



Biodiversity/Biodiversité

More about the geographical pattern of distribution of the genus *Pseudouroplectes* Lourenço, 1995 (Scorpiones: Buthidae) from Madagascar

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ABSTRACT

The genus *Pseudouroplectes* Lourenço, 1995 (Buthidae) remains among the less speciose Malagasy genera and all the known species are extremely rare. A new species is described from the dry forests in the Tsingy formations of the National Park Bemaraha, extending the distribution of the genus further north. Once again, the single holotype specimen was obtained by extraction with the use of Berlese system. With the description of the new species, the distributional pattern of this genus is confirmed for dry forest formations from the south to the middle of the island; however, for the first time the group's distribution overlaps that of another micro-scorpion genus, *Microcharmus* Lourenço, 1995. The distribution patterns of the humicolous micro-scorpions endemic to Madagascar are considered to further explore the “*Neogrosphus* rule” as a possible explanation of global species distribution patterns in changing environments.

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R É S U M É

Le genre *Pseudouroplectes* Lourenço, 1995 (Buthidae) est, parmi les genres malgaches, l'un des plus pauvres par le nombre d'espèces, et toutes les espèces connues sont extrêmement rares. Une nouvelle espèce est décrite des forêts sèches rencontrées entre les formations de Tsingy du Parc national du Bemaraha, étendant ainsi la distribution du groupe vers le nord. L'holotype a une fois de plus été récolté par la méthode Berlese. Avec la description de la nouvelle espèce, la distribution du genre *Pseudouroplectes* remonte jusqu'au centre ouest de l'île, mais surtout, et cela pour la première fois, elle se superpose avec celle de *Microcharmus* Lourenço, 1995, un autre genre de micro-scorpions. Les modèles de distribution des micro-scorpions humicoles endémiques de Madagascar sont considérés afin de mieux définir la « règle *Neogrosphus* » qui explique globalement les modèles de distribution des espèces dans des milieux changeants.

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1. Introduction

As outlined in previous publications [1,2], the genus *Pseudouroplectes*, which is composed of soil-dwelling species, is extremely rare. In Madagascar, the other group of micro-scorpions, also composed of soil species, is represented by members of the endemic family Microcharmidae [3]. This group can be suggested to be better represented than *Pseudouroplectes*, and was better studied until now [3]. The first known species, *Pseudouroplectes betschi* Lourenço, 1995, was originally described based on two females collected with the use of extraction systems, in the dry southwestern spiny bush formation at Andramanoetse Be, Plateau Mahafaly [4]. Subsequently, a second species, *Pseudouroplectes pidgeoni* Lourenço & Goodman, 1999 was collected in the extreme southeastern dry forests of the “Parc national d’Andohahela” (parcel 2) [5]. This scorpion was collected in a soil litter sample from the spiny

bush parcel of the reserve, within a few kilometers of the ecotone between dry and wet forest formations. Only several years later, additional material was obtained of the genus *Pseudouroplectes*. This led to the description of a third species, *Pseudouroplectes maculatus* Lourenço & Goodman, 2006 [1]. Subsequently, material collected in the dry forests of Ifaty in the Province of Toliara, revealed one more new species, *Pseudouroplectes lalyae* Lourenço & Ythier, 2010 [2] (Fig. 1).

Recent investigation on some non identified material, collected by the late J.-M. Betsch in Madagascar, and now deposited in the Museum in Paris, led to the location of one more specimen of *Pseudouroplectes*. The material was again collected in dry forests in a Tsingy formation of the P. N. Bemaraha. After detailed examination of the specimen we concluded for yet a new species. The number of species in the genus *Pseudouroplectes* is now raised to five.

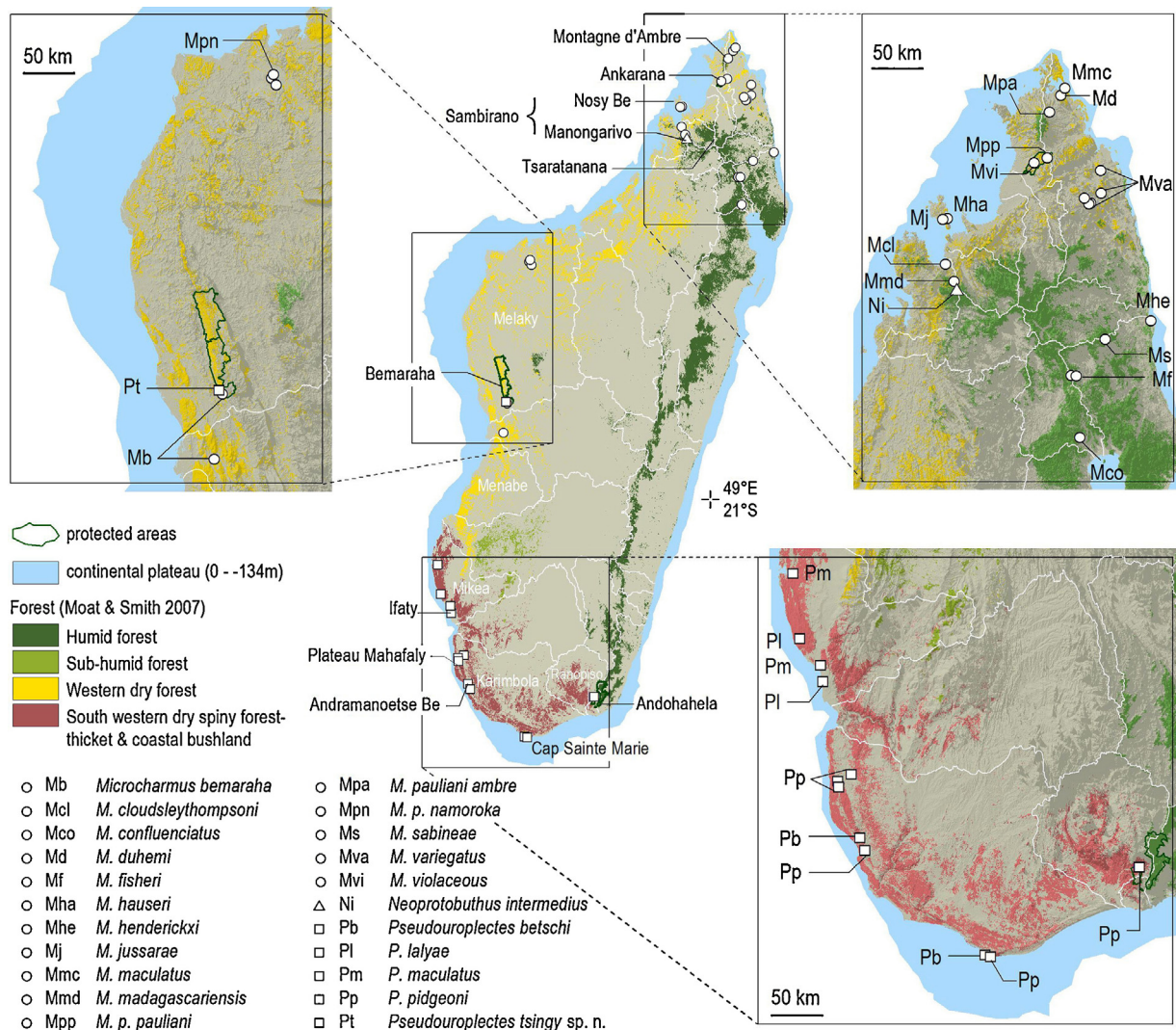


Fig. 1. Collection localities of the humicolous micro-scorpions in the genera *Microchamus*, *Neoprotobuthus*, and *Pseudouroplectes*, and forest types.

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