

University of Puerto Rico at Mayagüez

Department of Biology

Piezosternum subulatum (Thunberg 1783)



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Taxonomy

Kindom: Animalia

Phylum: Arthropoda

Sub Phylum: Hexapoda

Class: Insecta

Subclass: Pterygota

Infraclass: Neoptera

Order: Hemiptera

Suborder: Heteroptera

Infraorder: Pentatomomorpha

Superfamily: Pentatomoidae

Family: Pentatomidae

Subfamily: Oncomerinae

Genre: Piezosternum

Species: *Piezosternum subulatum* (Thunberg 1783)

(Henry, Thomas J., and Richard C. Froeschner, eds. 1998)

I- Geographic range:

This species is found in different countries including: Bolivia, Brazil, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guadalupe, Guatemala, Guyana, Martinica, Mexico, Panama, St. Thomas, Surinam, Venezuela and US Virgin Islands.

In Puerto Rico, *P. subulatum* has been reported for the following localities: Bayamón, Barrio el Cedro, Cayey, Luquillo (El Yunque), Maricao, Mayagüez, Naranjito, Pueblo Nuevo, Río Piedras and Trujillo Alto. (Cervantes, P.L. 1989)

II- Habitat:

Piezosternum subulatum is mostly found in places of the forest where the flora is well conserved and not disturbed.

(Cervantes, P.L. 1989)

III- Physical description:

Piezosternum subulatum is described as a large, dull, dark green stink bug with blunt humeral angles, but a long, stout spine on the posterior angle of the scutellum. Its head is wider than long with a shape of a semi triangle. Their legs are spineless. In addition this specie has two pairs of wings. Their nymphs are bright with yellow, orange and black, often noted accompanying an adult or adults. Male can be distinctive from female just by the form of its reproductive organ.

(Cervantes, P.L. 1989)

IV- Development:

The eggs are barrel-shaped. They are initially yellow but turn green as the embryo grows. The female can deposit a maximum of 14 eggs arranged in two regular rows. The eyes and the eclosion nail appear on day 4 of development, and the first nymphal instar hatches on day 9. The nymphs remain associated with the egg mass until passing to the second instar one week after hatching. There are four nymphal instars leading to the reproductive adult.

(Cervantes, P.L. 1989)

V- Reproduction:

Piezosternum subulatum reproduce sexually. Their reproduction season is between the months of November and April. This species is mostly perceived during the time when plant life is fully blossomed.

(Cervantes, P.L. 1989)

VI- Lifespan/Longevity:

Concrete information about *P. subulatum* was not found. But since this species is considered a stink bug they generally have a lifespan of a few years.
(Sueanne D.1999-2009)

VII- Behavior:

P. subulatum is primarily active at night. The nymphs and adults are more abundant between the months of November and April; during this season the flora is rich, specifically in tropical regions. They are referred to as "stink bugs" because of the offensive odor they produce from their thoracic glands as a defense mechanism.

(Cervantes, P.L. 1989 and Sueanne D.1999-2009)

VIII- Home range:

Their home range is restricted to the size and distribution of the plants that they live and feed from.

(Cervantes, P.L. 1989)

IX- Communication and perception:

Not found.

X- Food Habits:

Nymph and adults feed on fruit plants and coffee (*Coffea Arabica*), as well as other plant species including: *Cayaponia americana* or *C. racemosa*, pea plant, grape fruit, breadfruit tree, tomato leaf. In Puerto Rico we find them in food plants such as *Citrus*, *Coffea Arabica*, *Lycopersicon esculentum* (tomato), *Momordica charantia*, *Pisum sativum* and *Xanthosoma*.

(New York Academy of Science,1932)

XI- Predation:

Generally their predators are lizards and birds.

XII- Ecosystem Roles:

Not found.

XIII- Economic Importance for Humans: Negativa

Not found.

XIV- Economic Importance for Humans: Positive

Not found.

XV- Conservation Status:

Not endangered – a widespread and common Neotropical species.

XVI- Other coments:

For the distribution of this genus *Piezosternum* origin is from Gondwanaland. Its distribution sustains this idea because of this specie characteristics for example their flight, low reproductive rate and low survival of the immature states. This means that they are not strong to sustain critical changes in the environment so they can disperse at great distance.

(Cervantes, P.L. 1989)

XVII- Contributors:

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XVIII-References:

Cervantes, P.L. 1989. Morfología, Sistemática y Biología de *Pantochlora vivida* Stål y *Piezosternum subulatum* (Thunberg). Consideraciones acerca de sus Relaciones Filogenéticas y Biogeográficas (Hemiptera-Heteroptera: Tessaratomidae, Pentatomidae). Tesis de Maestría. Facultad de Ciencias, Universidad Nacional Autónoma de México. México, D.F. 67 pp.

Henry, Thomas J., and Richard C. Froeschner, eds. 1998 *Piezosternum subulatum*: Taxonomic Hierarchy.
http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=109108

New York Academy of Science, 1932. Insects of Puerto Rico and the Virgin Islands.
<http://www.biodiversitylibrary.org/item/26545>

Sueanne D. 1999-2009. Where Do Stink Bugs Live?
http://www.ehow.com/about_4605002_do-stink-bugs-live.html