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PARACAMERONIA CAUCASICA GEN. N., SP.N. (OXYURIDA: THELASTOMATIDAE) INTESTINAL NEMATODE OF MOLE CRICKET FROM AZERBAIJAN

by
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Summary. *Paracameronia caucasica* gen. n. sp.n. living in the hind gut of mole crickets in South Azerbaijan is described. The genus is distinguished from the similar *Cameronia* Basir by the formation of egg agglomerates inside the uterus of females, by the form and mode of construction of the egg agglomerates and by the form of spermatozoon and egg shell. Two female — representatives of the same genus *Paracameronia* gen.n. have been found in mole crickets from Georgia, USSR.

During field work in South Azerbaijan several mole crickets (*Gryllotapa gryllotalpa* L.) were collected. All were heavily infected by thelastomatids. In addition to several specimens of known thelastomatids (*Gryllophila* Basir, *Mirzaiella* Basir) there were many females with an unusual type of egg agglomeration and three males. These are considered represent a new thelastomatid genus, which is described here.

PARACAMERONIA CAUCASICA gen.n. sp.n. (Fig. 1 — Table I)

Holotype male: L = 920 μm, maximum diameter (D) = 80 μm, length of oesophagus (Oes) = 170 μm, tail (Caud) = 37,5 μm.

Allotype female: L = 3890 μm, D = 370 μm, Oes = 490 μm, Caud = 170 μm, V = 79%.

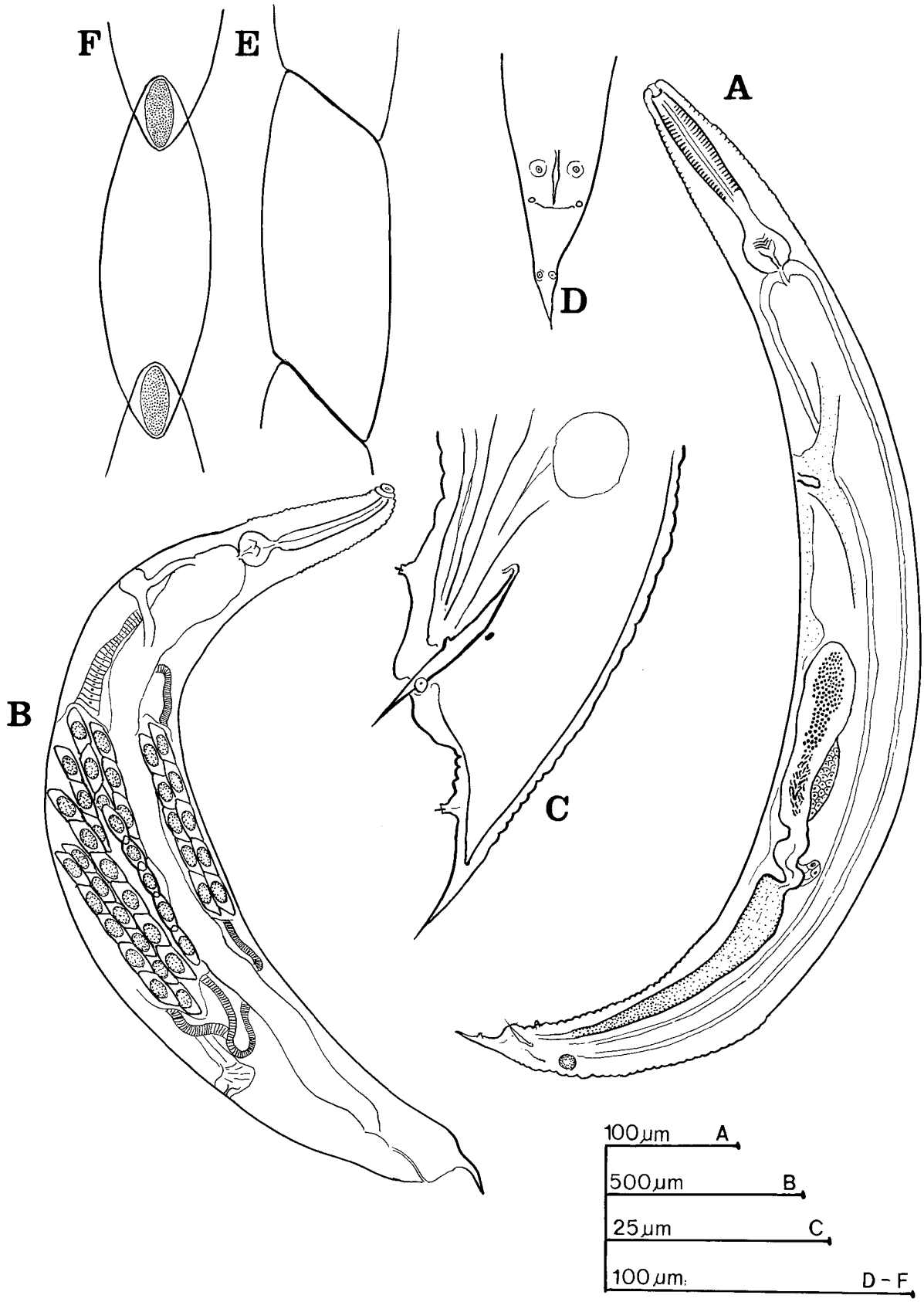
Description: Males with comparatively smooth cuticle except at head and tail regions where annulations are more prominent. Cuticle rings near head end 4-5 μm, on tail 10 μm. Lateral alae absent. Very small stoma (length 4 μm, width 3 μm) with walls bearing a refringent ring at the junction with the oesophagus. Corpus spindle-shaped, isthmus wide, bulbus only with valves and without other cuticular structures. Intestine with thick walls from polygonal cells, in which yellowish grains are visible. Excretory pore 250-275 μm from head end. Excretory channels are not visible. Genital tube clearly divided into two parts: anterior with the stages of spermatogenesis, and posterior «vas deferens». Mature spermatozoa elongated cells about 6 μm long. One straight spicula of 25 μm length, with thickening in the middle and curved proximal end. Three pairs of papillae: large precloacal, lateral near the edges of cloaca and caudal in the middle of the short tail.

Female: The first two rings of cuticle are most pronounced. Stoma 10 μm long and 10 μm wide, with thick walls. Corpus nearly cylindrical, valves and cuticular plates in bulbus. Excretory pore 650-820 μm from head end, leads in excretory vesicle and 4 channels. Vulva in posterior position, genital system didelphic. Uteri contain eggs in zygota stage, consolidated in rigid sticks. Each egg, which is nearly quadrangular in one projection, has spindle-shaped profile in another. Their ends are firmly connected, presenting sticks of 4-6 eggs. Each egg shell bears two opercula.

Type habitat and locality: *Gryllotalpa gryllotalpa* hind gut. Hosts were collected close to the irrigation channels of a vegetable field in Shuruk village, near Lenkoran, South Azerbaijan during September 1988.

Type material: holotype and allotype deposited in Collection of Zoological Museum of Moscow State University (Jc 283 and Jc 284 corresp.).

Remarks and diagnosis: The systematics of thelastomatids of mole crickets is not as complicated as those of other groups of oxyurids (Skrjabin *et al.*, 1966), and it is relatively easy to determine the position of the described nematodes. Such features as eggs with two opercula which are consolidated in clusters strongly resemble other thelastomatids from the hind gut of mole crickets belonging to the genus *Cameronia*. Our observation revealed that this resemblance is also supported by some common characteristics of embryonic development: it is the posterior blastomere (P clone) on two-cell stage which divides first. Nevertheless, the newly discovered nematodes must be described as a separate genus because the mode of their egg agglomeration differs considerably. In *Cameronia* species (our own unpublished observations on the specimens of *Cameronia multiovata* and *Cameronia* sp. from Soviet East


F
E
D
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100 µm A
500 µm B
25 µm C
100 µm D - F

and Caucasus) the eggs are held together by a sticky substance in no particular order. The eggs go through the vulvar opening one by one and in the lumen of the host intestine attach themselves to the anteriorly laid ones. Females bear these sacklike clusters of eggs on one of the vulva lips. In *P. caucasica* the eggs are consolidated end by end «in uteri» and go through the vagina in the form of rigid sticks. The form of the egg- shell also differs in the two genera: in *P. caucasica* they have ellipsoidal costellae with flattened ends, so in lateral projection they are quadrangular, whereas *Cameronia* species have ellipsoidal shells with a curved longitudinal axis. In addition, the morphology of males differ between the genera. In *Cameronia* the tail is rather small (Leibesperger, 1960), but in *P. caucasica* the tail is comparatively large and conical, with small cloacal protuberance. In *Cameronia* males we have found 4 pairs of genital papillae, but only 3 in new genus. Spermatozoa in *Cameronia* are spindle-shaped, and not rod-like. Thus, the described nematodes must be regarded as a member of an independent genus, which is very close to *Cameronia*, belonging to the subfamily Cameroniinae Kloss, 1959.

***PARACAMERONIA* gen.n.**

Cameroniinae: Males with conical tails bearing 3 pairs of papillae. Rod-like spermatozoa. Eggs firmly attached one to another by ends, presenting agglomerates — rigid sticks inside females.

Single species: *P. caucasica* Carvalho *et* Spiridonov sp.n. Two females with similar type of egg agglomeration but larger egg-shells were found in mole cricket *G. gryllotalpa* from Batumi, Georgia. This material is not sufficient for a valid decision about their conspecificity.

Until now the subfamily Cameroniinae Kloss, 1959 contains a single genus *Cameronia*, so that a new diagnosis of this taxon is proposed:

Thelastomatidae: Cephalic end of both sexes without spines, bristles or the regions of swollen cuticle. Oesophagus corpus is distinctly longer than basal part. Single spicula. Female reproductive system didelphic. Eggs in agglomeration of 2 and more. Two opercula on each egg-shell. Parasites of mole cricket hind gut.

Type genus: *Cameronia* Basir, 1948.

TABLE I - *Morphometrics of* Paracameronia caucasica *gen. n. sp. n. (paratypes) in μm.*

	n = 3 males			n = 24 females		
	$\bar{X} \pm SD$	Extr. Val.	CV%	$\bar{X} \pm$	Extr. Val.	CV%
L	906 ± 17.5	890 – 920	1.9	2700 ± 731	1875 – 4200	27.0
D	77 ± 4.8	70 – 80	5.2	340 ± 72	250 – 460	21.1
Oes	168 ± 2.4	165 – 170	1.4	420 ± 42	380 – 490	10.0
Caud	41 ± 5	38 – 48	12.2	171 ± 48	80 – 280	28.1
Eggs	120-125x45-48 (in Georgian specimens of the same genus they were 127-130x47-55).					

Literature cited

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SKRYABIN K.I., SHIKHOBALOVA N.P. and LAGODOVSKAYA E.A., 1966 Principles of Nematology (Ed. K.I. Skrjabin) vol. 15, part 4, Moscow, Nauka, 538 pp.

Fig. 1 (*Front page*) - *Paracameronia caucasica* gen.n. sp.n.: A, male lateral; B, female lateral; C, male posterior end, lateral; D, male posterior end, ventral; E-F, contact between egg-shells in two projections.

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