



# Article

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## Description of two new *Carlia* species (Reptilia: Scincidae) from north-east Australia, elevation of *Carlia pectoralis inconnexa* Ingram & Covacevich 1989 to full species status, and redescription of *Carlia pectoralis* (de Vis 1884)

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### Abstract

Scincid lizards belonging to the genus *Carlia* are found in eastern and northern Australia and in New Guinea and associated islands. These skinks are a particularly diverse component of the reptile fauna of north-east Australia. *Carlia pectoralis* (de Vis 1884) was formerly regarded as occurring over much of eastern Queensland, in north-east Australia. Here we show that it consists of four species: *Carlia pectoralis*, *Carlia decora* **sp. nov.**, *Carlia rubigo* **sp. nov.** and *Carlia inconnexa* Ingram & Covacevich 1989 (which was formerly described as a subspecies of *C. pectoralis*). Herein, we describe two new species, elevate *C. p. inconnexa* to full species status with a revised description, and redescribe *C. pectoralis sensu stricto*. The four species differ in aspects of scalation, morphology and colour pattern. *Carlia decora* **sp. nov.** occurs in vine thickets, rainforest margins and moist open forests in high rainfall coastal areas of mid-east and north-east Queensland. *Carlia rubigo* **sp. nov.** occurs in dry open forests of inland eastern Queensland and in some coastal areas of mid-eastern Queensland. *Carlia pectoralis* is distributed through open forests of south-east Queensland. *Carlia inconnexa* is restricted to rocky open forests on islands of ‘the Whitsundays’ off mid-eastern Queensland. The addition of these three species brings the number of Australian *Carlia* to 22 species, 17 of which are found in Queensland.

**Key words:** *Carlia decora*, *Carlia rubigo*, *Carlia inconnexa*, reptile, lizard, skink, Queensland, Whitsunday islands

### Introduction

*Carlia* Gray 1845 is a diverse genus of skinks found in Australia, New Guinea and the Wallacea region of Southeast Asia. *Carlia* has at times also included members of the genus *Lygisaurus* de Vis 1884 (Cogger *et al.* 1983; Ingram & Covacevich 1988; Stuart-Fox *et al.* 2002) but genetic evidence does not support this generic assignment and *Lygisaurus* is currently recognised as a separate genus (Dolman & Hugall 2008). Genetic data also supports the recognition of *Liburnascincus* Wells & Wellington 1984, for several rock-adapted species formerly assigned to *Carlia* (Dolman & Hugall 2008). This leaves 39 currently recognised *Carlia* species: 19 in Australia, 1 in the Torres Strait between Australia and New Guinea, 13 in New Guinea, and 7 in Wallacea (Donnellan *et al.* 2009; Zug 2010). Only one species, *C. storri* Ingram & Covacevich 1989 is shared between these regions, occurring in north-east Australia and south-east New Guinea (Ingram & Covacevich 1989; Zug 2010). In Australia, *Carlia* spp. are restricted to eastern and northern parts of the country, with the highest diversity in the north-east (Ingram & Covacevich 1989; Couper *et al.* 2005; Donnellan *et al.* 2009; Wilson & Swan 2010). Ingram & Covacevich (1989) published a complete revision of Australian *Carlia*, describing two new species. Since then, an additional two species have been added, both resurrected from synonymy (Donnellan *et al.* 2009). Several other species that were described as *Carlia* during this period (Couper *et al.* 1994; Couper *et al.* 2005) were subsequently separated out with the resurrection of *Lygisaurus* (Dolman & Hugall 2008). Phylogenetic analyses of *Carlia* spp. support the status of all recognised species (Stuart-Fox *et al.* 2002; Dolman & Hugall 2008; Donnellan *et al.* 2009).

Ingram & Covacevich (1989) recognised two subspecies of *Carlia pectoralis*: *C. p. pectoralis* for mainland populations and *C. p. inconnexa* for populations on islands of ‘the Whitsundays’ off the coast of mid-east