## RESEARCH NOTE

## A NEW GENERIC SYNONYMY IN SCORPIONS: SCORPIOBUTHUS WERNER = UROPLECTES PETERS (SCORPIONES, BUTHIDAE)

The genus Scorpiobuthus was briefly described by F. Werner (1939) from specimens lacking locality data, and it has been more or less forgotten since that time. The genus was monotypic, containing only the species Scorpiobuthus apatris Werner 1939, described in the same paper. Interestingly, Werner (1939) did not assign Scorpiobuthus to a family, but indicated it was close to Buthoscorpio Werner 1936 (which he regarded as a member of the Scorpionidae). The type specimens have not been subsequently studied, and no new specimens have been reported in the last 57 years. The genus name was rediscovered by Francke (1985) and listed among valid scorpion generic names in his conspectus, under Buthidae. However, it was not included in recent generic keys to buthids or other families (Stahnke 1972; Sissom 1990).

Through the kindness and enthusiastic support of Dr. Franz Krapp, the curator of the Lower Invertebrates Division of the Zoologisches Forschungsinstitut und Museum Koenig (Bonn, Germany), we were able to examine the type specimens of *S. apatris* which are deposited in this Museum. The type series consists of two adult female syntypes (dried and later rehydrated; partially damaged), Nos. 82 and 83. We hereby designate No. 83 as lectotype and No. 82 as paralectotype.

First of all, Scorpiobuthus is indeed a buthid. The sternum of Scorpiobuthus was reported to be subpentagonal (Werner 1939), but examination of the types reveals that the lateral edges of the structure are moderately convergent anteriorly—in fact, the sternum could be regarded as subtriangular, although not extremely so. Further, as in other buthids, the anterior aspect of the sternum bears a small lobe-like structure that is separated from the main portion by a distinct groove. Upon study of additional characters, it became clear to us

that the specimens are referable to Uroplectes Peters 1862. They share the following diagnostic characters with members of that genus: (1) the alpha-pattern of dorsal trichobothria of the pedipalp femur; (2) the presence of a distinct subaculear tooth; (3) the absence of denticles on the undersurface of the cheliceral fixed finger; (4) enlarged proximal pectinal teeth in the female (found in many Uroplectes); (5) the dentition pattern of the pedipalp chela fingers; (6) reduction of the carapacial carinae; and (7) the presence of tibial spurs on legs III and IV. If the sternum is regarded as subtriangular, the specimens trace easily to Uroplectes in Sissom's (1990) key to buthid genera. We therefore propose the following synonymy: Scorpiobuthus Werner 1939 = Uroplectes Peters 1862.

The genus *Uroplectes* is widespread in southern and eastern Africa. Checking keys published for South Africa (Hewitt 1918; Lawrence 1955), East Africa (Probst 1973) and Namibia (Lamoral 1979), we discovered a close match with *Uroplectes chubbi* Hirst 1911. This species is unusual in that all five metasomal segments are smooth and coarsely punctate, a feature found in the two specimens of *Scorpiobuthus apatris*. The specimens match other details provided in a brief description of *U. chubbi* by Hewitt (1918). Consequently, we propose the following species synonymy: *Scorpiobuthus apatris* Werner 1939 = *Uroplectes chubbi* Hirst 1911.

On a final note, the status of *U. chubbi* is somewhat uncertain and needs clarification. Hewitt (1918) suspected that *U. chubbi* was a junior synonym of *U. jutrzenkai* Penther 1900. However, at the bottom of the same page he suggested that *U. chubbi* had affinites with *U. xanthogrammus* Pocock 1897, which was suggested to be a "variety" of *U. fischeri* (Karsch 1879) by Kraepelin (1913). Hewitt then stated

that *U. chubbi* was probably a variety of *U. fischeri* as well, perhaps unaware that Birula (1915) had accepted *U. xanthogrammus* as a valid species. More recently, *U. xanthogrammus* was regarded as a subspecies of *U. fischeri* by Probst (1973), and *U. jutrzenkai* was synonymized with *U. vittatus* (Thorell 1876) by Newlands (1970). The latter author appeared to consider *U. chubbi* distinct from *U. vittatus*. Finally, Lamoral & Reynders (1975) recognized all three taxa (*U. vittatus*, *U. chubbi*, and *U. fischeri*) as distinct species. Clearly, the situation requires further study.

## **ACKNOWLEDGMENTS**

We sincerely thank Franz Krapp, the curator of the Lower Invertebrates Division of the Zoologisches Forschungsinstitut und Museum Koenig (Bonn, Germany) for allowing to examine the types of *Scorpiobuthus apatris*. We also thank Matt E. Braunwalder (Zurich, Switzerland) for his valuable help with bibliographic sources. Kari J. McWest read the manuscript, and made several valuable suggestions.

## LITERATURE CITED

- Birula, A.A. 1915. A general list of the scorpions of British East Africa. Scientific Results of the Zoological Expedition to British East Africa and Uganda made by Prof. V. Dogiel and I. Sokolow (St. Petersbourg), 1:1-31 (in Russian and English).
- Francke, O.F. 1985. Conspectus genericus scorpionorum 1758–1982 (Arachnida: Scorpiones). Occas. Pap. Texas Tech Univ., 98: 1–32.
- Hewitt, J. 1918. A survey of the scorpion fauna of South Africa. Trans. R. Soc. South Africa (Cape Town), 6:89–192.
- Kraepelin, K. 1913. Neue Beiträge zur Systematik der Gliederspinnen. III. A. Bemerkungen zur Skorpionenfauna Indiens. B. Die Skorpione, Pedipalpen und Solifugen Deutsch-Ost-Afrikas.

- Mitteilungen aus dem Naturhistorischen Museum, Hamburg (2. Beiheft zum Jahrbuch der Hamburgischen Wissenschaftlichen Anstalten, 1912), 30:123–196.
- Lamoral, B.H. 1979. The scorpions of Namibia (Arachnida: Scorpionida). Ann. Natal Mus., (Pietermaritzburg), 23:497–784.
- Lamoral, B.H. & S.C. Reynders. 1975. A catalogue of the scorpions described from the Ethiopian faunal region up to December 1973. Ann. Natal Mus., (Pietermaritzburg), 22:489-576.
- Lawrence, R.F. 1955. Solifugae, Scorpions and Pedipalpi, with checklist and keys to South African families, genera and species. Results of the Lund University Expedition in 1950–1951. Pp. 152–259 *In*, South African Animal Life, Uppsala 1:152–262.
- Newlands, G. 1970. A re-examination of some South African scorpion species. Ann. Transvaal Mus., 26:199–210.
- Probst, P.J. 1973. A review of the scorpions of East Africa with special regard to Kenya and Tanzania. Acta Trop., 30:312-335.
- Sissom, W.D. 1990. Systematics, biogeography and paleontology. Chapter 3. Pp. 64–160 *In*, Biology of Scorpions. (G.A. Polis, ed.). Stanford Univ. Press, Stanford, California.
- Stahnke, H.L. 1972. A key to the genera of Buthidae (Scorpionida). Entomol. News, 83:121-133.
- Werner, F. 1939. Ueber einige Scorpione aus dem Museum Alexander Koenig. Festschrift zum 60. Geburstage von Professor Dr. Embrik Strand (Riga), 5:361–362.
- Victor Fet: Dept. of Biological Sciences, Marshall University, Huntington, West Virginia 25755 USA
- W. David Sissom: Dept. of Life, Earth, and Environmental Sciences, West Texas A & M University, Canyon, Texas 79016 USA
- Manuscript received 1 October 1996, accepted 15 February 1997