

JAMAICA'S BLACK SPIDER

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Natural History Notes of the Natural History Society of Jamaica. No. 8, December 1942.

Key words: *Latrodectus mactans*, poison, mating

Jamaica is fortunate in the fact that it is exceptionally free from poisonous animals. Tales of poisonous snakes and galliwasps must be ranked as myths. Jamaican scorpions are not large and centipedes of any size are rare. Among the numerous objects of fear, however, is the "Black Spider" - and stories of the seriousness of a bite from this creature are not without foundation.

Enquiries throughout a large portion of Jamaica have revealed that a few people know the "Black Spider." Most of the accused are harmless species or large spiders of a type quite different from the true "Black Spider."

Naturalists who have visited Jamaica, or have written about Jamaica have said little or nothing about the spider and have apparently rarely found it. Sloane (1725) probably

refers to it when he mentions a specimen given him of a “poisonous” spider which he calls *Araneus niger minor* and describes as “small and blackish, only the under part of the belly had a white square spot on it.

Browne (1756) refers to a spider of a black and red pattern, “frequent in he woods” with a “bite said to be very venomous.” He goes on to say, however, that “the body is about an inch (2.5 cm in length and of oblong form.” Browne probably confused two species.

Long (1774) gives a good description of the spider which he calls the “Red-tailed Spider”;

“It is of glossy jet-black all over, except the tail, which glows with a vivid red. It is extremely sluggish and averse to motion, even when disturbed. It inhabits chiefly in holes of old walls, or decayed timber. A young, robust negro man happening to be stung by one, the venom irritated his nerves so much, as to throw him into convulsions, which were of no long continuance; upon being blooded and chafed, these symptoms left him; and he felt no further bad effect. The pindals-nut, bruised and applied a poultice to the stung part, is esteemed an antidote to the venom of both these insects; but any other resolute oil or oily substance applied warm is equally efficacious.”

Gosse (1851) briefly mentions the spider saying that, beneath stones, one finds “a little spider with round glossy abdomen, black, with three scarlet spots near the extremity (probably a *Therdium*), which is held in great terror as highly venomous. When uncovered they are unwilling to run, keeping close to the under surface of the stone that has served them for shelter and concealment.”

There may be other scientific records of this spider in Jamaica, but these four are the only ones which I have found. Among the non-scientific records, we find an interesting account in Lady Nugent’s journal under the entry for July 31st, 1804:

“General N. off early for Kingston, and did not return till 3. General N. Found much consternation at Up-Park barracks, today, on account of several soldiers having died, in consequence of the bite of a spider. It is described as a small, round, black spider, with a red spot at the tail, containing a subtle poison. In fifteen minutes or less, after the person is bitten or stung, he goes into convulsions and very often it proves fatal. General N. saw a man in the hospital a few hours after he was bitten, and says that his agonies were dreadful, and the doctors thought he could not possibly live. Before we went to bed, I had all the rooms thoroughly examined and my darling children’s cots in particular. God protect them!”

The red spot varies in shape from the typical hour-glass form and might appear square. The red colour fades rapidly in spirit and after a time might be described as white.

The "Black Spider" of Jamaica is the well-known "Black Widow Spider" of the United States, a spider which in recent years has received much publicity in the American and British newspapers and the danger of which has been greatly exaggerated. During the summer of 1939, under the threatening war clouds, questions were raised in the House of Commons about the Black Widow Spider. What would become of those in the London Zoo should War be declared and London bombed? Arrangements were then made for the destruction of the spider, which is of course, not a native of England, before any opportunity for escape should come about.

The spider must be considered one of the common species of Arachnids of Jamaica, but it has developed an interesting association with the dildo cactus which may account for the fact that many scientists and others have failed to see it during recent years. Where ever I have found dildo growing, I have found the spider among its spines - along the Palisadoes, Rockfort, Long Mountain, near Yallahs, near Alley, etc.

I have not previously heard of this interesting association between spider and plant, for the species is usually found, as described by Long and Gosse, under rocks, in decaying stumps, or under stones; in the vicinity of Halfway- Tree and Up-park Camp they are occasionally found under houses.

Almost all spiders have poison glands, but only the venom of members of the genus *Latrodectus* is deadly to man. For centuries spiders of this group have been feared throughout the world. The Black Spider or Black Widow Spider, *Latrodectus mactans*, is known to occur from Canada to Tierra del Fuego. The females are medium-sized spiders; the body of the Jamaican form never exceeds one half inch (12 mm). The legs are long and slender and are folded against the body when the spider is in its tube-like retreat. The abdomen is almost spherical and glossy black. Yellow markings in the form of diagonal lateral stripes may be more or less developed in young females. The red hour-glass spot on the underside is typical but variable; there may also be a red spot at the top of the abdomen above the spinnerets.

The male, as in most species of spiders, is much smaller, the body being about one-sixth of an inch (2 mm) long, but with relatively longer legs. The abdomen is more elongated and is brightly marked with pale yellow diagonal lateral stripes and a row of red stripes in the dorsal mid-line.

The name "Black Widow" comes from the fact that the female usually devours the male after mating - common custom among spiders but in spite of the popular belief, if the female is not too hungry the males usually escape and have been known to mate again.

Deaths from the bite of this spider are not uncommon, and, in the United States it is believed that perhaps one out of twenty bites prove fatal. I have not heard of any recent deaths by the spider in Jamaica but I know that several persons have been bitten during the last year. To quote from Kaston (1937) "The poison is produced by two very large glands in the fore-part of the body. By means of two slender tubes it passes through the movable parts that serve as jaws and finally comes out through the tiny opening in the fangs." Kaston goes on to say "the effects of the bite on man are general throughout the body. The venom, which is chemically albumen, chiefly affects the nervous system. There is very little injury at the site of the bite. In fact the bite itself is not painful and may not be noticed at the time. Pain is felt within a few minutes, usually near the bite, but spreading to muscles all over the body. The pain reaches a maximum in about an hour or so, generally continues for twelve to forty-eight hours, then gradually subsides. In the abdomen region it is very severe and accompanied by rigidity of the abdominal muscles. The blood pressure rises, and there may be profuse perspiration, slight fever, nausea and vomiting.

The symptoms following a bite may give a clue to the reason why some deaths occur. According to Dr. F. C. Filler, U.S. National Director of Health and Safety, "the abdomen becomes board-like in rigidity, the heart is irregular, the beats in some cases being reduced to a low count. The shock is very severe and the pain is intense." He suggested that death may possibly be due in part to shock similar to that caused by the supposedly poisonous man-of-war. Dr. Charles Fish quotes an Army Doctor regarding the sting of this jelly fish: "after contact with its tentacles, a partial paralysis of the victims breathing apparatus occurs for a time, which condition of course, throws him into great panic. Should the heart be unable to stand the shock, death must result."

It has recently been explained that the poison sac is controlled by muscular action, voluntary on the part of the spider. The bite, therefore, may be harmless or not, depending upon the amount of venom injected. It seems fairly definite that the spider is an infrequent biter as has been exhibited by Dr. Allard of the US Dept of Agriculture, who has on several occasions tried to test on himself the bite of the spider. They flatly refused to use their fangs on his finger. Several times on collecting trips, Dr. Allard has carried five or six live Black Widows in his closed hand, but they never made any attempt to bite. It has been suggested that the spider bites only when it believes food prey is available. For instance, if one strikes the web in such a fashion as to give the

spider the impression an insect had been caught, the spider may rush out ready to bite.

Local antiseptic should immediately be applied to a bite, to prevent infection and the patient should be given a sedative, such as morphine. Hot baths provide relief from the pain and greatly assist in relaxing the tension of the body. Alcohol, or any other stimulant, is very harmful and may easily make a bite prove fatal. Any non-stimulative fluid should be taken freely. A physician may give an intravenous injection of 20cc of 10% magnesium sulphate solution or 10 cc of calcium gluconate.

Indians of California ranked the venom of the Black Widow with that of the Rattlesnake. C. Hart Merriam quotes the Northern Mewuk Tribesman: "Poko-moo, the small black spider with his long fingers and the scratch makes a bad sore". These Indians mashed the spider and rubbed the points of their arrows in the poison thus obtained. It is reported that the eggs of the species are so poisonous that a few drops of a solution made from them will kill a rabbit almost immediately. It should be remarked, however, that, the spiders found in California are exceptionally large and have therefore more powerful jaws with which to bite and probably larger poison glands. Fortunately the spiders found in Jamaica are usually not large and would probably be unable to penetrate the skin of a labourer's hand.

The web of the spider is very characteristic and can easily be recognized once it is known. It is an irregularly meshed snare of threads much coarser and stronger than those of most spiders. The species is essentially nocturnal and feeds on practically any kind of insect, often large beetles, which become ensnared in its web. When, experimentally, given a lizard, it soon killed and fed upon it.

The eggs, numbering 200 to 800, are enclosed in a cream-coloured cocoon which is nearly spherical and usually about three-eighths of an inch (3 mm) in diameter. A female may guard more than one cocoon at a time.

Latrodectus mactans is extremely abundant on Cayman Brac and on Little Cayman, and is locally found on Grand Cayman. On these islands it is found in its usual habitats - in rotten wood, under limestone rocks, in stone walls and under buildings. One death on Little Cayman was undoubtedly due to the bite of this spider; on Cayman Brac several people have been very sick from bites, but all recovered. No information is available concerning occurrence on the Turks and Caicos Islands, but the Black Spider is not found on the Pedro Cays or on the Morant Cays.

This discussion has been devoted solely to the Black Spider or Black Widow, *Latrodectus mactans*. We have in Jamaica, however, another species of

Latrodectus. While *L. geometrica* is also poisonous, it apparently rarely bites and is much less famous than its black cousin. Perhaps this is due to its small size and limited distribution. This second form is very common in down-town Kingston and can easily be distinguished from *mactans* by the fact that it is light brown instead of black also the egg-mass is covered with tiny knobs, whereas that of *mactans* is smooth.

