

## A NEW TRICHURID NEMATODE FROM THE INDIAN GERBIL, *TATERA INDICA INDICA*

S. JOHNSON

Institute of Parasitology, Czechoslovak Academy of Sciences, Prague

**Abstract.** *Trichuris barusi* sp.n. is described from the Indian gerbil *Tatera indica indica*. It is compared with other trichurid species reported from the genus *Tatera*, viz. *Trichuris carlieri* Goedolst, 1916 and *T. bahanus* Tenora, 1969, and also with *T. muris* Schrank, 1788 from *Meriones*. It is felt that perhaps *T. bahanus* is confined to synanthropic populations of gerbils and *T. barusi* parasitizes gerbils in free nature.

The Indian gerbil or the Antelope-rat, *Tatera indica indica*, was subjected to helminthological investigations. Nematodes belonging to the genera *Rictularia* Froelich, 1802, *Streptopharagus* Blanc, 1912 and *Trichuris* Roederer, 1761, and an hymenolepid cestode of the genus *Rodentolepis* Spassky, 1954 were found to infest this gerbil. The trichurid worms appear to constitute a new species and are described here as such.

### *Trichuris barusi* sp.n.

(Fig. 1)

**Host:** *Tatera indica indica*. **Location:** Distal part of ileum. **Locality:** Bikaner District (Rajasthan), India.

**Type specimens:** Deposited with the Institute of Parasitology, Czechoslovak Academy of Sciences, Prague.

**Material:** Available—55 ♂♂ and 120 ♀♀. Studied—10 ♂♂ and 10 ♀♀. (All measurements are in mm.)

**Description:** **Male:** Length 28.5—31.5; thin anterior portion 14.5—15.5, thick posterior portion 14—16. Width: cephalic part 0.011—0.012, at oesophago-intestinal junction 0.17—0.23, posterior portion (maximum) 0.28—0.34. Anterior end without vesicular swelling. Spicule single, strongly sclerotized except at the rounded tip; length 1.28—1.65; width: at proximal end 0.025, near distal end, just before the commencement of the rounded tip, 0.012. Spicular sheath 0.08—0.122 long; width: at proximal end 0.027, at distal end 0.022; provided with small spines. Caudal papillae: 1 pair, lateral. Testes massive, divided into rounded parts. Cloaca shorter than ejaculatory duct, 0.83—0.91 and 1.72—1.88 respectively. Cloacal orifice subterminal.

**Female:** Length 32—38; both the thin anterior portion as well as the thick posterior portion 16—19. Width: cephalic part 0.013—0.014, at oesophago-intestinal junction 0.19—0.23, posterior portion (maximum) 0.44—0.51. Anterior extremity without vesicular swelling. Distance vulva to oesophago-intestinal junction 0.15—0.165. Vagina muscular, 0.44—0.528. Eggs inclusive of polar projections 0.050—0.058 × 0.020—0.026. Anus subterminal.

Two trichurid species have so far been reported from the rodent genus *Tatera*. *Trichuris carlieri* Goedelst, 1916, recorded by Quentin (1965) from the African gerbil *Tatera lobengulae*, differs from the species under discussion in having a smaller spicule, longer spicular sheath, larger eggs and smaller females.

*Trichuris bahanus* Tenora, 1969, parasitising *Tatera indica* in Afghanistan, is a comparatively stouter and larger form. In the species under discussion the thin anterior portion and the thick posterior portion of the body are almost of the same length in the male as well as in the female, while in *T. bahanus* this is true only of the male. The former has a shorter spicule, much shorter spicular sheath, comparatively posteriorly situated vulva and somewhat larger eggs. Tenora (1969) makes no mention of the caudal papillae in the male, of which one pair is present in the species under consideration. The latter can be differentiated from *T. muris* Schrank, 1788, parasitising the genus *Meriones*, by its much longer spicule.

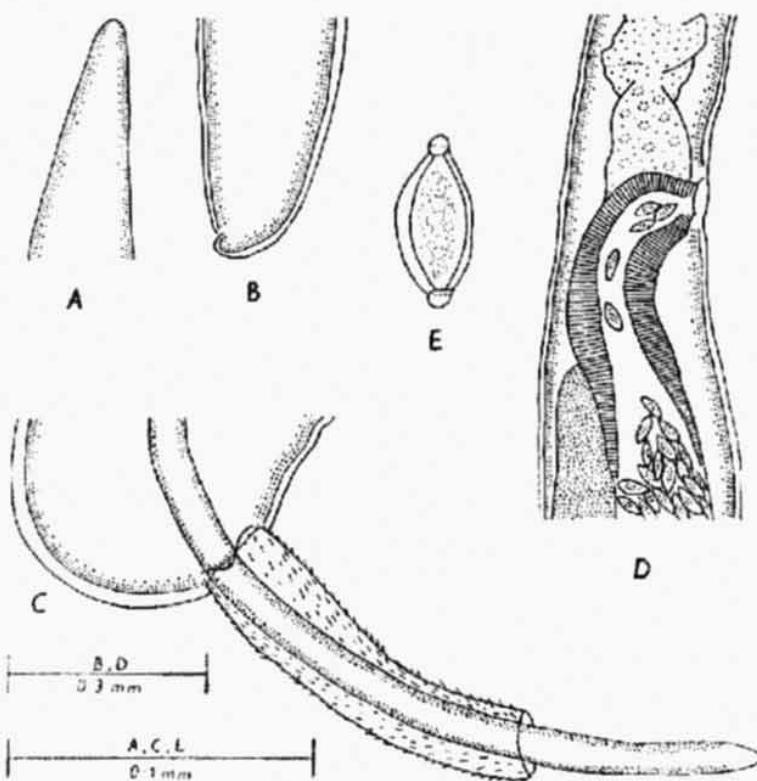


Fig. 1. *Trichuris barusi* sp.n. A. Anterior extremity of male. B. Posterior extremity of female. C. Posterior extremity of male. D. Vulvar region. E. Egg.

Skrjabin et al. (1957) pointed out that in any consideration of *Trichuris* spp. ecological conditions must also be taken into account along with the anatomical and the morphological characteristics. It is, therefore, interesting to note that *T. bahanus* is a parasite only of synanthropic populations of *Tatera indica* inhabiting tea houses, and is not found in gerbils living in free nature. Again, out of the 114 *Meriones libycus* examined by Tenora (1969) only one was found to harbour *T. bahanus* and it "was also captured not far from a tea house". The species under consideration, on the contrary, was recovered from gerbils living in free nature in the xerophytic conditions of the Indian Desert. Further, the incidence of *T. bahanus* seems to be rather low since only 29 % of the hosts examined were found to be infected (Tenora 1969). On the other hand, 48 % gerbils harboured the species under consideration. Moreover

*T. bahanus* inhabits the caecum of the host, whereas the present species was recovered from the distal part of the ileum. Thus, it appears that the former is confined to synanthropic populations of gerbils, while the latter parasitises gerbils in free nature.

**Acknowledgements.** Grateful thanks are due to Prof. B. Ryšavý, Institute of Parasitology, Czechoslovak Academy of Sciences, Prague, for his supervision, and to Dr. V. Baruš, of the same Institute, for kindly going through the manuscript.

**Table 1.** Principal measurements for *Trichuris barusi* sp.n. and related species (All measurements are in mm)

Species	<i>T. barusi</i> sp.n.		<i>T. bahanus</i> Tenora, 1969		<i>T. muris</i> Schrank, 1788	
Author	Our data		Tenora, 1969		Skrjabin et al. 1957	
Host	<i>Tatera indica indica</i>		<i>Tatera indica</i>		Rodentia	
Distribution	Indian Desert, India		Afghanistan			
Dimensions	Male	Female	Male	Female	Male	Female
Length: Total	28.5-31.5	32-38	28-41.4	41-57	15.6-22.2	14.64-28.6
Anterior thin portion	14.5-15.5	16.0-19.0	13.8-20.4	23-34	?	9.62-17.66
Posterior thick portion	14.0-16.0	16.0-19.0	21	21-23.8	?	?
Thickness: Cephalic part	0.011-0.012	0.013-0.014	0.01	0.010-0.015	?	?
At oesophago-intestinal junction	0.17-0.23	0.19-0.23	0.375	0.210-0.353	0.207-0.473	0.198-0.251
Posterior portion (maximum)	0.28-0.34	0.44-0.51	0.700	0.420-0.780	0.256-0.518	0.4-0.6
Spicule	1.28-1.65	-	1.75-2.1	-	0.571-0.732	-
Spicular sheath	0.08-0.122	-	0.490-0.78	-	?	-
Cloaca	0.83-0.91	-	0.9-1.22	-	?	-
Ejaculatory duct	1.72-1.88	-	1.9-2.3	-	?	-
Distance vulva to oesophago-intestinal junction	-	0.15-0.165	-	0.075	-	?
Vagina	-	0.44-0.528	-	?	-	?
Eggs	-	0.050-0.058	-	0.048-0.052	-	0.0594 x 0.032
		x		x		
		0.020-0.026		0.020-0.024		

НОВЫЙ ВИД ТРИХУРИДА ОТ ИНДИЙСКОЙ ПЕСЧАНКИ  
*TATERA INDICA INDICA*

С. Джонсон

**Резюме.** Дано описание *Trichuris barusi* sp. n. от индийской песчанки *Tatera indica indica*, и сравнение его с другими видами трихурид от рода *Tatera*, а именно *Trichuris carlieri* Goedelst, 1916 и *T. bahanus* Tenora, 1969, и также с *T. muris* Schrank, 1788 от *Meriones*. Предполагается, что вид *T. bahanus* приурочен к синантропным популяциям песчанок и *T. barusi* паразитирует у песчанок в природе.

REFERENCES

QUENTIN J. C., Nématodes parasites de rongeurs du Congo. Parc. Nat. Upemba, Mis. G. F. de Witte 2: 73-91, 1965.

SKRYABIN K. I., SHIKHOBALOVA N. P., ORLOV I. V., Trichocephalidae and Capillariidae of animals and man and the diseases caused by them. Osnovy nematologii VI, Izdat. AN SSSR, Moscow, pp. 1-587, 1957. (In Russian.)

TENORA F., Parasitic nematodes of certain rodents from Afghanistan. Věstník Čs. spol. zool. 33: 174-192, 1969.

S. J. Permanent address: Department of Zoology, University of Jodhpur, Jodhpur, India.