuals, this species could lose genetic variability or suffer from a variety of chance events (Ellstrand and Elam 1993; Fenster and Dudash 1994; Newman and Pilson 1997).

# SUMMARY OF REASONS FOR ADDITION, REMOVAL OR LISTING PRIORITY CHANGE: N/A

# FOR REMOVALS:

Is the removal based on a Policy for Evaluation of Conservation Efforts When Making Listing Decisions (PECE) finding? If "Yes", summarize the specific PECE evaluation criteria that were met in determining that the conservation effort is sufficiently certain to be implemented and effective so as to have contributed to the elimination or adequate reduction of one or more threats to the species identified through the section 4(a)(1) analysis.

FOR PETITIONED CANDIDATE SPECIES (also complete c and d for initial 12-month petition findings):

a. Is listing warranted? No

- b. To date, has publication of a proposal to list been precluded by other higher priority listing actions? Yes\_
- c. Is a proposal to list the species as threatened or endangered in preparation? No
- d. If the answer to c. above is no, provide an explanation of why the action is precluded. During the past 12 months, almost our entire national listing budget has been consumed by work on various listing actions to comply with court orders and court-approved settlement agreements, emergency listings, and essential litigation-related, administrative, and program management functions. We will continue to monitor the status of this species as new information becomes available. This review will determine if a change in status is warranted, including the need to make prompt use of emergency listing procedures. For information on listing actions taken over the 12 months, see the discussion of "Progress on Revising the Lists," in the current CNOR which can be viewed on our Internet website (http://endangered.fws.gov/).

## LAND OWNERSHIP:

This species occurs entirely on privately-owned land, although a pipeline company has a rightof-way through one population. Although a highway bisects one of the known populations, none of the individual plants have been found in the right-of-way, just on the other sides of the fenceline (J. Poole, Texas Parks & Wildlife Department, pers. comm., 2004)

## PRELISTING:

In 2003, Gena Janssen, a consulting botanist working on a rare plant project funded through a Section 6 Candidate Conservation agreement grant, contacted the landowners of both Bushy whitlow-wort populations. These landowners indicated an interest in discussing a possible candidate conservation agreement. Janssen plans to revisit them in FY 04 to try to secure permission to conduct site visits and to re-establish some level of monitoring of these populations, as well as to pursue a candidate conservation agreement.

#### **DESCRIPTION OF MONITORING:**

Annually, we meet with other botanists during a rare plant conference and are in frequent contact with university and NGO botanists and biologists who work in this part of the state to gather any new information there might be on this species. However, due to denied access, no agency biologists have visited the population sites since the early 1990's. Other than Janssen's approach to the landowners, we have not been given any information that would indicate that other botanists/biologists, such as academics or conservation organization staff, have visited the sites.

#### **REFERENCES**:

Correll, D.S. 1966. Brittonia 18: 307.

Damude, N. and J. Poole. 1990. Revised Status Report on <u>Paronychia congesta</u>. Texas Parks and Wildlife Department. Texas Natural Heritage Program, Austin, Texas.

Elliott, L. 1995. Personal communication. Texas Parks and Wildlife Department, Resource

DRAFT 4/19/2004 Protection Division.

Ellstrand, N. C., and D. R. Elam. 1993. Population genetic consequences of small population size: implications for plant conservation. Annual Review of Ecology and Systematics 24:217-242.

Fenster, C. B., and M. R. Dudash. 1994. Genetic considerations for plant population restoration and conservation. Pages 34-61 in M. L. Bowles and C. Whelan, editors. Recovery and restoration of endangered species. Cambridge University Press, Oxford, United Kingdom.

Janssen, G. 2004. Personal communication. Janssen Biological, Inc.

Newman, D., and D. Pilson. 1997. Increased probability of extinction due to decreased genetic effective population size: experimental populations of *Clarkia pulchella*. Evolution 51:354-362.

Sanders, R. R., C. M. Thompson, D. Williams, and J. L. Jacobs. 1974. Soil survey of Jim Hogg County, Texas. U.S. Dept. of Agriculture.

Turner, B. L. 1983a. The Texas species of Paronychia (Caryophyllaceae). Phytologia 54:9-23.

Turner, B. L. 1983b. Status report on <u>Paronychia congesta</u>. U.S. Fish & Wildlife Service, Albuquerque, New Mexico.

#### LISTING PRIORITY

THREAT

| Magnitude | Immediacy    | Taxonomy              | Priority |
|-----------|--------------|-----------------------|----------|
| High      | Imminent     | Monotypic genus       | 1        |
|           |              | Species               | 2        |
|           |              | Subspecies/population | 3        |
|           | Non-imminent | Monotypic genus       | 4        |
|           |              | Species               | 5        |
|           |              | Subspecies/population | 6        |
| Moderate  | Imminent     | Monotypic genus       | 7        |
| to Low    |              | Species               | 8        |
|           |              | Subspecies/population | 9        |
|           | Non-imminent | Monotypic genus       | 10       |
|           |              | Species               | 11 *     |
|           |              | Subspecies/population | 12       |

<u>No (no new information has been received)</u> Have you promptly reviewed all of the information received regarding the species for the purpose of determining whether emergency listing is needed?

#### **Rationale for listing priority number:**

#### Magnitude:

Threats to *Paronychia congesta* are believed to be moderate to low in magnitude. The current potential threats to this species includes displacement or destruction of individual plants by construction activities associated with highways, pipeline installation, oil and gas exploration, and well-pad construction. Right-of-way maintenance procedures could also potentially have a negative effect on these plants. These types of activities would primarily affect those individual plants in the footprint of the proposed action, as opposed to the entire population at either site. At this time, we do not know the status of oil and gas exploration and production activities in this area. With regard to highway construction and maintenance, the closest highway is a Farm/Ranch road that has not recently been expanded or rebuilt.

The likelihood of alteration to *Paronychia congesta* habitat from brush clearing and replanting of buffelgrass and other non-native forage grasses may have decreased. This type of land conversion has fallen out of favor across many parts of the Rio Grande Plains as wildlife-related income has gained importance in the regional economy.

# Imminence:

No new imminent threats are listed for this species. The habitat located on private land continues to be used for ranching, although no high level of disturbance has been associated with this

activity. Access to the property is discouraged and no additional information is available to formulate a change in the listing priority.

Is Emergency Listing Warranted?

There is no data to indicate that the threats to this species are of high magnitude or imminent. Land use in the area where the two known populations occur does not appear to have changed or to be changing in the near future.

APPROVAL/CONCURRENCE: Lead Regions must obtain written concurrence from all other Regions within the range of the species before recommending changes to the candidate list, including listing priority changes; the Regional Director must approve all such recommendations. The Director must concur on all 12-month petition findings, additions of species to the candidate list, removal of candidate species, and listing priority changes.

| Approve:                                     | <u>Geoffrey Haskett</u><br>Regional Director, Fish and Wildlife Ser | July 7, 2004<br>vice Date |  |
|--|---|---------------------------|--|
| Concur:                                      | Matt Hogan, Acting  | 5/2/05<br>Date            |  |
| Do not concur:                               | Director, Fish and Wildlife Service                                 | Date                      |  |
| Director's Rem                               | arks:   |                           |  |
| Date of annual<br>Conducted by:<br>Comments: | review: June 22, 2004<br>Robyn Cobb                                 |                           |  |

(rev. 4/04)