



***Crikey steveirwini* gen. et sp. nov. from montane habitats in the Wet Tropics of northeastern Queensland, Australia (Gastropoda: Eupulmonata: Camaenidae)**

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Abstract

Crikey steveirwini **gen. et sp. nov.** is described from montane habitats in the Wet Tropics of northeastern Queensland, Australia. This species is unique among the eastern Australian arboreal camaenids in both distribution (confined to montane refugia), and genital morphology (lacking a penial verge). An assessment of the phylogenetic position of *C. steveirwini* is made based on a combination of morphological features (shell and anatomy) and available molecular data. The biogeographic implications for the Australian camaenid radiation of this altitudinally restricted species are briefly discussed.

Key words: Camaenoidea, arboreal snails, taxonomy, phylogeny, biogeography

Introduction

The Camaenidae is a diverse family of land snails inhabiting many parts of the Australian continent. The vast majority are ground-dwelling species but there are a small number (11 species and one subspecies) that have assumed arboreal lifestyles. All but one of these species occur along the east coast. The arboreal species have a patchy distribution in the eastern coastal rainforests and range from Booti Booti National Park, c. 7 km south of Forster, central New South Wales north to Mua, an island in the Torres Strait, far northern Queensland. However, they are absent from the central Queensland rainforests (Smith 1992). Greatest diversity in arboreal camaenids occurs in the Wet Tropics which is an area between Townsville and Cooktown characterised by high rainfall, rainforest and high mountains whose summits are regularly enshrouded by clouds.

These species are characterised by medium- to high-spired, trochoidal shells that are uncharacteristically brightly coloured when compared to the more numerous drab-coloured, ground-dwelling relatives. Iredale (1938) grouped these arboreal Australian species into his somewhat controversial and artificial family Papuinidae (based on *Papuina* von Martens in Albers 1860 from the New Guinean region). Later he also included the many arboreal species from Papua New Guinea (Iredale 1941). This taxon was later downgraded to rank of subfamily by Clench and Turner (1962) pending further revisionary studies. More recently, Solem (1992) considered all the east coast camaenids to be members of the single subfamily Camaeninae, which entered Australia from land masses to the north during the Miocene at a time when xerification of the continent was beginning. This wave of immigration established the family in Australia.

Crikey steveirwini **gen. et sp. nov.** is a relatively recent discovery on the summits of the high mountains of the Wet Tropics, having been first collected in 1989. In the context of Wet Tropics land snails this is a rare species and only two live specimens have been collected, one being sub-adult. Most specimens hitherto collected have been taken from the ground as empty shells. Significantly all shells, except for the holotype, show some degree of mechanical damage which may be due to predation. One live specimen has been collected from low shrubs indicating that the species is arboreal.