

Note on a New Species of *Opisthopatus* (Onychophora).

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With 3 Text-figures.

THE genus *Opisthopatus*, erected by Purcell in 1899, has for many years been considered to consist of only the single species *Opisthopatus cincitipes* Purcell, with a wide distribution in the eastern half of Southern Africa. The writer was therefore surprised to find in East Griqualand specimens of the genus *Opisthopatus* which are so different from the typical *cincitipes* as to justify their separation as a new species. The examples were taken under rotting wood in the Ingeli Forest, 10 miles due east of Kokstad, East Griqualand, during July, 1945.

These specimens differ from *Opisthopatus cincitipes* in three particulars: the colouring, the papillae clothing the body, and the number of legs. The following name is therefore proposed to distinguish them from *O. cincitipes*.

Opisthopatus roseus n. sp. Text-figs. 1, 3.

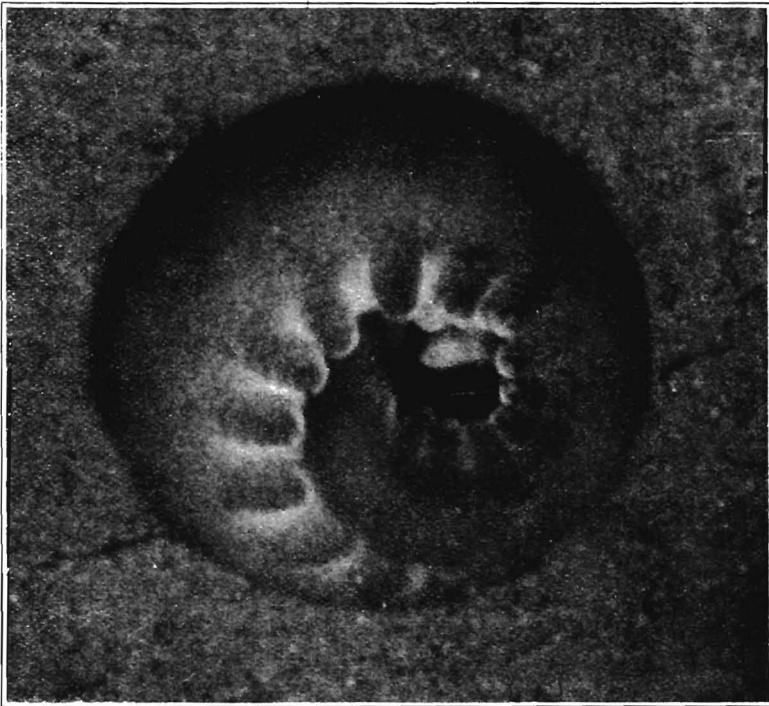
Types: 1 ♂, 5 ♀ specimens, Ingeli Forest, Kokstad, East Griqualand. (N.M. 348, 349.)

Colouring.—The colour of all the specimens is a uniform and rather pretty dull red, which may best be described as dusky rose-red. It can be readily distinguished from the uniform terra-cotta or dusky brick-red colouring which constitutes one of the colour varieties of *Peripatopsis (moseleyi, capensis)* and *Opisthopatus cincitipes*. There is no trace of the green or blackish green which forms the background colouring of the great majority of all South African Onychophora. In all the specimens of *O. cincitipes* which I have seen there are, on the body, a number of enlarged orange or reddish-brown papillae surrounded by a small yellow or orange area; these have been referred to by Purcell in his description of the species. The areas are numerous, and arranged in a more or less regular pattern at fairly close intervals, giving the skin an appearance of being spotted or speckled with numerous small, lighter dots. In other specimens there is in addition a mottled effect, due to irregular foliaceous markings of variable size on a somewhat lighter background. Both of these types of decoration can be well seen in text-fig. 2. In the species under consideration all such markings are absent and the colouring of the body, legs and antennae is entirely uniform. The legs are a distinctly lighter shade of rose-red than the dorsal surface of the body, and the ventral surface of the body is only faintly pink.

The papillae.—The papillae, when compared with those of *cincitipes*, are more numerous and more close-set, while there is much less variation in their size; in general they are considerably smaller than those of *cincitipes*. In *cincitipes* many of the papillae seen in profile project beyond the general level of the skin and are fairly slender, with a swollen tip, which is a little wider than the stalk (see Purcell, 1900, pl. x, figs. 8a, 8b); those of *roseus*, on the other hand, hardly ever project above the general level, being low and rounded. There

is a conspicuous absence of the enlarged reddish-brown papillæ which occur at regular intervals in *cinctipes* and are surrounded by a small lighter area. On the general body surface the papillæ are more numerous than in *cinctipes* except on the dorsal surface of the legs, where they appear to be rather fewer in number. On the dorsal surface of the body the papillæ are arranged in rows which are distinctly more regular than those of *cinctipes*. Some of these rows extend in a regular manner for a considerable distance without a break. In *cinctipes* the rows are seldom regular for more than a very short distance, and in some specimens distinctly irregular.

TEXT-FIG. 1.

*Opisthopatus roseus* n. sp., enrolled.

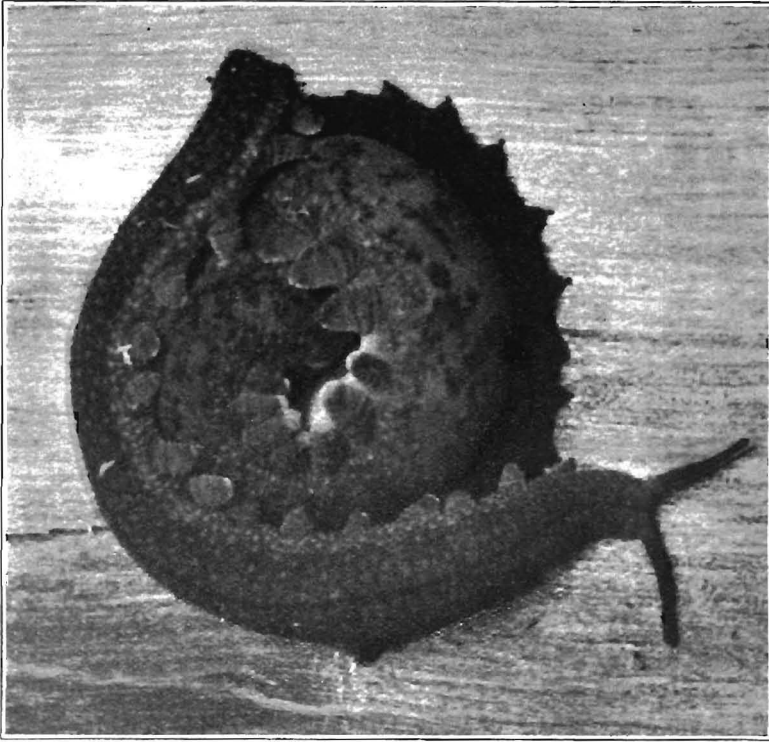
The legs.—In all six specimens the number of legs is 18 instead of the 16 which are typical of *O. cinctipes*. In all the numerous specimens of *O. cinctipes* which I have examined, this number, unlike that of some species of *Peripatopsis*, e.g. *P. moseleyi*, is quite constant. The legs of the last pair in *roseus*, like those of *cinctipes*, are very little reduced, and are about the same size as the first pair.

Coxal organs are present on all legs except the first five and last pairs.

The bodies of drowned and fully extended specimens appear to be distinctly more slender than those of fully extended specimens of *O. cinctipes*, the largest measuring 42 mm. in length and 3.5 mm. in width.

In all other particulars I can see no difference between the two species. The genital opening occupies the same position between the last pair of legs and at the same distance from the posterior apex of the body as in *cinctipes*, its external appearance being also the same as in that species.

TEXT-FIG. 2.



A cluster of three enrolled specimens of *Opisthopatus cinctipes* Purcell showing the characteristic markings.

Habits.— All six specimens were found in a single group, forming a fairly tightly packed cluster. This form, like *O. cinctipes* and some species of *Peripatopsis*, rolls up in a spiral. text-figs. 2 and 3.

The Distribution of O. cinctipes.

Of all the species of Onychophora found in South Africa, *Opisthopatus cinctipes* has by far the widest distribution. This extends from Dunbrody (Uitenhage Division), in the Midlands of the Cape Province, eastwards throughout the Transkei, Natal and Zululand. The zone of distribution then turns northwards to include the mountainous parts bordering the eastern boundary of the Transvaal wherever areas occupied by indigenous forest are to be found. Its vertical distribution is also more extensive than that of any of the other South African species of Onychophora, as it has been taken at altitudes ranging

from sea level to approximately 8000 ft. in the Drakensberg mountains. The following are the localities from which it has been collected :

Cape Province.—Dunbrody (Uitenhage Division); Doornek (Alexandria Division); Port St. Johns (Transkei); Grahamstown.

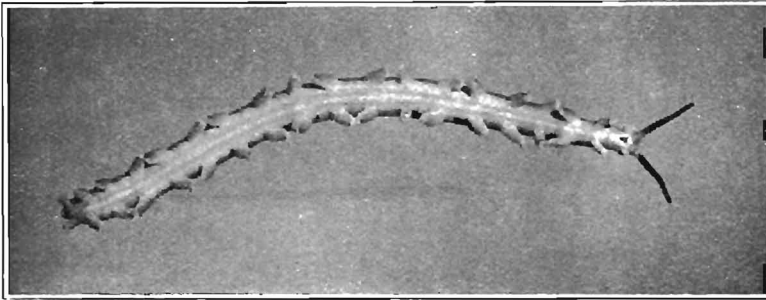
Natal.—Port Edward; Port Shepstone; Richmond; Bulwer; Durban; Kranzkop (near Greytown); Giant's Castle and Cathkin Peak areas (upper slopes of the Drakensberg Mountains); Umhlali (north coast).

Zululand.—Eshowe; Nkandhla Forest; Ingwavuma; Hluhluwe Game Reserve.

Transvaal.—Barberton, Mariepskop and Lydenburg, all Eastern Transvaal.

The distribution data is based mainly on material in the Natal Museum, but also on the localities given in Dr. Purcell's papers and two Transvaal records kindly furnished by Dr. V. FitzSimons, of the Transvaal Museum, Pretoria.

TEXT-FIG. 3.



Opisthopatus roseus n. sp., seen from below through glass to show the 18 pairs of legs.

The specimens found at Bulwer (see above) also differ considerably from the typical form of *O. cinctipes*. The body is more slender, resembling that of *O. roseus* (fully extended a little over 40 mm. long and 3.5 mm. wide). The colour is entirely uniform light green, not dark or blackish-green. The chief difference between these specimens and the typical *cinctipes* is the excessively small size of the papillæ, the skin of the body appearing more or less smooth. Even when examined with a hand lens the papillæ, though numerous, are small and inconspicuous; rings of papillæ on the dorsum of the legs cannot be distinguished, though some minute papillæ are present without arrangement in any regular pattern. I designate this form, which has the usual number of 16 legs found in *O. cinctipes*, *Opisthopatus cinctipes* var. *lævis* (Types, 2 specimens from Bulwer, Natal. N.M. No. 338.)

REFERENCES.

- (1) PURCELL, W. F. "On the South African Species of Peripatidæ in the Collection of the South African Museum," 'Ann. S. Afr. Mus.,' vol. i, pp. 331-351, 1899.
- (2) ——— "On the Anatomy of *Opisthopatus cinctipes*," *ibid.*, vol. ii, pp. 67-116, pls. x-xii, 1900.