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A NEW SPECIES OF *SCELOTES* (SAURIA: SCINCIDAE) FROM KWAZULU-NATAL, SOUTH AFRICA

LYNN R. G. RAW

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A New Species of *Scelotes* (Sauria: Scincidae) from Kwazulu-Natal, South Africa.

Lynn R. G. Raw

Kirkebakken 37, Ålsø, 8500 Grenaa, Denmark

Email: lynn@afriherp.org

ABSTRACT

An isolated new species of serpentiform dwarf burrowing skink closely related to *Scelotes guentheri* Boulenger 1887 and *S. bourquini* Broadley 1994, is described from KwaZulu-Natal, South Africa. The current taxonomy of the genus in KwaZulu-Natal is considered. The relationship to these two related species as well as other species of *Scelotes* in the wider area is discussed.

KEY WORDS

Skink, Grassland, Qudeni Forest, 'Ngongoni Grassveld.

INTRODUCTION

The last comprehensive review of the taxonomy of the genus *Scelotes* Fitzinger, 1826 in Mozambique, Swaziland (now Eswatini) and Natal (now KwaZulu-Natal), South Africa, was published by Broadley (1994). He placed *S. brevipes* Hewitt, 1925, in the synonymy of *S. mossambicus* Peters, 1882, and described three new species, *S. bourquini* from the KwaZulu-Natal Midlands, *S. fitzsimonsi* from coastal sands in Maputaland (Kosi Bay to Mission Rocks with two provisional records from the coastal areas further south) and *S. vestigifer* from the south of Mozambique at Ponta de Ouro, south through eastern Maputaland to St Lucia Estuary. The species discussed in his paper that occur within KwaZulu-Natal are: *S. mirus* (Roux, 1907); *S. bidigittatus* FitzSimons, 1930; *S. mossambicus* (Peters, 1882); *S. fitzsimonsi* Broadley, 1994; *S. guentheri* Boulenger, 1887; *S. bourquini* Broadley, 1994; *S. inornatus* (A. Smith, 1849); *S. vestigifer* Broadley, 1994; and *S. arenicola* (Peters, 1854). All of these species are confined to the coastal areas except *S. mirus*, *S. bourquini* and *S. mossambicus*. Broadley considered *S. guentheri* to be probably extinct due to urban development destroying its presumed habitat in the city of Durban. The new species, *S. bourquini*, had earlier been regarded as *S. guentheri* by Raw (1973) and Bourquin (1988).

This paper is based on a series of specimens of an unusual *Scelotes* species collected in the course of herpetological fieldwork in the then province of Natal, South Africa, during the period 1970s to mid-1990s. These were duly preserved for study at a later date. More recently the holotype of *Scelotes guentheri* was examined and photographed at the Natural History Museum in London and the specimens concerned were examined in more detail.

The new species described below lacks a postnasal shield as does *S. bourquini* (a postnasal is present in the holotype and only known specimen of *S. guentheri*). It seems likely that this postnasal is an aberrant feature as mentioned in Raw (1973).

MATERIALS AND METHODS

There are very few specimens available of the three main species discussed here. *Scelotes guentheri* was described from a single specimen deposited in 1858 and this remains the only known specimen. *S. bourquini* was described from fourteen specimens (Broadley, 1994: 252) while I had obtained another five of which two were lost. The current number of the new species available to me is eight specimens of the new species together with two specimens of *Scelotes bourquini* (LR 1089 from Fort Nottingham and LR 2578 from Merrivale) neither previously examined by Broadley (1994). I had previously examined one further specimen of *S. bourquini* (Raw, 1973). The holotype of *S. guentheri* (BMNH 58.4.11.9) was also examined and photographed in the Natural History Museum in London, UK. Thus there are only twenty-eight specimens for comparison of which I have personally examined twelve in detail. The remainder have been described in detail by Broadley (1994) and, since I am not examining any new character not already covered in his description, his data are considered adequate for the purpose of this paper. Specimens were examined under a stereomicroscope, photographed with a digital camera and measured with a flexible metric tape measure. Ventral and subcaudal counts were made on magnified digital images of the underside of the specimens.

Museum and collection acronyms used are:

AJL = Angelo Lambiris Collection (now in DMSA).

BMNH = Natural History Museum, reptile section, London, UK.

DMSA = Durban Natural Science Museum, Durban, South Africa.

LR = Lynn Raw Collection, Grenaa, Denmark.

NMSA = KwaZulu-Natal Museum, Pietermaritzburg, South Africa

NMZB-UM = National Museums of Zimbabwe-Mutare Museum, Bulawayo, Zimbabwe.

TMSA = Ditsong National Museum of Natural History, Pretoria, South Africa.

Features considered were:

Head: presence/ absence of ear opening (all absent); presence of a postnasal shield (all absent except for the *S. guentheri* holotype); contact of internasals; supralabials; nostril location; number of supralabials before the subocular; lower eyelid condition; number of supraciliaries; number of supraoculars, which largest, number in contact with frontal; frontonasal length relative to frontal; frontal proportions; interparietal relative to parietals and frontal.

Palatine bones on roof of mouth: Whether the palatines are in contact or separated was a character once used to separate the genus *Herpetosaura* Peters, 1854 from *Scelotes* Fitzinger, 1826. Hewitt (1921: 3) regarded this character as “quite unsatisfactory”. The palatines are both in contact and separated in different specimens of the type series (in contact in *S. bourquini* and unknown in *S. guentheri*). The variation of this character in the new species confirms Hewitt’s opinion of its limitations as a diagnostic character.

Body: Midbody scale rows (this count was invariably 20 in all specimens); Ventrals: number of scales in a line from behind the mental to the vent; Snout to vent length; Tail length (truncated or regenerated length); Limb bud size; colour pattern.

SYSTEMATIC ACCOUNT

Diagnosis

The new species, together with *Scelotes guentheri* and *S. bourquini*, differ with respect to the limb structure and overall size from all the other *Scelotes* species occurring in KwaZulu-Natal, Eswatini (Swaziland) and Mozambique as reviewed by Broadley (1994). In this review he states: “*S. mirus* has a pentadactyle hindlimb with 8-10 lamellae beneath the fourth toe. *S. duttoni* has a didactyle hindlimb with 6-7 lamellae beneath the longer toe. *S. bidigittatus* has a didactyle hindlimb, the two toes subequal in length with 2-3 subdigital lamellae. *S. mossambicus* has a well-developed clawless hindlimb bud, *S. guentheri* and *S. bourquini* have very small hindlimb buds, while *S. vestigifer* has a minute pimple indicating the last external vestige of a hindlimb. All other taxa are limbless.”

Similarly, the new species is larger than the other known species in the area except for *S. guentheri*, *S. bourquini* and the clearly separable four-limbed *S. mirus* (Broadley, 1994, fig. 2).

The new species has 20 midbody scale rows as do both *S. guentheri* and *S. bourquini*. This character is shared by some of the other *Scelotes* species in this area that have been eliminated from consideration on the basis of limb structure as shown above (Broadley, 1994, Table 1).

As shown above, these three species form a cohesive group with *S. guentheri* separated from *S. bourquini* only by a slightly lighter dorsal pattern (Broadley, 1994, Fig. 1) and the presence of the postnasal shield (perhaps aberrant, Raw 1973). The lighter dorsum has possibly faded with age as I have seen in another specimen of *Scelotes*.

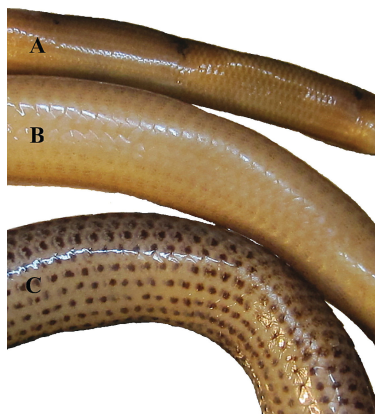


Figure 1. Comparison of ventral patterns of **A** - *Scelotes mossambicus*, **B** – *Scelotes bourquini* (*S. guentheri* is similar) and **C** – *Scelotes farquharsoni* sp. n.

The new species, while physically similar to both *S. bourquini* and *S. guentheri*, can be easily distinguished from both of these by having a darker dorsum and distinctly spotted ventrals and subcaudals whereas the other two have uniform (unspotted) central ventral scales (Fig. 1).

***Scelotes farquharsoni* sp. n.**

Holotype: LR 1978, a male specimen collected by L.R.G. Raw on 12 October 1975.

Paratypes: LR 1975-1977; LR 1979-1981; LR 1983; all collected together with the holotype by L.R.G. Raw at the same location and on the same date.

Type locality: Grassland east of Qudeni Forest, KwaZulu-Natal, South Africa (QDGC 2830DB).

Description (males identified by eversion of hemipenes; paratype variations in parentheses): Snout rounded, not projecting much beyond mouth. No visible ear opening. Internasals in broad contact medially, contacting supralabials laterally. Nostril pierced laterally, close to posterior edge of rostral; postnasal absent. Three supralabials before the subocular; lower eyelid covered with scales; six supraciliaries; four supraoculars, second largest, three in contact with frontal; frontonasal length more than half the length of frontal; frontal longer than wide; interparietal between two narrow parietals, shorter and wider than frontal with a concave anterior border.

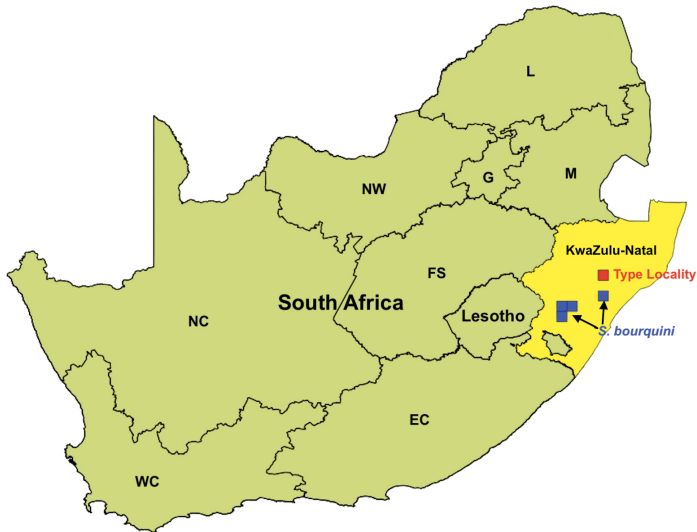
Midbody scale rows 20; ventrals 109 (males 105-115; females 111-115); subcaudals (regenerated) 100 (males 23-103; females 34-87, all either truncated or regenerated); supraoculars 4; supraciliaries 6; no postnasal shield; supralabials anterior to subocular 3; lower eyelid scaly; forelimbs absent; hindlimbs reduced to very small clawless limb buds, less than 1 mm long; four preanal scales; palatines separated (in contact).

Snout to vent length (mm): holotype 77; males 72-93; females 85-97.

Tail length (incomplete) (mm): holotype 79; males 12-79; females 33-71.

Colour in alcohol: Head, top and sides dark brown, edges of lips not pigmented, underside and throat uniformly white with occasional darker spots laterally and posteriorly. Body (Fig. 2) with a median light brown stripe four scale rows wide with each scale having a small darker spot anteriorly. Scales on the flanks appear darker as the darker spots increase in size to cover most of the scales. The ventral colour (Fig. 3) is white with small dark spots centrally on the scales giving the appearance of dotted longitudinal lines. Tail pattern is similar to the body except that the width of the median dorsal stripe reduces from four scales to two scales. Some paratypes have the unmarked throat pattern extending further posteriorly than the holotype (Fig. 4).

Distribution: Known only from grasslands in the vicinity of the Qudeni Forest (Map 1).



Map 1. Type locality of *S. farquharsoni* and known distribution *S. bourquini*. (Note that the Tugela (Tugela) Valley forms an impassable ecological barrier across the gap between the red square and the nearest blue square).

Habitat: Under loose rocks on a grass-covered hillside in ‘Ngongoni Grassveld (Acocks, 1975: 21-23) (Fig. 5).

Additional material: Broadley (1994: 252) mentioned the photograph of a specimen from Qudeni (Visser, 1984) as a possible specimen of *S. bourquini*. This may have been collected from the same locality as the current type series.

Etymology: Named in honour of the late Frank Lumsden Farquharson (1934-2019) in recognition of his loyal friendship and his significant support of my herpetological research and fieldwork through several decades.

Comparative material: *S. bourquini* (examined by Broadley, 1994): NMZB-UM 8284 (holotype) Dargle, Natal, coll. O. Bourquin, 19 April 1964; TMSA 53326-7, 53426 Happy Valley Farm, Lions River District; DMSA 889 Hermansburg; TMSA 62959 Howick; NMSA 528 Impendhle; TMSA 52366 Inhluzani Mount, Impendhle; TMSA 62835,62958,66719-20 Midmar Dam; AJL 2854 Nottingham Road; AJL 2725 Umgeni river, 5 km E of Midmar Dam (paratypes).

In addition, examined for this paper, LR 1089, near Fort Nottingham, Natal, coll. C. R. Tilbury, 12 Oct 1980; LR 2578 Merrivale, Natal, coll. D. R. J. Raw, ca. Sept 1987. Previously examined DMSA 187 Farm Colbourne, Karkloof, Natal, coll. O. Bourquin, 24 Oct 1964 (Raw, 1973).

S. guentheri: BMNH 58.4.11.9 (holotype) Port Natal, Natal, pres. Rev. H. Calloway (1858).

S. mossambicus: Broadley (1994) examined LR 71, 99-100, 102-4, 141-2, 148-50 - Durban; LR 48 - St Lucia Estuary. Additional comparative material seen: Between

Pietermaritzburg and Thornville - LR 1959; Durban - LR 1964, 1966, 1970, 1982; Ingwavuma Distr. - LR 955; Ubombo - LR 433-4, 1950, 1953-4, 1958, 1960.



Figure 2. Dorsal view of *Scelotes farquharsoni* holotype LR 1978.



Figure 3. Ventral view of *Scelotes farquharsoni* holotype LR 1978.



Figure 4. Ventral view of holotype and some paratypes to show variation in patterns.



Figure 5. Habitat of *S. farquharsoni* n. sp. in 'Ngongoni grassveld near Qudeni Forest.

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