

NOLIMETANGERE A PHASMID WHICH CAN BE TOUCHED!

by Phil Bragg (8737)

The phasmid *Epidares nolimetangere* (de Haan) belongs to the subfamily Heteropteryginae. Members of this subfamily are often heavily spined and have a very strong cuticle; this species is no exception. For its size it is perhaps the most heavily spined phasmid, perhaps even the most heavily spined insect in the world. The specific name translates from Latin as do-not-touch-me; a clear warning!

I once suffered a painful injury in Borneo when I put my hand on an adult male one night; the insect appeared to be unharmed, my hand was bleeding. I also had a female fall on my head after I had disturbed the bush on which it was resting. As I am bald on the top of my head this also proved painful although it did not draw blood! The defence seems to be purely passive, the legs are not armed with spines, unlike some of the larger members of the subfamily such as *Heteropteryx dilatata* (Parkinson) and *Haaniella* spp., so they cannot inflict injury when carefully picked up. The spines on the back of both the males and females (Fig.1) should however provide excellent protection against predators.

This species is very common in some areas of Sarawak, particularly those which have had the primary rainforest cleared. Until recently I had assumed that, as their name suggests, they were immune to attack from most of the usual potential predators of phasmids. I know that spiders will feed on the nymphs in captivity because the occasional escapee has appeared in webs in my phasmid room. This is not surprising, the spines would not offer protection from spiders as they can avoid them and eat the contents of the body, leaving the spines and hard cuticle behind. Predators which ingest either the whole insect, or at least large parts of it, seemed to fall into a different category; they would find the spines too much of a mouthful.

I decided to test my assumption by offering one to my pet lizards. They are eyed skinks, *Chalcides ocellatus*, a species found in the Mediterranean region. A male *E. nolimetangere* was placed into a cage containing a pair of skinks which had not been fed for ten days — usually I feed them about once per week. Both the skinks are about 25cm in length and have occasionally been given other species of phasmids in the past. The floor of the cage is divided into three distinct areas; two contain a 5cm depth of sand and the third contains 5cm of bark chippings. The phasmid was placed on the bark area. It remained stationary and was well camouflaged as its colour matched that of the bark chippings quite well.

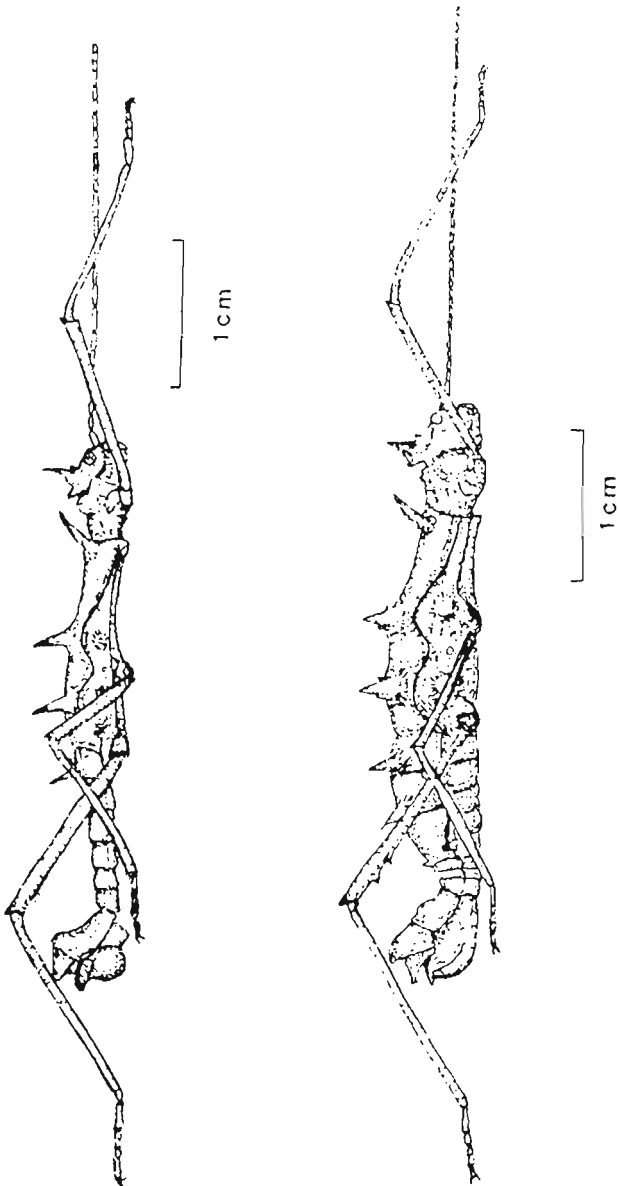


Fig. 1. *Epidares nolimetangere*. Top male, bottom female.

Within seconds the male, which is less shy than the female, emerged from cover and sniffed at the phasmid. After about a second the lizard seized the phasmid in his mouth and started to shake it violently. This is a typical treatment for prey which are difficult to kill due to being large or hard to bite through. At one point the phasmid was thrown to the ground and then quickly seized again. The male skink, still shaking its prey then went out of sight, under a large piece of bark. At this point the female appeared and went under the same piece of bark. There were scrambling sounds and the female briefly emerged with part of the abdomen in her mouth. She then burrowed out of sight under the bark chippings.

The cage was later checked and no remains of the phasmid were found. The spines of the insect did not act as an effective deterrent in this case. The main problem for the lizards appeared to be the thickness of the cuticle. I have little doubt that well fed the lizards would ignore *E. nolimetangere* rather than tackle difficult prey but the spines do not provide a perfect defence. The combination of nocturnal habits and the large spines must give sufficient protection in the wild. On Mt. Serapi, Sarawak, I have found large numbers of *E. nolimetangere* when searching at night and I have seen lizards, including a number of skinks, during the daytime.

ILLUMINATING IDEAS FOR USE AT NIGHT

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I have been on three trips to Borneo and will be setting off on my fourth quite soon. As my interest is phasmids, which are almost all nocturnal, I have had to give serious consideration to the problems of illumination in rain forests at night; similar considerations are needed for any nocturnal environment. Obviously if you are interested in lepidoptera, etc. you can use a light trap and avoid most of the footwork. However for those of us with interests in groups which are not attracted to light, the only way to find them is to go out at night and look. This seems to pose several problems although all are actually different facets of the same problem; at night you need one more hand than you use in daylight, the one that holds a torch.

Most of us use two hands to do most of our collecting, photography etc. during the daytime. Now pretend one hand is out of action because you're using it to hold a torch. I guarantee you will lose most of the cockroaches, crickets and bush-crickets that you see. If you get them into

a net using only one hand, try transferring them into a specimen tube. What do you mean, it escaped because both hands are occupied with your torch and net? Why couldn't you focus the camera and get a decent photo? There are two easy solutions — have a torch-wielding partner or use a headtorch. Partners become tired and bored and are difficult to replace. Batteries in headtorches also become tired but are easy to replace.

From the photographic point of view, you need to have a good light shining onto the insect while you focus. To do this I use a headtorch with the beam set on its narrowest setting, an SLR camera with a 50mm lens set at f16 at 0.3, with a flash unit held to the side of the camera body. Clearly without the headtorch I would need to work with a partner or try holding a torch in my teeth; having tried the latter I can categorically state that it doesn't work! The flash unit cannot be mounted on the top of the camera for two reasons; firstly it would be in the way of the headtorch; secondly most flash units will not point at a very close object if they are mounted on top. This year I am going to experiment with a ring-flash to avoid having to hold the flash unit.

Consideration should be given to the type and cost of the headtorch and to the availability and duration of batteries. Each time I have been abroad to collect at night I have used a better headtorch. However, each one seemed good enough at the time!

The first type I used was a Pifco headtorch costing about £5.00. Since then I have used a Petzl Zoom which has an adjustable beam and have up-graded from a standard bulb to a halogen bulb. A quick trip around Nottingham in April revealed a variety of models and prices . . . it pays to shop around! The cheapest headtorch I found was one for £2.99 in the Scout Shop. Petzl seem to be the most common brand, available in most shops which specialise in outdoor sports. They offer three models to choose from:

Petzl Micro — £14.90 to £18.99.

Petzl Zoom — £16.99 to £22.99.

Petzl Macro — £30.50 (in stock at only one shop).

All these allow the width of the beam to be varied by simply turning the front of the lamp. I find adjusting the beam reduces eye strain which can become significant after several hours peering along a narrow beam of light. In addition, as the batteries near the end of their life, narrowing the beam makes them seem brighter thus extending their usable life. It is important to use alkaline batteries, anything else becomes dim very quickly. The halogen bulb (£3.99) greatly increases the brightness.

However, it is rather hard on the batteries, using them about three times faster than with the ordinary bulbs.

The Micro uses two AA batteries and, along with the Macro, is a recent addition to the range. The Zoom uses a single rectangular MN1203 battery but you can get a converter for £3.75 to allow you to use three AA batteries. The Macro uses R14 (HP11) batteries, has a built-in converter for AA, and comes with a halogen bulb as standard. As its name suggests it is larger, and therefore heavier especially with R14 batteries. However, the larger batteries do not need changing so often. AA batteries do not last as long as either of the other types but are much more widely available (MN1203 seem to be unavailable in Borneo and even in the UK they are difficult to find).

My personal recommendation is a Zoom with halogen bulb and AA converter. I have not tried the Macro but think it would become too heavy over a long period; the Micro with a halogen bulb and only two AA batteries would not last long enough to be of much use.