

ON A NEW AVIAN NEMATODE OF THE GENUS *VIGUIERA* FROM
A GREEN BEE-EATER, *MEROPS ORIENTALIS*
LATHAM, FROM LUCKNOW

PRAMOD KUMAR *
S. P. GUPTA *

ABSTRACT

A new species of the genus of nematode *Viguiera* from the tunic of the gizzard of a bird, the Green Bee-Eater, *Merops orientalis* Latham, from Lucknow, India, is described.

Key words: Nematode, *Viguiera*, New Species, Bird, India.

RESUMEN

Se describe una especie nueva del género de nemátodo, *Viguiera*, procedente de la pared de la molleja del ave *Merops orientalis* Latham, de Lucknow, India.

Palabras clave: Nemátodo, *Viguiera*, Nueva Especie, Ave, India.

INTRODUCTION

During the survey of nematode parasites of birds, a few specimens were collected from the tunic of the gizzard of a Green

Bee-eater, *Merops orientalis* Latham, from Lucknow, which represent a new species to science.

MATERIALS AND METHODS

The nematodes were fixed in hot 70% alcohol and preserved in 10% glycerine alcohol. The specimens were cleared in lacto-phenol and were manipulated by rolling them in the clearing agent under the cover glass. For the end-on view, the worms were cut with a sharp blade and rolled into the desired position under the cover glass with the help of broken glasses.

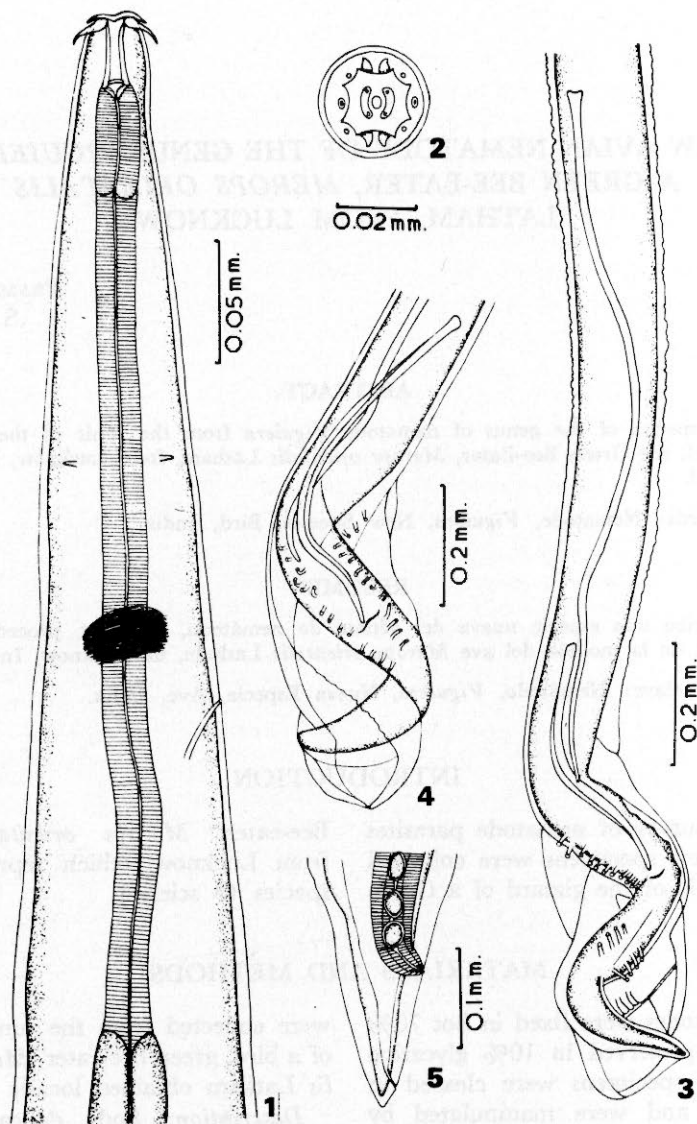
Viguiera meropsi sp. nov.
(Figs. 1-5)

Four male and five female specimens

were collected from the tunic of gizzard of a bird, green bee-eater, *Merops orientalis* Latham obtained locally at Lucknow.

Description: Body delicate with attenuated extremities. Two pairs of transparent thin leaf-like structure present on both sides of head and project slightly over underlying parts. In end-on view, on each sides of mouth opening a lateral sheet with four processes and immediately surrounding mouth two slightly curved plates on each of which bears a papilla at each end. Amphids open on head externally to margin of lateral

* Department of Zoology, University of Lucknow, Lucknow, India.



Figs. 1-5. *Viguiera meropsi* sp. nov. Fig. 1. Anterior end of female. Lateral view. Fig. 2. End-on view. Fig. 3. Posterior end of male. Lateral view. Fig. 4. Posterior end of male. Ventral view. Fig. 5. Female tail. Lateral view.

shields. Four sub-median papillae located within sub-lateral sheets. Vestibule cylindrical. Oesophagus consisting of two parts, an anterior shorter, narrow and muscular portion and a posterior longer wider, glandular portion. Vulva post-

equatorial. Cuticle transversely striated, striations, 0.003 to 0.004 mm apart in male and 0.003 to 0.006 mm apart in female specimens.

Male: Body 5.30 to 5.75 mm long, 0.20 to 0.23 mm wide. Head 0.02 to

0.023 mm in diameter. Vestibule 0.023 to 0.025 mm long, 0.009 to 0.01 mm wide. Anterior oesophagus 0.24 to 0.31 mm long, 0.018 to 0.02 mm wide. Posterior oesophagus 1.57 to 1.65 mm long, 0.03 to 0.04 mm wide. Entire oesophagus 1.81 to 1.96 mm long. Nerve ring at 0.13 to 0.14 mm and excretory pore 0.15 to 0.19 mm from anterior end. Caudal alae well developed 0.53 to 0.58 mm long and hold the tail permanently in a spirally rolled, cork-screw like in position. Fourteen pairs of pedunculated caudal papillae with ten pairs preanal and four pairs postanal. Spicules unequal similar. Right spicule long, tubular and pointed, 1.19 to 1.52 mm long, left spicule straight, short 0.428 to 0.608 mm long. Gubernaculum absent.

Female: Body 8.80 to 9.10 mm long,

0.20 to 0.30 mm wide. Head 0.024 to 0.03 mm in diameter. Vestibule 0.028 to 0.03 mm long, 0.01 to 0.013 mm wide. Anterior oesophagus 0.27 to 0.28 mm long, 0.015 to 0.02 mm wide. Posterior oesophagus 1.65 to 1.78 mm long, 0.03 to 0.04 mm wide. Entire oesophagus 1.92 to 2.06 mm long. Nerve ring at 0.135 to 0.15 mm and excretory pore 0.19 to 0.21 mm from anterior end. Tail conical 0.015 to 0.02 mm long. Vulva close to anus at 0.14 to 0.175 mm from posterior end. Uteri divergent. Eggs oval thick-shelled 0.025 to 0.03 mm long, 0.019 to 0.02 mm wide.

Host: green bee-cater, *Merops orientalis* Latham.

Location: Tunic of gizzard.

Locality: Lucknow, India.*

DISCUSSION

The new species is referred to the genus *Viguiera* Seurat, 1913. The following species are known from the avian hosts viz., *Viguiera euryoptera* (Rudolphi, 1819) Seurat, 1913; *V. osmanhilli* Yeh, 1954; *V. buckleyi* (Yeh, 1954) Chabaud, 1957; *V. leiperi* Ali, 1956; *V. viduae* Chabaud, 1960; *V. dicrurusi* Gupta, 1960; *V. bhujangai* Jehan, 1970 and *V. indica* Jehan, 1970.

The new species differs from all these known species in having 14 pairs of cau-

dal papillae. The new species can also be distinguished from *V. dorsti* in having 4 pairs of postanal papillae instead of 6 pairs. The new species has close resemblance to *V. dicrurusi* in having 4 pairs of postanal papillae but differs it in having 10 pairs or preanal papillae instead of 8 pairs and in having spicule ratio 1:2.5 instead of 1:6. Accordingly it is regarded as a new species with the specific name *Viguiera meropsi* sp. nov.

Key to the species of the genus *Viguiera* Seurat, 1913.

- A. 8 to 11 pairs of preanal and 2 pairs of postanal papillae
 - a. 8 pairs of preanal papillae
 - x. Both spicules more or less of the same size, alate or non-alate.

* The paratype and holotype specimens of the forms described in this paper will be deposited in Dr. G. S. Thapar's Helminthological Collection, 227, Mahatma Gandhi Road, Dilkusha, Lucknow.

- 8 pairs preanal papillae or both sides without any median preanal papillae, left spicule alate *V. buckleyi*.
- 7 preanal papillae on right side and 8 on left side with a single median preanal papilla spicules non-alate *V. viduae*.
- y. Both spicules dissimilar, right spicule short and thick left tubular alate or non-alate. Left spicule non-alate ratio of spicules 1:12 *V. indica*.
- Left spicule alate, ratio of spicules 1:20 *V. osmanhilli*.
- b. 9 pairs of preanal papillae *V. euryoptera*.
- c. 10 pairs of preanal papillae *V. bhujangai*.
- d. 11 pairs of preanal papillae *V. leiperi*.
- B. 7 to 10 pairs preanal and 4 to 6 postanal papillae
- x. 10 pairs preanal and 4 pairs postanal papillae.. *V. meropsi* sp. nov.
- y. 8 pairs preanal and 4 pairs postanal papillae.. *V. dicrurusi*.
- z. 7 pairs preanal and 6 pairs postanal papillae.. *V. dorsti*.

LITERATURE

- ALI, S. M., 1956. Studies on the nematode parasites of fishes and birds found in Hyderabad State. *Ind. Jour. Helminth.* 8: 1-83.
- CHABAUD, A. G., 1957. Nematodes parasites d'oiseaux en tunisie collection C. Vermeil. *Arch. Inst. Pasteur. Tunis.* 34: 155-166.
- , 1960. Quatre spirurides parasites d'oiseaux malgaches. *Mem. Inst. Sci. Madagascar* 14: 105-124.
- GUPTA, S. P., 1960. Nematodes parasites of Vertebrates of East Pakistan V. Spirurid. *Canad. Jour. Zool.* 38: 575-584.
- JEHAN, M., 1970. On two new species of the genus *Viguiera* Seurat, 1913 from the gizzard of birds. *Proc. Nat. Acad. Sci. India* Sec. B. 41: 287-292.
- YAMAGUTI, S., 1961. The nematodes of Vertebrates, *Systema Helminthum* Part I and II Inter Science Publisher Inc. New York and London. Vol. 3: 1-1261.
- YEH, L. S., 1954. On the new species of the genus *Serticeps* (Nematoda: Schistorophidae) from the gizzard of birds. *Jour. Helminth.* 28: 165-170.