

DESCRIPTION OF *BIPALIUM ROONWALI*, SP. NOV., WITH  
NOTES ON TWO OTHER SPECIES OF THE FAMILY  
BIPALIIDAE FROM THE NILGIRIS, INDIA

By

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(With 1 Text-figure)

INTRODUCTION

The notes embodied in this paper are based on a small collection of land turbellarians made by Shri S. Rajan, Research Scholar, Zoological Survey of India, Calcutta. These specimens were collected from different localities at Naduvattam in the Nilgiri Hills at an altitude of about 1981·2 meters (*ca.* 6,500 feet).

The collection consists of three species *viz.*, *Bipalium floweri* v. Graff, *Bipalium proserpina* Humbert and the third one is new to science and hence described in detail. *B. proserpina* is recorded from some new localities, whereas *B. floweri* is recorded from India for the first time.

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SYSTEMATIC ACCOUNT

1. *Bipalium floweri* v. Graff

1899. *Bipalium floweri* v. Graff, *Monographie der Turbellarien*, 2 *Tricladida Terricola*, p. 429, pl. 8, figs. 33-35. (Type-locality : Panduloya, Rambodda, Ceylon).  
1919. *Bipalium floweri*, Whitehouse, R. H., *Rec. Indian Mus.*, 16, p. 32, pl. 11 figs. 15, 16.

*Material*.—1 specimen collected from Naduvattam, Nilgiris.

The dorsal and ventral surfaces of the trunk muddy brown in colour. The ambulacral area can be distinguished from the rest of the ventral surface only by its prominent ridge in the centre.

*Distribution*.—*Bipalium floweri* was first reported from Panduloya, Rambodda in Ceylon. It was later collected by Gravely (1919) from Pattipola and Horton plains, again from Ceylon, at an altitude of about 2,133·6 meters (*ca.* 7,000 ft.). Therefore, the occurrence of this species in India, recorded here for the first time, is of great interest.

*Measurements in mm.*

Total length of the body . . . . .	33·25
Maximum breadth of the body . . . . .	4·8
Breadth of the head lobe . . . . .	4·5
Position of mouth from the anterior end . . . . .	21·3
Position of genital opening . . . . .	Not distinguishable.

## 2. *Bipalium proserpina* Humbert

1862. *Bipalium proserpina* Humbert, *Mém. Soc. Phys. Genève*, 16 (2), p. 12. pl. 1, fig. 2  
 1899. *Bipalium proserpina*, v. Graff, *Monographie der Turbellarien 2, Tricladida Terricola*, p. 421, pl. 8, figs. 18-26.  
 1919. *Bipalium proserpina*, Whitehouse, R. H., *Rec. Indian Mus.*, 16, p. 29, pl. 11, figs. 1-9.

*Material*.—One specimen, brilliantly coloured and collected from Hooker Estate, Government Cinchona Plantation, Naduvattam, Nilgiris.

Certain additional points with regard to colour pattern and shade of the specimen differing from the typical pattern are given below.

Specimen with a wide black band on dorsal surface, interspersed by a white thin line. Thin line extending upto head region but not ending in either club or bulbous structure and gradually thinning out at either ends into insignificance, more so at posterior end of trunk. Four lateral bands running parallel to median black band also white but appearing yellowish in tinge due to possession of mucous layer and fairly wide in comparison with median line interspersing black band. General ground colour of dorsal surface jet black. Except from ambulacral region, ventral surface of body light grey.

Head clearly marked off from trunk region by neck and lateral auricles drawn out; entire margin of head lined by distinct brown stripe, wide throughout except where they near those of neck.

### *Measurements in mm.*

Total length of the body . . . . .	43.4
Maximum breadth of the body . . . . .	4.9
Breadth of the head lobe . . . . .	5.1
Position of mouth from the anterior end . . . . .	19.1
Position of genital pore from the anterior end . . . . .	26.0

*Distribution*.—Of all the known species of *Bipalium* in India, *B. proserpina* has an extensive distribution. This species has already been reported from Tenmalai, Madothoray (Travancore and Cochin) in the Peninsular India, North Bengal, Lebong, Kurseong in the Eastern Himalayas and Nainital in Kumaon, as well as from other parts of the Western Himalayas. Its occurrence from the Nilgiris is recorded for the first time.

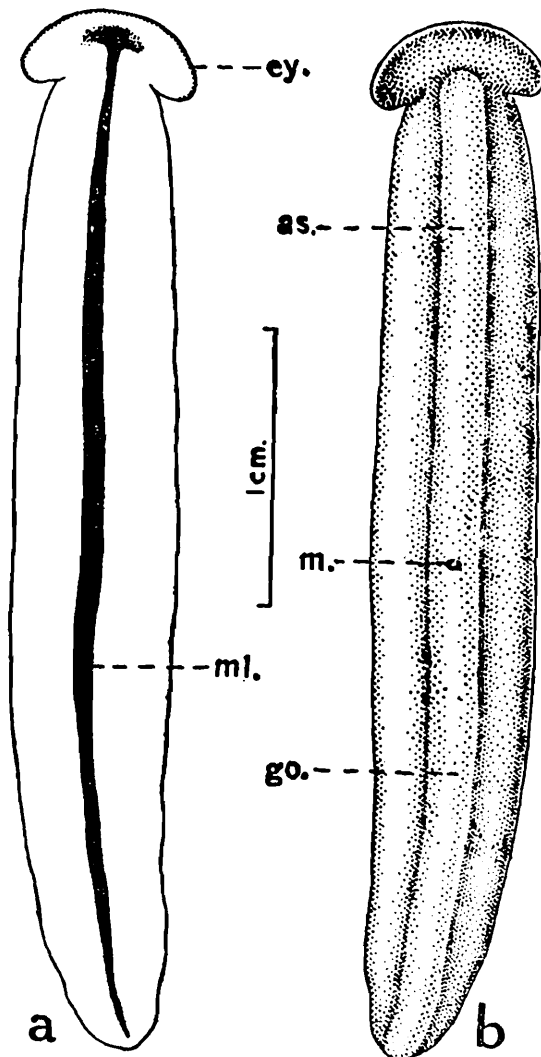
Recently, the Bombay Natural History Society sent us two specimens of *Bipalium* collected from Mahabaleswar in the western ghats of the Bombay State for determination. These two worms agree with that of *Bipalium proserpina*. With this new record from Mahabaleswar the range of distribution of this species in the peninsular region is extended further northwards.

## 3. *Bipalium roonwali* Ramakrishna and Chauhan, sp. nov.

(Text-fig. 1a, b.)

*Material*.—Four specimens from Naduvattam, Nilgiris. All collected from sites above 1,981.2 meters (ca. 6,500 ft.).

*Description.*—Ground colour of dorsal surface dark grey, with thick median blue black stripe. Median line deep and more pronounced at place of mouth opening (Text-fig. 1a) ; same stretching as far as mid-portion of head region, ending in a hammer-shaped structure and terminating at posterior end in front of tip of tail.



TEXT FIG. 1.—*Bipalium rocnwali* Ramakrishna and Chauhan, sp. nov.  
(a). dorsal view. (b). ventral view.

as., ambulacral surface ; ey., eye ; go., genital opening ; m., mouth ; ml., median line.

Head clearly marked off from trunk by neck and proportionately small considering size of trunk. Marginal lappets drawn out with a broad pointed end. Colour pattern of head slightly pale grey at periphery, while the central region almost similar to trunk. Eyes in large numbers and situated on margin of head region (Text-fig. 1a., ey.).

Ventral surface of trunk (Text-fig. 1b) creamy white in colour. Ambulacral surface with raised edge all through trunk and the sides marked off by a fine grey line extending at anterior end to head region and ending in an angle. Ventral surface of head grey with marginal line all along its periphery.

Mouth situated ventrally, almost in centre of trunk, and with its opening full of creamy frill of pharynx. Genital pore in posterior half of trunk region.

In specimens having a mucous layer, the colour of the dorsal surface appears slightly tinged greenish-yellow. Excepting one, all other specimens long with a broadened trunk region. Detailed measurements of all the four specimens given in Table 1.

TABLE 1.—Measurements (in mm.) of *Bipalium roonwali*  
*Ramakrishna & Chauhan, sp. nov.*

	Holotype	Paratypes		
		32.5	45.0	17.4
Total length of the body	36.2	32.5	45.0	17.4
Maximum breadth of the body	6.1	5.9	6.0	4.5
Maximum width of the head lobe	6.2	6.0	6.5	5.2
Position of the mouth from the anterior end	19.1	16.4	22.2	8.5
Position of genital pore from the anterior end	26.4	22.7	31.8	10.9
Position of mouth from the genital pore	7.3	6.3	9.6	2.9

*Type-specimens*.—All deposited in the Zoological Survey of India, Calcutta, as follows and under the following numbers ; *coll. S. Rajan*.

*Holotype* : Z. S. I. Reg. No. W. 3977/1. Near Government Quinine factory, Naduvattam, Nilgiris. 23. iv. 1955.

*Paratypes* : (i) Z. S. I. Reg. No. W. 3978/1. Prospect Estate, Naduvattam, Nilgiris. 11. x. 1954. (ii) Z. S. I. Reg. No. W. 3979/1. Near hospital, Prospect Estate, Naduvattam, Nilgiris. 29. x. 1955. (iii) Z. S. I. Reg. No. W. 3980/1. Naduvattam Nilgiris. 24. v. 1955.

*Remarks*.—*Bipalium roonwali* resembles *B. brunneus* Whitehouse described from Bagarkote in Kumaon, Western Himalayas, in shape and size of the trunk region, but differs in the characteristic disposition of the mouth and the genital openings, the colour pattern of both the dorsal and the ventral surfaces of the trunk and the presence of a median longitudinal blue black line which ends on the head lobe with a hammer-shaped structure.