

# Three New Species of Rainbow Skinks of the genus *Carlia* from Northern Queensland

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While revising *Carlia* in eastern Australia the authors found three undescribed species from northern Queensland in the collection of the Queensland Museum. These are described here as *C. jarnoldae*, *C. dogare*, and *C. prava*. The genus *Carlia* Gray was resurrected and redefined by Mittleman (1952, pp.11-12). Although several of the species of *Carlia* occurring in eastern Australia are easily recognised, many are difficult to define taxonomically because differences between them are slight and there is overlap in variation of many of the features used in distinguishing the species. The characters most useful in delimiting the taxa are male breeding colour and pattern. These are distinct in life but fade with preservation and are, therefore, not always available.

Specimens on which the descriptions are based are housed either in the Queensland Museum (QM J) or the Western Australian Museum (WAM R).

Dr Glen Storr of the Western Australian Museum who has recently revised *Carlia* in Western Australia and the Northern Territory (Storr 1974, in press) has provided specimens for this work and given helpful advice.

***Carlia jarnoldae* sp. nov.**  
(Plate 1a)

**Holotype:** QM J20739, Wakooka Outstation, Starcke Station, north-eastern Queensland, 14 deg 33' S, 144 deg. 33' E, collected by J. Covacevich, C. Tanner and T. Tebble, 27 November, 1970.

**Diagnosis:** A moderately large *Carlia* with mid-dorsal scales hexagonally shaped, moderately tricarinate and

regular in alignment; ear aperture smaller than palpebral disc, with small lobule anteriorly. Distinguished from *C. pectoralis* in having more numerous supraciliaries (usually 7 vs 5), longer axis of ear aperture usually horizontal, and in male breeding colour.

**Distribution:** North-eastern Queensland, from Rokeby Station, via Coen, on Cape York Peninsula, to near Herberton on the Atherton Tableland, and south to at least Hidden Valley, 40 km S. S. W. of Ingham (G. Maywald, pers. comm.).

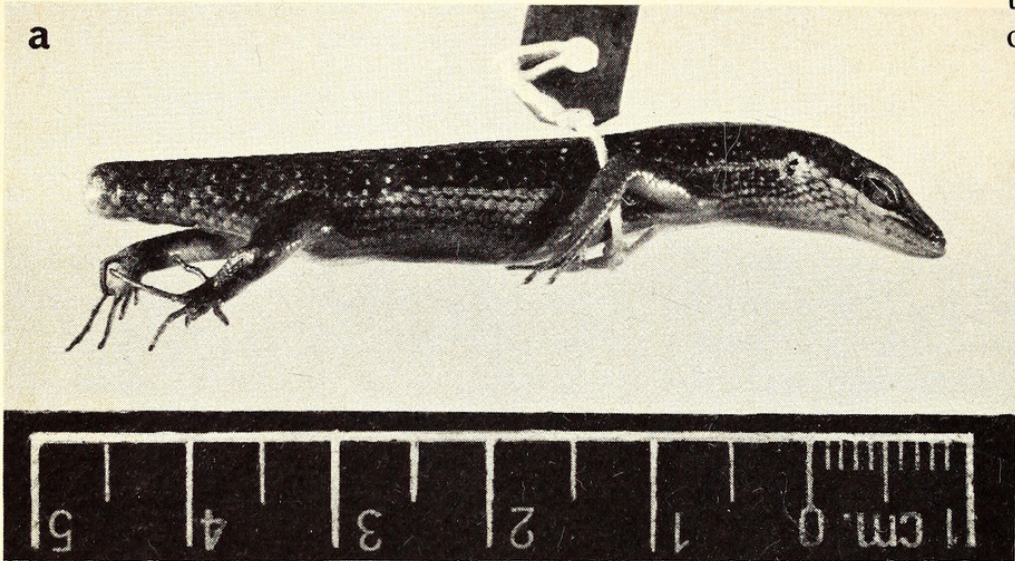
**Description:** Snout-Vent length (mm): 28.5 - 47.9 (N=27, mean 39.0). Tail (%SVL): 142 - 174 (N=7, mean 155).

Prefrontals mostly separate but touch or form a medium suture in 12% of specimens. Supraciliaries usually 7, occasionally 6, rarely 8 (N=27, mean 6.8). Palebral disc large. Ear aperture smaller than palebral disc, longer axis horizontal, very rarely vertical, with a small pointed lobule anteriorly. Midbody scale rows 27 - 32 (N=27, mean 28.9); mid-dorsal scales moderately trikeeled, hexagonally shaped, and regularly aligned. Lamellae under fourth toe smooth, 22 - 28 (N=26, mean 26.7). Coloration varies between two extremes described below for the female and breeding male. Female, head bronze-brown, back and sides olive-grey, with a well defined white line edged in black from under eye, through ear aperture, back above foreleg and terminating just in front of hindleg; under surfaces white. In breeding male, 5-7 dark blue stripes on a brown background from neck to

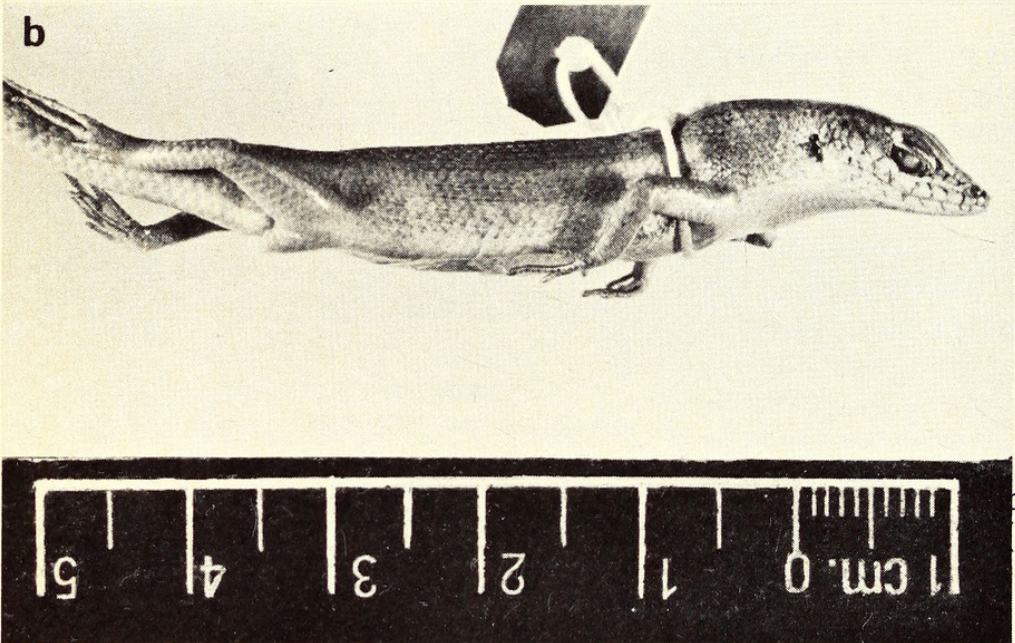
\* Queensland Museum



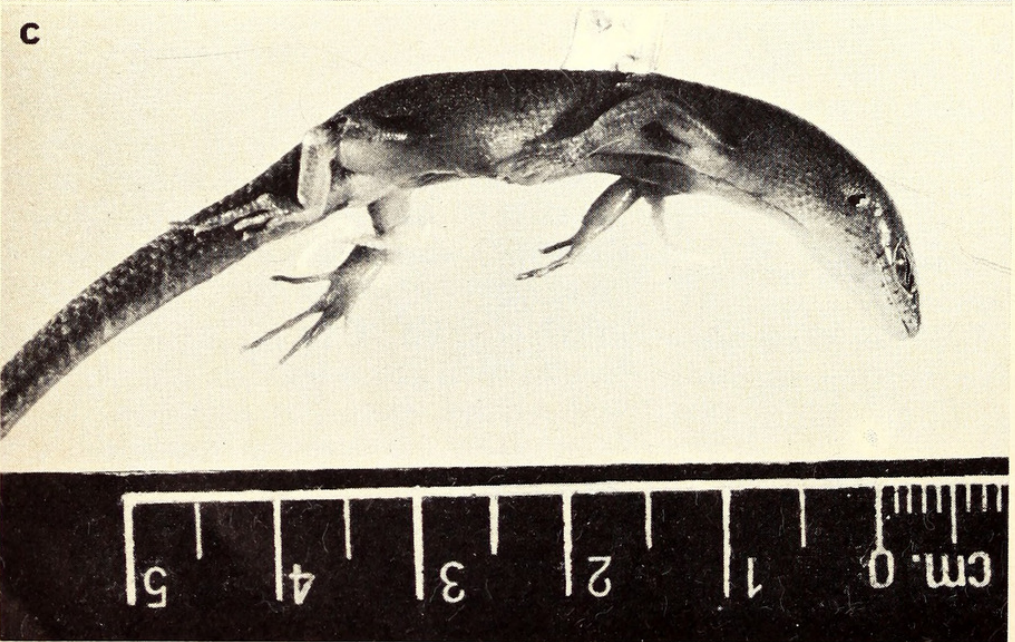
Plate 1:  
Holotypes of  
three new species  
of *Carlia*.



a. *Carlia*  
*jarnoldae*  
(J20739)



b. *Carlia* *dogare*  
(J20557)



c. *Carlia* *prava*  
(J14101)



hind legs where they break up into spots. The stripes lie between two parallel lines formed by the outer keels of adjacent scales. A thick dark blue stripe flecked with white runs from behind ear to front of hindleg; below this blue stripe there is a red stripe which begins above foreleg and terminates in front of hindleg. A light line starts under eye, passes through, and includes ear, to above foreleg. Undersurface white.

**Remarks:** *Carlia jarnoldae* exhibits striking sexual dichromatism, a phenomenon typical of most *Carlia*. This species is named after Jennifer Arnold who, in her M.Sc. thesis (Arnold, 1966), first suspected it was an undescribed species. Mitchell (1953, p.86) included this species in *C. pectoralis*, but the latter differs from *C. jarnoldae* in having 1. a more robust shape; 2. fewer supraciliaries (usually 5); 3. the longer axis of the ear aperture vertical and in 4. male breeding colour (*C. pectoralis* breeding males are uniform grey-brown and have two red lateral stripes; the lower stripe may be broken up into spots); 5. female colouring (*C. pectoralis* females are similar to those of *C. jarnoldae* but usually have two rows of pale spots dorsally and a less well defined white lateral stripe which usually ends just posterior to the foreleg).

**Paratypes:** 5 - 6 km W. Rokeby Station Homestead (J23443-6, J23448, J23464); Melville Range (J20513); 3.2 km N. Wakooka Outstation (J20760-1, J20765); Wakooka Outstation (J20543, J20738); Isabella Falls, 32 km N. W. Cooktown (J17820); 16 km N. W. Cooktown (J17821); Mt. Molloy (J19407-8, J19411, R45610); Mt. Fraser (J23453, J23455); Chillagoe (J18036-7); Stannary Hills, near Herberton (J7782, J7784, J14031-3).

***Carlia dogare* sp. nov.**  
(Plate 1b)

**Holotype:** QM J20557, 5-6 km. N. mouth McIvor River, north-eastern Queensland, 15 deg. 8' S, 145 deg. 15' E,

collected by C. Tanner, J. Covacevich and T. Tebble, 20 November, 1970.

**Diagnosis:** A moderately large *Carlia* with mid-dorsal scales hexagonally shaped, mostly bicarinate and regular in alignment. Toes long; lamellae under 4th toe average numerous (27-35). Distinguished from *C. vivax* in having larger ear aperture, more ear lobules (usually 2 vs 1), high lamellae count and in male breeding colour two orange lateral stripes vs diffuse pink sides) and female colour (faint laterodorsal, vertebral, and lateral pale lines vs strong white lateral line from nostril, under eye, through ear, to hind leg; laterodorsal line sometimes strongly defined).

**Distribution:** Known only from Cape Flattery south to the mouth of the McIvor River and on Lizard Island, north-eastern Queensland.

**Description:** Snout-vent length (mm): 31.9 - 49.6 (N=39, mean 42.1) Tail (%SVL): 148-217 (N=20, mean 178).

Prefrontals separated. Supraciliaries 5, rarely 4, 6, or 7 (N=39, mean 5.0). Palebral disc large. Ear opening usually smaller than palpebral disc, longer axis vertical, with 2 small rounded lobules anteriorly. Midbody scale rows 29-33 (N=39, mean 30.9), mid-dorsal scales hexagonally shaped usually bicarinate. Lamellae under fourth toe smooth, 27-35 (N=39, mean 31.6).

In female, head bronze-brown; pale line from nostril along upper labials and under eye; indistinct pale vertebral and dorsolateral lines enclose a series of pale spots with black anterior borders on a brown background from neck to tail; a pale lateral line; legs dorsally brown with white flecking; under surfaces white. In breeding male, uniform brown dorsally and laterally with a grey wash; two orange lateral stripes, the upper beginning above foreleg and finishing above hindleg, the lower from foreleg to just in front of hindleg.



*Remarks:* *Carlia dogare* lives in sandy areas. Its pale colouring (which would reflect heat) and long toes (which enable it to move swiftly over loose sand) are apparently adaptations for life in hot, sandy areas of coastal northern Queensland. This species' name is from the language of an Aboriginal tribe that lived in the Cape Flattery region; 'dogare' means 'in sandy country' (Roth, 1901, p. 13). Pronounced de'gari.

*Paratypes:* Lizard Island (J20436-42, J20444-6, J20451-55); 1-8 km N mouth McIvor River (J20507, J20545-6, J20548, J20556, J20558-63, J20617-9, J20621-6, J20652, R45612); Cape Flattery (J20749-50).

***Carlia prava* sp. nov.**

(Plate 1c)

*Holotype:* QM J14101, Magnificent Creek, Kowanyama (Mitchell River Mission) 15 deg. 18' S, 141 deg. 44' E, collected by P. Graf, 19 October, 1965.

*Diagnosis:* A moderately large *Carlia* with mid-dorsal scales hexagonally shaped, usually strongly bikeeled, sometimes tending to be bicuspidate. Alignment of scales varies from regular to very irregular; laterally this can be so marked as to make scale counting difficult. Palpebral disc approximately equal to ear aperture, and occupies only about half of lower eyelid. Two large squarish lobules on anterior border of ear. Colour leaden grey.

*Distribution:* Known only from specimens from Kowanyama (formerly Mitchell River Mission), on the western coast of Cape York Peninsula.

*Description:* Snout-Vent length (mm): 36.4 - 53.2 (N=9, mean 45.2). Tail (%SVL): 206-213 (N=2).

Prefrontals separated. Supraciliaries 7. Palpebral disc small, occupies about half of lower eyelid. Ear aperture

approximately equal to palpebral disc, longer axis vertical, with two large squarish lobules anteriorly. Midbody scale rows 32.36 (N=8, mean 34.2), mid-dorsal scales mostly strongly bikeeled, hexagonally shaped, sometimes tending to be bicuspid; alignment varies from regular to very irregular; laterally the keels can be obliquely aligned to horizontal axis of body so that the line of keels arcs upwards in the mid-lateral region. Lamellae under fourth toe smooth, 24-28 (N=9, mean 26.4).

All specimens uniform leaden grey dorsally and laterally, white ventrally. Head brown. One large male (J14096) has dark brown flecks dorsally, laterally, and along the edges of the lower labials and side of throat.

*Paratypes:* Magnificent Creek, Kowanyama (Mitchell River Mission) north-western Queensland (J14094-7, J14099-100, J14102-3, R45613).

*Remarks:* It is not known whether or not this species exhibits sexual dichromatism. The type series has been preserved for nine years and may have lost all trace of colour and pattern.

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Covacevich, Jeanette and Ingram, Glen J. 1978. "Three new species of rainbow skinks of the genus *Carlia* from northern Queensland." *The Victorian Naturalist* 92, 19–22.

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