

Case Reports—

A Neglected but Potentially Dangerous New Guinea Snake—the Small Eyed Snake (*Micropechis ikaleka*)

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IT IS generally assumed that serious envenomation from snake bite in Papua New Guinea results only from the death adder (*Acanthophis antarcticus laevis* Loveridge). The Papuan taipan (*Oxyuranus scutellatus canni* Slater) and the Papuan black snake (*Pseudechis papuanus* Peters and Doria) have not been identified north of the central mountain ranges. The Australian brown snake occurs north of the mountain ranges and may be present in New Guinea (Campbell, personal communication 1972). Campbell (1964) indicated that the small-eyed snake (*Micropechis ikaleka* Lesson) was potentially dangerous, and in 1968 he described symptoms of envenomation and one death.

It is our purpose here to draw attention to the small-eyed snake and to record the death of a young man on Kar Kar Island who was thought to be bitten by this reptile. Confirmation of the identification of the snake has not been obtained. The Kar Kar people are familiar with the death adder and the small-eyed snake, the latter being known locally as the 'white snake'. The man who was bitten was confident of the snake's identity.

Case History

On 27th October, 1970, at about 6 p.m., a young man was alone in the bush when he bent down to pick up a small dead rodent. He was immediately bitten by a 'white snake'. He walked home and mentioned casually to his wife that he had been bitten by a snake, but he carried on as if nothing untoward had occurred. At 8 p.m. that evening he was brought to one of us allegedly dying of snake bite. He was a very well built young man. The first symptoms had apparently occurred not long before and had consisted of a heaviness of the arms soon followed by shortness of breath and increasing agitation. When first observed there was some evidence of respiratory obstruction, the lips and gums were moderately cyanosed and he had recently vomited. A loose

tourniquet had been placed around his left upper arm just above two tiny, clean puncture wounds separated by some 2 cms over the upper triceps region. Five minutes later he became unconscious and all spontaneous respirations ceased. The airway was cleared and cyanosis quickly diminished upon institution of mouth-to-mouth resuscitation. The pulse rate was regular at 60-70 per minute and the leg and abdominal reflexes were intact. Small 1 cm deep 'X' incisions were made over the puncture wounds, but it was noted that they failed to bleed and that there was no other evidence of bleeding. Although his colour remained good and there was no change in pulse rate, he did not regain consciousness. At 10.30 p.m. some 6,000 units of death adder antivenene were given intravenously without effect. There was no deterioration in heart rate or rhythm nor in the tendon or cutaneous reflexes. At 11.30 p.m. he became increasingly cyanotic, and despite continuing resuscitation and the maintenance of a clear airway, the heart rate increased, the pupils dilated, the reflexes became sluggish and a cardiac irregularity appeared. About 12.20 a.m. he died.

DISCUSSION

This man was apparently in good physical condition prior to the snake bite. The opinion of the local people and the use of the term 'white snake' are against the possibility of this snake being a death adder. The failure to respond to death adder antivenene is probably also significant. Although the death adder is not uncommon on Kar Kar, the small-eyed snake is particularly abundant and its presence on the island has been noted previously by Cogger.

The characteristics of the snake as described by Slater (1968) are that it may reach a length of over 5 feet. The head is black above and brown on the lower lip, chin and throat. The dorsal surface of the body is yellowish cream, the cream coloured scales acquiring a black edge towards the tail. The tail is usually blackish above. The belly is also creamish yellow with some ventral scales edged with black.

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Southern specimens, which may constitute a separate race, tend to have a yellowish back with darker cross bands increasing and becoming more pronounced towards the tail. Around Madang and on the north coast, opposite Kar Kar Island, the snake is recognized as being large and white or yellow in colour, and it is a familiar reptile to all village people who regard it with considerable fear as its bite is recognized as frequently resulting in fatal consequences.

Slater (1968) indicates that the small-eyed snake is found in rain forest anywhere in Papua New Guinea and West Irian. Although present mainly in the lowlands, it is considered by him to reach an altitude of about 4000 feet. Slater states that the snake is active both during the day and night but more so in the drier months. Our own impressions in the Madang District are that the snake is more frequently encountered at night, and it is not uncommonly seen crossing roads after dark in close proximity to the township of Madang where it often seems to frequent the marshy areas near the coast. We have often seen the snake under similar circumstances in the Gogol Valley. The snake often grows to quite a large size and this, with its abundance, may be responsible for its familiarity to the local Papua New Guinean population.

K. R. Slater informed Campbell (1968) that he had developed nausea and severe headache and weakness which persisted for 2 days after he had been bitten by this snake. Cogger (1971) was sent a snake of this species for identification in 1958. The specimen was alleged to have been responsible for a fatality at Wau. The head of a second snake which was responsible for a fatal bite was also sent to Cogger. On this occasion, near Wewak, a young man was reported to have succumbed 36 hours after having been bitten. The youth was bitten on the hand at the base of the thumb whilst playing with a snake which he had caught. Whilst removing the snake the boy broke off two fangs in the wound. The lad apparently remained well for about one hour prior to the development of symptoms. Adequate clinical records of his subsequent illness are not available.

E. Tscharke (1972), who has had many years' experience in medical work on Kar Kar Island, has treated six or more cases of

envenomation from the bite of the small-eyed snake, two of these cases proving to be fatal. Tscharke is of the opinion that large doses of tiger snake antivenene were beneficial in the management of some of his patients. In his experience the small-eyed snake is prone to frequent piles of old coconut husks deposited in plantations and the reptile is both extremely lively and aggressive, thus constituting a real danger to plantation workers.

Campbell (1968) quotes Slater as being of the opinion that only the very large specimens of the small-eyed snake might give rise to fatal bites. Campbell reported that the subcutaneous fatal dose of the venom of this snake per 25 grammes mouse at the Commonwealth Serum Laboratories was 0.5-1 mgm, and he contrasted this with the subcutaneous fatal dose of 0.0034 mgm of taipan venom.

It is very commonly said that any case of envenomation from snake bite in Papua New Guinea is the result of a death adder bite, and a bite from the small-eyed snake is not considered in the differential diagnosis. The above instances, few in number and not particularly well documented, suggest that consideration should be given to this snake as a possible cause for serious symptoms after a snake bite.

It may well be that the reptile is particularly abundant on the north coast of Papua New Guinea in the Sepik and Madang Districts, but it is also widespread in the country. As it is nocturnal in habits this may, to a substantial degree, account for its being overlooked. Patients developing symptoms of snake bite envenomation in New Guinea and not responding to death adder antivenene may have been bitten by this snake and its presence should be kept in mind while dealing with snake bite cases.

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