

Species Report PSG. 122, *Anisomorpha monstrosa* Hebard

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Abstract

This report summarises the care and breeding of *Anisomorpha monstrosa* Hebard, the largest species in the genus. Behaviour and defence mechanism are also discussed along with descriptions of the eggs, nymphs, and adults.

Key words

Phasmida, *Anisomorpha monstrosa*, Pseudophasmatinae, Rearing, Distribution, Defence.

Taxonomy

Anisomorpha monstrosa belongs to the sub-family Pseudophasmatinae. It was described in 1932 by Hebard (1932: 214) and is the largest species in the genus. The type specimen is a female collected from Merida, in Yucatan, Mexico.

Culture History

The original culture of this species was collected in Belize, approximately 150km north of Belize City by Jan Meerman in 1993 or 1994 (D'Hulster, personal communication). This species has now become widespread within the Phasmid Study Group, especially in Europe. The founder specimens of the captive population were collected under logs and stones in the jungle.

Distribution

Anisomorpha monstrosa is known to occur in Mexico and Belize (Brock, 1999).

Description of Adults (Figures 1 & 2)

Mature specimens of this species have a glossy appearance, both sexes being wingless. The body is essentially black in colour. The bodies of both sexes possess two orange/bronze dorsal stripes, stretching from behind the head to the tip of the abdomen. There is very little variation in the adult colour of this species. Adult females attain 69mm in length ($\bar{x} = 66.75\text{mm}$ (SD $\pm 2.4\text{mm}$) $n=6$), which is smaller than the type specimen (87.6mm). This is not surprising as the founder stock was from only 40 eggs. The reduction in size over the generations probably is the result of inbreeding. The female is a heavily built, robust insect, which can reach a considerable girth at the height of egg production. The male is much smaller, reaching 38mm in length ($\bar{x} = 37.8\text{mm}$ (SD $\pm 2.58\text{mm}$) $n=5$).

Nymphs

Newly hatched nymphs measure 12mm in length ($\bar{x} = 12.0$ (SD $\pm 1.4\text{mm}$) $n=18$). When newly hatched the nymphs are brown in colour, taking on the adult appearance at around adulthood, usually one ecdysis preceding maturity. The nymphs, like adults are gregarious.

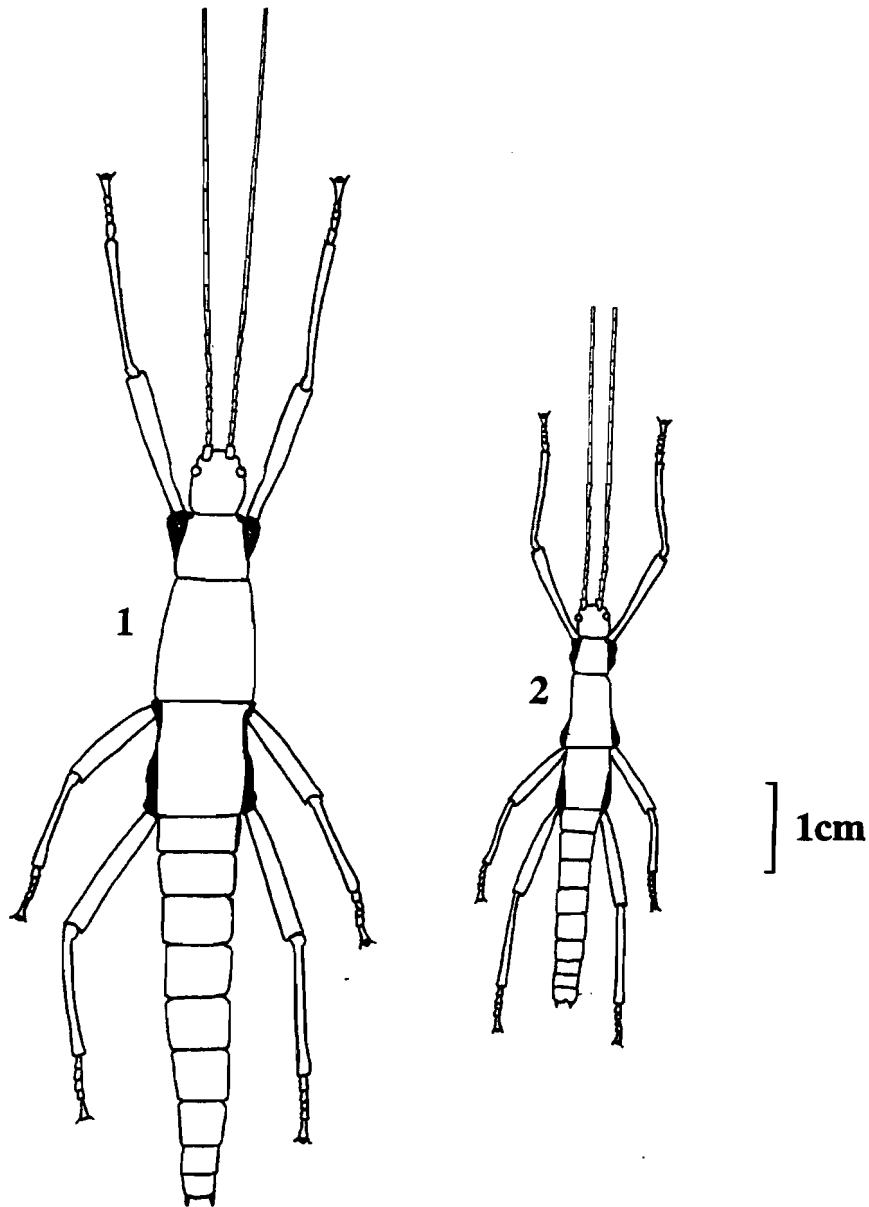
Eggs

The eggs are typical of the genus, being barrel shaped. There is considerable variation in the dimensions of the egg, the mean sizes being height 3mm, length 1.5mm, width 1.5mm (corresponding SD $\pm 0.75\text{mm}$, 0.25mm, 0.25mm; $n=20$). The coloration is also variable from fawn through to grey, with the surface of the egg being smooth to granular. The micropylar plate is small as in *A. buprestoides* (see Carlberg & Sellick, 1991). The fertility rate of the eggs is high with a hatch rate greater than 80%. Eggs incubated at room

temperature with 50-70% humidity hatch in 3-4 months.

Defence

This species possesses a pair of metathoracic glands, which are used for defence. The acrid smelling fluid which can be released as a fine mist up to 30cm away from the insect. The effects of the spray however can be experienced up to 60cm away. Contact results in irritation of the nasal membranes, and eye irritation. I am not aware of any data regarding the result direct eye contact from the defensive spray of this species.



Figures 1 & 2.

Outline drawings of *Anisomorpha monstrosa* Hebard, 1. Female, 2. Male.

Foodplants

Privet (*Ligustrum* sp.) appears to be the most successful foodplant. Bramble (*Rubus* sp.) is also taken with good results. When both foodplants are offered Privet is usually taken in preference. There is no data on the natural diet of this species.

Rearing

This species is easy to rear, however the conditions required are quite different from those of *A. buprestoides*. Best results are obtained with the use of tissue paper on the base of an airy cage, kept moist resulting in a relatively high humidity, without condensation. It is probably best not to spray the insects directly as this usually triggers the defence mechanism, however light spraying of the foodplant can be used to supply extra moisture. This species is undemanding with regards to temperature, 65-75°C being adequate for growth, egg production and incubation. This species is relatively easy to keep and a culture can be maintained in a fairly small cage.

Egg laying

The reproductive and egg laying behaviour in this species is particularly fascinating and follows the pattern for the other species in the genus. The male will usually mate with an immature female, and remain attached throughout the remainder of her life. Once a female reaches adulthood egg laying can take up to 4 weeks to commence. The act of egg laying is initiated when the female curls her abdomen over her head, complete with the male. The egg appears at the tip of the abdomen, and can be held for up to 30 seconds, before the abdomen contracts and ejects the egg up to 10cm away. Each female lays approximately 15 eggs per week. In my experience this species does not bury its eggs.

Acknowledgements

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References

- Brock, P.D. (1999) The amazing world of stick and leaf-insects. *The Amateur Entomologist*, 26.
- Carlberg, U. & Sellick, J. (1991) PSG No. 12 *Anisomorpha buprestoides*. *Phasmid Study Group Newsletter*, 49: 11-13.
- Hebard, M. (1932) New species and records of Mexican Orthoptera. *Transactions of the American Entomology Society*, 58: 202-371, plates 17-21.