



(*A. heinekeni*)

***Ataenius heinekeni* Wollatson, 1894** **(Insecta: Coleoptera: Aphodiinae)**

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Geographic Range: Bahamas (Andros), Barbados (probably introduced), Cuba, Hispaniola, Puerto Rico (Quebradillas- east of Lago Guajataca, Bayamón, Mayagüez), St. Thomas. USA (SC-FLTX), Mexico to Brazil, introduced to Ascension and Madeira islands.

Habitat: *A. heinekeni* beetles were beaten from leaves, collected under leaves and logs on hard ground, under live-oak trees, on old rice-field dams, under roadside debris and at coastal coppice trap. (Jerath,1960). They are mainly found in animal dung and decaying material.

Physical Description: *Ataenius* is distinguished from other genera of the Eupariini by a combination of characters, among them head narrower than pronotum, anterior clypeus visible from above, pronotum laterally without denticles and at most sparsely to moderately ciliate, sides of pronotum not explanate, elytra often with basal margination, front tibiae with slanted anterior margin, middle and hind tibiae not flattened, uniformly wider from base, hind tibiae straight with outer apical angle spiniformly prolonged, tarsi normal with first segment often as long as the following three segments combined (SMITHSONIAN CONTRIBUTIONS TO ZOOLOGY, no 154). Length 4.3.-5.5 mm. Usually reddish-brown to black, few with color patterns, some dorsally setose.. Head moderately convex, surface smooth, granulate, wrinkled, or rugose. Abdominal fluting is distinct. External sexual dimorphisms are subtle, if present.

Life Stages: The life cycle of *Ataenius* beetles is not well known but apparently they are humus feeders in the soil, with a few species attracted to decaying vegetation and to animal dung. Some individuals have been taken in ant nests and animal burrows. Larvae of seven species were described by Jerath (1960). The typical life cycle involves the following stages: egg deposited by the female into dung; three larval instars feeding in the root zone; pupation completed underground; adult moving above ground, free-flying. The larvae live in brood balls made with dung prepared by their parents. During the larval stage the beetle feeds on the dung surrounding it. The larva feeds on the undigested plant fiber in the dung, while the adults do not eat solid food at all. Instead they use their mouthparts to squeeze and suck the juice from the manure, a liquid full of microorganisms and other nutrients (as well as the body fluids from invertebrates such as dung-feeding maggots that sometimes get trapped between their mandibles). Some species feed as adults but others do not.

Reproduction: In temperate climates, there is an intense mating activity during the fall season. Adults spend winters dwelling in dung. In the spring they lay their eggs. If the conditions are optimum the incubation time is of approximately 55 days. Eggs are laid under a layer of dung. The larval stages last approximately 39 days.

Lifespan: Three to five years (Dung beetles).

Behavior: Many but not all species are attracted to lights, sometimes in such numbers as to be a nuisance. Apparently they are humus feeders in the soil, with a few species attracted to decaying vegetation and to animal dung.

Home range: Southern United States, Mexico and West Indies (*A. strigicauda* group)

Communication and perception: *Ataenius* has a very developed sense of smell to help them find dung.

Food habits: The group of scarabs to which *Ataenius* belongs (Coleoptera: Scarabaeidae: Aphodiinae: Eupariini) typically feeds on cow dung and in fungi. In recent years *Ataenius* species have become recognized as sod pests. The larvae feed on grass roots. Presumably turf with thick root thatch resembling the cow dung habitat would be more attractive to the pests.

Predation: *Ataenius* normally don't have any type of predation given the fact that they feed primarily on dung.

Ecosystem roles: *Ataenius* beetles contribute to compost making. As they develop and feed their wastes help fertilize the soil.

Economic Importance for Humans: Negative: Some *Ataenius* species have become severely damaging and often difficult to control pests of golf course turfgrass in the Midwest and East; some populations are known to have some insecticide resistance.

Economic Importance for Humans: Positive: Dung beetles play a remarkable role in agriculture. By burying and consuming dung, they improve nutrient cycling and soil structure. They also protect livestock, such as cattle, by removing the dung that, if left, could provide habitat for pests such as flies. Therefore, many countries have introduced the creature for the benefit of animal husbandry.

Conservation Status: Not under any conservation status.

Other Comments: The *Ataenius strigicauda*-group, composed of six very similar and closely allied species including the “*heinekeni* (= *rhyticephalus*)-*columbicus-strigicauda*” complex, is most closely allied to the *A. strigatus*-group (revision in press) sharing with some species of that group an overall similarity, the shape and sculpture of the head, sculpture of the body and characters of the middle and hind legs. The differences include principally the characters of the male genitalia with laterally wide and flattened parameters, while those of *strigatus*-group are cylindrical and apically narrowed.

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