

PSG 109, *Carausius abbreviatus* (Brunner)

Phil Bragg, 8 Cornwall Avenue, Beeston Rylands, Nottingham, NG9 1NL, UK.

Key words

Phasmida, *Carausius abbreviatus*, Borneo, Rearing, Foodplants, Distribution.

Classification

This species was first described as a member of the genus *Dixippus*, and as later moved to the genus *Phasgania* by Karny (1923). However both *Dixippus* and *Phasgania* are synonyms of *Carausius*, so the correct name is *Carausius abbreviatus*. The original specimens described by Brunner came from two areas of Sabah, Mt. Kinabalu and the Padas River. The species has only been mentioned five times:

Dixippus abbreviatus Brunner 1907: 280.

Phasgania abbreviata (Brunner), Günther, 1935: 8.

Carausius abbreviatus (Brunner), Bragg, 1990: 1.

Phasgania abbreviata (Brunner), Hausleithner, 1991: 231.

Carausius abbreviatus (Brunner), Bragg, 1992.

Culture history

The PSG culture developed from one female and several males which I collected in August 1989, on Mt. Serapi, Sarawak. When it was first collected the female was mistaken for a nymph of *Lonchodes jejunus* (Brunner). Although I have subsequently collected this species in several other areas of Borneo, most have been males and the original female is the only female that has reached the UK alive.

Distribution (fig 1.)

This species has been recorded from the eight localities marked on the map. (Bragg 1992) As these localities include both the eastern and western ends of Borneo it

seems reasonable to assume that the species is quite widespread in northern Borneo.

Notes on wild specimens

A female specimen from Bengoh, 35km south of Kuching, was parasitized by a Mermithid larva and died a few days after capture (Bragg, in press). In 1989, on Mt. Serapi Patrick van der

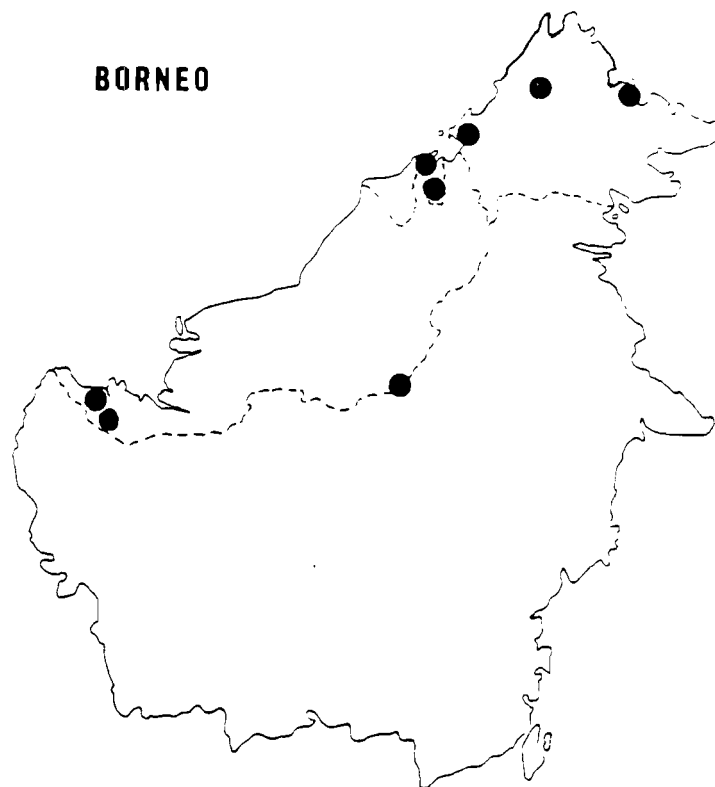
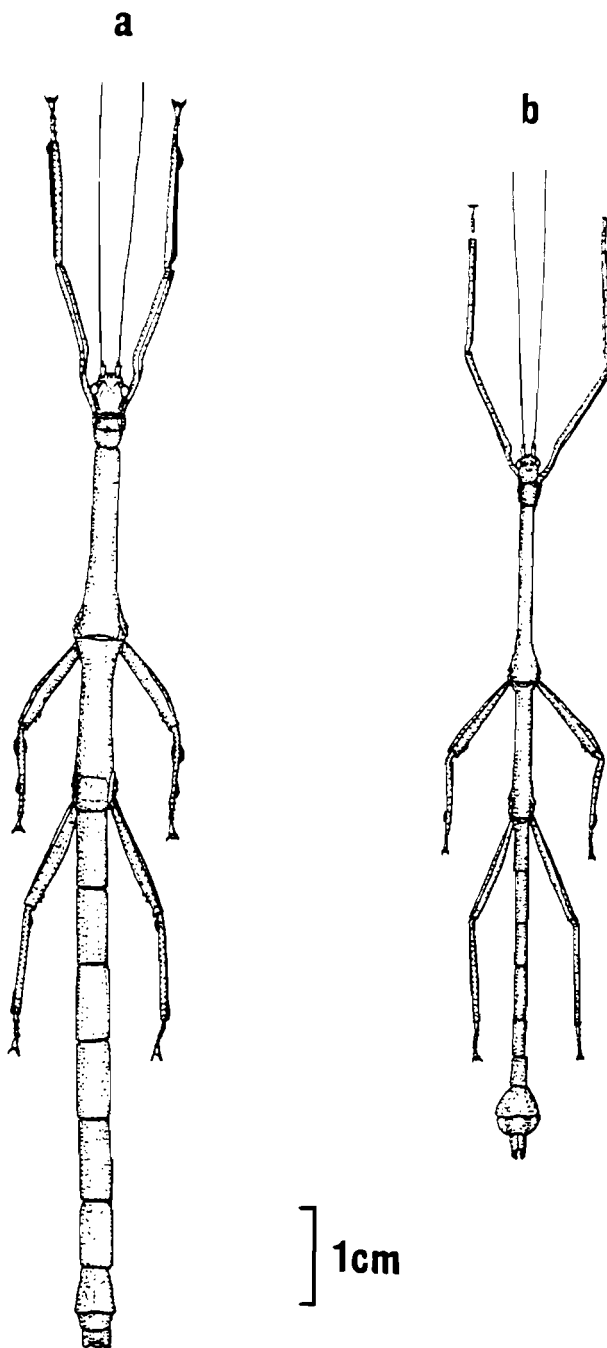


Figure 1. The known distribution of *Carausius abbreviatus* in Borneo.

Stigchel caught a phasmid which had half of its abdomen missing, although the distinctive end to the abdomen was missing, I believe that this specimen was a male *C. abbreviatus*. The phasmid had presumably been caught and had had the end of its abdomen eaten before it managed to escape. The insect concerned was dead by the following morning.



Description of the adults (fig. 2)

The females are best distinguished from related species by the very short hind legs. In most Lonchodinae, and certainly all those in culture at present, the hind legs of the females reach almost to the end of the abdomen, in this species they only just reach half way along. In the male the hind legs reach roughly three quarters of the way along the abdomen, in other Lonchodinae which are in culture the hind legs of the males are longer than the abdomen.

The females are a uniform brown. The body is quite granulose, particularly the thorax. The females appear similar to nymphs of *Lonchodes jejunos* or *L. brevipes*, but can easily be distinguished by the size of the hind legs. The middle tibiae have large rounded lobes, similar to those of *Carausius sanguineoligatus*. There are two bumps on the head which look like very blunt horns.

The males are quite a bright green when adult, with red patches where the legs join the thorax and a red end to the abdomen. The eighth and ninth segments of the abdomen are wide, about three times as wide as the rest of the abdomen; this forms a very distinctive round lobe. The males do not have the large lobes on the middle tibiae.

Figure 2. *Carausius abbreviatus*, a) female, b) male.

Nymphs

The presence or absence of the abdominal lobe and the lobes on the middle tibiae enable easy sexing of the nymphs when they are half grown. The male nymphs are brown so colour cannot be used to sex them.

Eggs (fig. 3)

The capsule is a uniform mid-brown in colour except for the area around the micropylar plate which is much darker. The capsule is covered in a series of raised ridges. The micropylar plate is an elongated oval with usually only a single zigzag or broken ridge running along it. The micropyle is located at the polar end of the micropylar plate. There is a noticeable median line running from the micropylar plate to the posterior pole. The operculum is smooth, flat and is a grey-brown colour. There is a black capitulum with a deep capitular pit. Typical measurements are: length 2.7mm, width 1.5mm, height 1.9mm and mass 3.91mg.

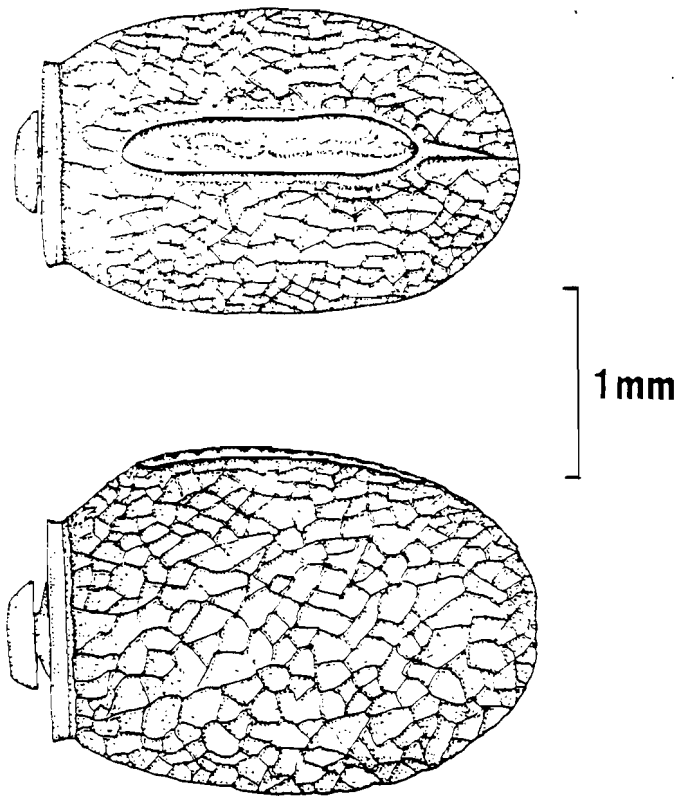


Figure 3. The egg of *Carausius abbreviatus*, dorsal and lateral views.

Sizes (mm)	Female.	Male.	Newly hatched
Total length	105-120	63-79	16
fore femur	15-17	12.5-14.5	3.0
mid femur	11-13	9-11	2.5
hind femur	12.5-14.5	11-12	2.7

Table 1. Size variation in *Carausius abbreviatus*.

Rearing

I have reared this species in the UK using one of my standard cages (Bragg 1987) maintained at a humidity of 70-90%. The time from the egg being laid to the insect reaching adult is almost exactly one year when kept in conditions with no heating other than sufficient to prevent temperatures falling below 5°C. The first captive bred generation were kept in a cage containing several other species and most of the nymphs died during the first instar. Three females and three males reached adult, one female died a few days later. The second generation nymphs were reared without other species in the cage and seemed to survive better than the first generation. The newly hatched nymphs are very fragile which could explain why the first generation was not very successful. Unfortunately, while I was abroad during the summer of 1991 all my stock died off. Although I had passed eggs on to other people, the culture seems to have died out. Hopefully I will be able to re-establish this culture with some fresh stock.

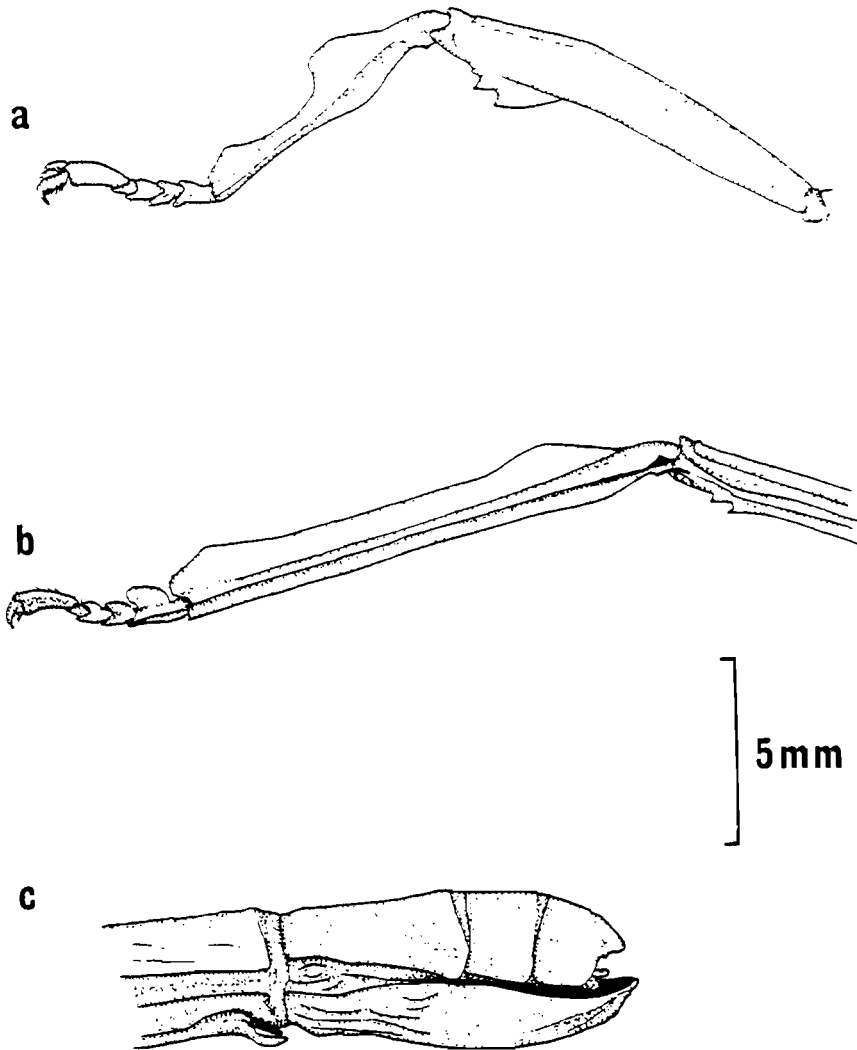


Figure 4. Female; a) mid leg, b) fore leg c) operculum.

Foodplants

C. abbreviatus will feed on bramble, wild rose, firethorn (*Pyracantha* sp.), eucalyptus (*E. gunnii*), raspberry and hawthorn.

References

- Bragg, P.E. (1987) Cage construction. *Phasmid Study Group Newsletter*, 32: 8-9.
- Bragg, P.E. (1990) Species list changes. *Phasmid Study Group Newsletter*, 45: 1.
- Bragg, P.E. (1992) Notes and illustrations of the phasmid *Carausius abbreviatus* (Brunner) from Borneo, including a description of the female. *Entomologist's monthly magazine*, vol. 128.
- Bragg, P.E. (in press) Parasites in Phasmida. *The Entomologist*.
- Brunner von Wattenwyl, K. (1907) *Die Insektenfamilie der Phasmiden*. volume 2. Leipzig.
- Günther, K. (1935a). Phasmoiden aus Centralborneo. *Arkiv för Zoologi*, 28A(9): 1-29.
- Hausleithner, B. (1991) Eine Phasmidenausbeute aus dem Gebiet des Mount Kinabalu, Borneo (Phasmatodea). *Nachr. ent. Ver. Apollo, Frankfurt*, N.F. 11(4): 217-236.
- Karny, H.H. (1923) Zur Nomenclatur der Phasmoiden. *Treubia*, 3: 230-242.