## Note

First Report of Amblyomma papuanum Hirst (Acari: Ixodida: Ixodidae) from the Dwarf Cassowary, Casuarius bennetti Gould (Aves: Struthioniformes: Casuariidae), with Additional Records of Parasitism of Casuarius spp. by this Tick

Cassowaries, Casuarius spp., are large, flightless, cursorial birds native to deep, dense, tropical rainforests in the Australo-Papuan area, where they can be difficult to locate and dangerous to approach (Keast 1964). Of the three extant species, the so-called Dwarf Cassowary, C. bennetti Gould, is least known, although it has a broad range, extending from northwestern to southeastern New Guinea (Davies 2002); it is also the only cassowary found in New Britain (Mayr 1940). On 15 October 2002, one of us (SEB), while working at the base of Papua New Guinea's Mount Suckling (Owen Stanley Range), Oro (= Northern) Province, was able to make a collection of two female and 21 larval ticks from the head and neck of a specimen of C. bennetti that had been freshly speared and decapitated by indigenous hunters (Fig. 1). The collection site (9.32.50S, 149.04.14E) was in mature, primary forest characterized by numerous large banyan trees and other Ficus species, and was located on the west bank of the Wai-io-a River, 17.7 km northwest (compass bearing 315°) of Uiaku Village, elevation 350 m. All ticks were shipped in 70% ethanol to RGR, who identified the female specimens as Amblyomma papuanum Hirst. The larvae are almost certainly also A. papuanum, but the preimaginal stages of this tick have not been described, and no reared series are available for comparison (Camicas et al. 1998).

This is the first known collection of A. papuanum, or any tick species, from C.

bennetti. Roberts (1970) recorded this tick from the widespread Southern or Double-wattled Cassowary, C. casuarius (L.), in Sogeri (9.26S, 147.35E), Central Province, Papua New Guinea. No records of tick parasitism exist for the Northern Cassowary, C. unappendiculatus Blyth, which is confined to northern New Guinea. Three collections of A. papuanum in the U.S. National Tick Collection (USNTC), Georgia Southern University, are summarized in Table 1. A single record of this tick from an echidna, Tachyglossus aculeatus (Shaw), Cairns (16.57S, 145.45E), north Queensland (Roberts 1953), is noteworthy because C. casuarius also occurs throughout tropical northeastern Australia (Cape York Peninsula southeastward to the vicinity of Townsville (19.15S, 146.45E)), and both bird and mammal may be found together in tropical forest habitats (Nowak 1999). It is therefore possible that A. papuanum is only accidental on the echidna and that cassowaries are the principal hosts of this obscure tick species.

Our collection of *A. papuanum* has been deposited in the USNTC as accession RML 123680. We warmly thank Lorenza Beati, Institute of Arthropodology and Parasitology, and Lance A. Durden, Department of Biology, Georgia Southern University, for generously making available all records of *A. papuanum* in their care. Thanks also to David W. Hill, Armed Forces Pest Management Board, for preparing the color plate, and to Desmond Foley and



Fig. 1. Head and neck of Casuarius bennetti from which specimens of Amblyomma papuanum we llected. Arrows indicate female tieke

RML No.	Tick Stage(s)	Host	Location	Collector	Date
18476	2 ♂, 4 ♀	Casuarius casuarius	Papua New Guinea: Western Province, Fly River, Lake Daviumbu	Archbold Expedition, AMNH**	31 August 1936
45578	4 ♂, 7 ♀, 1N, 1L*	Unknown	Australia: Queensland, Iron Range	Archbold Expedition, AMNH	June 1948
99421	5 ♀	Casuarius casuarius	Papua New Guinea: Western Province, Oriomo	F. Klekham	October 1958

Table 1. Collections of Amblyomma papuanum in the U.S. National Tick Collection.

James E. Pecor, Walter Reed Biosystematics Unit, for assistance with the geographic coordinates.

## LITERATURE CITED

Camicas, J.-L., J.-P. Hervy, F. Adam, and P.-C.
Morel. 1998. Les Tiques du Monde (Acarida, Ixodida): Nomenclature, Stades décrits, Hôtes, Répartition (Espèces décrites avant le 1/01/96).
Éditions de l'Orstom, Paris. 233 pp.

Davies, S. J. J. F. 2002. Ratites and Tinamous. Oxford University Press. xxiii + 310 pp.

Keast, J. A. 1964. Cassowary, pp. 122–123. In Thomson, A. L., ed. A New Dictionary of Birds. McGraw-Hill Book Co., New York. 928 pp.

Mayr, E. 1940. Birds collected during the Whitney South Sea Expedition. XLI. Notes on New Guinea birds. VI. American Museum Novitates (1056): 1–12.

Nowak, R. M. 1999. Walker's Mammals of the World, 6th ed., Vol. I. Johns Hopkins University Press, Baltimore. lxx + 836 pp.

Roberts, F. H. S. 1953. The Australian species of *Aponomma* and *Amblyomma* (Ixodoidea). Australian Journal of Zoology 1: 111–161.

——. 1970. Australian Ticks. Commonwealth Scientific and Industrial Research Organization, Melbourne. iv + 267 pp.

Richard G. Robbins and Sarah E. Bush. (RGR) Armed Forces Pest Management Board, Walter Reed Army Medical Center, Washington, DC 20307-5001, U.S.A. (e-mail: richard.robbins@osd.mil); (SEB) Natural History Museum, University of Kansas, Lawrence, KS 66045-7561, U.S.A. (e-mail: bush@biology.utah.edu)

<sup>\*</sup> N = nymph, L = larva.

<sup>\*\*</sup> American Museum of Natural History, New York.