

Alaska Natural Heritage Program

Conservation Status Report

Megachile frigida – Smith, 1853

Synonyms: *Megachile monardarum* Cockerell, 1900; *Megachile vidua appalachensis* Mitchell, 1935

Common Name: Frigid leafcutter bee

ELCODE: IIHYMA9040

Taxonomic Serial No.: 761453

Report last updated – June 2, 2023

Conservation Status

G5 S4

Occurrences, Range

Number of Occurrences: 23 occurrences, 52 voucher records (University of Alaska Anchorage Entomology Collection; University of Alaska Museum Insect Collection)

AK Range Extent: 395,061 km²

Occupancy 4 km² grid cells: 24 occupied grids

Nowacki Ecoregions: Intermontane boreal, Alaska Range transition, Coastal rainforests

North American Distribution: This species has a wide distribution in Alaska (*Figure 1*). Widespread across Canada and the United States, extending from the southern U.S. north to subarctic areas in Alaska and Canada. Range extends from Florida to Newfoundland in the east and California to the Yukon in the west, however it is absent from the Mississippi drainages in the central U.S. (Ascher and Pickering 2014).

Ecology

Habitat: Occurs in a variety of habitats, including steppe bluffs, weedy roadsides, and coastal rain forest. Nests in pre-existing cavities in rotting logs (Sheffield et al. 2011).

Host Plants: *Astragalus alpinus*, *Chamerion* sp., *Hedysarum alpinum*, *H. boreale*, *Oxytropis campestris*, *Prenanthes alata*.

Life History: This is a solitary bee species, with individual females nesting in rotting logs. Females line their nests with circular discs of plant leaves which they cut with their mandibles. Thus, females have three habitat requirements for successful reproduction: nesting substrate, nest lining materials, and enough suitable food plants for nectar and pollen (Sheffield et al. 2011).

Trends

Short-term: N/A, insufficient data

Long-term: N/A, insufficient data

Threats

Scope and Severity: Almost one third of occurrences are in protected areas (national parks and wildlife refuges). There are several occurrences in anthropogenic and agricultural settings that could be exposed to physical disturbance of nest sites or pesticides.

References

Alaska Bee Atlas. 2023. Alaska Center for Conservation Science, University of Alaska Anchorage.

Ascher J.S. and J. Pickering. 2014. Discover Life bee species guide and world checklist (Hymenoptera: Apoidea: Anthophila). <https://www.discoverlife.org/> (accessed June 2, 2023)

Global Biodiversity Information Facility. <https://www.gbif.org>. GBIF occurrence download <https://doi.org/10.15468/dl.qdbe6u> (accessed April 20, 2021)

Integrated Taxonomic Information System (ITIS). <https://www.itis.gov> (accessed June 2, 2023)

NatureServe Explorer. <https://explorer.natureserve.org/> (accessed June 2, 2023)

Sheffield, C. S., C. Ratti, L. Packer, and T. Griswold. 2011. Leafcutter and mason bees of the Genus *Megachile* Latreille (Hymenoptera: Megachilidae) in Canada and Alaska. Canadian Journal of Arthropod Identification No. 18, 29 November 2011.

University of Alaska Museum Insect Collection. <http://dx.doi.org/doi:10.7299/X75D8S0H> (records accessed March 8, 2023)

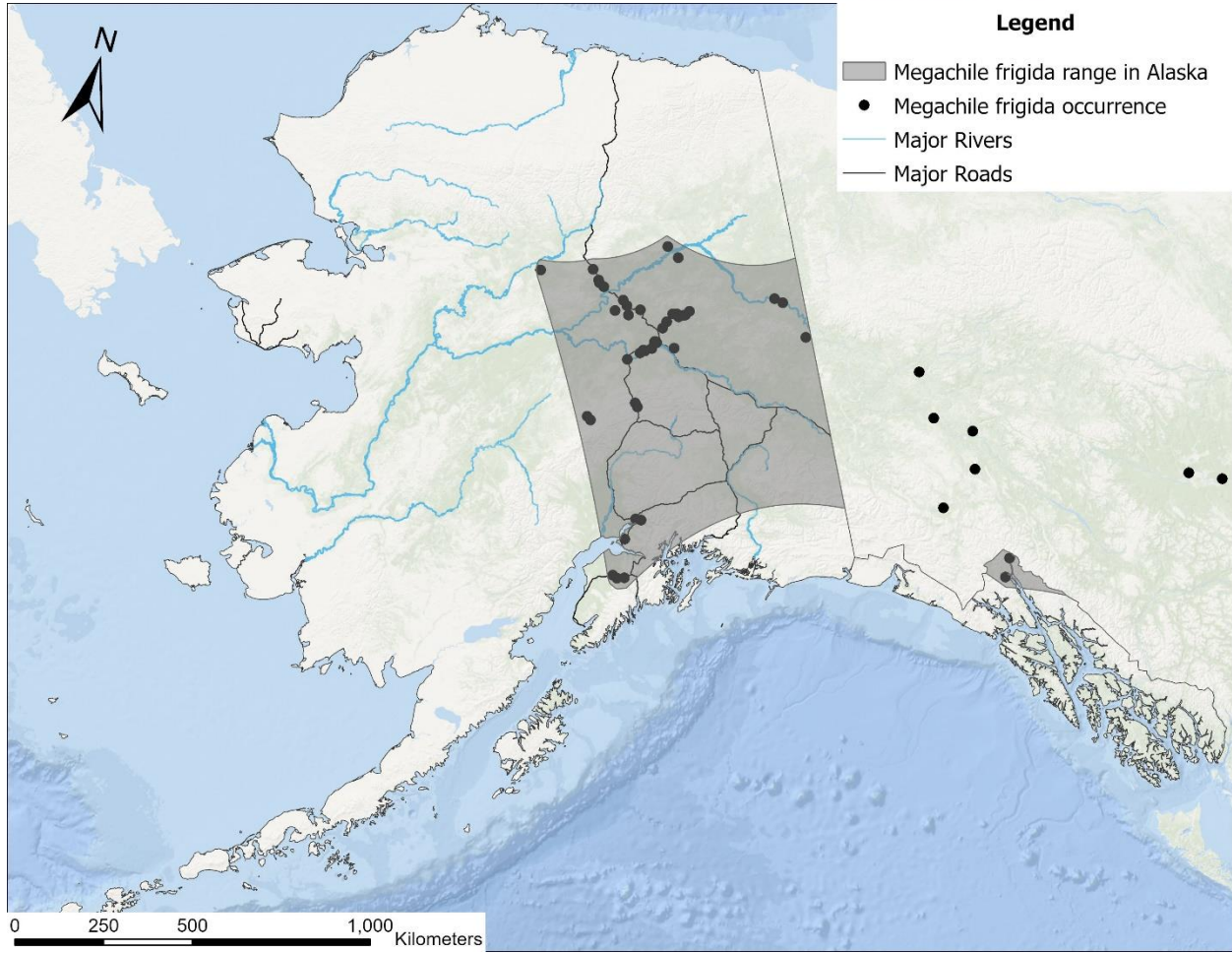


Figure 1 Range and occurrence of *Megachile frigida* in Alaska

Photo Reference



Figure 2 <http://www.discoverlife.org>
David Cappaert / Discover Life



Figure 3 <http://www.discoverlife.org>
David Cappaert / Discover Life