

INSECTS OF CAMPBELL ISLAND. METASTIGMATA : IXODIDAE¹

By Nixon Wilson

B. P. BISHOP MUSEUM, HONOLULU, HAWAII 96819

Abstract: *Ixodes uriae* White and *I. pterodromae* Arthur are recorded from Campbell Island, the latter species for the first time.

The material reported here was collected largely by Bishop Museum staff members and field associates during the summers of 1961-62 and 1962-63. An additional five collections have been listed which are deposited in the Dominion Museum (DM). These were identified by Mr. L. J. Dumbleton.

The tick fauna of Campbell Island, as presently known, is restricted to two species belonging to the genus *Ixodes*. Both are confined to oceanic birds.

KEY TO CAMPBELL ISLAND SPECIES OF IXODES

All coxae unarmed..... *uriae*
Some coxae armed..... *pterodromae*

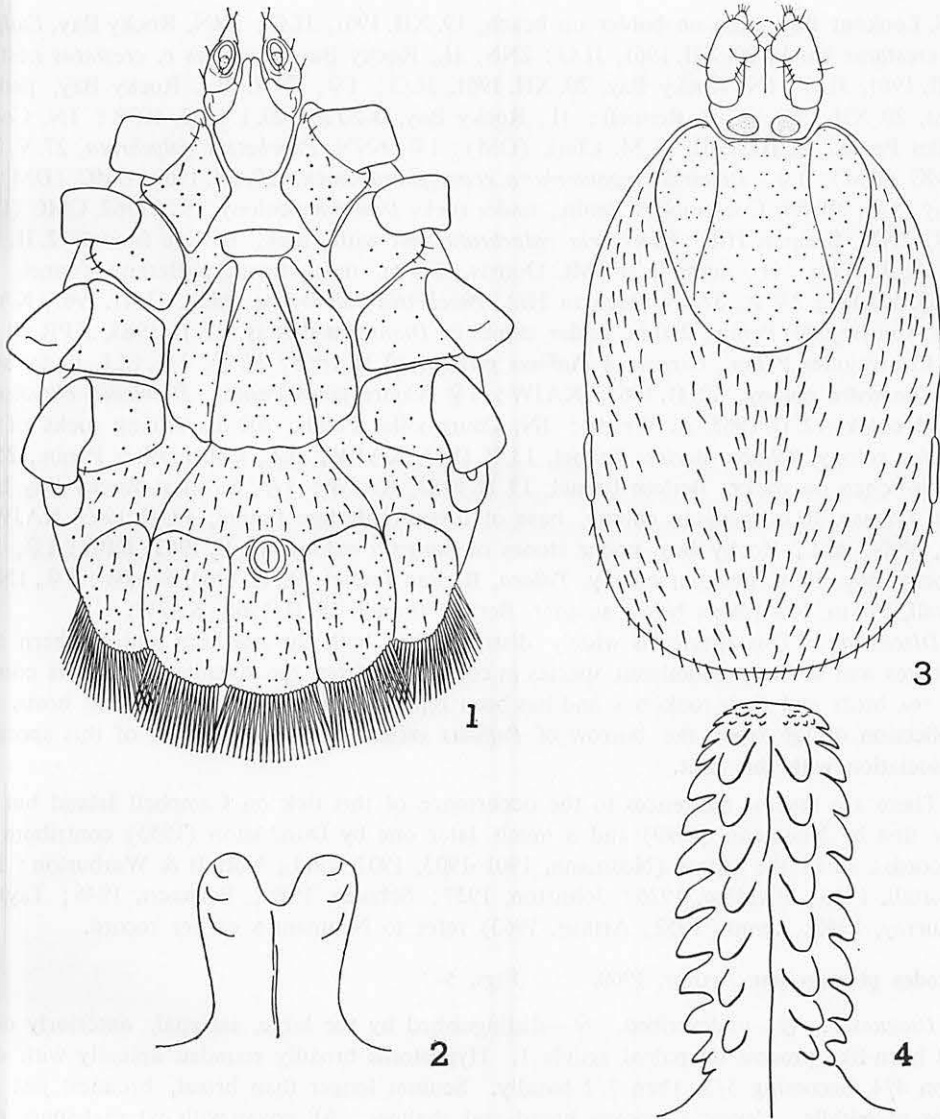
Ixodes uriae White, 1852. Figs. 1-4.

Diagnosis. ♂—a medium-sized tick easily recognized by the upturned, pointed palpi and the posterior fringe of 5 tufts of long hair. Hypostome rudimentary, notched and with dentition 1/1 faintly indicated. Ventrally an additional plate lies on each side of the median plate and the ephimeral plates do not enclose the spiracular plates. ♀—distinguished by the numerous hairs on the body and the widely separated, inwardly curved palpi. Hypostome broadly rounded apically with dentition 2/2. Scutum longer than broad, broadest anteriorly, with cervical grooves prominent. All coxae without spurs. Nymph and Larva—similar to ♀. Egg—oblate, yellow brown. Average (maximum-minimum) of 8, 605.3 μ (648-558) long, 443.3 μ (486-414) wide.

DISTRIBUTION: Bipolar. In the New Zealand subregion it has been recorded from New Zealand, The Snares, Antipodes I., Auckland I., Campbell I. and Macquarie I.

CAMPBELL ISLAND: 2NN, *Phoebetria palpebrata*, 1956, FD (DM); 13NN, 1L, Rocky Bay, *Eudyptes crestatus crestatus*, 28. XI. 1961, J. L. Gressitt; 5NN, 1L, Rocky Bay, *Eudyptes c. crestatus* nest, 28. XI. 1961, JLG; 1L, Mt. Azimuth, 350 m, moss-lichen, Berlese funnel, 30. XI. 1961, JLG; 1♀, Courrejolles Penin., 200 m, *Diomedea melanophris impavida* nest, 14.

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Figs. 1-4. *Ixodes uriae* White. 1, ♂ ventral view; 2, ♂ hypostome; 3, ♀ dorsal view; 4, ♀ hypostome (after Cooley and Kohls, 1945).

XII. 1961, JLG; 1L, Courrejolles Penin., 225 m, *Diomedea chrysostoma* nest, 14. XII. 1961, JLG; 8♂♂, 2♀♀, 13NN, 10LL, eggs, Courrejolles Penin., 200 m, *Diomedea* rookery, 14. XII. 1961, JLG; 1♂, 1♀, 10NN, 1L, Courrejolles Penin., 200 m, *Diomedea* nests, moss, 14. XII. 1961, JLG; 4♂♂, 1♀, Courrejolles Penin., 200 m, *Diomedea* nests, moss, 14. XII. 1961, JLG; 11♂♂, 5♀♀, 4NN, 12LL, eggs, Courrejolles Penin., 200 m, *Diomedea* nests, *Colobanthus*, 14. XII. 1961, JLG; 4♂♂, 1♀, Courrejolles Penin., *Diomedea* rookery in moss, 14. XII. 1961, JLG; 1♂ 1L, Courrejolles Penin., 200 m, *Colobanthus*, 14. XII. 1961, JLG (2);

1N, Lookout Bay, herb on bolder on beach, 19. XII. 1961, JLG; 3NN, Rocky Bay, *Eudyptes c. crestatus* chick, 20. XII. 1961, JLG; 2NN, 1L, Rocky Bay, *Eudyptes c. crestatus* nest, 20. XII. 1961, JLG; 1N, Rocky Bay, 20. XII. 1961, JLG; 1♀, 2NN, 2LL Rocky Bay, penguin nest, 20. XII. 1961, K. P. Rennell; 1L, Rocky Bay, 0-20 m, 20. I. 1962, KPR; 1N, Courrejolles Penin., 12. III. 1962, C. M. Clark (DM); 1♀, 6NN, *Phoebetria palpebrata*, 27. V. 1962, CMC (DM); 1♀, *Diomedea epomophora epomophora* chick, 30. IX. 1962, CMC (DM); 15 ♂♂, 1♀, 10NN, Courrejolles Penin., under rocks *Diomedea* colony, 19. X. 1962, CMC (DM); 1♀, 2NN, Beeman Hill, *Phoebetria palpebrata* nest with chick, Berlese funnel, 2. II. 1963, K. A. J. Wise; 1L, summit of Mt. Dumas, 503 m, moss tussock, Berlese funnel, 6. II. 1963, KAJW; 2♀♀, 32NN, Beeman Hill, *Phoebetria palpebrata* chick, 11. II. 1963, KAJW; 1♀, Courrejolles Penin., 220 m, under stones in *Diomedea* colony, 12. II. 1963, KPR; 1♀, S of Courrejolles Penin., burrow of *Puffinus griseus*, 12. II. 1963; 3♂♂, 1♀, 8LL, under stones in *Diomedea* colony, 12. II. 1963, KAJW; 1♀, Courrejolles Penin., *Diomedea chrysostoma* dead chick, 12. II. 1963, A. Wright; 1N, Courrejolles Penin, 200 m, among rocks of *Diomedea* colony, *Tillaea*, Berlese funnel, 13. II. 1963, KAJW; 8LL, Courrejolles Penin., 250 m, moss-lichen on rocks, Berlese funnel, 13. II. 1963, KAJW; 1♂, S. coast Rocky Bay below Mt. Dumas, 10 m, penguin colony, base of tussock, Berlese funnel, 18. II. 1963, KAJW; 1♂, 6NN, 5LL, Rocky Bay, under stones of penguin colony, 18. II. 1963, KPR; 1♀, 7NN, Rocky Bay, 10 m, penguin colony, *Tillaea*, Berlese funnel, 18. II. 1963, KAJW; 1♀, 1N, Mt. Lyall, 390 m, low plants below summit, Berlese funnel, 19. II. 1963, KAJW.

Discussion: This species is widely distributed in both the northern and southern hemispheres and is the predominant species in collections from the subantarctic. It is confined to sea birds and their rookeries and has been reported from about 45 different hosts. The collection of 1♂ from the burrow of *Puffinus griseus* is the first report of this species in association with this host.

There are several references to the occurrence of this tick on Campbell Island but only the first by Neumann (1899) and a much later one by Dumbleton (1953) contribute new records; all of the others (Neumann, 1901-1903, 1907, 1911; Nuttall & Warburton; 1911; Nuttall, 1916; Fielding, 1926; Johnston, 1937; Schulze, 1938; Bequaert, 1946; Taylor & Murray, 1946; Zumpt, 1952; Arthur, 1963) refer to Neumann's earlier record.

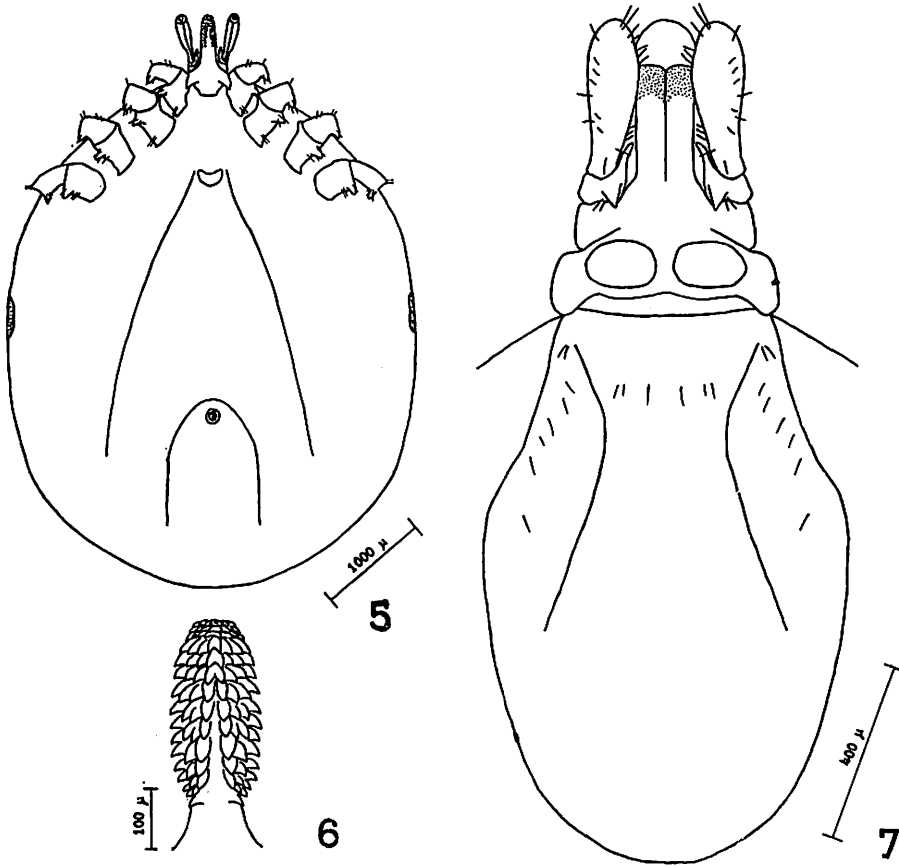
Ixodes pterodromae Arthur, 1960. Figs. 5-7.

Diagnosis: ♂—undescribed. ♀—distinguished by the large, internal, anteriorly directed horn-like process on palpal article 1. Hypostome broadly rounded apically with dentition 4/4, becoming 3/3, then 2/2 basally. Scutum longer than broad, broadest just anterior to middle. Cervical grooves broad and shallow. All coxae with external spurs, coxae I-III with internal spurs. Nymph—similar to ♀. Larva—undescribed.

DISTRIBUTION: Marion I., Australia, Tasmania, Campbell I., Macquarie I.

CAMPBELL ISLAND: 1L, Beeman, on foot of *Pachyptila desolata*, 27. II. 1962, K. P. Rennell; 4NN, Beeman, around beak and eyes of *Puffinus griseus*, 28. IV. 1962, KPR.

Discussion: This is the first record of this tick from Campbell Island and the first record from these hosts. It appears to be most closely associated with burrow nesting birds, however, there are records from *Diomedea exulans* and "penguin", two surface nesting species. Additional collecting is necessary before a true host relationship can be ascertained. The 1 larva listed here is provisionally placed under this species until additional mat-



Figs. 5-7. *Ixodes pterodromae* Arthur. 5, ♀ ventral view; 6, ♀ hypostome; 7, ♀ capitulum and scutum, dorsum.

erial can be obtained for comparison.

Scientific and common names of birds referred to in paper

Sphenisciformes

Eudyptes crestatus crestatus

Rockhopper penguin

Procellariiformes

Diomedea chrysostoma

Grey-headed mollymawk

Diomedea epomophora epomophora

Southern royal albatross

Diomedea exulans

Wandering albatross

Diomedea melanophris impavida

Black-browed mollymawk

Pachyptila desolata

Antarctic prion

Phoebetria palpebrata

Light-mantled sooty albatross

Puffinus griseus

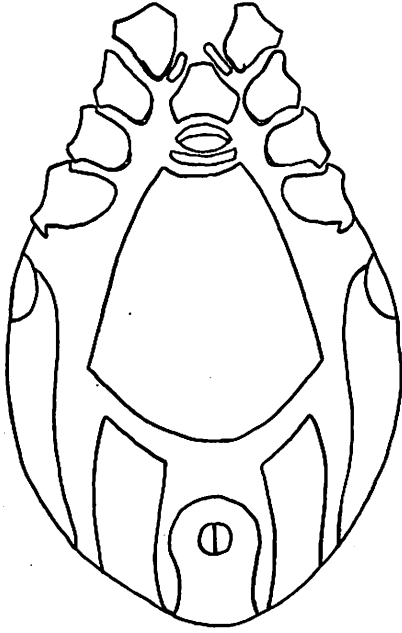
Sooty shearwater

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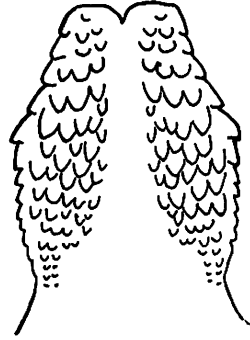
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APPENDIX

The following information was obtained from the description of the ♂ of *Ixodes pterodromae* Arthur (after Roberts, 1964). The following diagnosis was obtained too late to insert in the original text. Insert on p. 25 after *Diagnosis*: ♂—scutum convex, smooth, lacking lateral carinae, cervical grooves short and shallow. Hypostome notched and with dentition 5/5-6/6. Coxae I-III with internal saliences, coxae II-IV with small external spurs, coxae I-IV with small anterior prominences. Ventrally there are 10 plates, the epimeral plates almost enclose the spiracular plates.



8



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Figs. 8-9. *Ixodes pterodromae* Arthur. 8, ♂ ventral view; 9, ♂ hypostome (after Roberts, 1964).