

(TM 10143); 1 ♂, Twyfelfontein, 25 June 1963, Dr Scherz (SMN 104); 1 juv ♀, Kaoko Otavi, 27 Nov 1970, P. Olivier (SMN 238); 2 ♀ 1 juv, Kaokoveld (SAM 6794); 1 ♀, Kamanjab, 5 Apr 1976, B. Lamoral (NM 10833); 1 ♂, Grootberg 191, 2 Apr 1976, B. Lamoral (NM 10913); 1 ♀, Orupembe, 14 Nov 1965, W. Steyn (SMN 114); 1 ♀, Messum Crater area, 26 Mar 1976, B. Lamoral (NM 10823); 1 ♂ 1 subad ♀, Kamanjab, 25 Feb 1969, B. Lamoral (NM 10044); 1 ♂, Kaoko Otavi, 27 Nov 1970, P. Olivier (SMN 237); 1 ♀, Orupembe, June 1965, P. Buys (SMN 113); 1 juv, Welwitschia, Aug 1960, F. Gaerdes (NM 7321); 1 ♀, Kaoko Otavi, Apr 1966, W. Coaton (NM 9116); 1 juv ♀, Messum Crater 26 Mar 1976, B. Lamoral (NM 10846); 1 ♂, Ohopoho, Mar 1972, Erasmus (SMN 344); 1 subad ♂, Sesfontein, 3 Apr 1976, B. Lamoral, (NM 10733).

Remark: The following locality should be regarded as extremely dubious: 1 ♂, Gobabeb, no date, no collector's name (TM 9363).

Distribution: As in Fig. 207.

Bionomics: Although one of the larger species of *Parabuthus*, *P. brachystylus* is not a commonly occurring species, as indicated by the relatively low number of specimens collected. It is nocturnal, hemiedaphic, occasionally epigeic on shrubs and small trees when hunting, and digs shallow scrapes under rocks or fallen trees, in soils of variable hardness and texture, ranging from consolidated sand to moderately hard and gritty soils. A few specimens have been found under the loose bark of fallen trees, sharing this habitat with *Buthotus conspersus*.

Genus *Uroplectes* Peters, 1861

Type species: *Uroplectes ornatus* Peters, 1861, by original designation.

Diagnosis: *Uroplectes* is separated from the other genera of the family Buthidae by the following combination of characters: no teeth on ventral proximal margin of fixed finger of chelicerae; no stridulatory area on dorsal surface of cauda I and II; telson vesicle with or without subaculear tubercle; tergites with a median keel, with or without lateral accessory keels; carapace without keels or with only vestigial posterior median keels; carapace anterior margin always very slightly recurved, with a very small median projection; granular rows of fixed and movable fingers of pedipalp with at least one inner and one outer flanking tooth; sternum subtriangular in shape; distal end of hemispermatophore of male with *pars recta* and *pars reflecta* to flagellum.

Distribution: Most of Afrotropical faunal region (excepting Zaïre basin and regions west and north-west of Cameroun) and Oriental faunal region.

Uroplectes carinatus (Pocock, 1890a). Figs 208–215, 217, 225–226, 229

Lepreus carinatus Pocock, 1890a: 129.

Uroplectes alstoni Purcell, 1901: 180–182. *Syn. n.*

Uroplectes carinatus mediotriatus Kraepelin, 1908: 257–258. *Syn. n.*

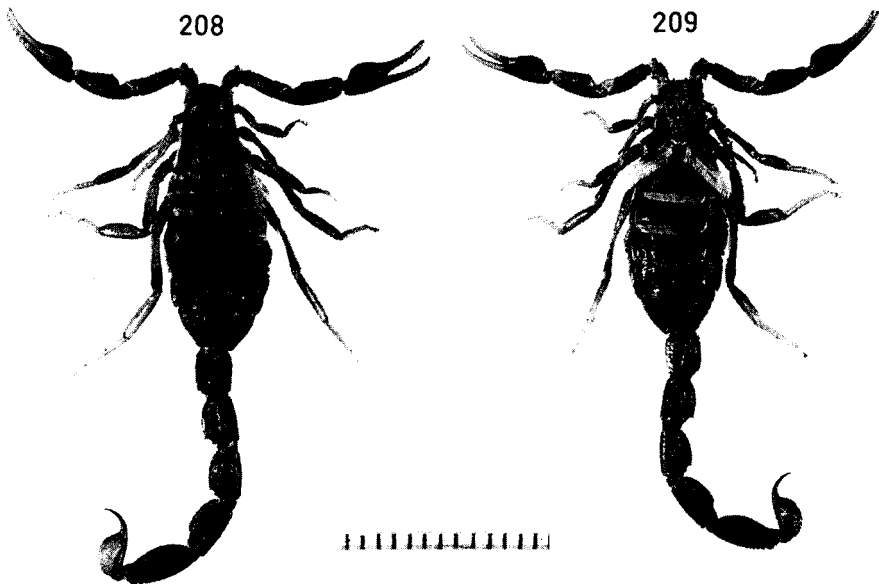
Diagnosis: The following combination of characters separates *U. carinatus* from other species of the genus. Pedipalp hand, Figs 210–212: movable finger length/handback length ratio 1.55 or less in adult ♀ & ♂; proximo-mesial cutting edge of movable finger distinctly procurved in ♀, distinctly recurved in ♂;

proximo-mesial cutting edge of fixed finger sub-linear in ♀, distinctly recurved in ♂. Pedipalp tibia, Fig. 214: length/external width ratio 2,55 in ♀, 3,2 in ♂. Cauda II–IV, dorsal, dorso-lateral, ventro-lateral and ventral keels well-developed, consisting of elevated rows of distinct granules. Carapace, Fig. 208: interocular surface with a dark triangular marking. Pecten, Figs 209, 229: first proximal tooth of ♀ much wider, but never longer than adjacent teeth, sub-oval in shape. *U. carinatus* is most closely related to *U. variegatus* (C. L. Koch 1845), an extralimital species found in the north-western and south-western Cape, but never recorded north of the Orange River.

Description: The following account supplements Pocock's original description, Purcell's (1901: 180–182) description of *alstoni* and Kraepelin's (1908: 257) description of *carinatus mediotriatus*.

Colour: Overall coloration, ranging from dark orange yellow No. 72 to strong yellowish brown No. 74; legs brilliant orange yellow No. 67. The following with very light reticulate infuscations: whole of pedipalp chela handback, dorsal and external surfaces of pedipalp tibia, medial three-fifths of dorsal, lateral and ventral surfaces of cauda V. All granular keels on pedipalps, legs, carapace, tergites, cauda I–V, lightly to strongly infuscated. Postero-lateral region of carapace and surfaces between the lateral keels and lateral margins of tergites I–VI, with reticulate dark markings almost forming a continuous band. Anterior margin of chelicerae lightly infuscated.

Tergites: See Fig. 208. Tergites I–VI, with a lateral keel on each side posteriorly, in addition to median keel; tergites I–VII and posterior region of carapace, with a



Figs 208–209. *Uroplectes carinatus*, ♀ (NM 7303). Scale in mm.

dark median band; tergites I–VI with reticulate dark markings laterally between lateral keels and lateral margins almost forming a continuous band.

Cauda: Caudal segments of adults, Figs 225–226: short and wide, length/width ratio cauda I, 1,05 (1,0–1,10) in ♀, 1,3 (1,25–1,35) in ♂, and for cauda IV, 1,75 (1,70–1,80) in ♀, 2,20 (2,10–2,30) in ♂; cauda V, ventro-lateral keels well-developed along their entire length, consisting of spiniform tubercles.

Setation: Pedipalps, legs, lateral margins of sternites II–VII and caudal segments sparsely pilose.

Trichobothria: Figs 210–215. Orthobothriotaxic for group A. Pedipalp chela: τeb distinctly distal to mesial base of fixed finger; τEb_3 distal to Eb_2 ; τEb_2 much closer to Eb_3 than Eb_1 . Pedipalp tibia: τem distal to est and almost level with et . Pedipalp femur, τd_2 on proximo-internal side of dorso-internal keel.

Hemispermatophore: As in Fig. 217.

Variation: Sexual dimorphism: In adults, males differ from females in the following characters: ♂ proportionally smaller and more slender with width sternite V/carapace length ratios 1,05 in ♂ and 1,25 in ♀; ♂ caudal segments longer with cauda IV length/width ratios 2,20 in ♂ and 1,75 in ♀; ♂ pedipalp hand fingers shorter, with movable finger length/handback length ratios 1,40 for ♂ and 1,55 for ♀, while chela length is only 3% less in ♂; first proximal tooth of each pecten sub-oval in ♀, undifferentiated in ♂; ♂ 23–26, ♀ 20–22 teeth per pecten.

Intraspecific variation: Mainly in extent of infuscations and intensity of dark markings on carapace and tergites with these very light to absent in juveniles and adults south of Orange River in Cape Province of South Africa and in the syntypes of *U. carinatus mediotriatus* (ZMB 14806–14807) examined. All material examined from Namibia exhibits the typical coloration and patterns described.

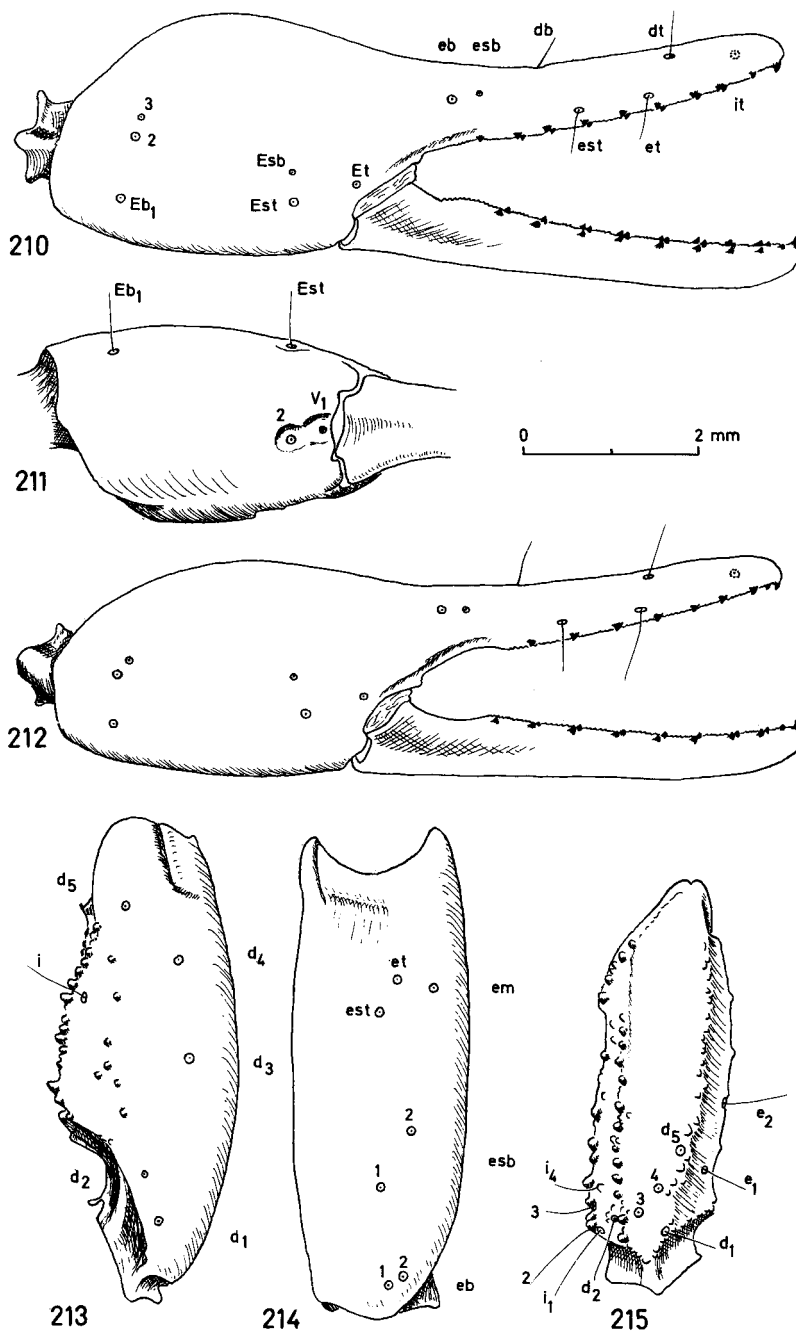
Type material: Holotype ♂ in British Museum (Nat. Hist.) collection. It was found in the dry collection, reclaimed and transferred to the wet type collection.

Homotype: I have selected a ♂ homotype which is deposited in the Natal Museum collection (NM 7303).

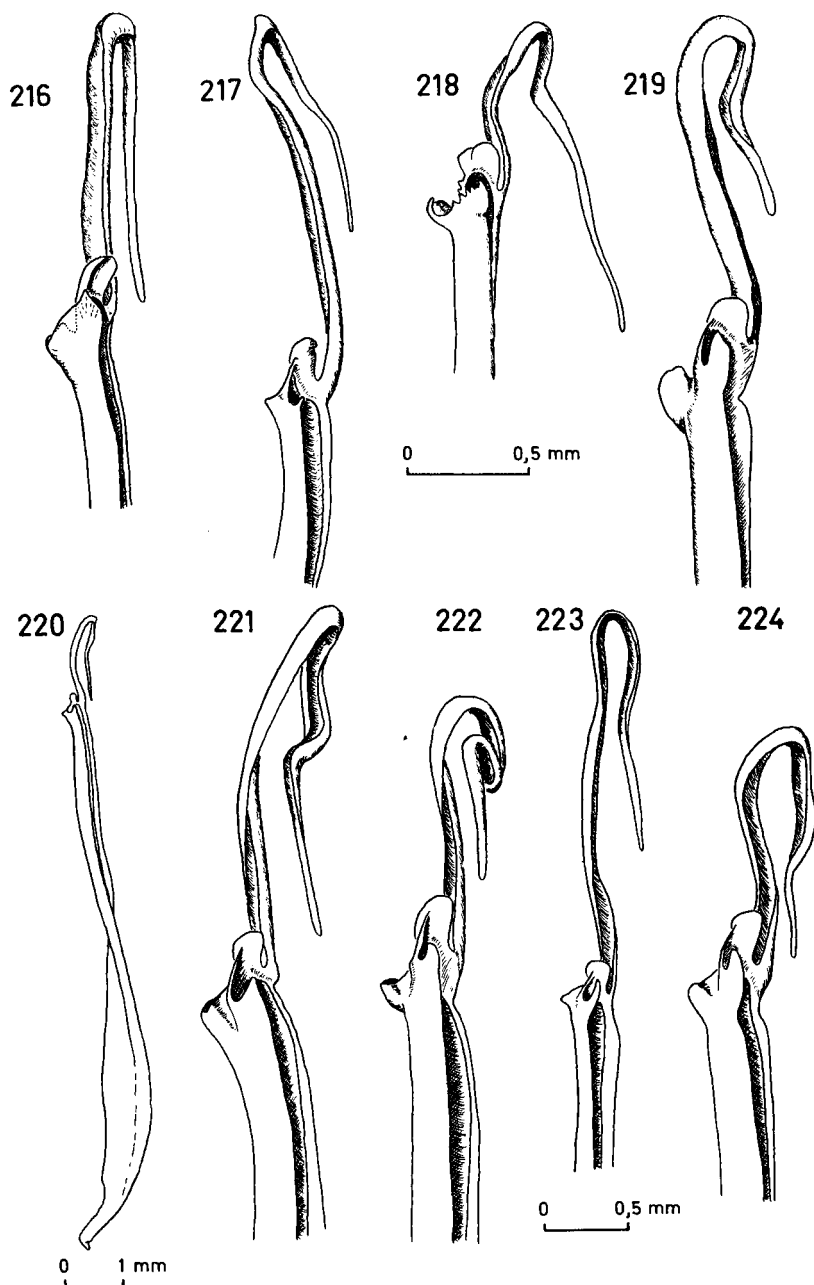
Material examined: ♂ holotype, South Africa near tropic of Capricorn (BM 46.33); *Uroplectes alstoni* ♀ & ♂ syntypes, Touws River Station, Cape Province, South Africa (SAM 477); *Uroplectes carinatus mediotriatus* 2 ♂ 3 ♀ syntypes from western Botswana (ZMB 14806); 1 ♂ homotype, Okahandja, Apr 1960, F. Gaerdes (NM 7303). 2 subad ♀ 2 juv ♀ 2 juv ♂, De Waal, 17 Mar 1969, B. Lamoral (NM 10028); 1 ♀, Lichtenstein Mitte, 21 Jan 1960, E. Rusch (SMN 87); 1 ♀ 1 ♂ & juv, Augrabies Falls, 7–12 Apr 1970, B. Lamoral (NM 10583); 1 ♀, Claratal, 27 Jan 1971 (SMN 262); 1 ♀, Okahandja, Apr 1960, F. Gaerdes (NM 7303); 1 ♂, De Jager, 10 Sep 1972, P. G. O. (SMN 388); 1 juv ♀ 2 juv, Sukes Dam, 2 Mar 1969, B. Lamoral (NM 10071); 2 subad ♂, Steinkopf, 11–13 Mar 1973, C. G. C. (SMN 442); 1 juv ♀, Otjikoko Süd, 10–13 Feb 1972, C. G. C. (SMN 336).

Distribution: Eastern two-thirds of Namibia and southern Angola, Botswana and northern regions of Cape Province in South Africa.

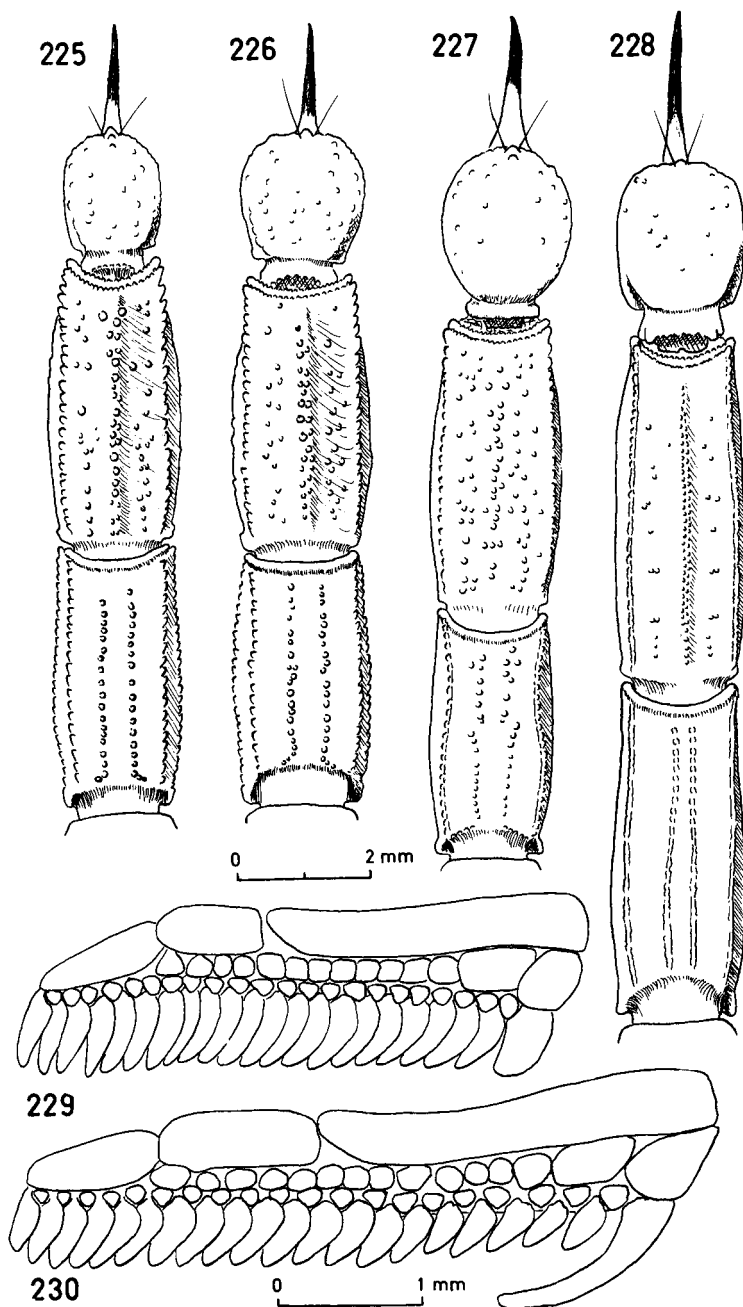
Bionomics: All specimens collected were found under rocks or dead vegetation on hard ground during the day. There were no traces of shallow burrows or scrapes. *U. carinatus* is hemiedaphic, presumably nocturnal, and is sympatric with *gracilior*, *schlechteri*, *longimanus* and *tumidimanus*.



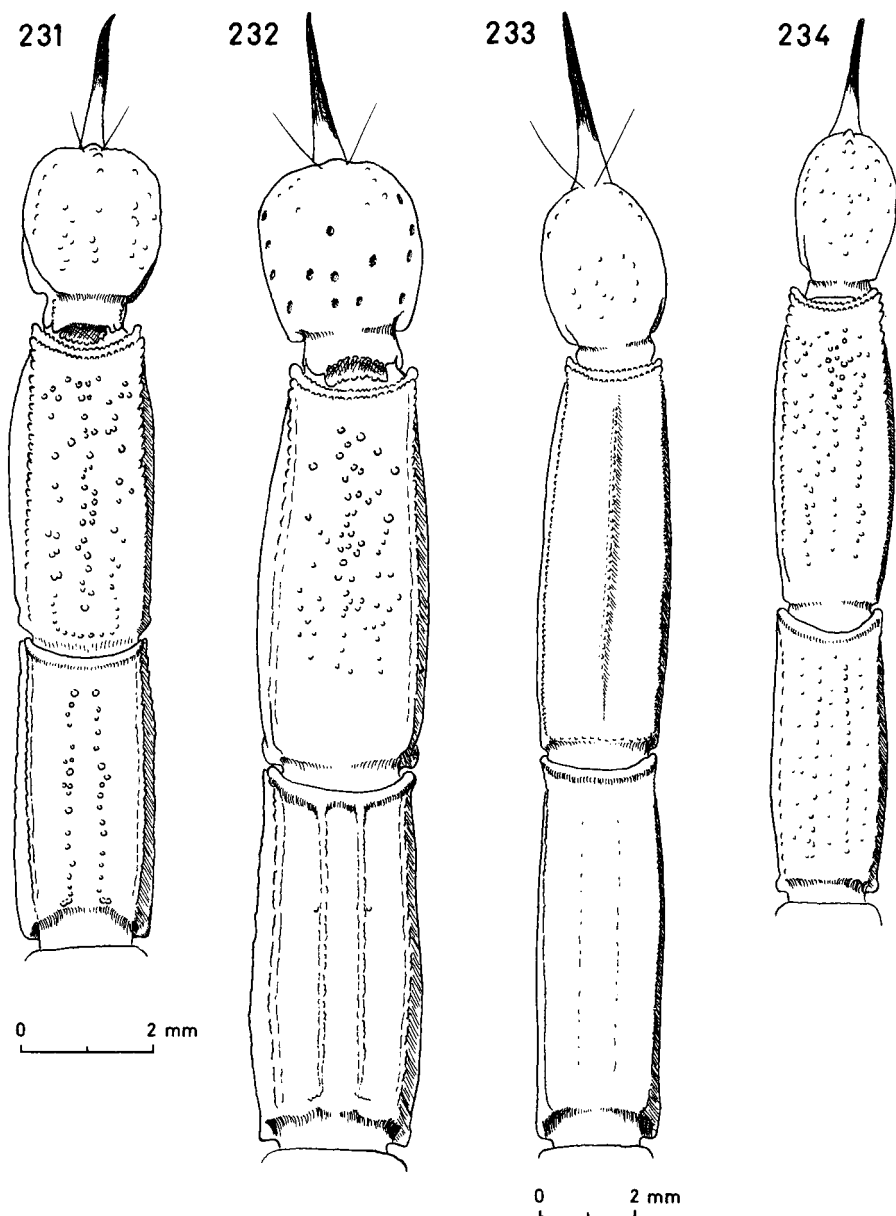
Figs 210–215. *Uroplectes carinatus*. 210–211, ♀ (NM 7303), right hand; 210, outer aspect; 211, ventral aspect; 212, ♂ homotype (NM 7303), right hand, outer aspect; 213–215, ♀ (NM 7303), right pedipalp; 213, tibia, dorsal aspect; 214, tibia outer aspect; 215, femur, dorsal aspect.



Figs 216–224. *Uroplectes* species. 216–219, distal portions of right hemispermatothores, ventro-ectal aspects; 216, *U. gracilior* (NM 10870); 217, *U. carinatus* (NM 10583); 218, *U. otjimbinguensis* (NM 10029); 219, *U. pilosus* (NM 10878); 220–221, *U. planimanus* (SMN 279), right hemispermatothore, ventro-ectal aspect; 220, entire structure; 221, detail of distal portion; 222–224, distal portions of right hemispermatothore, ventro-ectal aspect; 222, *U. schlechteri* (NM 11041); 223, *U. teretipes* (NM 10840); 224, *U. tumidimanus* sp. n. (NM 11040). Scales: 216–219, upper; 220, lower left; 221–224, lower right.



Figs 225–230. *Uroplectes* species. 225–228, cauda IV–V and telson, ventral aspects; 225–226, *U. carinatus*; 225, ♂ holotype (BM); 226, ♀ (NM 7303); 227, *U. gracilior*, ♀ lectotype (TM 1864 ex 1033); 228, *U. schlechteri*, ♀ homotype (NM 10562); 229–230, right pecten, ventral aspect; 229, *U. carinatus*, ♀ (NM 7303); 230, *U. tumidimanus* sp. n., ♀ holotype (NM 10866).



Figs 231-234. *Uroplectes* species, ventral aspects of cauda IV-V and telson. 231, *U. tumidimanus*, ♀ holotype (NM 10866); 232, *U. planimanus*, ♀ (NM 11037); 233, *U. teretipes*, ♀ holotype (NM 9101), black coloration of cauda IV, not shown; 234, *U. longimanus*, ♀ lectotype (ZMH). Scales: 231, 232, 234, lower left; 233, lower right.

Remarks: (1) Although I have not seen all the types of *U. carinatus mediotriatus*, Kraepelin's detailed original description which states that his species is closely related to *U. alstoni* Purcell and examination of syntypes ZMB 14806–14807 leave no doubt that *mediotriatus* is conspecific with *U. carinatus*. (2) See remark 1 under *U. gracilior*. (3) Purcell (1901: 175–180) extensively redescribed both sexes of the species he believed to be *Uroplectes carinatus* on 84 specimens in the South African Museum, without examining Pocock's ♂ holotype. Pocock's holotype of *carinatus* had been presumed lost for many years but was recently rediscovered in the dry collections of the British Museum (Natural History). Comparison of this type with Purcell's material and his redescription showed that the latter represented a hitherto undescribed species. However, comparison of the material used by Purcell in his redescription of *carinatus* (1901: 175–180) with Hewitt's types of *U. carinatus gracilior* (1918: 119) has shown these to be conspecific, with the exception of one of Hewitt's ♂ types (TM 1865 ex 1036) from Kuibis (Quibis) which proved to be conspecific with *U. schlechteri* Purcell, 1901.

Uroplectes gracilior Hewitt, 1913, **stat. n.** Figs 216, 227, 235–242

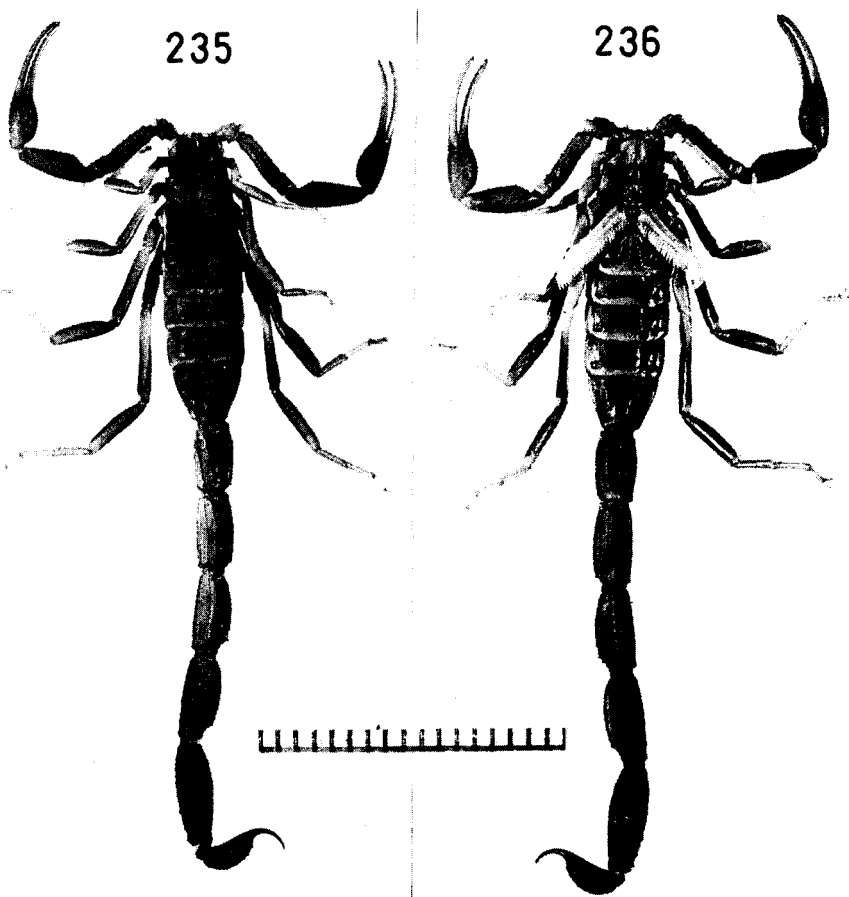
Uroplectes carinatus gracilior Hewitt 1913: 147–148.

Diagnosis: The following combination of characters separates *U. gracilior* from other species of the genus. Pedipalp hand, Fig. 237–239: in adults movable finger length/handback length ratio 1,95 (1,90–2,00) in ♀ and 1,85 (1,80–1,90) in ♂; handback, inner surface near fixed finger base, with a few scattered granules; τeb level with mesial base of fixed finger; distance $\tau et-dt > est-et$. Caudal segments Fig. 227: cauda V, ventro-median keel indistinct from adjacent granules, ventro-lateral keel granular; cauda IV, ventral keels clearly defined in anterior half only, ventro-lateral keels granular and distinctly recurved in posterior half; cauda IV, adults, length/width ratios, 1,90 (1,75–2,05) in ♀, 2,45 (2,35–2,55) in ♂; cauda II–III, ventro-lateral and ventral keels granular. *U. gracilior* is most closely related to *schlechteri*. These two are in turn most closely related to the *longimanus-pilosus* group.

Description: The following supplements Hewitt's very brief and inadequate original description and Purcell's (1901: 175–180) extensive redescription of what he believed to be *U. carinatus*.

Colour: Adult ♂ & ♀. Overall dark orange yellow No. 72; legs and pectines strong yellow No. 84; pedipalp keels lightly infuscated; carapace median eye tubercle, lateral eyes and anterior margin, lateral and dorsal margins of tergites I–VI, ventro-lateral and ventral keels cauda I–V, lightly to moderately infuscated; cauda IV and V slightly darker as in Figs. 235–236; telson vesicle yellow No. 84. Adult specimens from Namaland, Keetmanshoop and Karasburg districts with pedipalp hand and anterior two-thirds of cauda V fairly strongly infuscated. Juveniles and occasionally subadults from most areas similarly infuscated.

Pedipalps: Chela: proximo-mesial cutting edge of movable finger and fixed finger sub-linear to slightly procurved in ♀ and ♂, never recurved; handback inner surface markedly procurved, handback length/handback ventral width ratio



Figs 235–236. *Uroplectes gracilior*, ♂ (SMN 313). Scale in mm.

1,65–1,75 in ♀ and ♂. Pedipalp tibia, Figs 240–241: in adults, length/external width ratios 4,0–4,3 in ♀, 4,1–4,5 in ♂: dorso-internal keel well-developed along entire length. Pedipalp femur, Fig. 242: dorso-internal and dorso-external keels well-developed along entire length, consisting of enlarged granules.

Setation: Pedipalps, legs, lateral margins of sternites III–VII and caudal segments sparsely pilose.

Trichobothria: See diagnosis and Figs 237–242. Orthobothriotaxic for group A.

Pedipalp tibia: τ est, et and em triangular in distribution; distance τd_1-d_2 equal to half of distance d_3-d_4 . Pedipalp femur, Fig. 242: τd_2 on proximo-internal side of dorso-internal keel.

Hemispermaphore: Fig. 216.

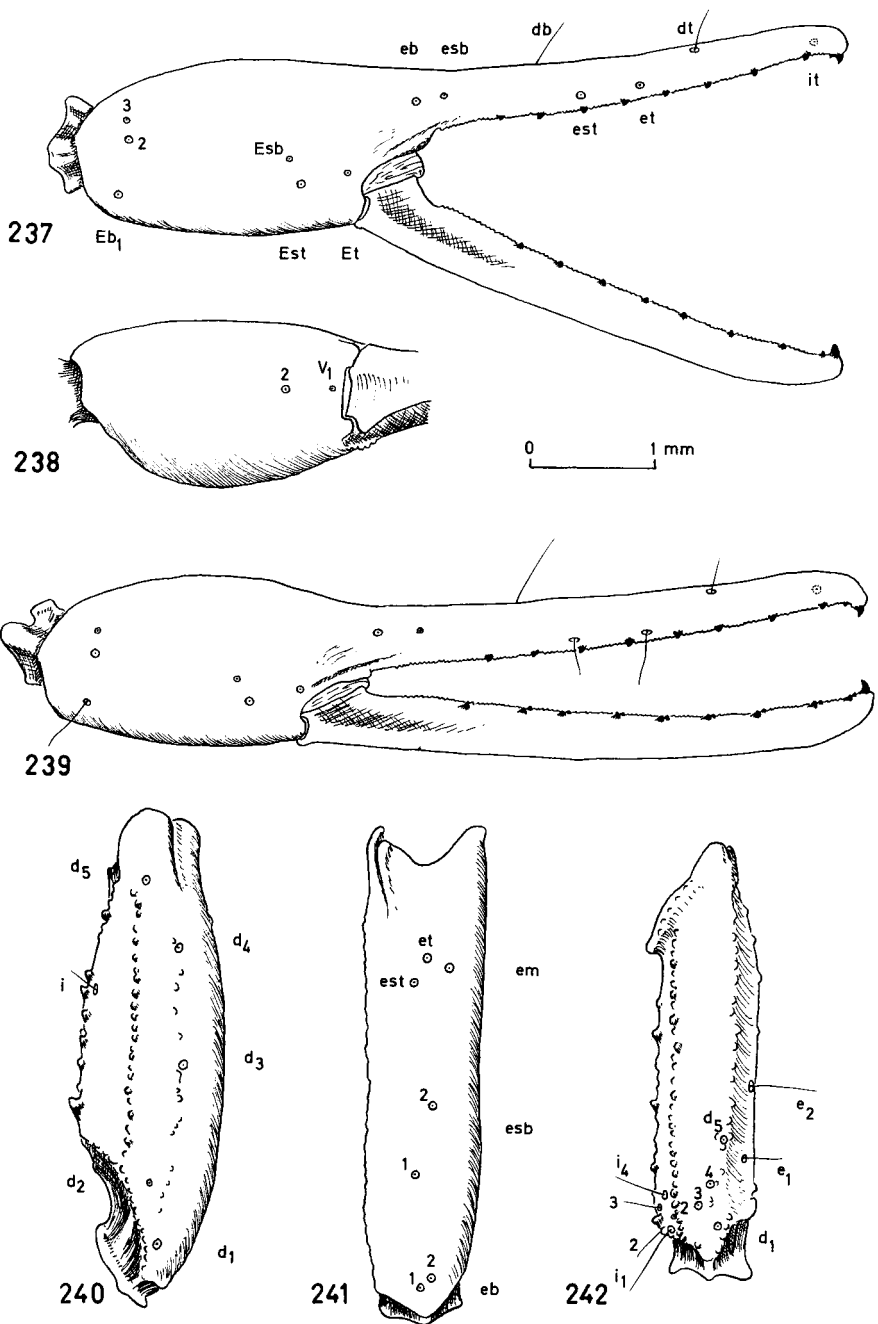
Variation: Sexual dimorphism: Adult males differ from females in the following characters: ♂ proportionally smaller and more slender with width sternite V/carapace length ratios 1,05 for ♂ and 1,30 for ♀; ♂ caudal segments longer, with cauda IV length/width ratios 2,5 in ♂ and 2,0 in ♀; ♂ pedipalp hand fingers

shorter, with movable finger length/handback length ratios 1,80 for ♂ and 2,00 for ♀ while chela length is only 5% less in ♂; first proximal tooth of each pecten, sub-circular in ♀ undifferentiated in ♂; ♂ 22–27, ♀ 19–23 teeth per pecten.

Intraspecific variation: Mainly in the degree of infuscation which is more pronounced in populations from south-eastern Namibia. Populations from the southern quarter of Namibia show a tendency for greater size in adults, and females tend to have a distinctly larger telson vesicle and a shorter aculeus than in populations further north.

Type material: The type series consists of 2 ♀ and 2 ♂ syntypes. One ♀ (TM 1864 ex 1033) from Narudas Süd, is hereby selected as the lectotype of *Uroplectes gracilior* and the other ♀ and 2 ♂ as paralectotypes; this material is deposited in the Transvaal Museum collection.

Material examined: ♀ lectotype, Narudas Süd (TM 1864 ex 1033); 1 ♀ paralectotype, Narudas Süd (TM 1863 ex 1032); 1 ♂ paralectotype, Narudas Süd (TM 1862 ex 1031); 1 juv ♂ paralectotype, Nakeis (Klein Karas), (TM 1866 ex 1037); 1 ♂, Blinkoog, 14–17 Oct 1971 (SMN 313); 1 ♀, Kochenau, 11 Mar 1971 (SMN 269); 4 ♀ 3 ♂ 6 juv, Schwarzkuppen, 8 Feb 1973, B. Lamoral (NM 10568); 13 ♂ 6 ♀ 6 subad ♀ 5 subad ♂ 6 juv ♀, Aandster, 6 Mar 1976, B. Lamoral (NM 10870); 7 ♀ 2 ♂ 2 subad ♂ 1 subad ♀, Vrede, 31 Mar 1976, B. Lamoral (NM 10839); 1 subad ♀ 2 juv ♀ 2 juv ♂, Kamkas, 8 Mar 1976, B. Lamoral (NM 10874); 1 subad ♀ 2 juv ♀ 6 juv ♂, Frischgewaagd 20 Mar 1976, B. Lamoral (NM 10875); 1 subad ♂ 1 juv ♀ 1 juv ♂, Saffier, 4 Mar 1976, B. Lamoral (NM 10873); 1 ♀, Narudas Süd, Dec 1975, Mr Maritz (NM 10868); 1 subad ♂ 1 subad ♀ 2 juv ♂, Kranzberg, 23 Mar 1976, B. Lamoral (NM 11026); 1 ♂ 1 subad ♀, Vredenhof, 21 Feb 1976, B. Lamoral (NM 10863); 1 juv ♀, Hanaus, 3 Mar 1959, Pocock (SMN 78); 1 ♀ 1 ♂, Narudas Süd, 22 Feb 1976, B. Lamoral (NM 10864); 1 juv ♂, Narudas Süd, 23 Feb 1976, B. Lamoral (NM 10865); 7 juv ♀ 1 juv ♂, Berseba, 27 Feb 1976, B. Lamoral (NM 10958); 1 juv ♀, Narib, 9 Mar 1976, B. Lamoral (NM 10861); 1 subad ♀ 1 juv ♂, Springbok, 21 Feb 1973, B. Lamoral (NM 10565); 1 subad ♀, Chamais, June 1973, C. Coetzee (NM 10559); 1 subad ♀, Louwshoop, 3 Feb 1973, B. Lamoral (NM 10555); 1 ♂, Aandster, 6 Mar 1976, B. Lamoral (NM 11025), 1 juv ♂, Louwshoop, 3 Feb 1973, B. Lamoral (NM 10560); 1 juv ♂, Us, 6 Feb 1973, B. Lamoral (NM 10563); 1 juv ♀ 1 juv ♂, Ortmanbaum, 26–28 Jan 1973, B. Lamoral (NM 10564); 2 subad ♀, Plateau, 16 Oct 1970 (SMN 217); 1 juv ♂, Windhoek, 6–13 June 1972, P. Olivier (SMN 386); 1 subad ♀, Rietfontein, 1–2 June 1972, M-L. P. (SMN 373); 1 subad ♀ 1 subad ♂ 1 juv ♂, Swartbaas West, 19–22 Apr 1972, M-L. P. (SMN 360); 1 subad ♀, Aroab, 1 June 1972, M-L. P. (SMN 372); 1 ♂ 1 subad ♂ 1 juv ♂ 2 juv ♀, Noachabeb, 22–28 Apr 1972, M-L. P. (SMN 364); 1 ♂, Huns, 29 Sep–4 Oct 1974, Museum staff (SMN 525); 2 juv, Regenstein, 9 Apr 1972, M-L. P. (SMN 354); 1 juv ♀, Otjinungua, 19–21 Aug 1973 (SMN 469); 1 juv ♂, Hoogland, 1–4 Feb 1974, C. G. C. (SMN 512); 1 juv ♂, Kuboos, 22 Nov 1975, E. Griffin (SMN 573); 1 juv ♀ 1 juv ♂, Duineveld, 14 Apr 1974, M. J. P. (SMN 520), 1 ♂ 1 ♀, Sesriem, June 1973, G. Sander (NM 10381); 1 subad ♀, Namuskluft, 20 Sep 1968, W. Haacke (TM 10629); 2 ♂ 5 ♀, Aar, 29 Feb 1976, B. Lamoral (NM 10869); 3 ♂ 4 ♀ 6 juv Schwarzkuppen, 8 Feb 1973, B. Lamoral (NM 10568); 1 juv ♂, Trekkopje, 3 Mar 1974, M.J.P. (SMN 515).



Figs 237–242. *Uroplectes gracilior*. 237–238, ♂ homotype (NM 11025), right hand; 237, outer aspect; 238, ventral aspect; 239, ♀ (NM 10870), right hand, outer aspect; 240–242, ♂ homotype, right pedipalp; 240, tibia, dorsal aspect; 241, tibia, outer aspect; 242, femur, dorsal aspect.

Distribution: Virtually the whole of the southern half of Namibia except the Namib and Kalahari soft sand systems. Also found in the northern regions of the Cape Province in South Africa.

Bionomics: Nocturnal, hemiedaphic and digs shallow burrows at the base of shrubs in sandy to consolidated sandy soils in areas of vegetation types 8 and 9 (Fig. 4). A few specimens have occasionally been found in shallow scrapes under rocks. Some specimens have sometimes been captured on shrubs or low vegetation at night. *U. gracilior* is one of the most common and widely distributed species of *Uroplectes* in the southern half of Namibia and is sympatric with *schlechteri* (its sister species), *carinatus*, *longimanus*, *planimanus* and *tumidimanus*.

Remarks: (1) Hewitt, 1918: 117, refers to a variety of *Uroplectes carinatus* which he names *australis* without designating definite types, except for broad reference to material recorded by Purcell (no date) 'in the Western half of Cape Colony' and the following statement: 'We have specimens which seem to be referable to this form from Steytlerville neighbourhood (Miss A. Geard).' I have not been able to find and examine the material referred to by Hewitt but his very brief description of *australis* suggests that it is conspecific with either *gracilior* or *carinatus* as here revised. (2) Hewitt's ♂ type TM 1865 (1036) of *Uroplectes carinatus gracilior* from Kuibis (Quibis) is conspecific with *U. schlechteri* Purcell. See synonyms under this species. (3) See remark 3 under *U. carinatus*.

Uroplectes longimanus Werner, 1936. Figs 234, 243–250

Uroplectes longimanus Werner, 1936: 179.

Diagnosis: *U. longimanus* is separated from other species of the genus by the following combination of characters. Pedipalp hand, Figs 245–246: movable finger length/handback length ratio 2,30 in adult ♀ and ♂; handback inner median surface sub-parallel to outer median surface, handback length/handback ventral width ratio 2,10–2,15 in adult ♀ and ♂; τit level with first outer distal flanking tooth; τdt and et separated by two outer flanking teeth; τest halfway between 5th and 6th outer flanking teeth. Pedipalp tibia, Fig. 247–248: τest distinctly proximal to et , em level with et . Pedipalp femur, Fig. 249: τd_2 on proximo-internal side of dorso-internal keel. Pecten as in Fig. 250. *U. longimanus* is most closely related to *pilosus*. These two are in turn most closely related to the *gracilior-schlechteri* group.

Description: The following supplements Werner's original description. Werner's description was based on 2 ♀. Except for 1 ♂, no other specimens of *longimanus* have been collected since.

Colour: Overall, moderate orange yellow No. 71; legs and telson, light orange yellow No. 70; pectines, pale orange yellow No. 73; medial three-fifths of dorsal, lateral and ventral surfaces of cauda V lightly infuscated; superciliary ridge of each median eye black and surface between each ridge medially moderate orange yellow as the rest of the carapace; lateral eyes black.

Pedipalps: Tibia dorso-internal keel with proximal one-quarter absent, remaining length obsolete. Femur dorso-internal and dorso-external keel poorly developed.

Carapace: Matt, very finely shagreened with a few scattered small granules in ♀, slightly more heavily granulated in ♂.

Tergites: Matt, very finely shagreened with a few scattered granules in ♀, more coarsely so in ♂; lateral keels present but poorly developed in both sexes.

Sternites: Smooth and shiny in ♀, very finely granular and matt in ♂; posterior margin sternite V punctate in ♀.

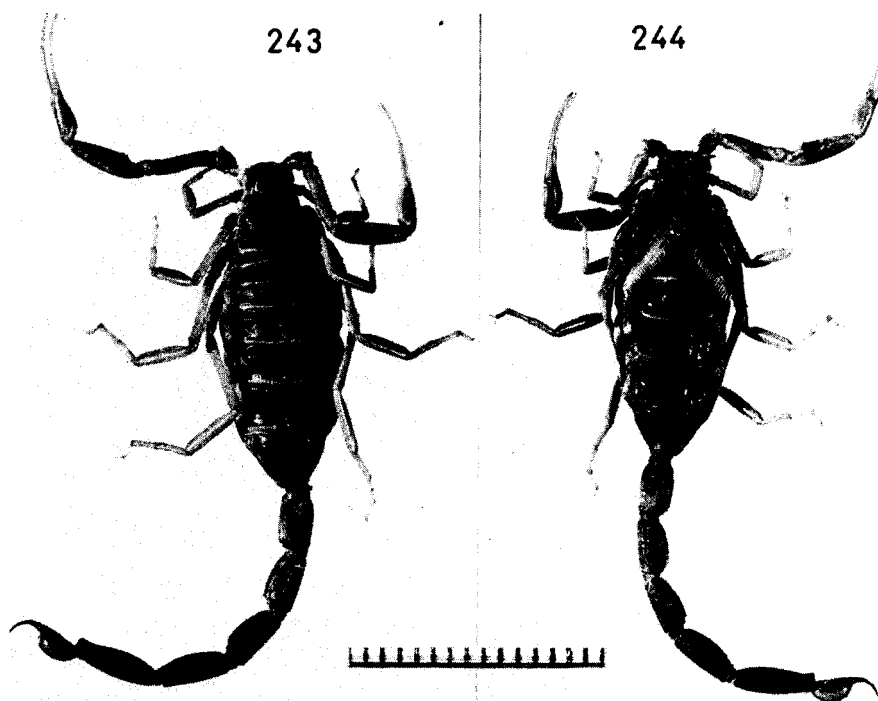
Cauda: Figs 234, 243–244. Keels better developed in ♂ than ♀; distal enlarged granule of dorsal keel longer in ♂ than ♀. Cauda III–IV, ventro-lateral and ventral keels obsolete to poorly developed; cauda IV, in adults, length/width ratio 2,60 in ♀, 2,90 in ♂.

Setation: Overall and particularly caudal vestiture ampler in ♂ than in ♀ with cauda almost as pilose as in *U. pilosus*.

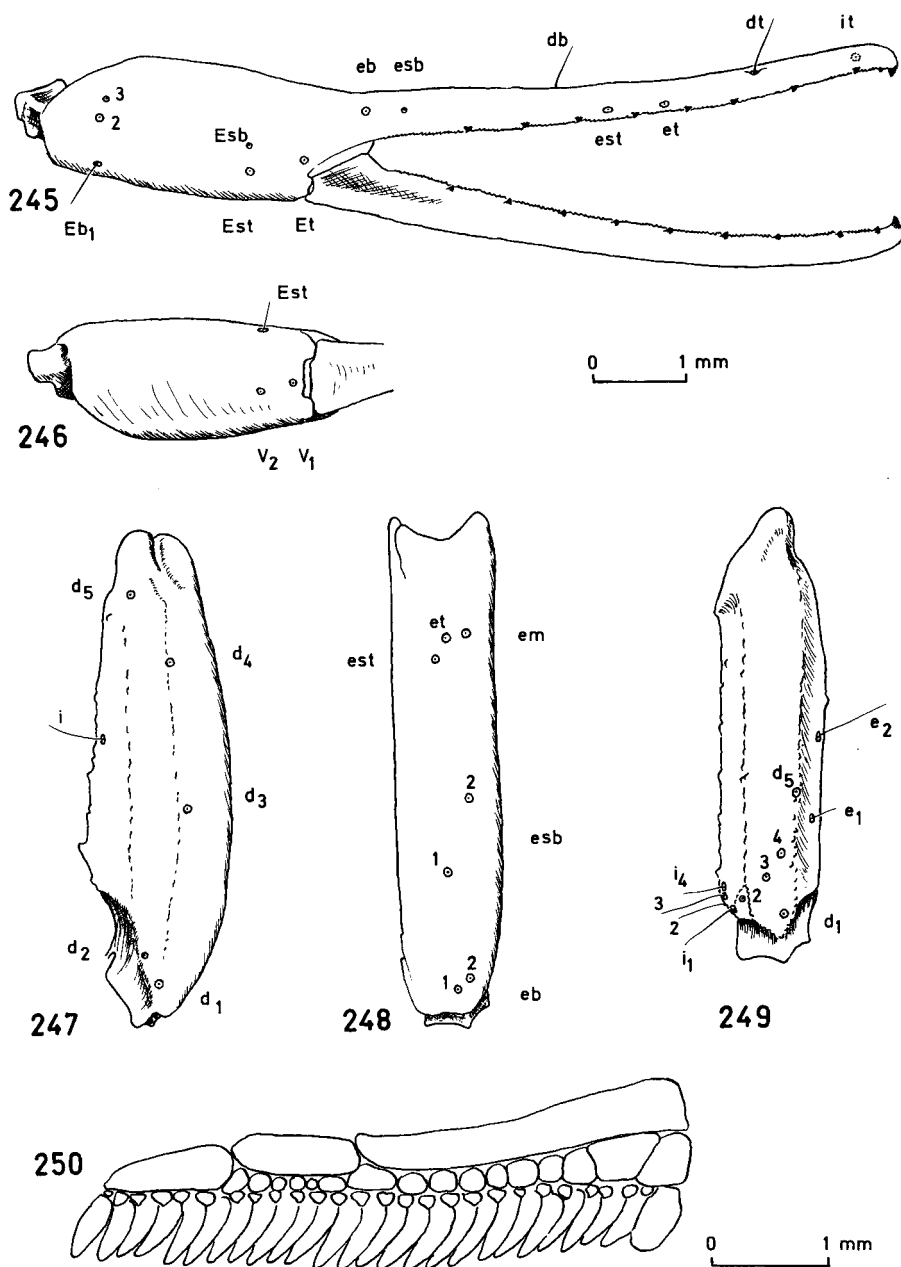
Trichobothria: See diagnosis and Figs 245–249 ♂ as in ♀. Orthobothriotaxic for group A.

Hemispermaphore: The only ♂ collected was in an extreme state of starvation when collected and did not survive in captivity. This probably explains the absence of hemispermaphores and the shrivelled paraxial organs.

Variation: Sexual dimorphism: The adult male differs little from the adult female except in the following characters: ♂ proportionally more slender, with width sternite V/carapace length ratio 1,12 for ♂ and 1,25 for ♀; ♂ caudal segments longer with cauda IV length/width ratio 2,85 in ♂ and 2,55 in ♀ first proximal



Figs 243–244. *Uroplectes longimanus*, ♀ lectotype (ZMH). Scale in mm.



Figs 245–250. *Uroplectes longimanus*, ♀ lectotype (ZMH). 245–246, right hand; 245, outer aspect; 246, ventral aspect; 247–248, right pedipalp tibia; 247, dorsal aspect; 248, outer aspect; 249, right pedipalp femur, dorsal aspect; 250, right pecten, ventral aspect. Scales: 245–249, upper; 250, lower.

tooth of each pecten (Fig. 250) suboval in ♀, undifferentiated in ♂; ♂ 27–27, ♀ 26–26 teeth per pecten.

Measurements: See diagnosis, figures and plates. In addition, ♂ in mm: Carapace length 4,0, posterior width 4,2; pedipalp hand movable finger and handback length 5,9 & 2,6; cauda I–V lengths 2,9 3,9 4,2 4,8 5,8; cauda I–V widths 2,0 1,9 1,8 1,7 1,7; telson length and width 5,8 & 1,4; telson vesicle length 2,8, height 1,2. Total length (anterior margin carapace to distal end of aculeus) 42 mm.

Type material: Werner described *longimanus* on 2 ♀ syntypes. I have examined one of these and designate it as lectotype of *Uroplectes longimanus*. The other ♀ thus represents the paralectotype of *U. longimanus*. This material is deposited in the collection of the 'Zoologisches Museum Hamburg'.

Material examined: ♀ lectotype, Lüderitzbucht (ZMH); 1 ♂, Hanaus, 8 Apr 1976, B. Lamoral (NM 11049).

Bionomics: No field data are available for this species, except for those on the only known ♂, collected from under a large stone on sandy ground, near the banks of the Fish River. It is the rarest species of *Uroplectes* from Namibia.

Uroplectes otjimbinguensis (Karsch, 1879a). Figs 218, 251–258

Lepreus otjimbinguensis Karsch, 1879a: 125.

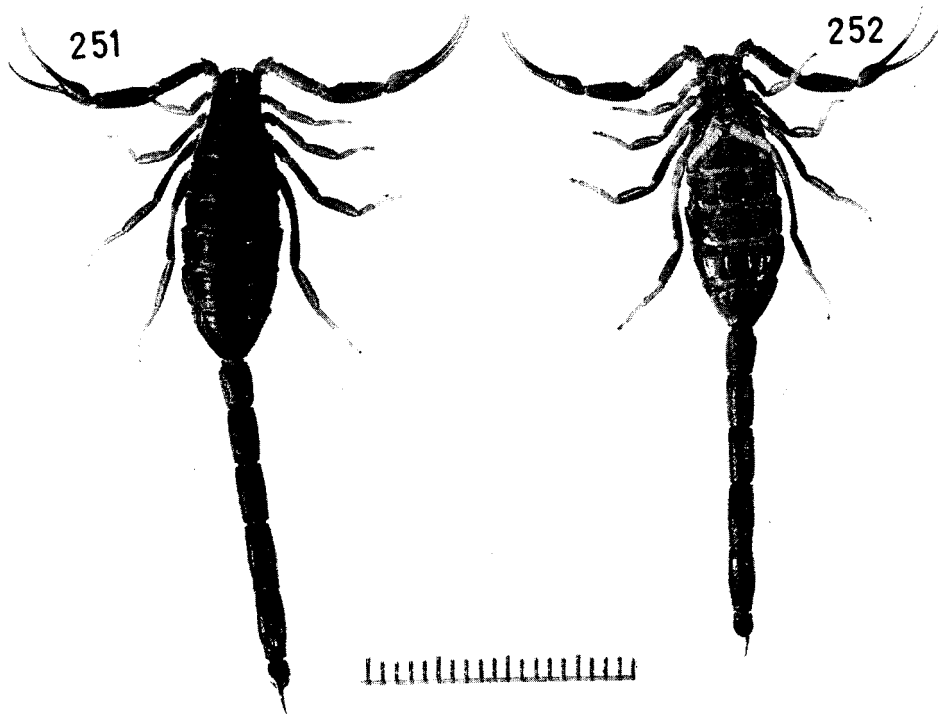
Diagnosis: *U. otjimbinguensis* is separated from other species of the genus by the following combination of characters. Caudal segments: with dark patterns as in Figs 251, 252; cauda II–V, median-lateral, ventro-lateral and ventral keels completely absent, dorso-lateral and dorsal keels almost completely absent, only represented by a distal granule and sometimes in cauda II–III by a row of small granules. Telson vesicle without a subaculear tooth. One of the smaller species of *Uroplectes*, it is most closely related to *vittatus*, a species not yet recorded from Namibia but found in Botswana at localities close to the north-eastern regions of Namibia.

Description: The following account supplements Karsch's original description and Lawrence's (1955: 212) brief supplement.

Colour: Adult ♂ & ♀. Tergites and pedipalps, dark orange yellow No. 72; cauda strong yellow-brown No. 74; legs and sternites moderate orange yellow No. 71; pectines, pale orange yellow No. 73; median one-quarter and lateral margins of tergites infuscated, the former forming a continuous band from tergite I–VII; interocular area infuscated, forming a distinct triangular marking; median eye tubercle black; posterior median furrow, and medial one-third of posterior margin of carapace infuscated. Caudal segments, Figs 251, 252: ventral anterior one-quarter of cauda II–III, whole anterior half of cauda IV and whole anterior three-quarters of cauda V, distinctly infuscated. Chelicerae not at all infuscated. Tergites: I–VI, without traces of a lateral keel on each side posteriorly, in addition to the median keel; I–VII, with a dark median band.

Sternites: Smooth and shiny in ♀, occasionally very lightly shagreened and matt in ♂; sternite VII without traces of keels.

Setation: Almost entirely apilose.



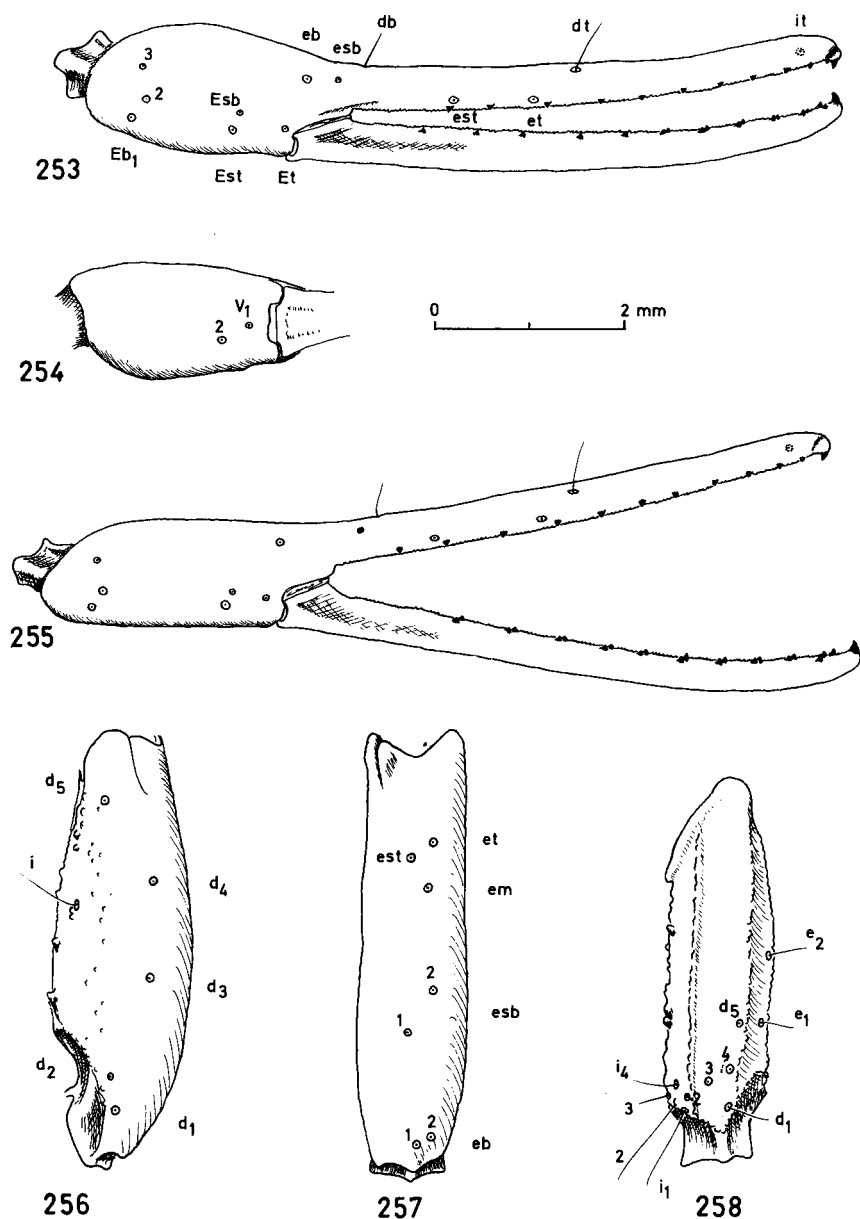
Figs 251–252. *Uroplectes otjimbinguensis*, ♀ (NM 10580). Scale in mm.

Trichobothria: Figs 253–258. τeb of pedipalp chela is exceptionally basal in position and represents the most basal position encountered in any species of *Uroplectes* from Namibia. τEb_3 always proximal to Eb_2 , Eb_2 much closer to Eb_1 than Eb_3 . Orthobothriotaxic for group A. Pedipalp tibia, Fig. 257: τem distinctly proximal to est . Pedipalp femur, Fig. 258: τd_2 on proximo-internal side of dorso-internal keel.

Hemispermaphore: Fig. 218: outer margin of basal lobe serrated; *pars recta* short, mean *pars recta* length/inner lobe length ratio 3,5 or less.

Variation: Sexual dimorphism: In adults, males differ from females in the following characters: ♂ proportionally smaller and more slender with width sternite V/carapace length ratios 1,05 for ♂ and 1,28 for ♀; ♂ caudal segments exceptionally longer, cauda IV length/width ratios 3,90 in ♂ and 2,20 in ♀; ♂ pedipalp hand fingers shorter, movable finger length/handback length ratios 2,20 in ♂ and 2,40 in ♀ while movable finger length is only 6% less in ♂. First proximal tooth of each pecten sub-oval to sub-cordate in ♀, undifferentiated in ♂; ♂ 15–17, ♀ 14–15 teeth per pecten.

Intraspecific variation: The only noteworthy variation encountered is in the shape of the proximal tooth of each pecten in ♀, which in specimens from the



Figs 253–258. *Uroplectes otjimbinguensis*. 253–254, ♀ (NM 10580), right hand; 253, outer aspect; 254, ventral aspect; 255, ♂ (NM 10580), right hand, outer aspect; 256–258, ♀ (NM 10580), right pedipalp; 256, tibia, dorsal aspect; 257, tibia, outer aspect; 258, femur, dorsal aspect.

Windhoek district is more strongly sub-cordate than sub-oval. The amount and intensity of infuscation described above also fluctuate within certain populations but this is erratic and does not appear to be correlated to specific populations.

Type material: The type series consists of 3 syntypes. Karsch sexed them as 2 ♀ and 1 ♂ but indicated that he was not sure of this through the use of question marks after these sexes. They are deposited in the Zoologisches Museum, Berlin (ZMB Nr. 3011) in east Berlin. I have examined one ♀ (ZMB 3011a) and hereby designate it as the lectotype of *Uroplectes otjimbinguensis*.

Homotype: I have selected a ♀ homotype which is deposited in the Natal Museum collection (NM 11063).

Material examined: ♀ lectotype, Otjimbingue, Hahn (ZMB 3011a); ♀ homotype, Gobabeb, Feb 1972, B. Lamoral (NM 11063); 2 ♀, Uis, 4 Aug 1969, P. Buys (SMN 93); 1 ♀, Hentiesbaai, 14 Aug 1961, E. Rusch (SMN 73); 1 ♀, Rocky Point, 1963, B. van Zyl (SMN 129); 1 ♀, Swakopmund, 3 Oct 1965, P. Swart (SMN 172); 2 ♀ Aus (Etosha Game Park), 30 Jan 1960, P. Buys (SMN 173); 1 subad ♀, Hartmansberge, 18 Aug 1973 (SMN 465); 1 juv ♂, Omatjenguma, 24 Nov 1970, E. Motgoabone (SMN 225); 1 ♀, Purros, 21 Feb 1973, J. Malan (SMN 436); 1 juv ♂, Hartmanberge, 18 Aug 1973 (SMN 464); 1 ♂, Mara, 6–8 Oct 1974, Museum staff (SMN 527); 1 ♂ 1 ♀, Windhoek, 5 Dec 1967 (SMN 159); 1 ♂ 4 ♀, Döbra, Sept 1973 (NM 10399–10403); 1 juv ♂, Molteblick, Sept 1973, G. Sander (NM 10404); 6 ♀ 3 ♂, Gobabeb, 25–26 Jan 1972 (NM 10580); 1 ♂ 1 subad ♂ 1 juv ♀, Sesfontein, 3 Apr 1976, B. Lamoral (NM 10884); 1 ♂, Windhoek, 5 Feb 1969, B. Lamoral (NM 10030); 2 ♀ 1 ♂ 4 juv, Gobabeb, Feb 1972, B. Lamoral (NM 10584); 4 ♀ 4 ♂, Kamanjab, 5 Apr 1976, B. Lamoral (NM 10896); 1 ♂, Annabis, 24–25 Feb 1969, B. Lamoral (NM 10029); 1 subad ♀, Gobabeb, Feb 1972, B. Lamoral (NM 10577); 1 juv ♂, Bläskranz, Aug 1974, G. Sander (NM 10949); 1 juv ♂, Numas valley, 3 Aug 1970, C. Coetzee (SMN 94); 1 ♀, Erongo mountains, 3–4 Aug 1961, P. Buys (SMN 174); 1 ♀, Narib, 9 Mar 1976, B. Lamoral (NM 10862); 1 ♂ 1 ♀, Gobabeb, May 1959, R. Lawrence (NM 7270); 1 ♂, Okahandja, Sep 1964, F. Gaerdes (NM 9080); 1 ♀, Okahandja, Sep 1962, W. Coaton (NM 8378); 1 ♀, Windhoek (SMN 12).

Distribution: Predominantly in the northern half of Namibia, no specimens being recorded further south than Bläskranz in the Naukluft Mountains.

Bionomics: *U. otjimbinguensis* is nocturnal, epigeic and infracorticicolous. It is found under the bark of trees during the day, and moving around on vegetation ranging from shrubs to the largest trees, at night. One specimen was located with an ultra-violet lamp at night 6 metres above ground level near the top of an *Acacia* sp. tree. This species is rarely found on the ground at night. It is sympatric with *Buthotus conspersus* in part of its range.

Uroplectes pilosus (Thorell, 1876). Figs 219, 259–266

Lepreus pilosus Thorell, 1876: 7–8.

Diagnosis: The following combination of characters separates *U. pilosus* from other species of the genus. Pedipalp hand, Figs 261–263: movable finger length/handback length ratio 1.95 (1.90–2.00) in adult ♀ and ♂; handback inner

surface slightly procurved, handback length/handback ventral width ratio 1,90–2,00 in adult ♀ and ♂; τit proximal to first outer distal flanking tooth; τdt and et separated by one outer flanking tooth; τest level with 6th outer flanking tooth. Pedipalp tibia, Figs 264–265: τest level with et , em proximal to et ; Pedipalp femur, Fig. 266: τd_2 on proximo-internal side of dorso-internal keel. Pecten: first proximal tooth of ♀, much wider and shorter than adjacent teeth, sub-circular in shape. *U. pilosus* is most closely related to *longimanus*. These two are in turn most closely related to the *gracilior-schlechteri* group.

Description: The following supplements Thorell's original description and Lawrence's (1966: 4) supplement.

Colour: adult ♂ & ♀. Tergites and caudal segments moderate orange yellow No. 71; pedipalps, legs and sternites, light orange yellow No. 70; pectines and telson, pale orange yellow No. 73. Cauda very lightly infuscated; median eye tubercle blackened. No other infuscations elsewhere on habitus.

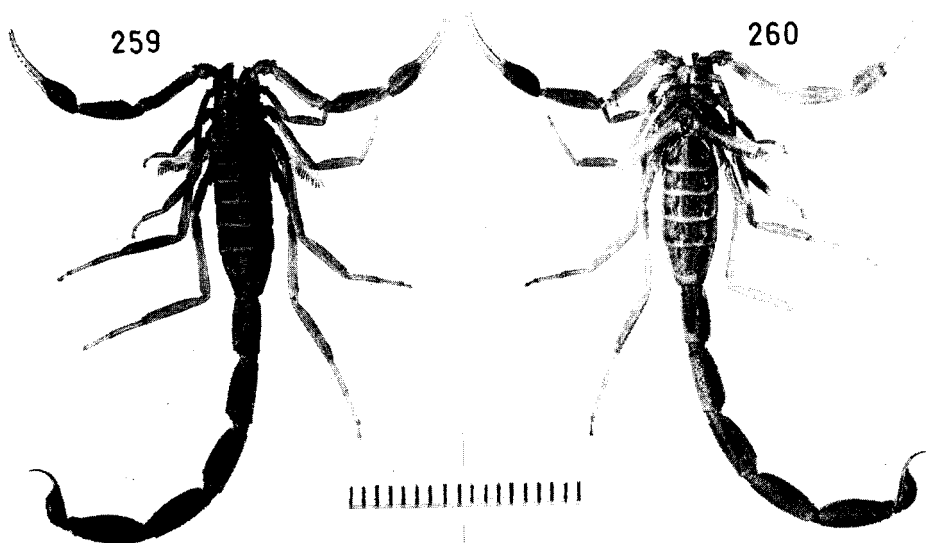
Pedipalps: Tibia dorso-internal keel with proximal one-quarter absent, remaining length only represented by 7–8 granules. Femur dorso-internal and dorso-external keels poorly developed.

Tergites: II–VI, with traces of lateral keels posteriorly.

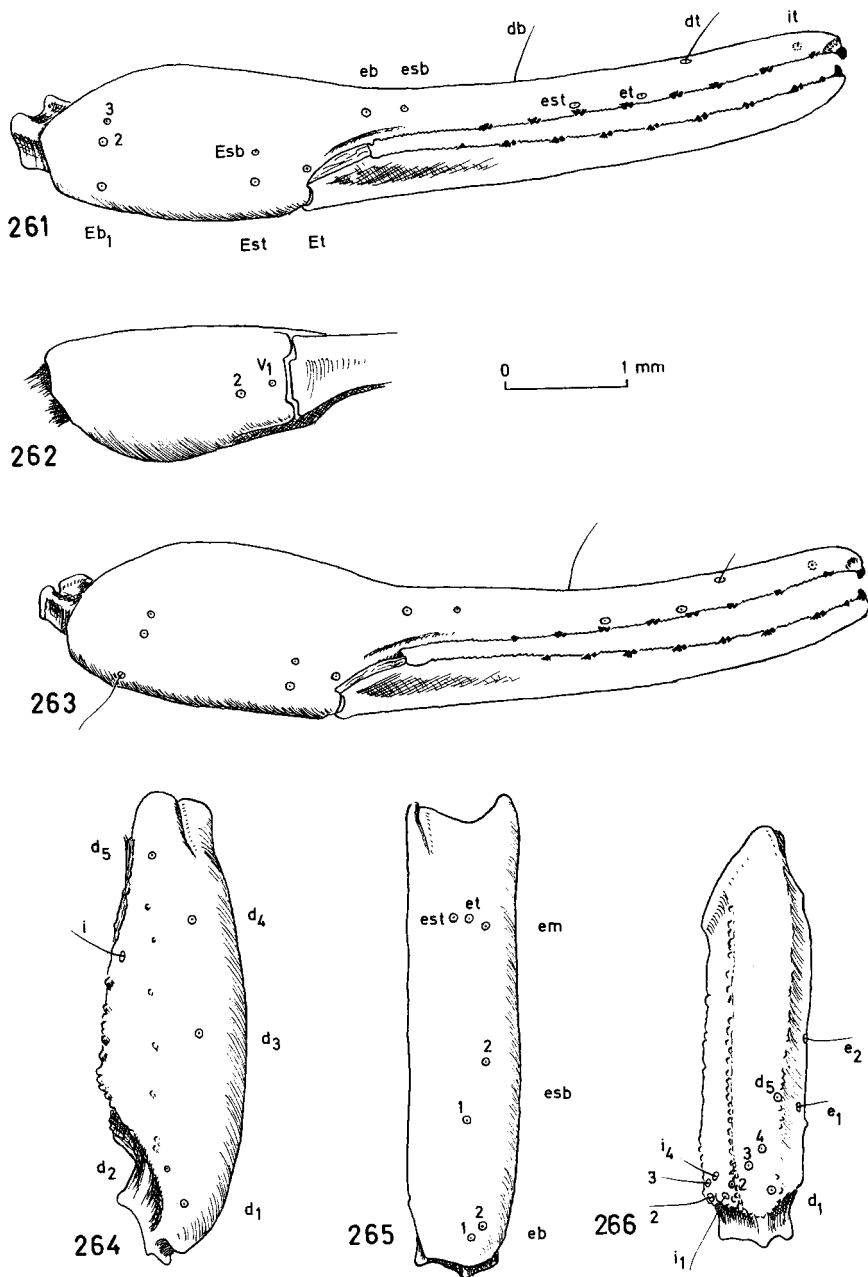
Sternites: Lightly punctate, smooth and shiny in ♀ & ♂.

Cauda: Figs 259–260. Cauda III–IV, ventro-lateral and ventral keels obsolete and hardly differentiated from adjacent granules; cauda IV in adults, mean length/width ratio 2,40 in ♀, 2,70 in ♂.

Setation: Pedipalps, legs, lateral and posterior margins of sternites, distal and middle lamellae of pectines and cauda I–V, densely pilose; telson moderately pilose; telotarsi of legs I–IV with a dense vestiture of short stiff setae.



Figs 259–260. *Uroplectes pilosus*, ♂ (NRS 17, 211/214). Scale in mm.



Figs 261–266. *Uroplectes pilosus*. 261–262, ♀ (TM 8924), right hand; 261, outer aspect; 262, ventral aspect; 263, ♂ (TM 8924), right hand, outer aspect; 264–265, ♀ (TM 8924), right pedipalp; 264, tibia, dorsal aspect; 265, tibia, outer aspect; 266, femur, dorsal aspect.

Trichobothria: See diagnosis and Figs 261–266. Orthobothriotaxic for group A.
Hemispermaphore: See Fig. 219.

Variation: Sexual dimorphism: In adults, males differ from females in the following characters: ♂ proportionally more slender with width sternite V/carapace length ratios 1,05 for ♂ and 1,25 for ♀; ♂ caudal segments longer, cauda V length/width ratios 2,70 in ♂, 2,40 in ♀; ♂ pedipalp hand fingers slightly shorter, movable finger length/handback length ratio 1,90 in ♂, 2,05 in ♀ while chela length is only 2% shorter in ♂; first proximal tooth of each pecten sub-oval in ♀, undifferentiated in ♂; ♂ 28–30, ♀ 25–27 teeth per pecten.

Intraspecific variation: All material collected to date comes from Cape Cross and no striking variation has been diagnosed in this population.

Type material: 2 ♂ syntypes (1 adult and 1 much smaller subadult). The adult ♂ is hereby selected as the lectotype of *Uroplectes pilosus* and the other ♂ as the paralectotype. This material is deposited in the Naturhistoriska Riksmuseet Stockholm (NRS no. 211 & 214, 'Collectio T. Thorell no. 17').

Material examined: ♂ lectotype and ♂ paralectotype, 'Caffraria', 1840–1848, J. A. Wahlberg (NRS 211 & 214). 1 ♂ 1 ♀, Cape Cross, C. Koch (TM 8924); 3 ♀ 1 ♂, Cape Cross, 25 Mar 1976, B. Lamoral (NM 10878); 1 ♀, Cape Cross, July 1954, C. Koch (NM 11033).

Distribution: All the material collected to date comes from Cape Cross and vicinity. Extensive collecting north and south of this locality during my 1976 expedition to the Skeleton Coast failed to yield specimens. It is, however, very likely that further collecting along the Skeleton Coast will yield specimens of *pilosus* which will probably be found to be distributed as far south as Swakopmund.

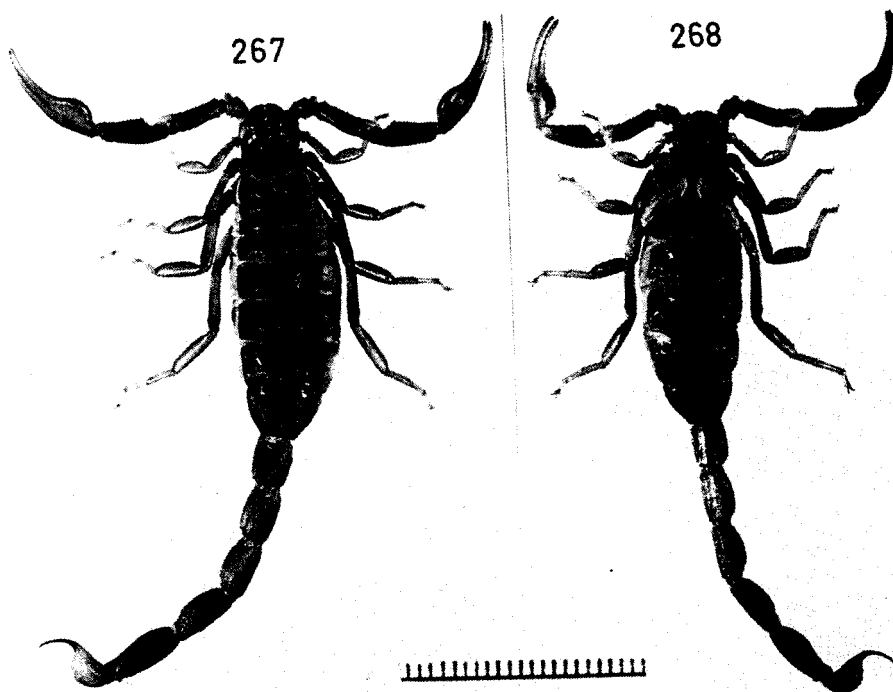
Bionomics: A nocturnal and hemiedaphic species, it digs shallow burrows in sandy soil at the base of shrubs in area of vegetation type 2 (Fig. 4). *U. pilosus* is one of the rarer species of *Uroplectes* in Namibia and is sympatric near Cape Cross with *otjimbinguensis* and *planimanus*.

Uroplectes planimanus (Karsch, 1879a). Figs 220–221, 232, 267–274

Lepreus planimanus Karsch, 1879a: 125–126.

Lepreus lunulifer E. Simon, 1887, see Lamoral & Reynders, 1975: 532.

Diagnosis: The following combination of characters separates *U. planimanus* from other species of the genus. Pedipalp hand, Figs 269–271, in adults: almost apilose; handback laterally compressed, upper margin distinctly lobate in adults; surface of handback flat and smooth. Telson vesicle ventrally agranular and moderately punctate, sub-oval in lateral outline. Pecten, Fig. 268; first proximal tooth of ♀ falciform and much longer than adjacent teeth. One of the larger species of *Uroplectes*, it is most closely related to *tumidimanus*. These two are in turn most closely related to *teretipes*.



Figs 267–268. *Uroplectes planimanus*, ♀ (NM 11037). Scale in mm.

Description: The following supplements Karsch's original description.

Colour: Adult ♂ & ♀. Pedipalps, tergites and cauda ranging from moderate yellow No. 87 to moderate orange yellow No. 71; legs, ranging from light yellow No. 86 to light orange yellow No. 70; sternites and pectines ranging from pale yellow No. 89 to pale orange yellow No. 73. The following lightly to moderately infuscated: ventral and ventro-lateral keels of cauda I–V; anterior region of chelicerae; anterior and lateral margins of carapace; median keel and lateral margins of tergites I–VI; femur and patella keels of legs I–IV. The following with light to moderately infuscated reticulate patterns: outer median region of pedipalp handback; outer and dorsal surface of pedipalp tibia; lateral surfaces of carapace; lateral and ventral surfaces of cauda V.

Pedipalp: The distinctly lobate, laterally compressed handback is the most striking diagnostic character of this species. This character is less well-developed in subadults and occasionally absent in juveniles to subadults. Chela movable finger length/handback length ratios 1,80 (1,70–1,90) in ♀, 1,55 (1,50–1,60) in ♂; handback length/handback ventral width ratio 1,85 (1,80–1,92) in ♀ and ♂ and handback width/handback ventral width 1,80 (1,75–1,86) in ♀ and ♂. Pedipalp tibia, Figs 272–273: moderately broad in ♀, length/width ratio 2,7 (2,65–2,75).

Tergites: Lateral keels poorly developed and almost indistinguishable in some adult specimens, particularly in ♀.

Sternites: Smooth and shiny. Sternite VII with traces of lateral keels.

Setation: Habitus almost entirely apilose except for patella, tibia, basitarsus and telotarsus of legs I-IV.

Cauda: Figs 232, 267-268. Cauda IV, ventro-lateral and ventral keels poorly developed, consisting of shallowly costate rows of fine granules; cauda V, ventro-lateral keels as in cauda IV, ventro-median keel indistinct; cauda V, ventro-lateral keels moderately diverging from each other.

Trichobothria: Figs 269-274. Orthobothriotaxic for group A. τ_{eb} of pedipalp hand is unusually distal when compared with positions in other species of *Uroplectes* from Namibia. Pedipalp chela: τ_{Esb} distinctly proximal to Est . Pedipalp tibia: τ_{et} markedly distal to est ; τ_{em} almost level with et ; τ_{esb_2} markedly distal to esb_1 . Pedipalp femur, Fig. 274: τ_{d_2} on proximo-dorsal side of dorso-internal keel; τ_{e_1} proximal to d_5 ; distance between $\tau_{d_5-e_2}$ double that between d_1-d_3 .

Hemispermaphore: See Figs 220-221.

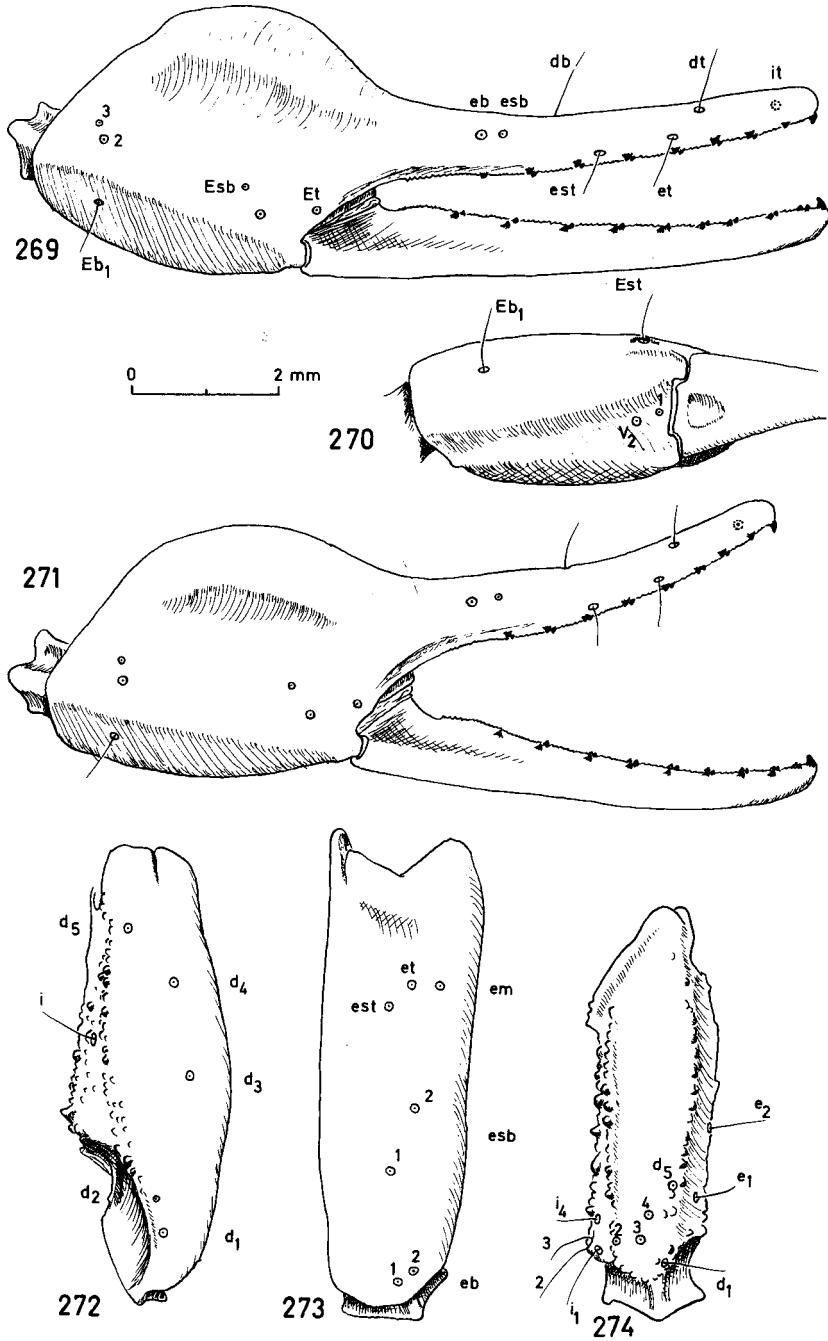
Variation: Sexual dimorphism: In adults, males differ from females in the following characters: δ proportionally only slightly smaller and more slender with width sternite V/carapace length ratios 1,0 for δ and 1,2 for η ; δ caudal segments longer, with cauda IV length/width ratios 2,70 in δ and 2,15 in η ; δ pedipalp hand fingers shorter, with movable finger length/handback length ratios 1,55 for δ and 1,80 for η , while chela length is only 3% less in δ ; first proximal tooth of each pecten, falciform and much longer than adjacent teeth, undifferentiated in δ ; δ 24-28, η 22-26 teeth per pecten.

Intraspecific variation: Mainly in the extent of infuscations and infuscated reticulate patterns described above, with these more pronounced in populations near the northern limits of the species range.

Type material: The type series consist of the following unsexed syntypes: 3 specimens, 'S.O. Afrika, Merenski leg.', (ZMB No. 3153) and 25 specimens, 'S.O. Afrika, Merenski leg.', (ZMB No. 3121). They are deposited in the Zoologisches Museum Berlin, in east Berlin. One η from sample ZMB 3121 is hereby selected as the lectotype of *Uroplectes planimanus* and the remaining syntypes as paralectotypes.

Homotype: I have selected a η homotype which is deposited in the Natal Museum collection (NM 11064).

Material examined: η lectotype, 1 η 1 δ paralectotypes, 'S.O. Afrika', Merenski (ex. ZMB 3121); 1 η homotype, Groot Spitzkoppe mountains, 11 Feb 1969, B. Lamoral (NM 11064); 1 η , Tsotsana, 14-19 June 1971 (SMN 276); 4 η 1 δ many nymphs, Onguma, 17-18 Feb 1972, M-L. Penrith (SMN 339); 1 δ , Goreangab Dam, May 1970, H. Strauss (SMN 253); 1 η & nymphs, Windhoek, 19 Sep 1972 (SMN 359); 1 η , Windhoek, 6-13 June 1972 (SMN 385); 1 η 1 subad η & juvs, Numaskloof, 5 Aug 1969, P. Buys (SMN 97); 2 η 1 δ , Elandshoek, 8 Mar 1969, B. Lamoral (NM 10067); 1 δ 1 juv η , Windhoek, 5 Feb 1969, B. Lamoral (NM 10064), 1 δ 1 η & nymphs, Otjitundua 28 Nov 1970 (SMN 210); 1 η 1 δ , Windhoek, 4 July 1970, J. Viljoen (SMN 158); 1 δ 1 η , id. (NM 11037); 1 η , Brandberg, 7 Aug 1969, P. Buys (SMN 92); 2 η , Brandberg, 11 Aug 1969,



Figs 269–274. *Uroplectes planimanus*. 269–270, ♀ (NM 11037), right hand; 269, outer aspect; 270, ventral aspect; 271, ♂ (NM 11037), right hand, outer aspect; 272–274, ♀ (NM 11037), right pedipalp; 272, tibia, dorsal aspect; 273, tibia, outer aspect; 274, femur, dorsal aspect.

P. Olivier (SMN 98); 9 ♂ 7 ♀ 1 subad ♂ 2 juv ♂, Gautscha Pan, 9–13 June 1971, J. Batista (SMN 277, 279–280, 282, 285–286, 288–292, 296–298, 300, 343); 2 ♂ 1 ♀, Curocua River and Iona Road junction, 9–21 Oct 1969, C. Coetzee (SMN 162); 1 ♀ 1 juv ♀, 26–31 Aug 1971, Popa Falls, M-L. P. (SMN 304); 1 juv ♂, Kiriis, 1 June 1972, M. J., M-L. P. (SMN 371); 2 ♀ 1 juv ♀ 1 juv ♂, Kake, 7 July 1969, P. Olivier (SMN 137); 1 ♀, Windhoek, 18 Aug 1961, W. Cloete (SMN 16); 1 juv ♀, Namib, 4 Mar 1960, P. Buys (SMN 145); 1 ♀, Andara, 1 July 1969, P. Olivier (SMN 138); 2 ♀ 2 ♂, Ghaub, 19–30 Nov 1972, H. Strauss (SMN 413); 3 ♀, Andara, 2 July 1969, P. Olivier (SMN 136); 1 ♀, Dolondolo, 29–30 Nov 1974, M-L. P. (SMN 548); 1 ♀ 1 ♂, Andara, 2 July 1969, P. Olivier (SMN 212–213), 1 ♀, Omaha, 15 July 1969, B. Grobbelaar (SMN 237); 1 ♀, Orongo, Oct 1970, B. Kensley (SMN 256); 1 ♂ 1 ♀, Andara, 19–25 Aug 1971 (SMN 303); 1 subad ♂, Ganab, 26 Sep 1971, P. G. O. (SMN 316); 1 ♀, Oncocua, 6 Sep 1969, C. Coetzee (SMN 165); 1 ♂, Capangombe, 17–20 Nov, M-L. P. (SMN 531); 2 ♀, Windhoek, 30 Apr 1972, P. Olivier (SMN 377); 1 ♀, Waterberg, 14–18 Nov 1972, H. Strauss (SMN 425); 1 juv ♀, Dolondolo, 29–30 Nov 1974, M-L. P. (SMN 546); 1 juv ♀, Plateau, 16 Oct 1970 (SMN 217); 1 ♀, Okamiparara, 18 Dec 1973, G. Sander (NM 10574); 2 ♀ 1 juv ♂, Vrede, 31 Mar 1976, B. Lamoral (NM 10957); 1 juv ♂, F. Gaerdes Nature Park, 13–14 Mar 1969, B. Lamoral (NM 10069); 1 subad ♀, Swakop River canyon, 9 Feb 1972, B. Lamoral (NM 10585); 1 ♀ 1 juv ♀, Ugab River bridge, 21 Feb 1969, B. Lamoral (NM 10070); 2 ♀, Palmfontein, 26 Feb 1969, B. Lamoral (NM 10063); 6 ♀ 1 juv ♂, Groot Spitzkoppe mountains, 11 Feb 1969, B. Lamoral (NM 10066); 2 juv ♂, Groot Spitzkoppe mountains, 11 Feb 1969, B. Lamoral (NM 10059); 2 ♀ 2 juv ♀ 7 juv ♂, Groot Spitzkoppe mountains, 11 Feb 1969, B. Lamoral (NM 10065); 3 ♀ 2 ♂ 3 juv ♂ 1 juv ♀, Aus (Etosha Game Park), 2–6 Mar 1969, B. Lamoral (NM 10569); 1 ♂, Annabis, 24–25 Feb 1969, B. Lamoral (NM 10068); 1 ♀, Sissekab, 11 Nov 1933, Dr Jordan (BM 1934.4.25); 1 ♀ 1 ♂, Makambu, 16 Apr 1970, G. Pretorius (TM 9831–9832); 1 ♀, Oshakati, W. Haacke (TM 9838); 1 ♀, Assuncao, 26 Mar 1971, W. Haacke (TM 10239); 2 ♂ 1 subad ♂ 2 juv ♂ 2 juv ♀, Rietfontein, 29 Dec 1971, W. D. H. (TM 10643–10649); 1 ♀, Kutse Game, Jan 1972, W. Haacke (TM 10438); 1 juv ♀, Regenstein, 30 Nov 1972, P. Olivier (SMN 406); 1 ♀ 1 subad ♀ 11 juv ♂, Sesfontein, 4 Apr 1976, B. Lamoral (NM 10894); 1 ♀, Sesfontein, 3 Apr 1976, B. Lamoral (NM 10883); 1 ♂ 1 ♀, Rocky Hill, 27 Nov 1970, J. Batista (SMN 203); 2 ♂, Windhoek, 14 Aug 1973, A. du Toit (SMN 478); 1 ♀ 3 ♂ 2 subad ♀ 3 juv ♀ 1 juv ♂, Kamanjab, 5 Apr 1976, B. Lamoral (NM 10895); 1 juv ♀, Regenstein, 26 Feb 1973, M-L. Penrith (SMN 431); 2 ♀, Ghaub, 19–30 Nov 1972, H. Strauss (SMN 420, 418); 2 ♂ 1 ♀, Kranzberg, 23 Mar 1976, B. Lamoral (NM 10877); 1 subad ♂, Otjikoko Süd, Sep 1973, G. Sander (NM 10556); 3 ♀ 1 ♂ 1 subad ♀ subad ♂, Catumbela, Angola, 9 Sep 1970, J. Visser (NM 10001); 1 ♂, Cunene River, Angola, Nov 1960, F. Gaerdes (NM 7325); 1 ♀, Okahandja, Sep 1964, F. Gaerdes (NM 9081); 1 ♀, Welwitchia, Aug 1960, F. Gaerdes (NM 7323); 2 ♀, Lusulu, Rhodesia, Aug 1965, M. Bingham (NM 9097); 1 ♀, Welwitchia, Jan 1963, F. Gaerdes (NM 9052); 8 ♀ 2 ♂, Grootfontein, Aug 1962, F. Gaerdes (NM 8375); 1 juv ♂, Messum Crater area, 26 Mar 1976, B. Lamoral (NM 10879); 1 subad ♀, Sesfontein, 26 Apr 1976, W. Haacke (TM 11219); 1 ♂, Etjo-Süd, 7 Apr 1976, W. Haacke (TM 11209); 1 ♀, Omborambonga,

21 Apr 1976, W. Haacke (TM 11210); 1 subad ♀, Blaauwpoort, 30 Apr 1976, W. Haacke (TM 11211); 1 ♀, Kaokoveld (TM 11215).

Distribution: Southern Angola, northern Botswana and the northern half of Namibia; no specimens recorded from south of the 23rd parallel.

Bionomics: Nocturnal, hemiedaphic and infralapidicolous in areas with consolidated sandy soil and hard to gravelly surfaces. I have occasionally found specimens under the loose bark of dead trees. It is the most common species of *Uroplectes* encountered in the northern half of Namibia and is sympatric in some areas with *tumidimanus* (its sister species), *carinatus*, *gracilior* and *otjimbinguensis*.

Uroplectes schlechteri Purcell, 1901, stat. n. Figs 222, 228, 275–282

Uroplectes schlechteri Purcell, 1901: 184–185.

Uroplectes carinatus schlechteri Purcell, Hewitt, 1918: 118.

Uroplectes karroicus Purcell, 1901: 182–184. Syn. n.

Diagnosis: The following combination of characters separates *U. schlechteri* from other species of the genus. Pedipalp hand, Figs 277–279: τeb distinctly distal to mesial base of fixed finger; distance $\tau et-dt < est-et$. Caudal segments, Figs 228, 275, 276: cauda V, ventro-median keel distinct, consisting of a slightly elevated twin row of small granules, ventro-lateral keels consisting of small costate granules; Cauda IV, ventral and ventro-lateral keels costate granular, the latter not distinctly recurved in posterior half; cauda IV, adults, length/width ratios 2,5 (2,4–2,6), 3,2 (3,1–3,3) in ♂; cauda II–III, ventro-lateral and ventral keels costate. *U. schlechteri* is most closely related to *gracilior*. These two are in turn most closely related to the *longimanus-pilosus* group.

Description: The following supplements Purcell's original description.

Colour: Adult ♀ & ♂. Pedipalps, carapace, tergites, sternites and caudal segments including telson, strong yellowish brown No. 74 to dark orange yellow No. 72; legs and pectines light orange yellow No. 70. Ventral and ventro-lateral keels of cauda III–V lightly infuscated; anterior two-thirds of lateral and ventral surfaces of cauda V lightly to moderately infuscated, occasionally forming a reticular pattern. Median eye tubercle blackened.

Pedipalps: In adults, movable finger length/handback length ratio 2,05 (2,00–2,10) in ♀ and 1,95 (1,90–2,00) in ♂; handback inner surface near fixed finger base with a few scattered granules. Pedipalp tibia, Fig. 280: in adults, dorso-internal keel moderately developed along entire length, occasionally ill-defined medially; Pedipalp femur: dorso-internal and dorso-lateral keels moderately developed along entire length.

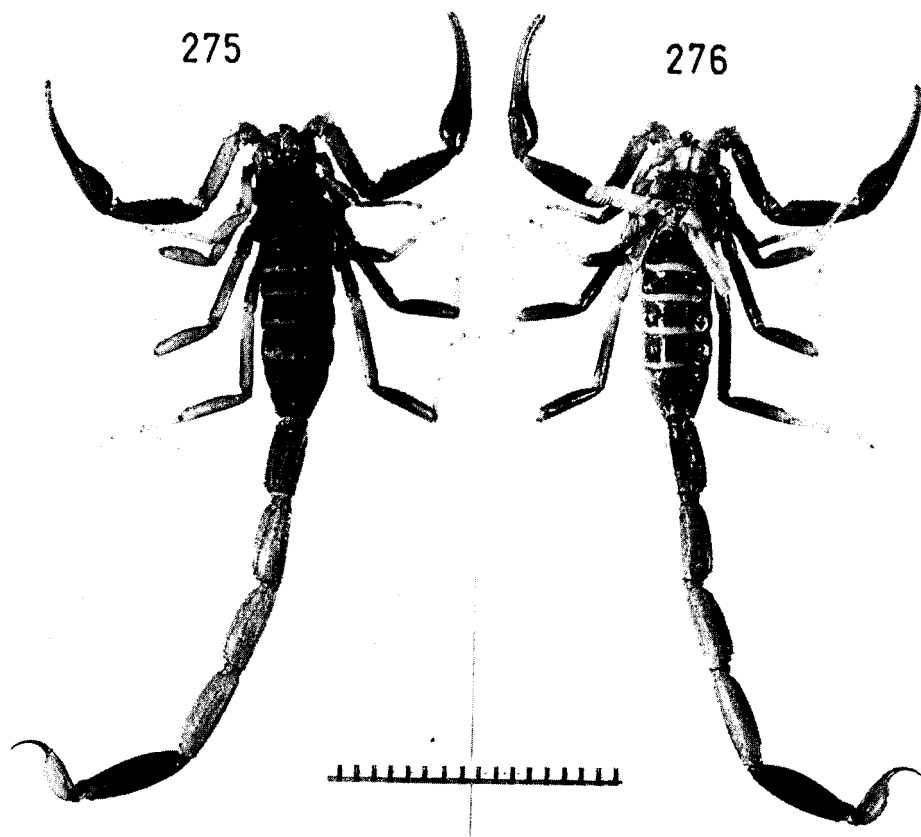
Tergites: Postero-lateral keels present but not strongly developed.

Sternites: Smooth and shiny in ♀ & ♂. Sternite VII, with traces of lateral keels.

Setation: Pedipalps, legs I–IV, lateral margins of sternites III–VI and caudal segments sparsely pilose. Legs I–IV, ventral surface of telotarsi, with 2 rows of short stiff setae.

Trichobothria: See diagnosis and Figs 277–282. Orthobothriotaxic for group A.

Pedipalp tibia: distance d_1-d_2 equal to one-quarter of distance d_3-d_4 . Pedipalp femur: d_2 on proximo-internal side of dorso-internal keel.



Figs 275–276. *Uroplectes schlechteri*, ♂ (NM 11041). Scale in mm.

Hemispermaphore: See Fig. 222.

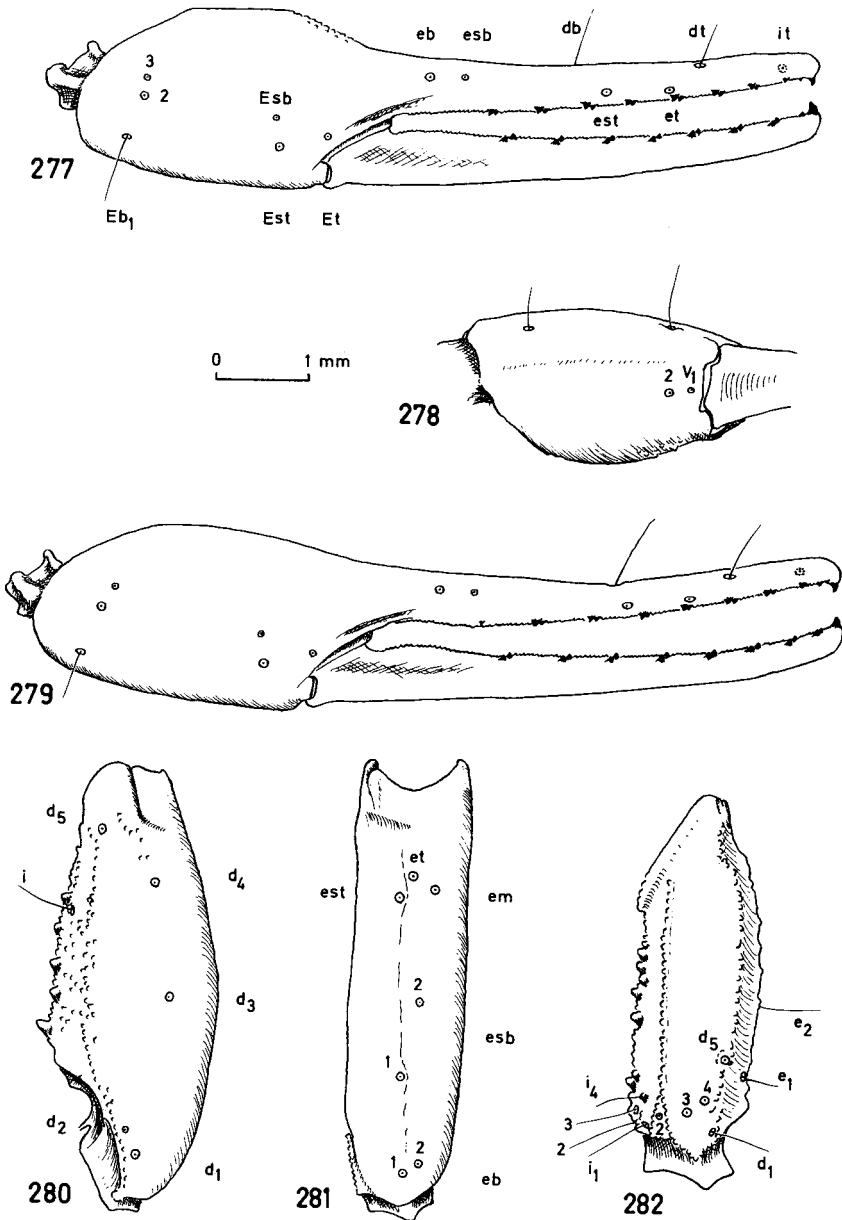
Variation: Sexual dimorphism: In adults, males differ from females in the following characters: ♂ proportionally smaller and more slender with width sternite V/carapace length ratios 1,0 for ♂ and 1,3 for ♀; ♂ caudal segments longer, with cauda IV length/width ratios 3,2 in ♂ and 2,5 in ♀; dorso-distal surface of pedipalp handback (Figs 277, 279), smooth in ♂, lightly granular in ♀; first proximal tooth of each pecten, sub-triangular in ♀, undifferentiated in ♂; ♂ 27–28, ♀ 22–23 teeth per pecten.

Intraspecific variation: No distinct variation observed in the few specimens available.

Type material: Holotype ♀ in South African Museum collection (SAM 2976).

Homotype: ♀ deposited in the Natal Museum collection (NM 10562).

Material examined: ♀ holotype, Naroep, Great Bushmanland, 30 Mar 1898, Max Schlechter (SAM 2976), *Uroplectes karrooicus* 2 ♂ 3 subad ♂ syntypes, Beaufort West, Cape Province, South Africa (SAM 475); *Uroplectes carinatus gracilior* ♂ syntype from Kuibis (Quibis), Namibia (TM 1865 ex 1036); 1 ♀ homotype, 15 km



Figs 277–282. *Uroplectes schlechteri*. 277–278, ♀ (NM 10562), right hand; 277, outer aspect; 278, ventral aspect; 279, ♂ (NM11041) right hand, outer aspect; 280–282, ♀ (NM 10562) right pedipalp; 280, tibia, dorsal aspect; 281, tibia, outer aspect; 282, femur, dorsal aspect.

north of Pela Mission, 5 Apr 1970, B. Lamoral (NM 10562). 1 ♂, Namuskluft, 17 Feb 1973, B. Lamoral (NM 11041); 1 ♀ & juv, Neisip, 26 Oct 1970, P. Buys (SMN 219); 1 ♀, Bloeddrif, 20 Nov 1975, E. G. (SMN 598); 1 ♂ juv, Bergkranz, 22 Mar 1976, B. Lamoral (NM 10876); 1 ♀ subad, Vioolsdrift, 5 Oct 1966, F. Gess (NM 10581); 1 ♂, Huns, 29 Sep–4 Oct 1974, State Museum Staff (NM 11042).

Distribution: Southern half of NAMIBIA (with northernmost record at Bergkranz, NM 10876) and northern Cape Province in South Africa.

Bionomics: *U. schlechteri* is nocturnal and hemiedaphic. All specimens collected were found either on low-level shrubs or on the ground at night in areas of vegetation type 9 (Fig. 4). No specimens were found during daytime collecting and it is therefore not known where this species retreats during inactive periods. *U. schlechteri* is sympatric with *gracilior* at Huns in the Bethanien district.

Remarks: See remark 2 under *U. gracilior* and end of remark 3 under *U. carinatus*.

Uroplectes teretipes Lawrence, 1966. Figs 223, 233, 283–289

Uroplectes teretipes Lawrence, 1966: 1–4.

Diagnosis: The following combination of characters separates *U. teretipes* from other species of the genus. Pedipalp chela fingers, Figs 283, 285, distinctly elongated. Caudal segments, Figs 233, 283–284: cauda III and IV deeply infuscated to black; cauda IV, ventral keels obsolete to absent; caudal segments distinctly long and slender in both sexes. Pecten, Fig. 284, first proximal tooth of ♀ falciform and much longer than adjacent teeth. The largest species of *Uroplectes* found in Namibia, it is most closely related to the *planimanus-tumidimanus* group.

Description: The following supplements Lawrence's comprehensive original description.

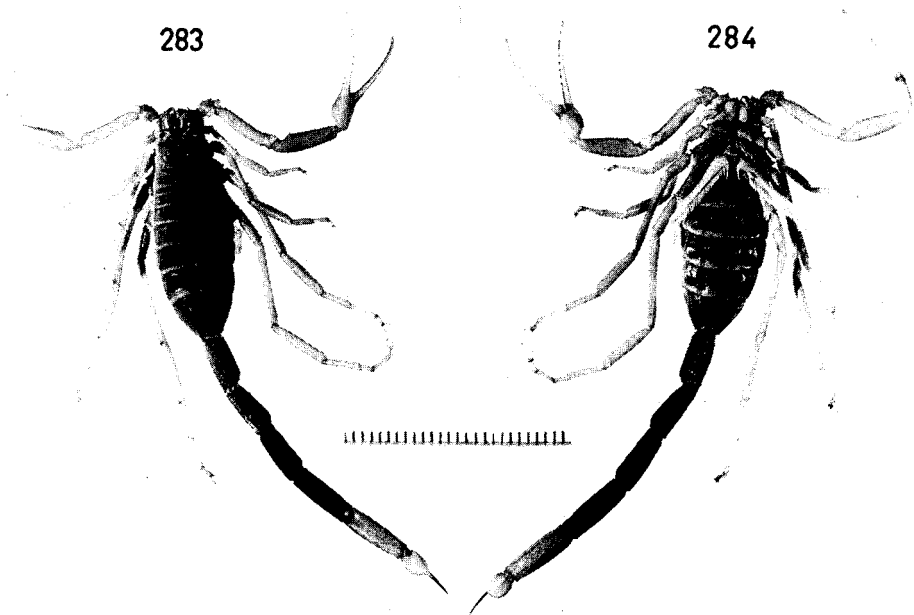
Pedipalp: Chela, Figs 285–286, movable finger length/handback length ratios 2,85 in ♀, 2,55 in ♂; tibia, Figs 287–288, length/width ratio 3,5 in ♀.

Cauda: cauda V, ventro-median keel distinct, composed of fine granules; cauda IV length/width ratios 3,3 in ♀, 3,5 in ♂.

Trichobothria: Orthobothriotaxic for group A. τ_{Esb} of handback distal to or level with Est . τ_{em} and esb_2 of pedipalp tibia have the most basal position found in all the species of *Uroplectes* from Namibia. The τ areolas and trichia are unusually small and short respectively, and difficult to locate. Pedipalp tibia: τ_{et} level with or proximal to est ; τ_{em} markedly proximal to et ; τ_{esb_2} almost level with esb_1 . Pedipalp femur: τ_{e_1} level with d_5 ; distance $\tau_{d_5-e_2}$ equal to that between d_1-d_3 ; τ_{d_2} on proximo-dorsal side of dorso-internal keel.

Hemispermaphore: See Fig. 223.

Variation: Sexual dimorphism: Adult males differ very little from females, except in the following characters: ♂ proportionally smaller and slightly more slender, width sternite V/carapace length ratios 1,10 for ♂ and 1,25 for ♀; ♂ caudal segments slightly longer, with cauda IV length/width ratios 3,5 in ♂ and 3,3 in ♀; ♂ pedipalp hand fingers shorter, movable finger length/handback length



Figs 283–284. *Uroplectes teretipes*, ♀ holotype (NM 9101). Scale in mm.

ratios 2,55 for ♂ and 2,85 for ♀, while chela length is only 5% less in ♂; first proximal tooth of each pecten, falciform and much longer than adjacent teeth, undifferentiated in ♂; ♂ 40–44, ♀ 36–40 teeth per pecten.

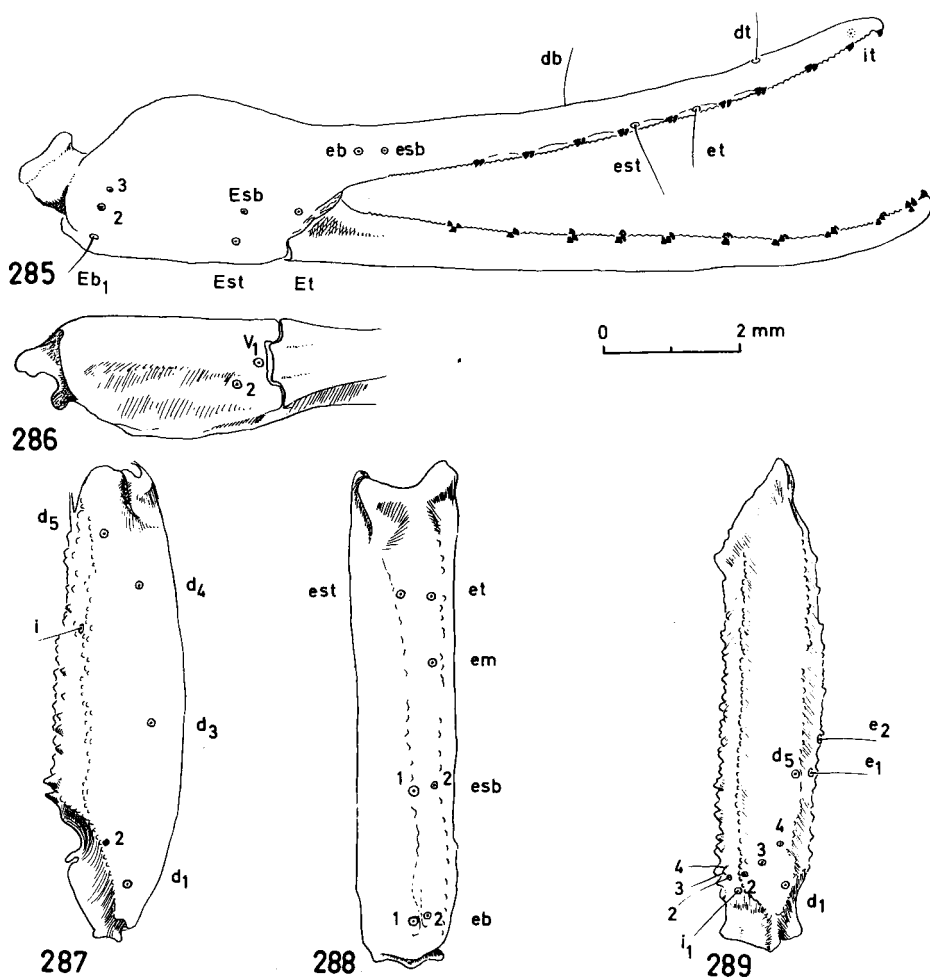
Intraspecific variation: In specimens from the northern regions of the species range cauda III is occasionally partially to completely unblackened, but cauda IV is then usually distinctly blackened.

Type material: Holotype ♀ in Natal Museum collection (NM 9101).

Material examined: ♀ holotype, Rocky Point, Hoarusib River mouth, Kaokoveld, Oct 1965, F. Gaerdes (NM 9101). 1 ♀, Cape Fria, 2 May 1970, H. Brown (TM 9849); 1 ♂ 1 ♀, Cunene River mouth, 23 Oct 1969, J. Batista (NM 10696); 1 ♂, Unjab River, 27 Mar 1976, B. Lamoral (NM 10763); 2 ♂ 3 subad ♀ 3 subad ♂ 4 juv, Möwebaai, 29 Mar 1976, B. Lamoral (NM 10840); 1 ♂ 4 juv ♂ 1 subad ♂, Unjab River, 27 Mar 1976, B. Lamoral (NM 10880); 3 ♂ 2 ♀, Möwebaai, 28 Mar 1976, B. Lamoral (NM 10881); 1 ♂ 1 juv ♂, Torra Bay, 30 Mar 1976, B. Lamoral (NM 10882); 1 juv ♀, Rocky Point, 2 Apr 1964, S. Steyn (SMN 123); 1 subad ♂, Angrafria, 15 Nov 1970, E. Motgoabone (SMN 213); 1 ♂ 1 ♀, Cunene River mouth, 23 Oct 1969, J. Batista (SMN 229); 2 ♂ 1 ♀, Hoanib River, 5 June 1969, C. G. C. (SMN 230–232); 1 juv ♂, Möwe Bay, 29 May 1969, C. Coetzee (SMN 231); 2 juv ♂, Sarusas West Mine, 31 May 1969, C. G. C. (SMN 235–236); 1 juv ♀, Hoanib River, 13 Aug 1973, State Museum (SMN 456); 1 ♂, Möwebaai, 11–15 Aug 1973, J. Batista (SMN 477); 1 ♀, Unjab River, 27 Mar 1976, B. Lamoral (NM 10760).

Distribution: Recorded only from the northern half of the Skeleton Coast Park with the southernmost record near the Unjab River mouth. *U. teretipes* has not been recorded from the Moçamedes desert in south-western Angola.

Bionomics: *U. teretipes* is nocturnal, hemiedaphic and infralapidicolous on sandy to gritty plains (soil categories IV–V, Table 2) in areas of vegetation type 1 such as shown in Fig. 5. Comb-like rows of moderately long setae on the posterior surface of basitarsi and telotarsi of legs I, II and to a lesser extent III, suggest a semi-psammophilous adaptation. *U. teretipes* is sympatric with *Parabuthus gracilis* on the Skeleton Coast and with *U. otjimbinguensis* at Rocky Point.



Figs 285–289. *Uroplectes teretipes*, ♀ holotype (NM 9101). 285–286, right hand; 285, outer aspect; 286, ventral aspect; 287–288, right pedipalp tibia; 287, dorsal aspect; 288, outer aspect; 289, right pedipalp femur, dorsal aspect.

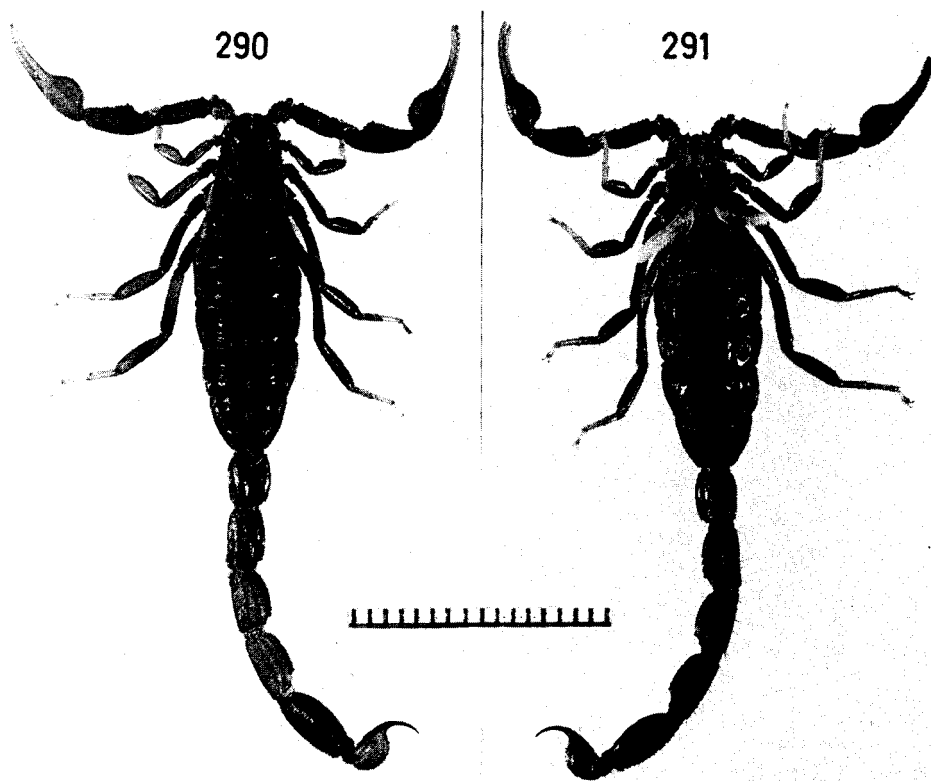
***Uroplectes tumidimanus* sp. n. Figs 224, 230–231, 290–297**

Derivation: Tumidus (L.) = swollen + manus f. (L.) = hand.

Diagnosis: The following combination of characters separates *U. tumidimanus* from other species of the genus. Pedipalp hand, Fig. 292–294 in adults: distinctly pilose; handback laterally bulbous, upper margin not lobate, handback length/handback ventral width ratio 1,40 (1,35–1,45) in ♀ and ♂ and handback width/handback ventral width 1,1 (1,0–1,2) in ♀ and ♂; inner surface of handback distinctly convex and granulated; movable finger length/handback length ratios 1,50 (1,45–1,55) in ♀, 1,40 (1,35–1,45) in ♂. Telson vesicle ventrally, moderately granular, sub-circular in lateral outline. Pecten, Fig. 230: first proximal tooth of ♀ falciform and much longer than adjacent teeth; *U. tumidimanus* is most closely related to *planimanus*. These two are in turn most closely related to *teretipes*.

Description: The type series consists of females and males. The following description is based on the holotype ♀, unless otherwise indicated.

Granulation: Cauda, as in Figs 231, 290–291 and diagnosis. Pedipalps smooth and matt. Following surfaces smooth, shiny and agranular: chelicerae, legs I–IV, sternites and intercostal surface of cauda I–V, excepting ventral surface of cauda



Figs 290–291. *Uroplectes tumidimanus* sp. n., ♀ holotype (NM 10866). Scale in mm.

V which has scattered granules as in Fig. 231. Telson vesicle lightly granular as in Fig. 231. Carapace, moderately granular as in Fig. 290. Tergites I–VI: with a few scattered granules posteriorly between lateral keel and lateral margin; median and postero-lateral keels well-defined. Caudal keels: well-developed and costate; median-lateral keels, extending the full length of cauda I, anterior half in cauda II and anterior two-thirds in cauda III missing, absent in cauda IV. Lateral keels sternite VII almost obsolete.

Colour: Overall, variably dark orange yellow No. 72, with tergites, carapace, femur and patella legs I–IV, caudal keels, lateral and ventral surfaces cauda V, infuscated and darkly patterned as shown in Figs 290–291. Ocular tubercle blackened. Chelicerae, dorsally with reticulate infuscation. Pectines, pale orange yellow No. 73.

Pedipalp: Tibia, Figs 295–296; distinctly broad in ♀, length/width ratio 2,30 (2,25–2,35).

Pectines: As in Fig. 230. Right pecten with 21 teeth, left pecten, distal end missing.

Cauda: Figs 231, 290–291. Cauda IV, ventro-lateral and ventral keels well-developed, consisting of elevated rows of distinct granules; cauda V, ventro-lateral keels as in cauda IV, ventro-median keel indistinct; cauda V, ventro-lateral keels sub-parallel to each other.

Setation: Cauda moderately pilose. Pedipalps, legs and pectines sparsely pilose. Telotarsi legs I–IV, ventrally, with two rows of short stiff setae.

Trichobothria: See Figs 292–297. Orthobothriotaxic for group A. Pedipalp chela: τ *Esb* distinctly proximal to *Est*. Pedipalp tibia: τ *et*, *est* and *em* as in *planimanus*. Pedipalp femur: τ d_2 on proximo-dorsal side of dorso-internal keel; τ e_1 proximal to d_5 ; distance between τ d_5 – e_2 double that between d_1 – d_3 .

Hemispermaphore: See Fig. 224.

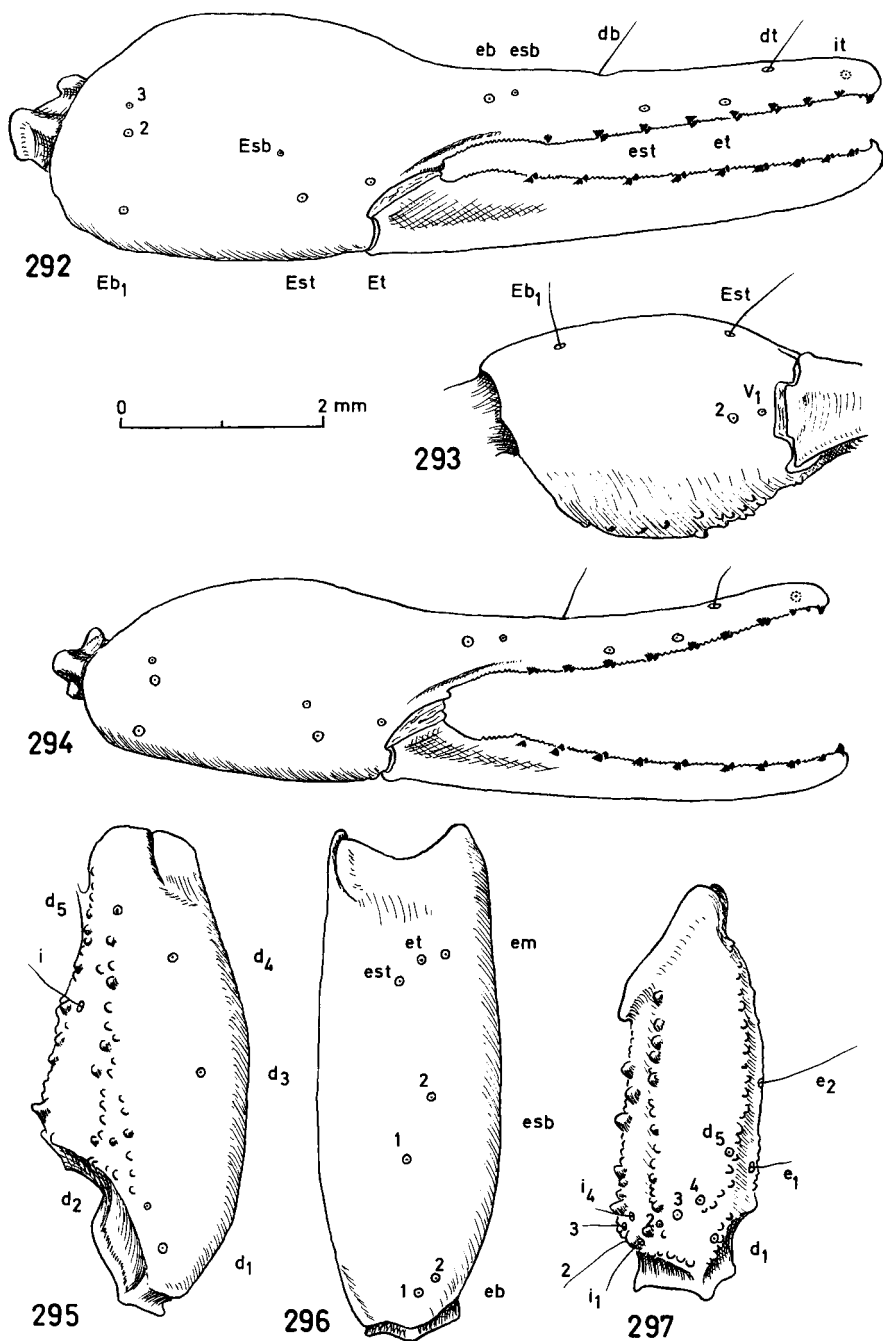
Variation: Sexual dimorphism: In adults, males differ from females in the following characters: ♂ proportionally only slightly smaller and more slender, with width sternite V/carapace length ratio 1,05 for ♂ and 1,20 for ♀; ♂ caudal segments longer, with cauda IV length/width ratio 2,65 in ♂ and 2,10 in ♀; ♂ pedipalp hand fingers shorter, movable finger length/handback length ratios 1,40 for ♂ and 1,55 for ♀ yet chela length is only 4% less in ♂; first proximal tooth of each pecten (Fig. 230) falciform and much longer than adjacent teeth, undifferentiated in ♂; ♂ 23–26, ♀ 18–21 teeth per pecten.

Intraspecific variation: Mainly in the intensity of infuscation which in regions with a dark substratum tends to be more pronounced.

Type material: Holotype in Natal Museum. Many paratypes, listed below, in Natal Museum and State Museum (Windhoek) collections.

Material examined: Holotype ♀, Bruckaros, 26 Feb 1976, B. Lamoral (NM 10866, type no 2125); all Natal Museum paratypes have type no 2126.

The following are paratypes: 1 subad ♂, Windhoek, 5 Dec 1967 (SMN 242); 1 ♀ 3 ♂, Hanaus, 3 Mar 1959, Pocock (SMN 78); 3 ♀, Klein Windhoek, Feb 1973, G. Sander (NM 10375); 1 ♂, Regenstein, 9 Apr 1972, M.-L. P. (SMN 353); 1 ♂, id.



Figs 292–297. *Uroplectes tumidimanus* sp. n. 292–293, ♀ holotype (NM 10866), right hand; 292, outer aspect; 293, ventral aspect; 294, ♂ paratype (NM 10572), right hand, outer aspect; 295–297, ♀ holotype, right pedipalp; 295, tibia, dorsal aspect; 296, tibia, outer aspect; 297, femur, dorsal aspect.

(NM 11040); 1 ♀, Regenstein, 26 Feb 1973, B. Harding (SMN 432); 1 ♀, id. (NM 11039); 1 ♂ 1 ♀, Portsmut, 7 Feb 1969, B. Lamoral (NM 10572); 1 ♀, Windhoek, 12 July 1961, S. Bredenmeier (SMN 14); 1 ♂, Windhoek, 23 Nov 1973, W. Giess (SMN 493); 1 ♀, Mukorob, 12–14 Apr 1974, M-L. Penrith (SMN 519); 1 ♂ 1 ♀, Avis Dam, 31 Oct 1972, C. Molier (SMN 399); 1 ♀, juvs, Nubumis, 2 June 1974, M-L. P. (SMN 523); 1 ♀ 1 ♂, Lichtenstein Mitte, 21 Jan 1960, E. Rusch (SMN 87); 1 ♀ 1 ♂, Witmanshaar, 8 Oct 1972, H. Strauss (SMN 394); 1 ♀, id. (NM 11035); 1 ♀, Kub, 19 Nov 1971, P. G. O. (SMN 317); 1 ♀, Windhoek, 16 Nov 1962 (SMN 207); 1 ♀, id. (NM 11036); 2 ♀ 2 ♂, Aar 29 Feb 1976, B. Lamoral (NM 11030); 1 ♂, Molepolole, Knobel (McGregor Museum, Kimberley); 1 ♂, Avis Dam, 29 Oct 1972, C. Molier (SMN 410); 1 ♂ 1 ♀, Portsmut, 19 Apr 1972, Jones (NM 10579); 1 ♀, juvs, Windhoek, 8 Apr 1963, F. Daalen (SMN 21); 1 ♀, Heide, 10 June 1966, C. v.d. Hooven (SMN 62); 1 ♂ 1 subad ♂ 1 subad ♀ 3 juv ♂, Berseba, 27 Feb 1976, B. Lamoral (NM 10872); 2 subad ♂ 1 juv ♂, Kranzberg, 23 Mar 1976, B. Lamoral (NM 11031); 1 ♂, Augrabies Falls, 20 Feb 1976, B. Lamoral (NM 10871); 1 ♂, Koreangab Dam, 12 Oct 1972, H. Strauss (SMN 398); 2 juv, Bruckaros, 26 Feb 1976, B. Lamoral (NM 11038); 1 ♂, Ameib, 1–2 Feb 1972, C. G. C. (SMN 334); 1 ♂, Fish River Canyon, B. Lamoral (NM 11045).

Distribution: Central and southern half of Namibia and northern Cape Province in South Africa.

Bionomics: Nocturnal, hemiedaphic and digs shallow scrapes under rocks on consolidated sandy to hard gritty ground in areas of vegetation type 4, 8 and 9 (Fig. 4). It is sympatric with *planimanus*, *gracilior*, *carinatus* and *schlechteri* in part of their ranges.

Uroplectes vittatus (Thorell, 1877)

Lepreus vittatus Thorell, 1877: 121–122.

Diagnosis: The following combination of characters separates *U. vittatus* from *otjimbinguensis* to which it is most closely related. Telson vesicle with a distinct subaculear tooth. Pectines: ♀ 19–20, ♂ 20–22 teeth per pecten. Tergites I–VII, with a pale median band flanked by a dark lateral band on either side.

Remark: As *U. vittatus* has not yet been recorded from Namibia and there is no doubt regarding the validity of this easily determined species, it is not re-described and illustrated here. *U. vittatus* has, however, been recorded at localities in Botswana, close to the north-eastern regions of Namibia and it seems likely that more extensive collecting in Kavango and the Caprivi Strip will reveal the occurrence of *vittatus* in those regions. Bearing this possibility in mind, *vittatus* has been included in the key to the Namibian species of *Uroplectes*.

Family Scorpionidae Pocock, 1893

Subfamily Ischnurinae Pocock, 1893

Genus *Hadogenes* Kraepelin, 1894a

Type species: *Scorpio trichiurus* Gervais, 1843, by original designation.

Diagnosis: The following combination of characters separates *Hadogenes* from the other genera of the subfamily: pedipalp, external and ventral of handback