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A significant range extension of the unbanded shovel-nosed snake (*Brachyuropis incinctus* Storr, 1968) in the Einasleigh Uplands

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ABSTRACT

Until now there have been two species of burrowing elapid from the genus *Brachyuropis* known to occur in the Einasleigh Uplands Bioregion of northeastern Queensland, the Australian coral snake (*Brachyuropis australis* Krefft, 1864) and the north-eastern (or Campbell's) shovel-nosed snake (*Brachyuropis campbelli* Kinghorn, 1929). Here we report a third species from the region, the unbanded shovel-nosed snake (*Brachyuropis incinctus* Storr, 1968). This is significant because it is the most north-easterly known occurrence of this species in Australia, adds to the known biodiversity of the region and extends the species' known range by more than 400km to the northeast. □ *range extension*; *Brachyuropis*; *shovel-nosed snake*; *Einasleigh Uplands*

Elapid snakes of the genus *Brachyuropis* are widely distributed throughout mainland Australia (Wilson & Swan 2013). *Brachyuropis* is a group of eight small (<400 mm total length; TL), oviparous elapid snakes of moderately robust build (Greer 1997; Cogger 2014). They are small-eyed, slow-moving snakes, and most species possess a sharply tipped rostral scale that assists in pushing through loose substrates (Shine 1984; Greer 1997; Wilson & Swan 2013). Members of the genus *Brachyuropis* are secretive, semi-fossorial snakes, and their surface activity is typically nocturnal (Shine 1984; Wilson & Swan 2013). Some *Brachyuropis* species feed exclusively on reptile eggs, while others will also take skinks (Scanlon & Shine 1988; Goodyear & Pianka 2008; Cogger 2014).

Brachyuropis incinctus (Storr 1968 [1967 on title page]) averages 300 mm TL and scale

counts are: 140–165 ventrals; 15–17 midbody; 18–30 divided subcaudals; with a divided anal scale (Cogger 2014). The rostral scale is acutely tipped. The colouration of *B. incinctus* varies from pink to brown with a black interorbital blotch on the head, a broad black nuchal bar and no banding on the body (Horner 1998; Wilson 2015). *Brachyuropis incinctus* is easily identifiable from all known congeners that occur in Queensland (QLD) by the lack of banding on its body (Wilson 2015). *Brachyuropis incinctus* is distinguished from the only other unbanded *Brachyuropis*, *B. morrisoni* (Horner 1998), by having a smaller combined ventral/subcaudal count (159–161 vs. 166–197) and by having only the lower postocular scale in broad contact with the anterior temporal scale. *Brachyuropis incinctus* occurs on heavy clays, stony soils and rock outcrops in spinifex grasslands, shrublands and woodlands (Wilson & Swan



FIG 1. *Brachyuropsis incinctus* specimen from Talaroo Station, Queensland (*in situ*). Photo by: Brendan Schembri.



FIG 2. Dorsal head view of *Brachyuropsis incinctus* specimen from Talaroo Station, Queensland. Photo by: Brendan Schembri.

2013). The known distribution of this species is mostly restricted to interior Australia. Based on museum records, *B. incinctus* has been recorded near Erldunda in southern Northern Territory (NT), with records spanning north to the Barkly Tableland, NT. In QLD, records exist from Doomadgee and Cloncurry in the

north, spanning southeast through western QLD to the Eulo district (Atlas of Living Australia (ALA) 2016; Queensland Wildnet 2016). Here, we present an extension of this species range by >400 km to the northeast of any previous museum records.



FIG 3. Habitat where *Brachyurophis incinctus* specimen was found in a mat of soil and leaf-litter between granite boulders on Talaroo Station, QLD. Photo by: Brendan Schembri.

OBSERVATION

At 21:02 hours on 6th April 2016, an adult *Brachyurophis incinctus* (Figs. 1 & 2) was found foraging in a mat of soil and leaf-litter between granite boulders (Fig. 3) on Talaroo Station (18°02'32"S 143°48'51"E; Fig. 4), 55.6 km west-northwest of Mount Surprise, Queensland. The habitat was shaded, sparse rocky boulders with thick mats of leaf-litter, bordering a creek in savanna woodland. The specimen had a snout vent length (SVL) of 294 mm, a TL of 326 mm and a mass of 12.64 g. The specimen's scalation was: 154 ventrals, 17 midbodies, 25 divided subcaudals and a divided anal scale. This is consistent with characters presented for *B. incinctus* (Storr 1967; Horner 1998; Wilson 2015). The snake was located during a fauna survey of Talaroo Station and was collected as a specimen for the Queensland Museum (Scientific Use Registration Certification, Registration Number 462; J95750). The air

temperature at the time of observation was 24°C, humidity was low to moderate, sky was clear and the moon was 0%. Heavy rainfall (>200 mm) occurred two weeks prior to this record and pooled water was still present in some low-lying areas.

DISCUSSION

This record extends the known distribution of *Brachyurophis incinctus* by 427 km to the northeast of the nearest observational records (20°30'10.25"S, 130°39'23.92"E; Ernest Henry Mine, Cloncurry, QLD; Queensland Wildnet, 2016) and by 527 km to the east of the of the nearest museum record (South Australian Museum, R8795, 20°55'58"S, 138°49'07"E Doomadgee, QLD). The closest museum record to the southwest of the Talaroo specimen is 543 km distance (Museum & Art Gallery of the Northern Territory, R35142: 20.717° S, 130.483°E; Mount Isa, QLD). This is the first known record

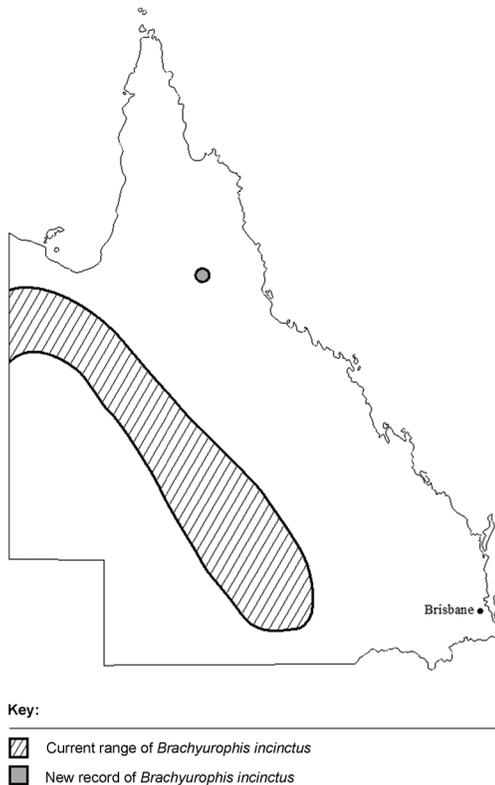


FIG 4. Queensland distribution of *Brachyurophis incinctus* (Wilson 2015) with current range extension record from Talaroo Station (18°02'32"S, 143°48'51"E), 55.6 km west-northwest of Mount Surprise, Qld.

of this species from the Einasleigh Uplands Bioregion (bioregions of Queensland defined in Queensland Government 2016), an area that is also known to support the ecologically similar congeners *Brachyurophis australis* and *B. campbelli* (Cogger 2014; Wilson 2015; ALA 2016).

It is unclear whether our record of *B. incinctus* in the Einasleigh Uplands represents an isolated population, as reported for the Spinifexbird *Eremiornis carteri* (Kutt 2003) and Northern Phasmid Gecko *Strophurus taeniatus* (Vanderduys *et al.* 2012a), or whether it lies within an unrecognised continuous distribution. The small size, semi-fossorial and nocturnal nature of *B. incinctus* combined

with limited herpetological surveys of the region (Vanderduys 2016) may account for the absence of additional records from this region. There are several unconfirmed reports of this species from outside of its known range (QLD Wildnet 2016), suggesting that *B. incinctus* does in fact have a much broader distribution and warrants further investigation.

The Einasleigh Uplands and adjacent Gulf Plains Bioregions of Queensland are known to be under-represented in biological survey efforts, particularly herpetofaunal searches (Vanderduys 2016). Consequently, several new species have been described in recent years from both the Einasleigh Uplands and Gulf Plains since these regions have gained more attention from herpetologists (e.g. Oliver *et al.* 2014; Oliver & Doughty 2016; Vanderduys 2016). A number of taxa, with core ranges in the neighboring Gulf Plains and Mitchell Grass Downs regions have also been recorded in the Einasleigh Uplands in recent years (Kutt 2003; Vanderduys *et al.* 2011, 2012a, b). As these regions are heavily grazed and under pressure from numerous other threatening processes (Catling *et al.* 1999; Kutt *et al.* 2012a,b), further surveys should be seen as a priority to fill gaps in our faunal knowledge.

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