

## SOME NEW REPTILES FROM SOUTHERN AFRICA AND SOUTHERN ANGOLA

By V. FITZSIMONS

*Transvaal Museum*

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#### ***Pachydactylus kochii* sp.nov.**

TYPES: Holotype, an adult ♂ (TM. 23952), allotype an adult ♀ (TM. 23951) and paratype a subadult ♂ (TM. 23953), all from Sextoo (or Sextus), a few miles south of Cape Cross, Namib, S.W. Africa and collected in August 1954, by Dr C. Koch.

DIAGNOSIS: Closest to *Pachydactylus mariquensis*, but readily distinguished therefrom on its more slender build, more pointed snout, longer limbs with digits narrowing to an obtuse point, nasorostrals in contact, nature of body scaling and distinctive colour markings.

DESCRIPTION: Head elongately oval and about  $1\frac{2}{3}$  times as long as broad; snout slightly convex, obtusely pointed (more pointed than in *mariquensis*), in length about  $1\frac{1}{2}$  times distance from eye to ear-opening and  $1\frac{2}{3}$  times diameter of eye; orbits somewhat raised, diameter of eye about three times horizontal diameter of ear-opening, which is small, oval and oblique; nostril pierced between three nasal scales, the anteriormost (or nasorostral) in short contact with its fellow behind the rostral; latter about  $1\frac{1}{2}$  times as broad as deep; upper labials 8-9, decreasing rapidly in size posteriorly; lower labials 9-10; mental small, much narrower than the adjacent lower labials, slightly narrowed behind and not extending backwards beyond posterior margin of latter; chin shields, adjoining mental and anterior lower labials behind, distinctly larger than the minute, convex, juxtaposed, rounded granules on throat; over chest and belly granules pass to much larger, flattened, subhexagonal scales, which tend to become subimbricate over posterior half of belly, where they are largest preanally. No preanal nor femoral pores present. Scales on head and back subequal in size, small (larger than on throat but smaller than on belly), unkeeled, granular, rounded, convex and juxtaposed. Scales on tail larger than on belly, flattened, squarish in shape, subimbricate and in regular transverse rows above and below. Tail unsegmented, slender and tapering gradually to fine point. Limbs comparatively long, and slender; digits well developed and narrowing to an obtuse point, terminating above in a large nail-like scale and below with three adhesive subdigital lamellae; subdigital scales small, subequal in size, distinctly convex to conical; scales on palms and soles smaller, flattened and imbricate. Two enlarged, white, scallop-like scales on either side of tail near vent in the two ♂♂ but lacking in female.

Greyish white above, with a slight lavender tinge, and with five bright, reddish-

brown cross-bands on back (first across nape and fifth just anterior to base of tail) and twelve bars of the same colour on tail, where they are narrower than the pale interspaces. Limbs also barred with reddish brown, which is slightly less bright than on back and tail. Head uniform pale lavender grey and anterior border of eye pure white; eye silvery yellow, veined with black. Underparts a uniform chalky white.

## DIMENSIONS:

	Holotype ♂ (TM. 23952) (mm.)	Allotype ♀ (TM. 23951) (mm.)	Paratype ♂ (TM. 23953) (mm.)
Total length	101 (51 + 50)	106 (54 + 52)	88 (45 + 43)
Head length	11.5	12	9.8
Head breadth	8.5	9	7.0
Forelimb	18.0	19	15.0
Hindlimb	23.5	24	20

REMARKS: According to the collector, Dr C. Koch, through whose diligent collecting our knowledge of the reptile fauna of S.W. Africa has been greatly increased and after whom I have much pleasure in naming this new species, all three specimens were collected at night, among outcrops of quartz on a bare and exposed ridge of whitish, salt-impregnated sand, bounding a large saltpan, some miles to the south of Cape Cross; one specimen was found under a lump of quartz, while the two others were taken on the open sand, over which they were observed to move somewhat sluggishly.

***Pachydactylus marshalli* sp.nov.**

Holotype, an adult ♀ (TM. 22589) collected at Samengeigee, near Gaucha Pan, N.W. Kalahari, August, 1951, by Dr C. Koch.

DIAGNOSIS: Apparently near *Pachydactylus austeni*, but distinguished therefrom on the following: nasorostrals well separated from one another by an intermediate shield; scales on back larger, on chin and throat more flattened and on belly larger and imbricate; digits with only two terminal subdigital adhesive lamellae.

DESCRIPTION: Head moderately large, oviform, rounded, swollen in temporal region, a little longer than broad and distinct from neck. Snout convex above, obtuse, in length almost  $1\frac{1}{2}$  times horizontal diameter of eye and equal to distance between eye and ear-opening; latter moderately large, vertically oval, with longest diameter about 2.4 times into horizontal diameter of eye. Rostral subpentagonal, just over  $1\frac{1}{2}$  times as broad as deep; nostril pierced between nasal shields, the largest of which, i.e. nasorostral, is separated from its fellow by a single moderately large shield, which is longer than broad; upper labials 9, lower 7; mental as broad as adjacent lower labials, but longer and projecting beyond hinder margin of latter, a little longer than broad; no enlarged chin shields; scales on chin and throat rounded, slightly convex but not granular, subequal in size to scales on occiput, decreasing in size towards base of neck, where they are smallest; scales on snout slightly convex, larger than on occiput, subequal in size to those on back, which are uniform, smooth and not or but slightly imbricate; scales on limbs subequal in size to those on back; on belly scales smooth, flat, subimbricate, distinctly larger than on back, largest preanally. Digits not dilated distally, but rather narrowed to a blunt tip and with only 2 transverse adhesive lamellae inferiorly; subdigital scales very small, not enlarged mesially, much smaller than the strongly imbricate scales on upper surface; no enlarged scales nor tubercles on either side

base of tail; latter regenerated, cylindrical, covered with irregular, juxtaposed scales above and subimbricate ones below.

Light purplish brown above, darkening towards the sides and bearing there pale ocellate spots; sides of snout to below eye slightly darkened and with a few dark spots scattered over occiput and neck; a dark, undulating streak on either side of head from behind eye, extending backwards to just beyond forelimbs and there fading out; limbs paler than back and with a few irregular dark spots and dustings. Underparts uniform creamy white. Tail as back, but with series of small dark spots forming an irregular vertebral and a dorsolateral row on either side.

**DIMENSIONS:** Total length 95 (53+42) mm., snout, 5.3 mm., diameter eye, 3.6 mm.; breadth head, 11.2 mm.; length head, 13 mm.; forelimb, 16.5 mm.; hindlimb, 21 mm.

**REMARKS:** Taken under a block of surface limestone in sandveld country. Named for Mr Laurence K. Marshall, of the Peabody Museum, Cambridge, Massachusetts, who was the generous sponsor of the particular expedition on which this and other reptiles were collected by Dr C. Koch.

### *Pachydactylus caraculicus* sp.nov.

**TYPES:** Holotype ♂ (TM. 22880), allotype ♀ (TM. 22884) and two paratypes, a ♂ (TM. 22885) and a ♀ (TM. 22883), collected just east of Caracul, S. Angola by Dr C. Koch, July 1954. In addition there are 9 topotypes (TM. 24536-44) collected by Dr C. Koch, in August 1956 and other specimens from Cima, Rio Giraul district, and Lungo, Vila Arriaga district, S. Angola.

**DIAGNOSIS:** Apparently close to *Pachydactylus scutatus angolensis* Loveridge, but differentiated from the latter as follows: scales on back somewhat feebly keeled and becoming quite smooth towards the sides; a broad band of much smaller, juxtaposed scales down middle of back; no admixture of enlarged tubercles on occiput; fewer scansors and subdigital lamellae rather feebly developed.

**DESCRIPTION:** Head depressed, about  $1\frac{1}{3}$  times as long as broad and broader than the neck; snout acuminate, slightly swollen in canthal region, in length about  $1\frac{2}{3}$  times diameter of eye and  $1\frac{2}{3}$  times distance of eye from ear-opening; latter small, suboval and slightly oblique; rostral rectangular and from  $1\frac{1}{2}$  to  $1\frac{2}{3}$  times as broad as deep; nostril pierced between three nasals, the anteriormost (or nasorostral) largest and in contact with its fellow behind the rostral, the other two nasals subequal in size or upper slightly larger; upper labials 8/9, lower 9/10; mental rectangular, twice as long as broad, narrowing slightly behind and distinctly narrower than adjoining lower labials; no enlarged chin shields. Scales on snout smooth, slightly convex, subcircular and larger than on occiput, where they are flattened and a little smaller than on back; scales on back, subpentagonal, subimbricate and weakly keeled, but becoming smooth on sides, largest dorsolaterally, but much smaller and juxtaposed over a comparatively wide band down middle of back; scales on chin very small, smooth, subgranular and passing behind to larger, flattened, subimbricate scales on throat; over belly scales are flattened, smooth, imbricate and subequal to or a little smaller than largest on back, but enlarging considerably preanally, where they are flattened, juxtaposed and larger than below thighs. Body generally depressed; limbs short and stout, the adpressed hindlimb reaching wrist of adpressed forearm; digits feebly dilated distally, the fingers bearing 3 transverse adhesive lamellae (or scansors) below and the toes 4; infero-median row of scales feebly enlarged transversely, there being 4-6 on fingers and 8 on 4th toe. Tail subcylindrical (i.e. slightly depressed) and tapering to a fine tip, distinctly segmented, with 4 rows of scales to each

segment above and 3 below, scales above much larger than on back, heterogeneous, smooth and imbricate, while below they are also smooth, imbricate and irregular, but a little larger than above; two much enlarged strongly keeled, subconical, scallop-like scales or tubercles on either side base of tail in ♂ holotype, smaller, more flattened and scale-like in the ♀ allotype.

Brown to purplish brown above, with four, dark-edged, pale cross-bands, the 1st between shoulders, 2nd and 3rd on mid-back and 4th just anterior to groin; 6-7 pale bands on tail; bands on back about half width of interspaces and on tail as wide as or a little wider than interspaces; a dark streak from nostril, through eye to forearm, distinctly pale-edged below; labials with dark spots. Underparts a uniform white to greyish white.

SIZE: Holotype ♂ (TM. 22880) total length, 87 (41 + 46) mm.; length head, 10 mm.; breadth head, 8 mm. Allotype ♀ (TM. 22884) head and body, 40 mm.; tail (partly regenerated), 36.5 mm.; length head, 9.8 mm.; breadth head, 8.2 mm.

REMARKS: In the allotype ♀, the regenerated part of tail is covered above with heterogeneous, strongly imbricate scales, on sides scales larger, feebly keeled and submucronate, below a little larger than above, smooth and imbricate. In juvenile topotypes the pale cross-bands are pure white, and well marked on back and on tail, where they number up to 12 in all and are narrower than dark interspaces proximally but broader distally; large pale spots on tibia and thigh, the largest being near the groin; eye edged with white anteriorly. These conspicuous white markings, as found in young specimens, become less distinct in older specimens through a gradual invasion of the white areas by the surrounding darker colour, until in fully adult specimens the pale markings practically disappear.

#### *Prosymna visseri* sp. nov.

TYPE: An adult male (TM. 24531) collected near Caracul, S. Angola, September 1956, by Dr C. Koch (Visser/Transvaal Museum Expedition).

DIAGNOSIS: Falling in the group of species with a single, undivided internasal, but clearly distinguished by the very large prefrontal, which is swollen on either side and extends downwards to make contact with first upper labial and separate loreal from nasal; snout obtuse, rostral small with horizontal edge rounded; high ventral and subcaudal counts.

DESCRIPTION: Snout obtuse; rostral small, twice as broad as deep, with horizontal edge rounded, moderately visible from above; internasal undivided, subequal in width to rostral; nostril directed forwards and upwards, pierced in a semi-divided nasal, the cleft of which proceeds from nostril backwards to border with loreal; prefrontal very large, distinctly swollen on either side, making good contact with first upper labial and separating loreal from nasal; frontal large and triangular, well over half width of head, outer corners in same longitudinal line as inner border of orbit, about  $1\frac{1}{2}$  times as broad as long, equal in length to its distance from end of snout, a little shorter than parietals, separated from preocular by suture between supraocular and prefrontal; loreal elongate, narrow, over twice as long as deep and making contact with first upper labial; preocular single, about  $1\frac{1}{2}$  times as long as deep; postoculars 2; upper labials 6, with 3rd and 4th entering orbit; temporals 1 + 2; lower labials 9, first three in contact with the chin shields.

Chocolate brown above, with a well marked, pale (whitish) vertebral streak from nape to end of tail, width at mid-back covering vertebral scale row and half of each adjoining row; the dark-ground colour extends over about  $3\frac{1}{2}$  scale rows, with scales interruptedly edged laterally with white; outer three rows on either side, white; head pale, but with shields dark-edged; the dark edging between parietals ends behind in a dark spot, which splits the pale vertebral streak into a

fork on nape; lips pale, but with a diagonal brown bar from below and behind eye on to posterior half of 4th upper labial and anterior half of 5th; snout sparsely infused with light brown. Underparts uniformly white.

Head and body comparatively slender; scales in 15 rows at mid-body; ventrals, 195; anal single; subcaudals, 55. Total length, 307 (249+58) mm.

REMARKS: Taken in a small shallow cave, in somewhat rugged and rocky surroundings. Named in honour of Mr G. Visser, of Capetown, the leader and sponsor of the expedition on which this new species was collected.

***Bitis atropos unicolor* subsp. nov.**

TYPES: Holotype male (Albany Museum collection no. 1251), and two paratypes, males (Albany Museum no. 1402 and Transvaal Museum no. 5906) from Witpoort, about 20 miles north of Belfast, eastern Transvaal and collected by Mr R. Gerhardt. In addition, there are two further specimens, a male and a female (AM. nos. 1421 and 1735), in the collection of the Albany Museum, Grahamstown from Witbooi, just south of the type locality, and also collected by Mr R. Gerhardt.

DIAGNOSIS: Head scaling somewhat similar to that in typical *atropos*, but less strongly keeled and, over back of head, not so markedly elongate; outermost row of scales on body practically smooth anteriorly and but feebly keeled posteriorly; almost uniformly khaki to reddish brown above and apparently a smaller snake than typical *atropos*.

DESCRIPTION: Scales on head moderately keeled and over back of head not markedly elongate; head much flattened, particularly between the orbits where practically no hollowing is apparent; 11-13 scales across the head between the eyes; 11-13 scales in ocular ring; 2 rows of scales between the orbit and the upper labials; 2-3 scales between the supranasals; 2 scales between the nasal and rostral; upper labials, 10-12; lower labials, 10-12, of which the first four are in contact with the chin shields.

Scales on body imbricate and keeled, except for those of the outer row on either side, which are smooth or at most only feebly keeled anteriorly, and in 27 or 29 rows at mid-body; ventrals, 118-129; anal divided; subcaudals, 19-25 (19 in the single female and 23-25 in males) and quite smooth.

COLOUR: Above, khaki to reddish brown, uniform in fully adult specimens but sometimes with two rows of faintly marked, darker spots on either side of back in younger specimens; upper and lower labials uniformly pale or irregularly spotted with black. Below, a dirty yellowish white to greyish, uniform or irregularly speckled or blotched with plumbeous to dark greyish brown in varying degree, particularly towards the sides.

Scale counts and dimensions of the full type series are as follows:

	Scale rows at mid-body	Ventrals	Sub- caudals	Total length (mm.)	Tail (mm.)
Holotype ♂ (AM. no. 1251)	29	129	24	352	38
Paratype ♂ (AM. no. 5906)	29	129	24	309	31
Paratype ♂ (AM. no. 1402)	29	118	24/25	334	38
Paratype ♂ (AM. no. 1421)	27	123	23/24	273	29
Paratype ♀ (AM. no. 1735)	27	126	19	302	24

Length of tail into total length 8.9-10 times in males and 12.9 times in the single female.

REMARKS: Apparently a smaller snake than typical *atropos* and confined to a somewhat mountainous area of the eastern Transvaal highveld at an altitude of just over 6000 ft.