



## Checklist of New Zealand ticks (Acari: Ixodidae, Argasidae)

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### Abstract

A list of all the species of ticks (Acari: Ixodidae, Argasidae) known to occur naturally in the New Zealand subregion is given. Hosts, geographic distribution and relevant references are provided for each species. Three erroneous records published recently, two in a book on New Zealand biodiversity and one in a seabird tick review are corrected.

**Key words:** ticks, Acari, Ixodidae, Argasidae, New Zealand, checklist, erroneous records

### Introduction

A recent publication (Gordon 2010), intended to present an up-to-date and complete a list of New Zealand's biota, actually contains a number of factual errors concerning the New Zealand tick fauna, as well as an omission. Also, a review of seabird ticks by Dietrich *et al.* (2011) contains an erroneous record of a soft tick and other statements about New Zealand ticks that we consider incorrect. In order to avoid further confusion with the perpetuation of erroneous records, we provide here a complete list of the ticks known to occur naturally in New Zealand, together with their hosts, geographic distribution and relevant bibliographic references.

In the last decade, publications of lists of valid tick species have become a regular event. Lack of agreement between authors of these lists as to what constitutes a valid species, even when the same authors sometimes occur together on different papers, has led to estimates of the world tick fauna ranging from 867 (Horak *et al.* (2002) to 907 (Barker & Murrell 2008). The latter authors originally estimated 899 species (Barker & Murrell 2004) but reprinted their paper with changes in 2008. The latest list (Guglielmone *et al.* 2010) contains 894 valid species (excluding two fossil species). These revisions (and reversals) not just in numbers and validity of species, but in changes of genera to which some species are assigned, have led to confusion and irritation among scientists who would prefer nomenclatorial consistency and stability.

New Zealand has a small tick fauna with ten breeding species recorded, including *Ixodes amersoni* recently identified as present (Heath 2010a). A further species, an argasid from a native bat, is also present and currently being described (Heath, in prep.), but its presence could not be verified until recently. Specimens referred to by Heath (1977) and Daniel (1979) on the basis of personal communications from G.W. Ramsay cannot be located, and there has been no formal description, but additional material from another source has made this possible. Dumbleton (1953) compiled all records of New Zealand ticks and their hosts that were available at that time, and then added to his list in subsequent publications (Dumbleton 1958, 1961, 1963, 1973).

We have adopted the currently accepted nomenclature of Ixodoidea as presented by Guglielmone *et al.* (2010) which differs in some species names used in earlier New Zealand publications. For instance, *Haemaphysalis bispinosa*, as used by Myers (1924), Dumbleton (1953, 1963) and Gordon (2010: 56) for the cattle tick in New Zealand, is now known as *H. longicornis* (see Hoogstraal *et al.* 1968), with *H. bispinosa* Neumann, 1897 referring to a species that has an Asian distribution, covering Pakistan, India, Sri Lanka and Malaysia.