

# Alaska Natural Heritage Program

## Conservation Status Report

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### *Anthophora bomboides* – Kirby, 1837

*Synonyms:* *Anthophora fumipennis* Swenk, 1909; *Anthophora sodalis* Cresson, 1879; *Anthophora solitaria* Ritsema, 1880; *Anthophora stanfordiana* Cockerell, 1904; *Anthophora aterrima* Cockerell, 1924; *Anthophora rauui* Rohwer, 1923; *Anthophora scutellaris* Swenk, 1909; *Anthophora insularis* Simth, 1879; *Anthophora canadensis* Cresson, 1869; *Anthophora bomboides neomexicana* Cockerell, 1900; *Anthophora bomboides willingi* Cockerell, 1911; *Anthophora bomboides solitaria* Ritsema, 1880; *Anthophora bomboides stanfordiana* Cockerell, 1904; *Anthophora bomboides scutellaris* Swenk, 1909; *Anthophora bomboides sodalis* Cresson, 1879.

**Common Name:** Bumblebee-like digger bee

**ELCODE:** IIHYM36080

**Taxonomic Serial No.:** 698885

***Report last updated – August 31, 2023***

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### Conservation Status

G5 S2

### Occurrences, Range

*Number of Occurrences:* 31 occurrences, 48 voucher records (University of Alaska Anchorage Entomology Collection; University of Alaska Museum Insect Collection)

*AK Range Extent:* 25,295 km<sup>2</sup>

*Occupancy 4 km<sup>2</sup> grid cells:* 10 occupied grids

*Nowacki Ecoregions:* Intermontane boreal, Alaska Range transition

*North American Distribution:* Alaska eastwards across Canada (Figure 1) to Nova Scotia. In the lower United States has been recorded in almost all states (Ascher and Pickering 2023).

### Ecology

*Habitat:* Almost all occurrences are from steppe bluff habitat associated with the Yukon and Copper Rivers. This species has a limited known distribution in Alaska, and appears to be strongly associated with steppe bluff habitat. It is reported to nest in sandy banks or bluffs. Given the habitat specificity, its distribution is likely patchy across the state, limited to river banks, bluffs, and other sandy sites. Future surveys targeting these habitats will likely expand its known range.

*Host Plants: Hedysarum boreale*

*Life History:* This is a solitary species. Females excavate nests in the soil and sometimes build nests close together in large aggregations. The excavated soil is pushed out the nest entrance where it forms a distinctive turret around the hole. Nests are often dug in sandy banks or bluffs or other areas of steep, exposed soil (Hanson and Ascher 2018 and references therein).

## Trends

*Short-term:* N/A, insufficient data

*Long-term:* N/A, insufficient data

## Threats

*Scope and Severity:* Natural or anthropogenic bank erosion may threaten nesting habitat, but overall the threat scope and severity for this species are unknown. Steppe bluff habitat faces threats of encroachment from invasive and native plant species (Flagstad et al. 2019). Climate change is likely to decrease the habitat size and range of the steppe bluff in Interior Alaska (Boucher et al. 2016).

## References

- Ascher J.S. and J. Pickering. 2023. Discover Life bee species guide and world checklist (Hymenoptera: Apoidea: Anthophila). <https://www.discoverlife.org/> (accessed August 31, 2023)
- Boucher, T.V., J. R. Fulkerson, B. Bernard, L. Flagstad, T. Nawrocki, M. L. Carlson, N. Fresco. 2016. Terrestrial Coarse-filter Conservation Elements. In: Trammell, E.J., T. Boucher, M.L. Carlson, N. Fresco, J.R. Fulkerson, M.L. McTeague, J. Reimer, and J. Schmidt, eds. 2016. Central Yukon Rapid Ecoregional Assessment. Prepared for the Bureau of Land Management.
- Flagstad, L.A., K.W. Boggs, T.V. Boucher, M.L. Carlson, M.A. Steer, B. Bernard, M. Aisu, P. Lema, and T. Kuo. 2019. Assessing the gap between conservation need and protection status for select rare ecosystems in Alaska. *Conservation Science and Practice* 1:e47.
- Global Biodiversity Information Facility. <https://www.gbif.org>. GBIF occurrence download <https://doi.org/10.15468/dl.qdbe6u> (accessed April 20, 2021 and August 31, 2023)
- Hanson, T. and J.S. Ascher. 2018. An unusually large nesting aggregation of the digger bee *Anthophora bomboides* Kirby, 1838 (Hymenoptera: Apidae) in the San Juan Islands, Washington State. *The Pan-Pacific Entomologist* 94:4-16.
- Integrated Taxonomic Information System (ITIS). Available online: <https://www.itis.gov> (accessed August 31, 2023)
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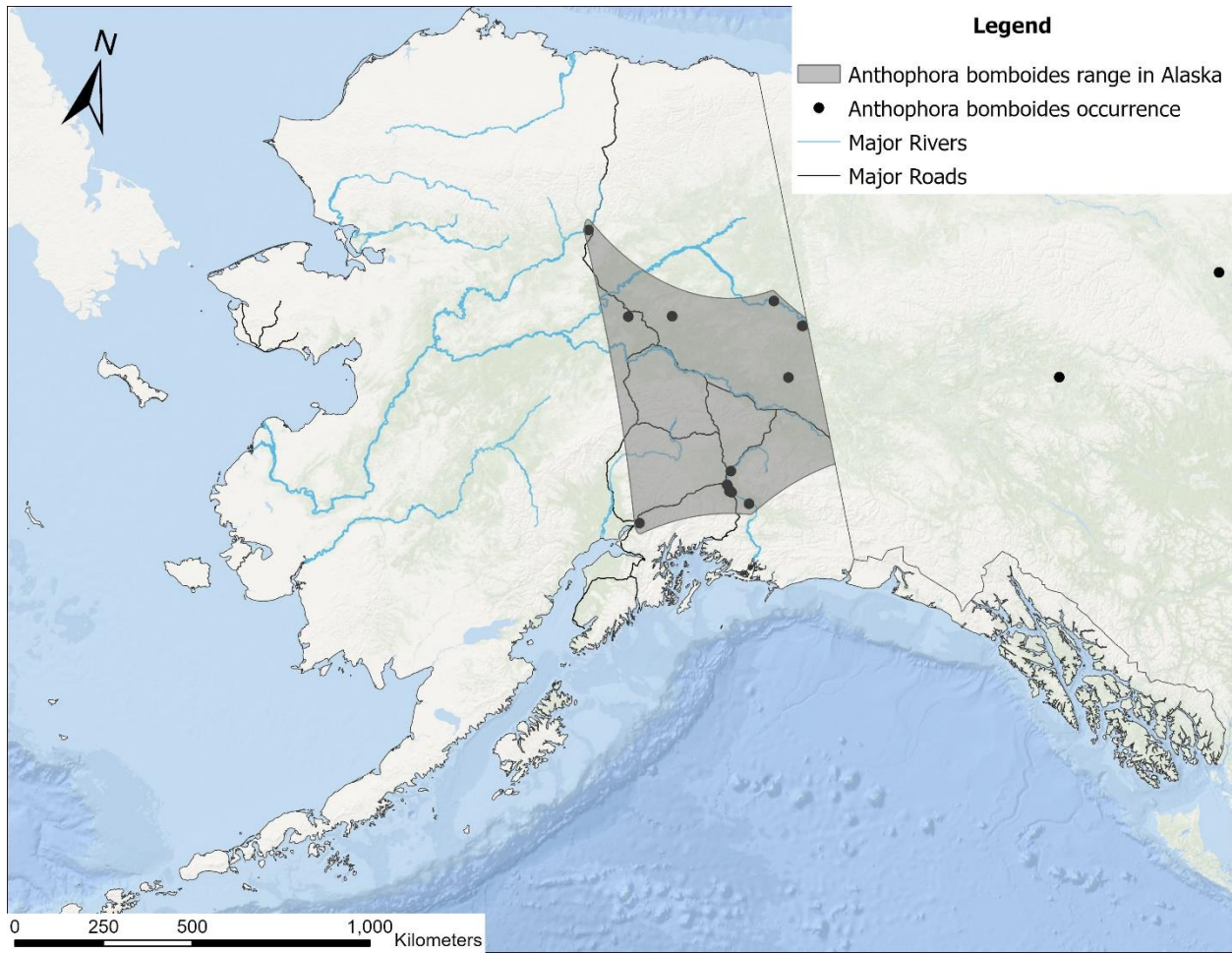


Figure 1 Range and occurrence of *Anthophora bomboides* in Alaska

### Photo Reference



Figure 2 <http://www.discoverlife.org>  
Smithsonian Institution, Entomology  
Department / Discover Life