

NRCPD-OUAVM Joint Research Report

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1. Principal investigator

Name: Iromy Dhananjani Amarasiri

Position: Veterinary Research Officer

Affiliation: Veterinary Research Institute, Peradeniya, Sri Lanka

2. Project title:

Identification of tick vectors transmitting *Theileria* sp. Yokoyama to cattle

3. Collaborating research group members at NRCPD

Name: Naoaki Yokoyama

Position: Professor

4. Research period

4/1/2025 – 3/31/2026, One year

5. Purposes and objectives

Bovine theileriosis is an economically significant disease of cattle. A previous study conducted by NRCPD discovered a novel *Theileria* species in cattle and designated it as *Theileria* sp. Yokoyama. Subsequently, our recent study conducted in collaboration with NRCPD demonstrated that *Theileria* sp. Yokoyama causes anemia in cattle (Amarasiri et al., 2024). Despite these developments, control of *Theileria* sp. Yokoyama is currently not possible, as its tick vectors remain unknown. The objective of this study is therefore to identify potential tick vectors of *Theileria* sp. Yokoyama.

6. Outline of research process

Questing ticks were collected from five districts in Sri Lanka, including Nuwara Eliya, Galle, Matara, Monaragala, and Kurunegala. These districts represent different climatic zones, including the up-country wet zone, low-country wet zone, and dry zone. In each district, questing ticks were collected in and around cattle farms using the flagging method. The collected ticks were preserved

in ethanol and are currently being identified to the species level using morphological keys. Subsequently, DNA samples will be prepared from individual ticks and screened using the *Theileria* sp. Yokoyama-specific PCR assay that we developed previously.

7. Outline of research achievements

- A total of 650 questing ticks were collected from the five surveyed districts, including 90 from Nuwara Eliya, 100 from Galle, 150 from Matara, 180 from Monaragala, and 130 from Kurunegala.
- Morphological identification of the collected tick species is currently in progress.
- Researchers at the Veterinary Research Institute, Sri Lanka, were trained in the collection and species identification of questing ticks.
- Collaboration with NRCPD was enhanced by the exchange of technical expertise and research experience.

8. Publication of research achievements

None