

Notes on scrub ticks (*Ixodes holocyclus*) on native fauna in the Samford district. Qd. Nat. 18:16-18.

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# NOTES ON SCRUB TICKS (*IXODES HOLOCYCLUS*) ON NATIVE FAUNA IN THE SAMFORD DISTRICT

By E. N. MARKS and I. B. CRIBB

The Samford district, about 14 miles west of Brisbane, is an area of hills and valleys drained by the South Pine River and its tributaries, with an annual rainfall of 41 inches. Rocks of the hills are mainly Brisbane Schists and of the valleys Enoggera Granite. The district is now extensively cleared for farming but eucalypt forests still occur in quite large, scattered patches and are extensive on the adjacent ranges. Rainforest has been almost entirely cleared from the lower levels, except for sparse remnants along stream banks, and occurs only at scattered high points (ca. 1500-2000ft) on the D'Aguiar Range to the west. *Lantana* (*Lantana camara*) is common throughout the area.

The Scrub Tick (*Ixodes holocyclus*) is at present much in evidence in the Samford district. In Queensland these ticks are found chiefly in the coastal districts and are often associated with rainforest country, but here they are by no means restricted to it. Lee (1961) says that the conditions favour their survival where reasonably high humidities can be maintained close to the ground; he suggests that fire-prevention removes one of the most potent checks on tick populations.

Recorded native hosts of this tick include various species of marsupials which gain immunity by natural infestation. Bandicoots, wallabies, koalas, possums and pouched mice all are known to support this tick, but bandicoots appear to be the favoured hosts. Roberts (1960) gives a detailed list of the known hosts.

Infestation of domestic animals (dogs, cats, sheep, calves and foals) frequently results in paralysis. The first symptoms of this are generally seen after four or five days of attachment and the conditions, unless treated with the appropriate serum, may end fatally. Any animals which recover develop an immunity which may last up to eight months.

**I. holocyclus** also readily attacks man. Domrow and Derrick (1965) record numerous cases and conclude that it is practically the only tick that attacks man in S.E. Queensland.

Adult ticks are most active during the spring and summer, but may be present at any time of year. Domrow and Derrick (1965) found larvae from February to April and nymphs from April to October and consider there is probably only one generation a year.

The following observations in the Samford district were made at Bunya (by I.B.C.) and at Camp Mountain, (by E.N.M.). Identifications of ticks from magpie and possums were kindly checked by Dr. F. H. S. Roberts.

## Birds

Driving along the Bunya Road, I.B.C. noticed a young Pied Butcher Bird (*Cracticus nigrogularis*) perched on a fallen branch at the side of the road. On the return trip, stopping to inspect it, he discovered a large Scrub Tick deeply embedded at the base of the bird's head. As the bird was obviously sick he took it home, removed the tick, and provided a bed of straw in a cage for the night. Unfortunately this bird apparently succumbed to the toxin liberated by its attacker, for death occurred that night. As there was no sign of injury on the bird and it appeared otherwise normal, it seems safe to assume that the tick was the cause of death.

A young Black-backed Magpie (*Gymnorhina tibicen*) found beside the road at Camp Mountain on the afternoon of 22 December 1963 was very doxy and easily caught. It had two engorged *I. holocyclus* females attached under its neck. These were removed and the bird placed in a drum with a wire lid. It would not feed, but apparently made a complete recovery, as early next morning it was heard trying to escape and when liberated flew away strongly.

Domrow and Derrick (1965) record the death of a Crimson Rosella (*Platycercus elegans*) from Mt. Glorious (also in the Samford district) due to a Scrub Tick.

### Brush-tailed Possums

At Camp Mountain a succession of brush-tailed possums (*Trichosurus vulpecula*) have lived in the ceiling of the Marks' house, and some have become exceedingly tame. Occasionally very large, engorged, female *I. holocyclus* have been found moving over the floor and it is presumed these may have dropped from possums.

One female possum with two engorged ticks attached on front of her ear appeared unaffected by them, though they were in a position where she should have been able to dislodge them with her fore or hind claws; however, she permitted their removal.

A tame female possum habitually came to be fed as soon as the house was opened, often during the day. On 14 Nov. 1964 when she came during the day, she was very thin with a dull coat, looked listless, ate very little bread and did not show her usual interest. She had one large Scrub Tick on her which was removed. A week later she seemed quite normal and no ticks were found on her.

About 1 a.m. on 22 Nov. 1964 a strange young male possum was found eating bread on the verandah. He was probably one which had emerged from the pouch in September as he was of the size when they become semi-independent of the mother. He looked dull and sick, and when picked up lay relaxed, making little attempt to get away. He had a great many ticks above and below the eyes, all round the neck and in a thick patch underneath it, in the axilla, and elsewhere. After removal of these, he was released. About 11 a.m. on 22 Nov. he was found lying, conscious but not mobile, some yards away on the grass, but had not been there or on the verandah earlier in the day. At this stage he had a twist in his shoulders; it is not known whether this was due to damage caused by a fall or during removal of the ticks, to the extensive tick bites on his neck, or to paralysis. He lapped milk and chewed a little banana and did so again in the evening and the following morning, but it is questionable whether he could swallow much as he lapped for a long time with little effect on the amount of milk in the bowl. On the morning of 23 Nov. he appeared anxious to curl up and hide his face—whether from sleepiness or photophobia; by 7.30 p.m. he was very weak and could not lap, though he made swallowing movements when milk was spooned into his mouth; he died about 8.30 p.m.

Miss L. Clark B.V.Sc. reported that post-mortem the lungs appeared normal; there had been a considerable loss of blood from haemorrhages under the skin where ticks had been attached; nothing else abnormal was found and it was possible that the animal died of anaemia.

The specimens of *I. holocyclus* collected from this possum on 22 Nov. were 10 females half to fully engorged, 12 females unengorged or partly engorged, and 7 males, three of which were joined with females. After death a further 5 partly engorged females were collected, as well as one female *Haemaphysalis bremneri*. Some of the

engorged female **Ixodes** had round scars on their under side which it was thought might have been caused by male ticks and Dr. D. E. Moorhouse has since made detailed observations which confirm this supposition.

### Dingo

Mr. W. R. Horne in November, 1955, found a newly-dead dingo (**Canis dingo**) on the Mount Nebo Road, Camp Mountain; it had probably been hit by a car. It was infested with Scrub Ticks; the total number is not known but in a collection made from it there are 14 females, one almost fully engorged and most of the others partly so.

### Conclusion

These few cases suggest that our native mammals and birds, when they first become independent of their parents, are particularly vulnerable to Scrub Ticks. Apart from deaths directly due to the tick bites, either from toxins or from anaemia, it seems likely that some of the numerous fauna casualties on our roads may be due to sluggish reactions resulting from tick infestation.

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