Cicindela fulgida rumppi (Crimson Saltflat Tiger Beetle)

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Taxonomy

- **Class**: INSECTA
- **Order**: COLEOPTERA
- **Family**: CARABIDAE
- **Genus**: Cicindela
- **Scientific Name**: Cicindela fulgida rumppi Knudsen, 1985
- **Common Name**: Crimson Saltflat Tiger Beetle
- **Synonyms**:
- **Taxonomic Name Source**:C. Barry Knisley, Mark S. Romero, Robert E. Acciavatti. 2023. Tiger Beetles of New Mexico: Identification, Biology, and Conservation.

Agency Status

- **NMDGF**:
- **Federal Status**:
- **BLM Sensitive**:
- **USFS**:
- **IUCN Red List**: Not Evaluated
- **Nature Serve Global**: GU
- **NHNM State**: SNR
- **NM Endemic**:YES

Description

From Tiger Beetles of New Mexico: (C. Barry Knisley, Mark S. Romero, Robert E. Acciavatti. 2023. Tiger Beetles of New Mexico: Identification, Biology, and Conservation.) "Distinctive within *C. fulgida* by its widely expanded maculation. However, may not be easily distinguishable from several other co-occuring tiger beetle species in the Estancia Basin. These other endemic subspecies with almost completely white eltra and similair body size include *C. willistoni estancia, Ellipsoptera nevadica playa,* and *Eunota togata leucophasma* ."

Habitat and Ecology

Rumpps's Tiger Beetle lives entirely within saline habitats, such as playas, saline marshes, creek and river edges, damp saline flats, saline grass areas, and eroded grass areas with white alkaline encrustations (Knudsen 1985, Knisley et al. 2023). Individuals can most often be encountered among sparse or moderately vegetated small open areas along water-edges and on the margins of wetland saline playa lakes (Knisley 2014, Knisley et al. 2023). Adults of this

subspecies have a spring-fall activity pattern, but like other subspecies some individuals may be continuously active during the summer months. Knisley et al. (2023) has records of adults from late April through September.

Geographic Range:

Rumpp's Tiger Beetle is endemic to the saline playa systems of Torrance County, New Mexico, specifically within the Estancia Basin at only three known sites (Knudsen 1985, Knisely et al. 2023). The morphological characters of Rumpp's Tiger Beetle are quite variable among subpopulations, so there is some uncertainty about the identity of the subspecies and therefore the extent of its full range. Additional research is needed to verify the subspecies' full range. (Knisley et al. 2023).

Conservation Considerations:

Knisley et al. (2023) recommend that Rumpp's Tiger Beetle be considered for endangered species status in the U.S. to allow for appropriate protections at while also pursuing essential conservation actions. Further taxonomic research is necessary to determine a more accurate range of this subspecies, as well as more surveys to determine if this subspecies occurs further north and east in the suitable habitats of the northern Estancia Basin and the Encino playa, especially given the taxonomic uncertainty with the population found from Bloomfield, New Mexico (Knisley et al. 2023). The most critical activities to better assess the status and recovery options for Rumpp's Tiger Beetle are long term monitoring of population size, and survey of habitat and distribution (Knisley and Gwiazdowski 2020). Biological studies are also needed to further determine population dynamics and inform potential captive rearing and re-introduction (Knisley and Gwiazdowski 2020). A site management or habitat management plan to properly protect and preserve these rare and important saline wetlands is also likely needed as it is unlikely that this tiger beetle is the only rare endemic in this system. Acquisition of currently occupied sites and protection of the habitats within them are the most important strategies for combating habitat loss and deterioration which is one of the major threats to this tiger beetle (Knisley and Gwiazdowski 2020). Required of these sites would be active, annual, or semiannual management to ensure the coequal goal of maintaining sufficient habitat quality (Knisley and Gwiazdowski 2020). Among the most significant and accomplishable of these management methods for habitat would be reducing vegetation to create necessary open space for Tiger Beetle foraging and feeding (Knisley and Gwiazdowski 2020, Knisley et al. 2023). Many known historic sites for threatened tiger beetles have been lost or permanently impacted by development or other anthropogenic impacts; thus, captive rearing and re-introduction have demonstrated to be proven methods which can efficiently create populations for extirpated sites (Knisley and Gwiazdowski 2020). A lack of unoccupied sites with suitable habitat can be a significant limitation with this approach as supplementing existing populations in decline without concurrent habitat improvement yields a reduced likelihood of success (Knisley and Gwiazdowski 2020).

Threats:

The Estancia Basin is mostly under private ownership, and as such lacks proper environmental protection while also experiencing many cattle related disturbances (Knisley et al. 2023). Though more research is needed on the specific impacts on this subspecies, cattle grazing has proved to be a substantial detriment to the reopening of larval burrows for other tiger beetle species such that even burrows that are food supplemented may not open after only a second disturbance by cattle (Bauer 1991). However, the most significant threat to this subspecies is likely drawdown of the water table and the reduced amount of time the playas hold water as a result of increased well drilling and irrigation pumping as well as climate change exacerbating southwestern drought conditions (Knisley et al. 2023). The Southwestern U.S. saw its driest 22-year period from 2000 to 2021, since at least 800 CE (Williams et al. 2022). Droughts are projected to become more prolonged, severe, and common in the region under future climate change scenarios (USGCRP 2018). Additionally, with so much grazing and agriculture happening near by pesticide use and drift may be a concern for this species as there is a long history of mass pesticide sprays on grazing lands targeting

grasshoppers in New Mexico.

Population:

In historic survey, Rumpp's Tiger Beetle can be present at moderate to high numbers from 25 to over 50 individuals in small patches of suitable habitat, but the exact population size and trend are not known for this subspecies (Knisley et al. 2023). Anecdotal evidence suggests it is much less common in recent years (Knisley et al. 2023).

References:

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