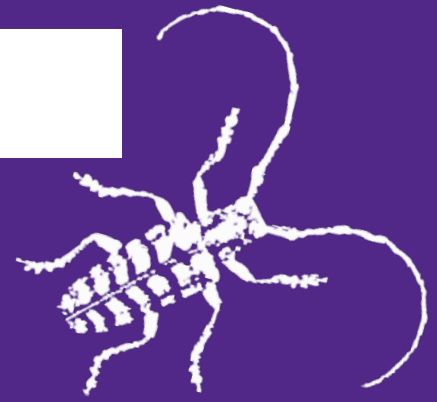


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Learning Corner

- Invasive bull-headed dung beetle expanding distribution in Kansas

LEARNING CORNER

Invasive bull-headed dung beetle expanding distribution in Kansas

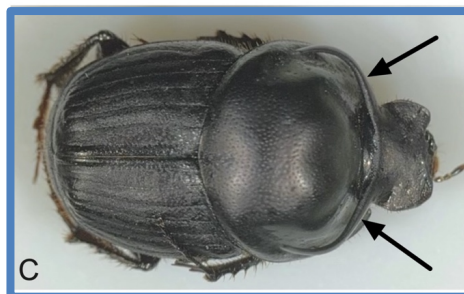
Dung beetles are a critical component of grassland ecosystems, responsible for the removal and breakdown of manure from livestock and wildlife. They promote soil health through nutrient cycling, aeration and improved water retention. For livestock producers, they provide biological pest control. By removing manure, they also remove the breeding site for pest insects and nematodes. Dung beetles are typically classified into 3 guilds (rollers, tunnelers, and



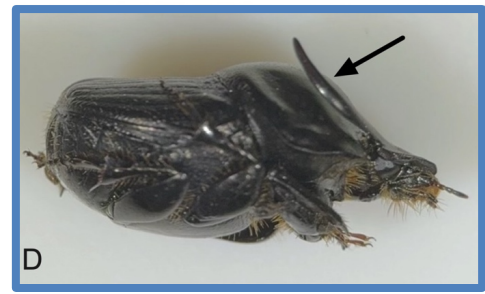
Male non-native bull-headed dung beetle



Male native scooped scarab



Male non-native bull-headed dung beetle



Male non-native bull-headed dung beetle

Figure 1: A male non-native bull-headed dung beetle is characterized with 2 horn-like projections on his head which may vary in length as indicated by the arrow (A, C and D). A male scooped scarab is characterized with 1 horn-like projection arising from his pronotum, the body part just behind his head, as indicated by the dashed arrow (B).

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dwellers), and each play an important part in managing and dispersing manure in pastures and prairies. Rollers remove dung from the pat by forming balls and rolling them away from dung patties burying them underground. The balls, also known as brood balls, are used for food and laying eggs. Tunnelers dig tunnels next to and below dung patties while dwellers reside within or just below the pat. The non-native bull-headed dung beetle, *Onthophagus taurus*, is a dweller which is establishing itself in Kansas. This species is native to Europe, North Africa, and the Middle East. In the early 1970's, the bull-headed dung beetle was introduced in the southern United States and has since expanded northward and westward (Fig. 1). In September 2023, 7 male and 9 female bull-headed females were recorded for the first time in Kansas, located on a cattle ranch in Barber County (Proctor, 2024). A second identification was made during the summer of 2024 in Woodson county from cattle grazed pastures suggesting that the population has established itself in Kansas.

The bull-headed dung beetle is similar in shape and size (corn kernel) to the native the scooped scarab, *Onthophagus hecate*. Both beetles are small dwellers ranging from 5.2-11.5mm, slightly smaller than the average sweet corn kernel. While males of the 2 species are easily distinguished by the protuberances on their heads which for *O. taurus* may vary in length (Fig. 1). Discrimination between females of the two species may require a microscope. The resilience of this non-native species may allow it to out-competing native species, such as *O.hecate*.

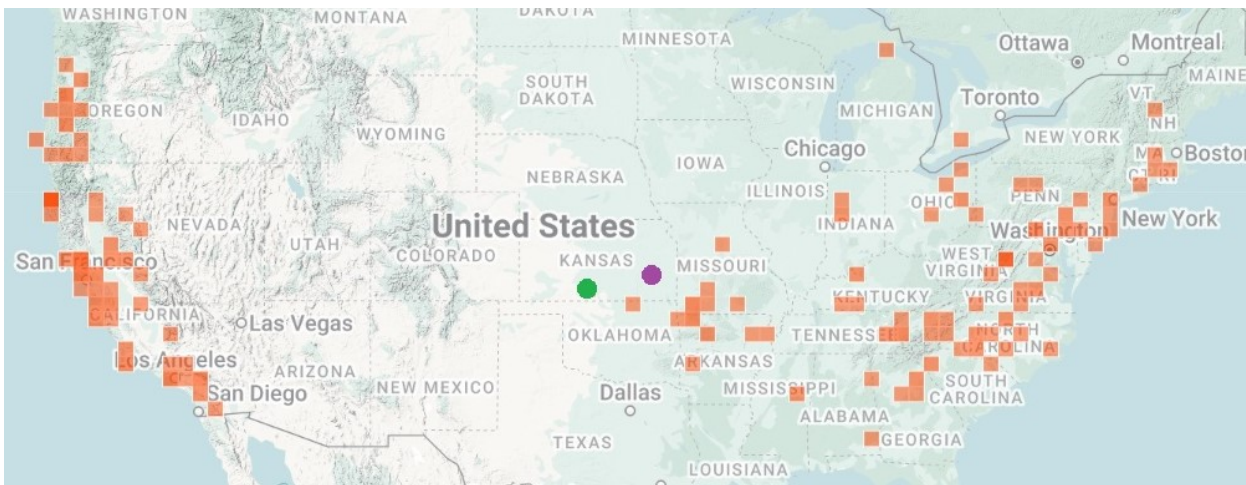


Figure 2: Locations where *Onthophagus taurus* has been collected with first collection in green (2022) and second collection in purple (2024). Photo credit: iNaturalist

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Reference:

Max Proctor "Westward Expansion of *Onthophagus taurus* (Schreber) (Coleoptera: Scarabaeidae): Current Distribution of a Non-Native Species," *The Coleopterists Bulletin*, 78(2), 206-209, (21 June 2024)

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