

THE BIRD-EATING SPIDER

by

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In March, 1953, Inche Sipang, an aboriginal trapper, and I were tracking along the jungle in Dusun Wan at the Forest Research Institute, Kepong, Kuala Lumpur. We were looking for small insectivorous bats (*Myotis* and *Tylonycteris*) in the wild plantain and bamboo trees. In one of the plantain trees we saw a thick and untidy patch of web stuck in the angle between the leaf sheaths. On investigation we found a big spider underneath the web. We bagged the specimen and brought it back to the laboratory. Although we were disappointed to have had failed with the bats, the spider proved to be a good find and made the trip worthwhile.

On examination it was found to be a female 'Bird-eating spider.' Inche Sipang and his colleagues called it 'Laba tiang' meaning giant spider. They said that it was deadly poisonous and that if a person were bitten by such a spider his life could be saved only if the creature were found, killed and pounded up with leaves of certain jungle herbs and the resulting paste plastered on to the wound. They said also that the spider made its nest in banana trees so that it could obtain its food, such as warblers, sunbirds and flower-peckers or any other small animal which might come to rest on the banana. The spider's natural home is in the banks of streams, jungle paths and hollow trees. She occupies a hole in the bank and usually the entrance is covered with a patch of untidy silky web. This spider does not weave a web like that of the web-weavers (*Agelenidae*), the spiders with which we are familiar in the house.

Bird-eating spiders belong to the family Mygalomorphae. According to Tweedie in his book on 'Poisonous Animals', this specimen was probably *Lampropelma* sp. This particular specimen has often been mistaken for a Tarantula (*Lycosa torentula*), a poisonous spider which does not occur in this part of the world. It is hard to assess the toxicity of the venom of the Malayan bird-eating spider to man, as no cases of people having been bitten are known. But the notoriety given to the spider by the aborigines suggests that it would be safer to regard this spider as dangerous.

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Figure 2. The bird eating spider.

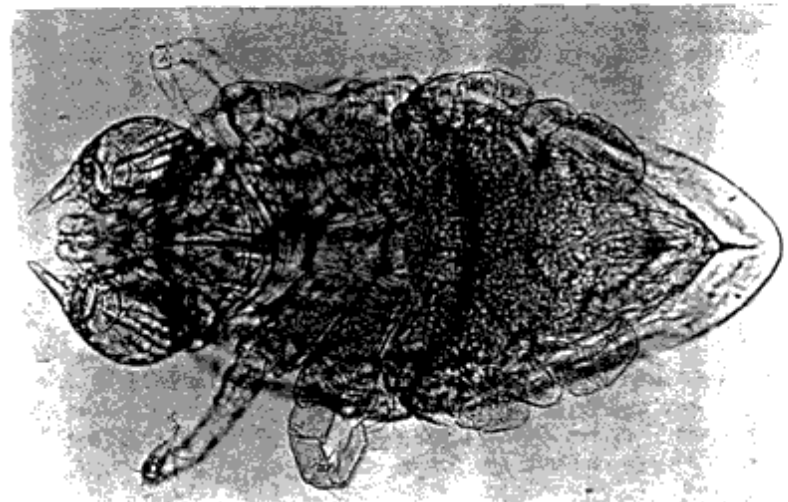


Figure 1. *Chelionotus selenirhynchus*.
The ear mite of squirrels.



Figure 2. The spider buries her fangs in the mouse.

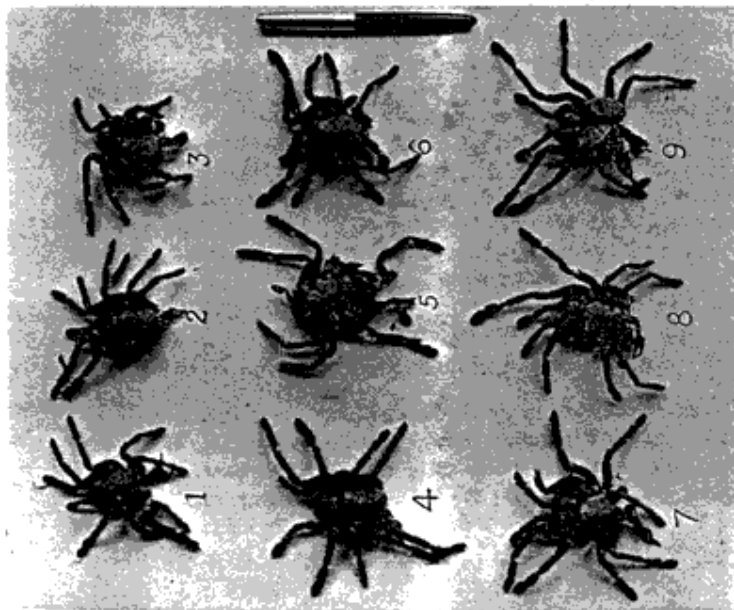


Figure 1. Casts of the bird eating spider.

This specimen lived in captivity from March, 1953 to September, 1958, when it was killed by a young monitor lizard (*Varanus nebulosus*) which was caged next to it. The young monitor broke through the wire mesh of the cage of the spider and bit her so badly that she was beyond preservation or recognition.

At the time of her capture the spider was five inches across the span of her legs. She was dark brown with a violet tinge on the legs and covered all over with dark hairs. This specimen took grasshoppers, locusts, moths and other insects in her initial stage of captive life. After about a month in captivity, she refused to eat grasshoppers and locusts which made it doubly hard to get food for her. One day while feeding captive reptiles on white mice, it was decided to try young white mice on her, and surprisingly enough she took to the new diet. From then, until the time of her death, her main diet was white mice.

Food was offered to her fortnightly. She showed signs of wanting food by being restless in her cage. When approached she raised herself on her hind legs with her fangs thrust forward. When a young mouse was put into her cage she did not pursue it, but retreated to one corner of the cage, rose on her hind legs until almost perpendicular to the floor, and waited for the mouse to pass underneath her. When it did so she pounced with incredible speed and struck with her fangs into its back. The mouse hardly struggled. The effect of her poisonous bite depended on the size of the mouse. A mouse of 5 grams in weight would be paralysed immediately and in less than four minutes would be dead. If, however, a fully grown mouse, weighing 10-12 grams was offered, she not only had to keep striking with her fangs but she had, at the same time, to emit silky threads to ensnare the animal and so prevent it from escaping her grip. In about 7-10 minutes a fully grown mouse would be dead. She did not chew or tear her food as the giant scorpion (*Heterometrus longimanus*) does, but, like other spiders, she sucked the body fluids from the mouse. After 18-28 hours all that remained of the victim was a ball of bones and fur. Sometimes newly born fruit bats (*Econycteris spelaea*), found on the floor of the dark caves in Batu Caves, were given to her. She took the bats readily. Between feeds she usually lay dormant under a log in her cage.

The first sign that she was about to shed her skin was when she became very restless and yet refused to feed. This behaviour lasted for about three days and on the fourth or fifth day she retreated to the corner of her cage under the log and remained there for four

or five days. During this period of resting she showed no signs of resentment even when she was disturbed with a stick. The skin became blurred during this time which was a sure sign that she was about to cast it. She removed herself from the cast by breaking the entire carapace and withdrawing her legs and other parts of the body and finally freeing her whole body through the open carapace. The cast was quite undamaged.

The newly emerged spider looked most handsome. The violet tinge of the legs was very bright, and the whole spider had an appearance of glossy iridescence. Now she was very active and she showed signs of wanting food by striking at any movement in front of her cage. On one occasion just after she had cast her skin, a male Forest Tree mouse (*Chiropodmys gliroides*) was left in her cage with her. The tree mouse weighed about 20 grams and was more active and agile than the laboratory bred mouse. As usual she allowed the tree mouse to nose around the cage until he came right underneath her. Once there, she fell with lightning speed on top of the tree mouse and embedded her fangs in his back. The tree mouse squeaked and bit one of the legs of the spider. The latter retracted her fangs immediately and the mouse was out of her grip. He was now slightly paralysed and limping badly. This may have been caused by the venom of the spider. The spider losing no time chased after the limping mouse and struck with her fangs again at the same time emitting silky threads to ensnare her victim. Although there was some struggle between them the tree mouse gradually became weaker and weaker and finally succumbed. The entire battle lasted about 10 minutes.

According to the aborigines this spider prefers small birds and insects in the wild. House sparrows (*Passer montanus malaccensis*) were offered on several occasions, and two out of seven were killed, but they were not eaten. The birds seem to have less resistance than the small mammals as they died immediately after they had been attacked. Perhaps they were not eaten because the spider had been trained to feed on mice in captivity or perhaps mouse is more succulent than bird. It was a pity that this spider met with an accidental death at the time that I was experimenting with a bird diet.

Table 1 shows that the average number of days to complete each cast was 49 and that the interval between casts was 139 days. Table 2 shows the measurement of nine casts individually. Measurements of the casts were made on the length and breadth of the carapace, excluding the chilecers and the legs. The spider had grown approxi-

mately 1 mm. in length and breadth at an average interval of 123 days, and she had grown altogether 10 mm. in length and 8 mm. in breadth during her 5½ years of captive life. She had taken 110 young mice and 19 adults. The average weight per type was 5 and 10 grams each, i.e. 740 grams altogether. The average wasted food per type was 2 and 5 grams; that is 315 grams. The total weight of food consumed was, therefore, 425 grams. The final weight of the spider in her freshly killed condition was 44.2 grams whereas she had weighed 26.9 grams on arrival in March 1953. It will be seen that 425 grams of food produced 17.3 grams live weight (approximately) that is 25 parts of food to one part of weight increase.

Spiders in general are disliked by many people, and many weird stories are told of them. Their behaviour is often regarded as atrocious but the fact remains that a spider has to eat to live and what spiders do is no more brutal than man's killing of other animals to keep himself alive. It is interesting to ask oneself the question 'What harm do spiders do to man?' Other arthropods such as mosquitoes, flies, mites, chiggers, ticks and others carry and transmit disease but spiders have never been found to do this. Neither do they harm us directly or indirectly by destroying our food supplies. On the contrary they do much good by destroying many insect pests.

During my 'frogging' nights I used frequently to see myriads of green lights shining in the darkness. These were the reflections from the eyes of spiders. Occasionally I counted these green lights and on one occasion I found more than five hundred spiders in less than a quarter of an acre. Only the larger spiders were spotted in the night and there must have been many small spiders which remained always in the litter and so were not seen. This does not include the web-weavers of the canopy which are probably as numerous as the ground-dwellers. So very little information is known of the ecology, populations and distribution of Malayan spiders.

Unlike the study of other animal populations, for which one may need to go miles away from home to find suitable habitats and sufficiently large populations for worthwhile study, spiders are sufficiently numerous to study at home and the populations of the back garden are great enough to investigate satisfactorily. To those who are interested in animal biology this field of study is wide open and is within a stone's throw of your door.

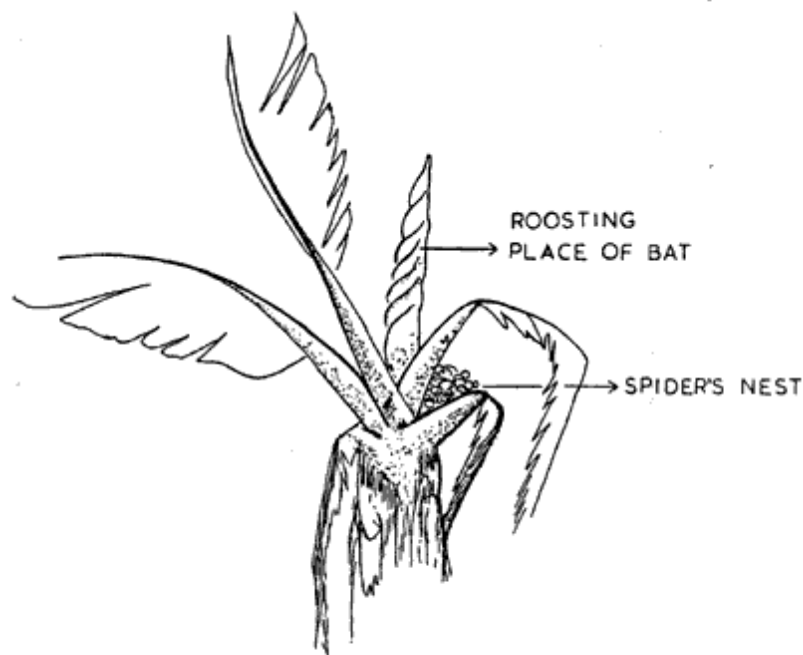
TABLE 1

Period restless period to shedding		Resting period		Date of cast shed by spider	No. of days to complete each cast	No. of days between each cast
Date	Days	Date	Days			
23.10.54— 26.10.54	3	28.10.54— 1.11.54	4	15.12.54	45	—
16. 3.55— 20. 3.55	4	22. 3.55— 26. 3.55	4	30. 4.55	44	135
14. 7.55— 16. 7.55	2	17. 7.55— 21. 7.55	4	5. 9.55	51	125
4.11.55— 7.11.55	3	10.11.55— 13.11.55	3	4. 1.56	60	119
1. 4.56— 3. 4.56	2	6. 4.56 10. 4.56	4	22. 5.56	51	138
14. 8.56— 17. 8.56	3	20. 8.56— 23. 8.56	3	5.10.56	51	133
24. 1.57— 26. 1.57	2	27. 1.57— 30. 1.57	3	5. 3.57	41	150
10. 7.57— 13. 7.57	3	17. 7.57 21. 7.57	4	24. 8.57	44	169
23.11.57— 26.11.57	3	27.11.57— 30.11.57	3	23. 1.58	60	149
Mean	2.7		3.5		49.6	139.7

TABLE B. 2

Measurements of casts in mm.

No.	Date of cast shedded	Length of cast	Breadth of cast
1	15.12.54	21	19
2	30. 4.55	23	20
3	5. 9.55	24	21
4	4. 1.56	26	22
5	22. 5.56	27	23
6	5.10.56	28	24
7	5. 3.57	29	25
8	24. 8.57	30	26
9	23. 1.58	31	27



(Line drawing) The nest of the bird-eating spider.