

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Literature Study and Monitoring Strategies for Eight Insect Species of the Great Sand Dunes National Park

Type of Project: Technical Assistance

Discipline: Natural Resources

Funding Agency: National Park Service

Other Partners/Cooperators: University of Wyoming

Effective Dates: 8/15/2006 - 12/31/2007

Funding Amount: \$5,000

Investigators and Agency Representative:

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Project Abstract: Literature review will be conducted to accumulate information on the 8 insect species of interest from the GRSA. These species include:

1. The Great Sand Dunes Tiger Beetle, *Cicindela theatina* (Coleoptera, Cicindellidae)
2. Darkling or Circus Beetle, *Eleodes hirtipennis* (Coleoptera, Tenebrionidae)
3. Werner's Ant-like Flower Beetle, *Amblyderus weneri* (Coleoptera, Anthicidae)
4. Triplehorn's Ant-like Flower Beetle, *Amblyderus triplehorni* (Coleoptera, Anthicidae)
5. Hister Beetle, *Hypocaccus sp.* (Coleoptera, Histeridae)
6. Noctuid Moth, *Copablepharon sp.* (Lepidoptera, Noctuidae) [*Copablepharon pictum* has been described, see citation]
7. Robber Fly, *Proctacanthus sp.* (Diptera, Asilidae)
8. Giant Sand Treader Camel Cricket, *Daihinibaenetes giganteus* (Orthoptera, Rhaphidophoridae)

Based on this preliminary information there will be some attempts to sample during three to four short periods within the growing season in order to capture most of the targets. The exact dates and geographic (and microhabitat) locations for sampling efforts will be identified through literature research and consultations with specialists who have experience working at GRSA. This sampling experience will be used to suggest protocols for long term monitoring of targeted endemic insect species at GRSA.

Outcomes with Completion Dates:

1. Final report including:
 - a. Literature review and available monitoring methods summary
 - b. Methods and results of field sampling
 - c. Outline protocol for *C. theatina* and other GRSA endemic insects
 - d. Needs assessment for further work projects necessary to develop a complete protocol for sampling GRSA endemic insects
2. Digital copies of all field data and metadata.

Keywords: endemic insects, monitoring protocol, literature review, Great Sand Dunes National Park and Preserve, University of Wyoming

For Administrative Use Only:

Date Annual Report Received:

Date Final Report Received:

Publications, etc. on file: