

Sandhills Earth Boring Scarab Beetle

Mycotrupes retusus

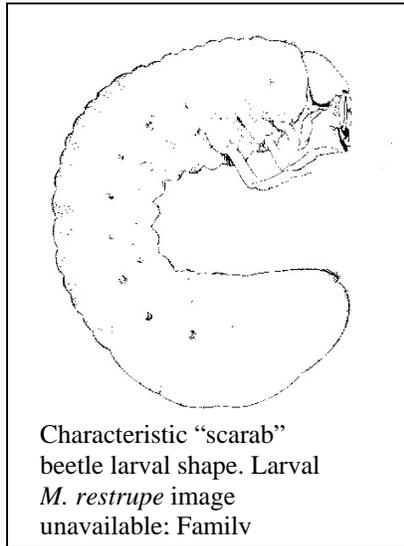
Contributor: Phillip Harpootlian

DESCRIPTION

Taxonomy and Basic Description

The genus *Mycotrupes*, belongs to the family Geotrupidae (Earth-boring dung beetles). Until recently the family Geotrupidae was primarily considered a subfamily of the Scarabaeidae. *Mycotrupes* is a small, strictly North American genus, comprised of five widely scattered species found from South Carolina through central Florida (Howden 1955; Olson et al. 1954; Smith 2003). The central Florida endemic, *M. pedester* is considered imperiled (Kern, 2001).

Geotrupes (Mycotrupes) retusus was described by LeConte in 1866. The subgenus *Mycotrupes* was subsequently elevated to genus status by Olson and Hubbell (1954). No subspecies are recognized.



The adult Sandhills earth boring scarab beetles range from 10 to 16 mm (0.4 to 0.6 inches) in length, are dull granulate black, and have the elytral suture fused, making them flightless (Harpootlian, 2001). Adult males generally have a pronounced apical depression on the pronotum and a small cephalic protuberance on the head (Harpootlian 2001); females lack the cephalic protuberances and the pronotum is evenly convex.

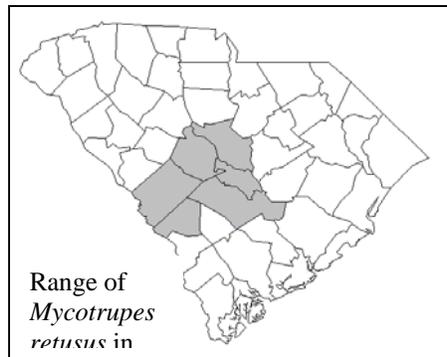
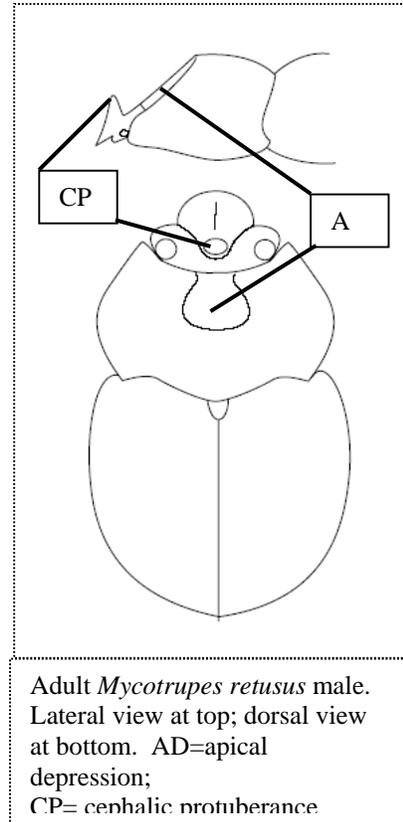
Little is known about the ecological requirements for the larvae of this species. They are caterpillar-like in appearance and, like many scarab species, typically feed on plant roots. They will feed underground until they metamorphose and pupate into adults.

Status

Currently, this species has no state- or federally-listed status.

POPULATION DISTRIBUTION AND SIZE

The Sandhills earth boring scarab beetle is a South Carolina endemic, restricted to the deep xeric sands of the southern fall-line sandhills (Harpootlian 2001). The sandhills



topography encompasses the majority of the midlands of South Carolina and extends in a northeasterly direction into North Carolina (USEPA 2002).

This beetle occurs in both Aiken and Sesquicentennial State Parks, as well as the Aiken Gopher Tortoise Preserve and the privately owned Hitchcock Woods near downtown Aiken (Harpootlian 2001).

Population size has not been determined. Their habit of spending most of their life cycle underground would make population assessments very labor intensive.

HABITAT AND NATURAL COMMUNITY REQUIREMENTS

Larval food sources for the Sandhills earth boring scarab beetle are presently unknown, but scarab larvae are known to feed on a wide variety of plants and many species are significant economic pests in landscaping, golf courses, gardens and agricultural crops.

Adult sandhills earth boring scarabs are cold adapted and spend most of their lives underground in burrows that are often 0.8 to 1.9 m (3 to 6 feet) deep (Harpootlian 2001). They are most active above ground from September to April for short periods after drenching rain. The primary natural community requirement appears to be deep, well drained sand (Harpootlian 2001).

CHALLENGES

Paving or landscaping adversely affects access to the surface and, ultimately food sources for the Sandhills earth boring scarab beetle. Additionally, contaminated runoff from impervious sources can challenge this beetle. Agricultural pesticides can also pose a threat to the Sandhills earth boring scarab beetle.

CONSERVATION ACCOMPLISHMENTS

State parks in South Carolina protect at least two viable populations (Harpootlian 2001).

CONSERVATION RECOMMENDATIONS

- Protect suitable habitat for the Sandhills earth boring scarab beetle.
- Promote land stewardship practices through educational programs both within and upstream of Upper Three Runs Creek.
- Encourage responsible land use planning.

MEASURES OF SUCCESS

As research and management needs are identified, projects will be initiated to address those needs.

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