



NEW ZEALAND BIOSECURE

Entomology Laboratory

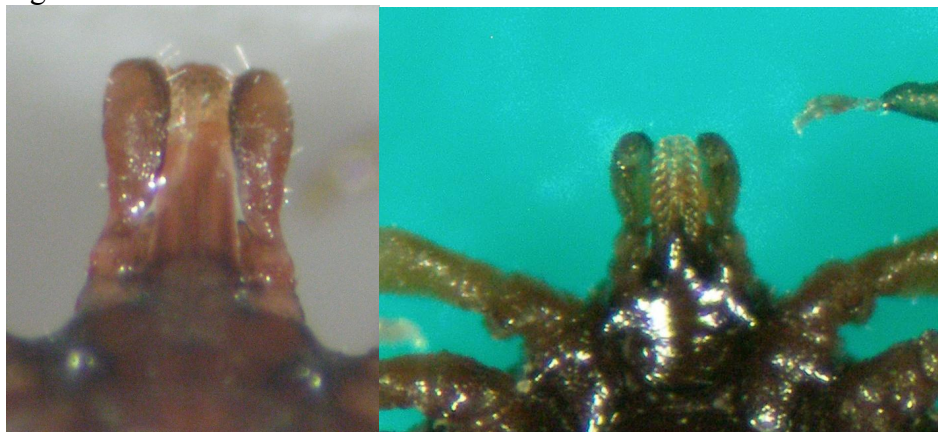


Profile: *Ixodes auritulus zealandicus* Dumbleton, 1961

Common Name: -

Family: Ixodidae

Origin: Indigenous



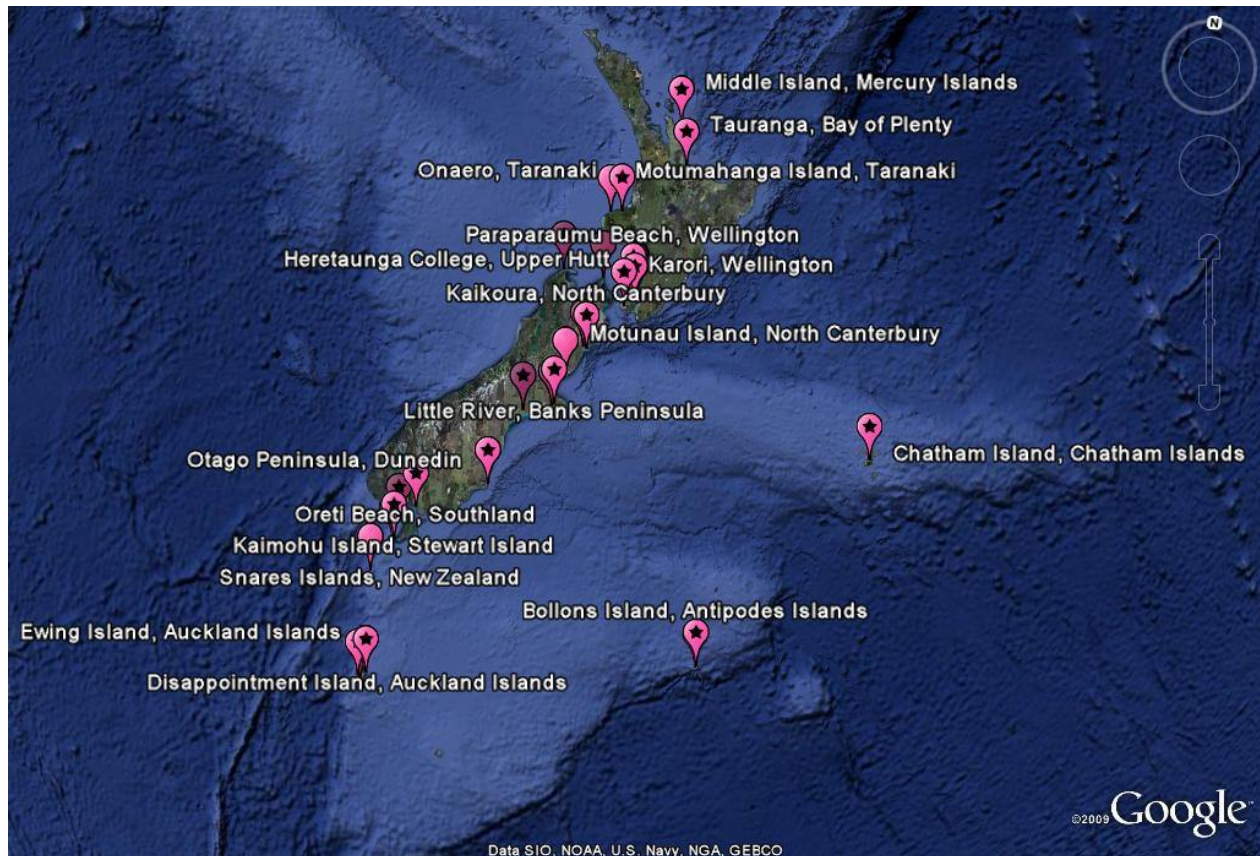
Female palps and palpal spur (dorsal), Nymph hypostome (ventral)

Geographic Distribution:

(excludes data for specimens which are currently missing from NZ collections, i.e. haven't been able to verify)

Snares Island; Stephen's Island, Cook Strait; Birdling's Flat* & Ashburton*, Mid Canterbury (Dumbleton, 1961); Little River*, Banks Peninsula (specimen held at Canterbury Museum); Kaikoura*, Canterbury; Codfish Island*, Stewart Island; Waikanae Beach*, Wellington (ACG Heath, AgResearch, unpub. data, 2006); Middle Island*, Mercury Islands; Tauranga* & Bay of Plenty*; Onaero*, Taranaki; Motumahanga Island, New Plymouth; Peka Peka* & Paraparaumu Beaches*, Wellington; Akatarawa* & Heretaunga College*, Upper Hutt; Karori*, Wellington; Puponga*, NW Nelson; South East*, Horuakopara Is & Chatham Islands*, Chatham Islands*; Otago Peninsula*; Big South Cape* & Kaimohu* Islands, Stewart Island; Tern Point*, Punui Bay*, S.A. Signpost Hill & Station Point*, Snares Islands; Oreti Beach*, Southland; North Plain* & Bollons Island*, Antipodes Islands; Disappointment*, Ewing*, Rose* & Auckland Islands, Auckland Islands* (specimens held at Te Papa Tongarewa); Motunau Island & Kowhai River, North Canterbury (specimens held at NZAC).

*Specimens collected from bird hosts - do not necessarily reflect the actual geographic distribution of the tick unless found associated with a nesting site. However, the locations for ticks found on birds such as kakapo are more reliable because of the flightless state of the host.



*Specimens collected from bird hosts (see note previous page)

Known Hosts: Usually burrow-nesting sea birds but there are exceptions – common diving petrel *Pelecanoides urinatrix*, fairy prion *Pachyptila turtur*, sooty shearwater *Puffinus griseus* (Dumbleton, 1961); Hutton’s shearwater *Puffinus huttoni*, grey petrel *Procellaria cinerea*, broad-billed prion *Pachyptila vittata* and Stewart Island weka *Gallirallus australis scotti* (land bird which is often found near sea cliffs associated with sea bird colonies), Stewart Island snipe *Coenocorypha aucklandica iredalei*, little blue penguin *Eudyptula minor*, western weka *Gallirallus australis australis*, Auckland Island snipe *Coenocorypha aucklandica aucklandica*, wandering/snowy albatross *Diomedea exulans exulans*, South Island Kaka *Nestor meridionalis meridionalis*, black-browed albatross/mollymawk *Diomedea melanophrys melanophrys*, Fulmar prion *Pachyptila crassirostris crassirostris* (Bishop & Heath, 1998); yellow-eyed penguin *Megadyptes antipodes*, black-bellied storm petrel *Fregetta tropica*, Buller’s shearwater *Puffinus bulleri* and kakapo *Strigops habroptila* (ACG Heath, AgResearch, unpub. data. 2006); South Island saddleback *Philesturnus carunculatus carunculatus*, Southern diving petrel *Pelecanoides urinatrix chathamensis*, Antarctic tern *Sterna vittata bethunei*, flesh-footed shearwater *Puffinus carneipes hullianus*, Snares penguin *Eudyptes robustus* (specimens held at Te Papa Tongarewa); black-backed gull *Larus dominicanus*, Antipodes Island snipe *Coenocorypha aucklandica meinertzhagenae* (specimens held at NZAC); Hooker’s sealion *Phocarctos hookeri* (A. Heath, AgResearch, unpub. data. 2009).

Specimens have been found associated with nest material and on host birds. Also from tuatara faeces (Dumbleton, 1961), but sooty shearwaters occupied the same burrows so presumably came from them.

Disease Associations: none known (Heath, 1987), however there are indications that this tick may cause tick paralysis to some degree; a high proportion of wrecked prions found on beaches in the south west North Island of New Zealand after storms have been found to be infested with *Ixodes auritulus* ticks. It is unclear whether the ticks induced paralysis or weakened the birds causing exhaustion that lead to the birds' deaths (Heath, 2006). This type of death and paralysis has been observed within the Chatham Islands among prions with large numbers of ticks on individual birds (D. Merton, pers. com. 1982 cited in Heath, 2006).

Taxonomy: Holotype Male. Type Locality – Snares Island, New Zealand ex common diving petrel nest material. Collected 1947. Deposited in Dominion Museum (Dumbleton, 1961). Paratypes - 1F, 1N same data as the holotype also in the Dominion Museum; 1M ex tuatara faeces, 3F, 2N ex fairy prion, collected Stephen's Island 1933, and 1F ex sooty shearwater, Birdlings Flat collected 17 May 1959 and deposited in Entomology Division, DSIR (Dumbleton, 1961).

Uncertainty remains within the taxonomy of this subspecies. The New Zealand population was proposed as a new subspecies by Dumbleton (1961) but this is considered to be unsatisfactory and the group requires further work.

Diagnostic Characters:

Female – scutum slightly longer than wide (Dumbleton, 1953), long, relatively narrow coxae, salient meso-dorsal ridge and attenuated dorsal extension of the anterior horn on palpal article I contrasts with *Ix. auritulus s.s.* (Arthur, 1960). Differs from *Ix. auritulus s.s.* in having greater length and subrectangular shape of the 2nd and 3rd coxae, and from *Ix. kerguelenensis* (then *Ix. pterodromae*) in the absence of acute internal spurs on both (Dumbleton, 1973)

Male – pre-genital plate sub-pentagonal, jugular plates present (Dumbleton, 1963), coxae 3 & 4 with small conical salience & large spur postero-externally, anal groove with straight, slightly diverging sides (Dumbleton, 1961)

Nymph – dentition 3/3 then 2/2, scutum slightly longer than wide, spurs on all coxae and trochanters, internal anterior spur on palpal article 1, cornua and auriculae strongly developed (Dumbleton, 1953)

Larva - internal anterior spur on palpal article 1, scutum about as wide as long, cornua and auriculae strongly developed, internal anterior spur on palpal article 1 (Dumbleton, 1953)

NB. This group is particularly difficult to identify and full descriptions would need to be consulted for confident identifications of most specimens.

Taxonomic Diagrams:

Dumbleton (1953 - as *Ixodes auritulus*), Arthur (1960), Dumbleton (1963), Roberts (1970 – *Ix. auritulus* group)

Biology:

Found associated with nests as well as on bird hosts.

Seasonality: Collection data ex Dumbleton (1953; 1961), Heath (2006), Heath (unpub. data, 2009) and specimens held at the NZAC, Canterbury Museum and Te Papa Tongarewa.

Stage	J	F	M	A	M	J	J	A	S	O	N	D
Females	✓	✓	✓	✓	✓				✓	✓	✓	✓
Males					✓							✓
Nymphs	✓	✓	✓	✓	✓				✓	✓	✓	✓
Larvae	✓	✓	✓		✓				✓	✓	✓	✓

Also a record for an April collection of this species, but no lifestage was listed

References:

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