A new species of the genus *Comiconchus* Jairajpuri & Khan from Ukraine with re-description of *C. trionchus* (Thorne) (Nematoda, Mononchida: Mononchidae)

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A new species of predaceous nematode, *Comiconchus zduni* sp. n., from West Ukraine is described. The male and all juvenile stages of *C. trionchus* (Thorne, 1924) are described for the first time.

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Introduction

Jairajpuri & Khan (1982) erected the monotypic genus *Comiconchus* for the species *Mononchus trionchus* Thorne, 1924. Formerly this species was placed by Andrássy (1959) in the genus *Miconchus* because of the similar buccal cavity. Jairajpuri and Khan reach their own decision proceeding from the fact that, according to Mulvey (1962), this species does not have tuberculate structure in oesophagus. *C. trionchus* is known from three regions only: USA (Utah), Canada and Russia (Volga Region). It was poorly described.

Two populations of *Comiconchus* nave been found in the Ukraine. One of them, including specimens of both sexes and juveniles of all stages, belongs to *C. trionchus*, the other, consisting of males and juveniles only, is described and illustrated below as *C. zduni* sp. n.

Comiconchus trionchus (Thorne, 1924)

(Figs 1-8, 10-12)

Material examined. **Ukraine**, *Ivano-Frankivs'k Prov.*, Verkhovyna Distr., Burkut vill., Chyvchyn mountain, moss on the rock, 14.VIII.1990 (Susulovsky).

Description. ♀ (N = 2): L = 2.94-3.36 mm; a = 29-33; b = 4.1-4,2; c = 21-27; V = 70-72%; buccal cavity 71 × 41-43 μm; tail length 123-139 μm.

♂ (N = 1): L = 2.84 mm; a = 30; b = 3.9; c = 26; buccal cavity 69 × 41 μm; tail length 109 μm.

Female. Body cylindrical, tapering clearly towards extremity, curved ventrally after fixation, G-shaped in posterior half. Lip region set off from adjacent body by depression. Labial and cephalic papillae conical, protruding. Head width at the middle of buccal cavity 60-65 μm. Amphids cup-shaped, opening somewhat behind the cephalic depression. Buccal cavity barrel-shaped and flattened at the base, with thick walls, 1.5-1.6 times as long as wide. Dorsal and ventro-sublateral teeth similar in morphology, large and suprabasal, directed forward. Teeth apices located at the same level on 45-49% of buccal cavity length, measured from the base. A thin longitudional ridge opposite to dorsal tooth present. Oesophagus 720-792 μm long; oesophago-intestinal junction not tuberculate. Excretory pore at 237-267 μm from anterior end of body. Genital system didelphic-amphidelphic. Ovaries reflexed, short, not reaching the uterus-oviduct junction. Uterus a relatively long tube with thick walls. Sperms were observed in uterus of one specimen. Vagina 45-50 μm long, shorter than half of corresponding body width. Vagina surrounded by strong circular muscles. Vulva a transverse slit. Medium-sized sclerotized pieces present at vagina-vulva junction. One specimen has a cuticular mound in front of vulva, which is not connected with any glandular cells (pseudopapilla). Vulval pores absent. Rectum 37-44 μm long, shorter than anal body width, curved. Tail conical with a finely rounded tip, strongly curved ventrad, 1.7-2.1 times anal body width. Some spherical glandular bodies arranged at the base of tail. Spinneret absent.

Table. Measurements of juveniles of *Comiconchus trionchus* (range and mean)

Characteristic	Juvenile stage			
	I (n = 2)	II (n = 7)	III (n = 4)	IV (n = 2)
Body length, mm	0.83-0.89 (0.86)	0.97-1.24 (1.13)	1.50-1.86 (1.63)	2.07-2.16 (2.12)
a	23-26 (24.1)	25-28 (26.8)	28-37.7 (29.4)	26-29 (27.2)
b	3.02-3.07 (3.04)	2.89-3.35 (3.16)	3.25-3.88 (3.48)	3.24-3.63 (3.44)
c	16-18 (17.2)	17-19 (18.1)	18.4-21.5 (20.5)	23-25 (24.2)
c'	2.1-2.2 (2.14)	1.7-2.3 (2.2)	2.1-2.5 (2.3)	1.9-2.2 (2.0)
Buccal cavity:				
length, μm	28.4-31.0 (30.0)	35.8-39.1 (37.6)	46.7-49.1 (47.6)	58.5-61.1 (59.8)
width, μm	11.9-13.3 (12.6)	18.0-19.0 (18.5)	23.7-25.6 (24.8)	32.2-36.7 (34.5)
Oesophagus length, μm	274-289 (282)	334-379 (358)	450-481 (467)	596-640 (618)
Tail length, μm	47-54 (51)	47-67 (61)	71-87 (79)	83-92 (88)
Body diameter, μm	32-38 (35)	39-45 (42)	52-56 (55)	76-79 (77)
Anal body width, μm	22-25 (24)	27-29 (28)	34-35 (34.5)	42-45 (43)

Male. General appearance similar to female. Ventromedian supplements 24, contiguous; mammilliform to conical. Spicules rather slender and curved, 106 μm or 1.5 times anal body width, measured along the curved median line. Gubernaculum well developed, 40 μm long. Lateral guiding pieces furcate. Tail similar to that of female, but somewhat shorter. Spinneret absent.

Juveniles. The complete cycle of postembryonal development of *Comiconchus* species is described for the first time. Measurements are given in the Table. In addition to given morphometry of juveniles: the intestine of one female contains undigested buccal cavities of its own juveniles of the first stage with size of 26.8 × 11.9 and 29.6 × 12.8 μm. The increase of absolute body size and it parts occurs in juveniles from stage to stage as well as typical changes in body proportions. They become slenderer, while oesophagus and tail become relatively shorter. In the first juvenile stage, there are three functional and three replacement teeth, dorsal tooth being somewhat larger than ventro-sublateral ones. Teeth situated close to the base of corresponding metarhabdions; dorsal tooth apex located at 20.4-35.2 (28.0)% of total length of buccal cavity measured from the base. On the following stages, functional teeth are getting of the same size and perform anterior migration, almost reaching the middle of buccal cavity in adult. In the second juvenile stage dorsal tooth apex is located at 37.1-40.7 (39.3)%, in the third stage at 41.1-44.5 (42.5)% and in the fourth at 44.6-46.6 (45.6)% of the buccal cavity length respectively. Ventral longitudional ridge present in buccal cavity in all juvenile stages. The genital primordium 52 μm long was clearly seen only in one specimen of the fourth juvenile stage.

Notes. In contrast to forms with three teeth from the genus *Miconchus* Andrássy, 1958 (Khan & Coomans, 1980; Susulovsky, 1993), three functional teeth are present in the buccal cavity of *C. trionchus* already in juveniles of the first stage. Subsequently these teeth migrate anteriorly.

The Carpathian population differs from those formerly described only in the vulva located more posteriorly and the presence of papilliform structures near vagina in female.

Comiconchus zduni sp. n.

(Figs 9, 13, 15)

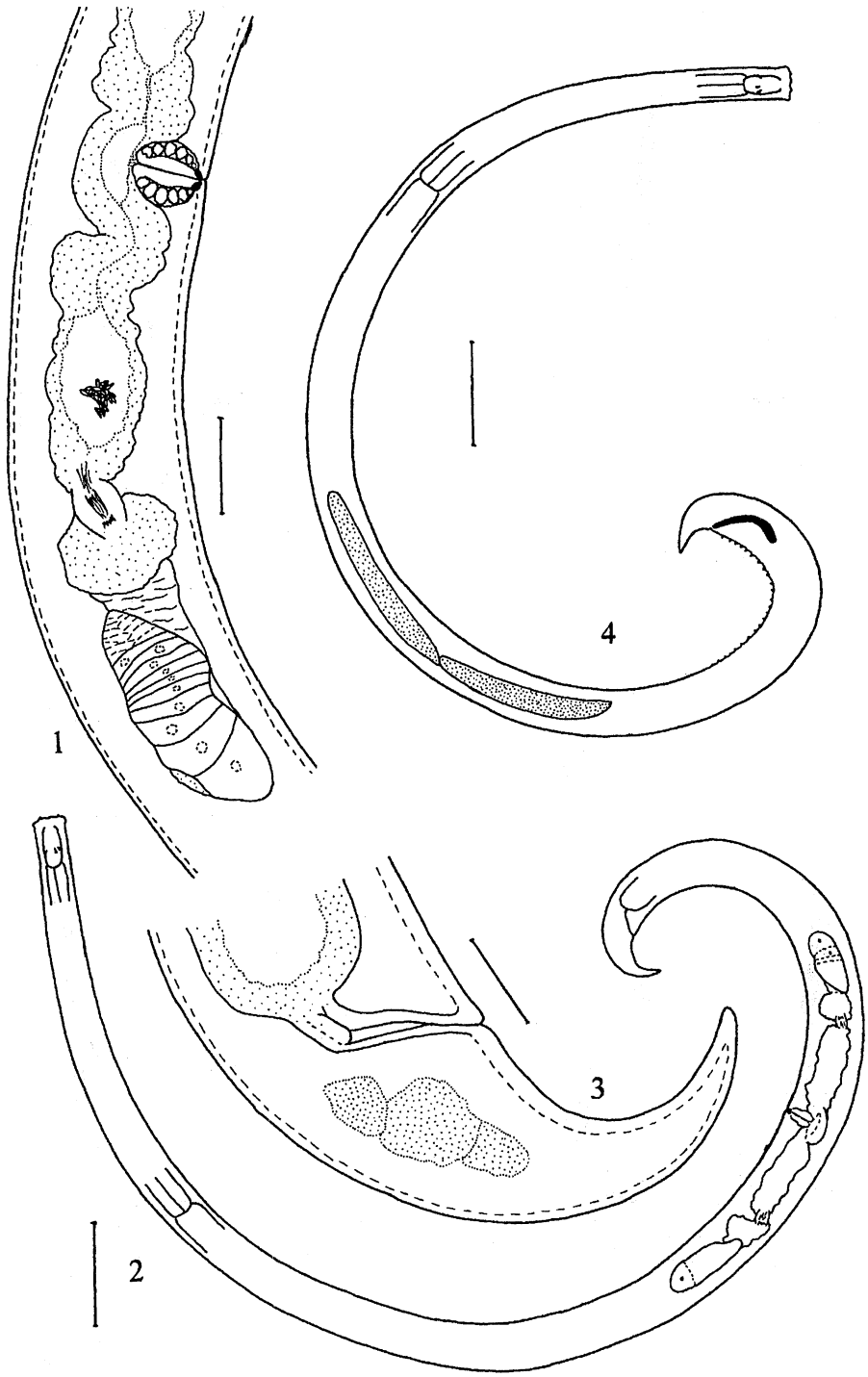
Holotype. ♂, **Ukraine,** *Rivno Prov.*, Berezno Distr., Sosnove vill., 1.VII.1989 (Susulovsky), microscope slide No. 421, State Museum of Natural History, L'viv.

Paratypes. 2 ♂, with label as in holotype, slides No. 422, 423.

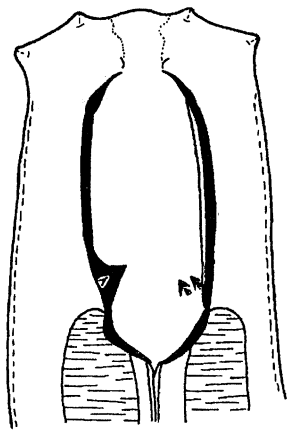
Description. Holotype ♂: L = 2.56 mm; a = 30; b = 30; c = 29; buccal cavity 53 × 30 μm.

Paratypes ♂ (N = 2): L = 2.41-2.84 mm; a = 30-31; b = 4,1-4,3; c = 25-34; buccal cavity 52-57 × 30-31 μm; tail length 82-98 μm.

Male. Body regularly cylindrical, curved ventrally after fixation, more strongly in posterior half. Lip region set off from adjacent body by depression. Labial and cephalic papillae conical and prominently interfering the head contour. Amphid cup-shaped, located at level of cephalic depression. Buccal cavity with moderately thick walls, 1.5 times as long as wide. Dorsal and ventro-sublateral teeth of similar morphology, relatively small and situated near the middle of buccal cavity. Dorsal tooth apex located at 42-46% of the buccal cavity length, measured from the base. A thin longitudional ridge opposite to dorsal tooth present. Oesophagus 614-649 μm long; oesophago-intestinal junction not tuberculate. Geni-



Figs 1-4. *Comiconchus trionchus* (Thorne): **1**, female, anterior genital branch; **2**, female, body; **3**, female, tail; **4**, male, body. Scales: 200 μm (3, 4); 50 μm (1); 30 μm (2).



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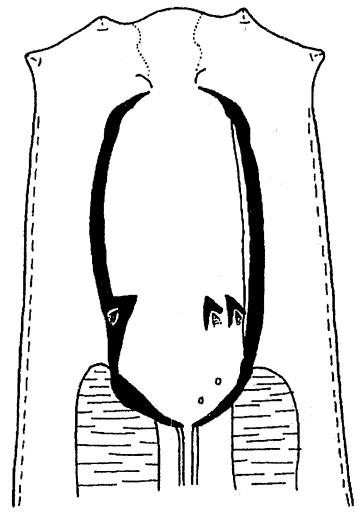

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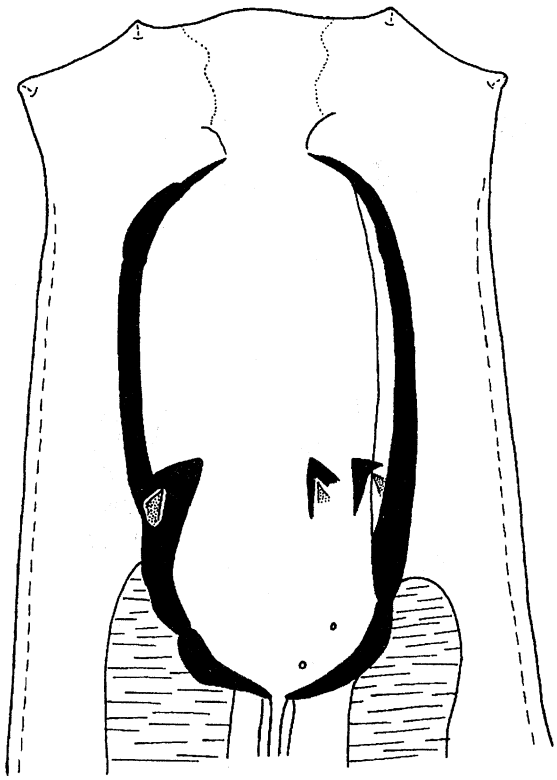

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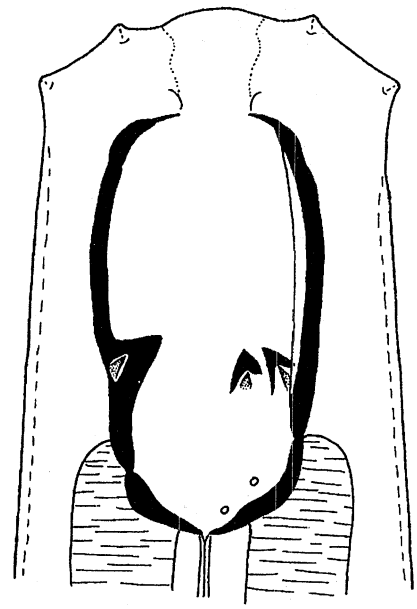

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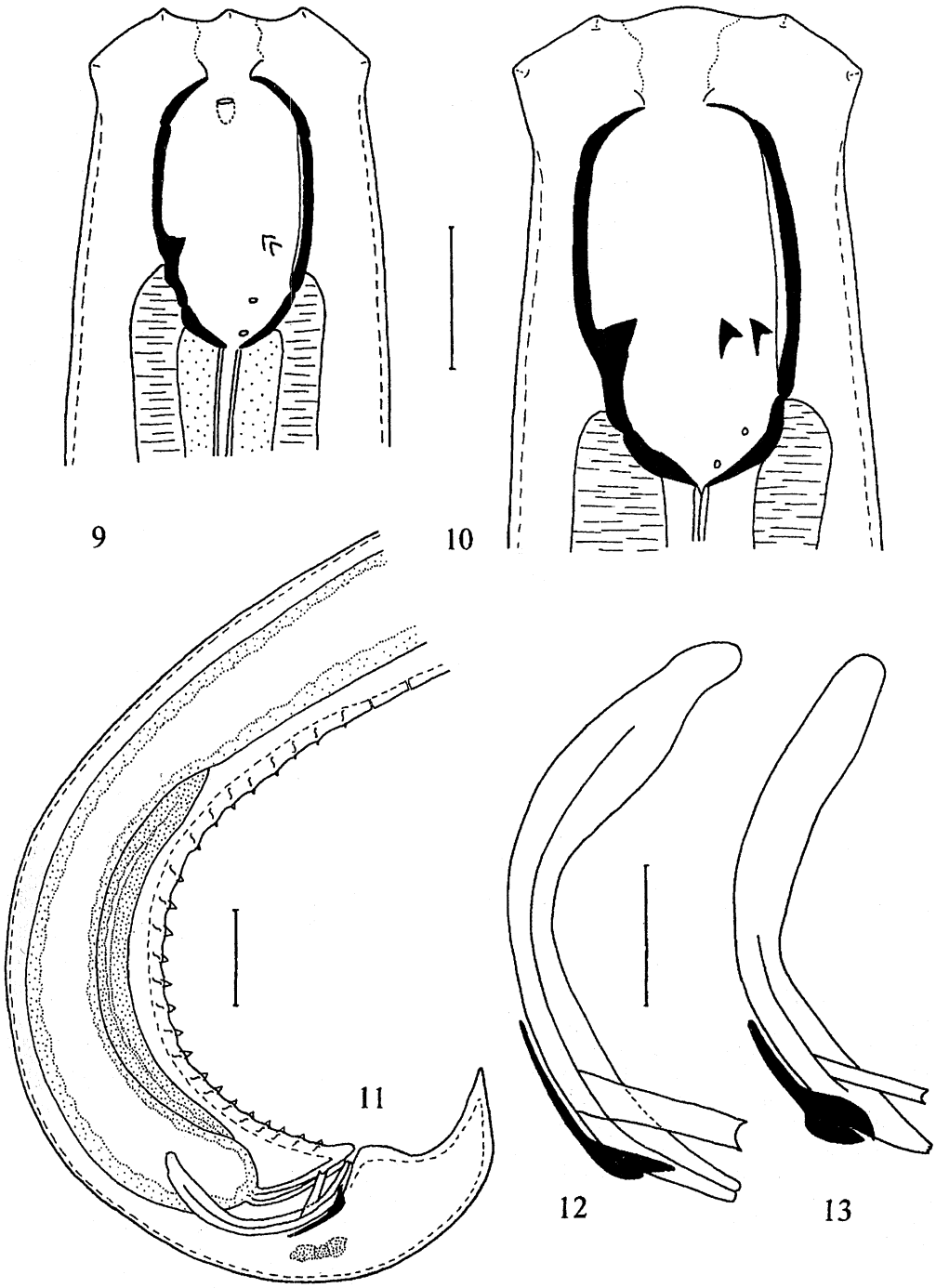
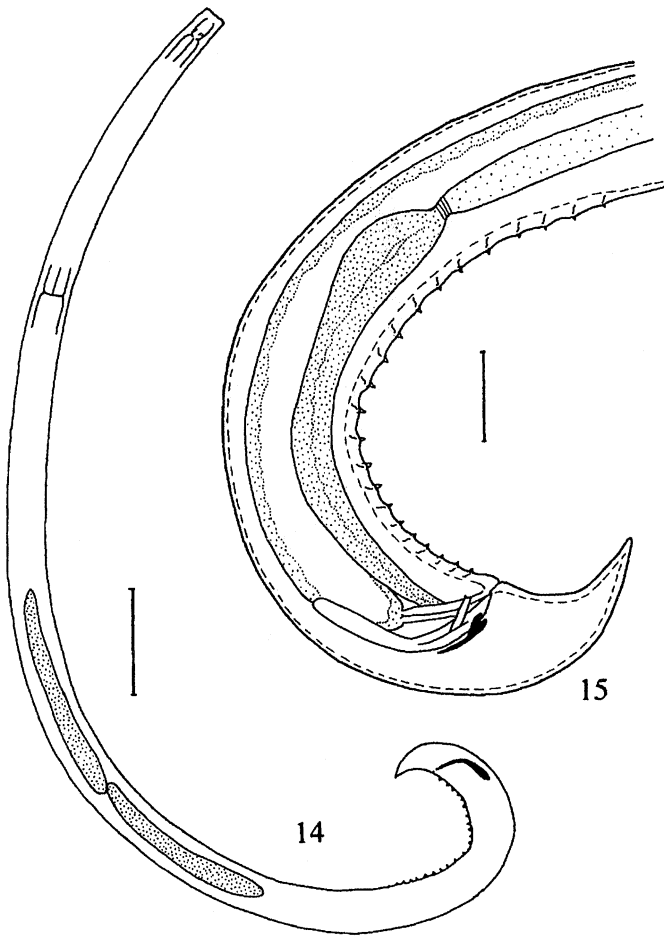
Figs 5-8. *Comiconchus trionchus* (Thorne), head of juvenile: **5**, first stage; **6**, second stage; **7**, third stage; **8**, fourth stage. Scale: 20 μm.



Figs 9-13. 9, 13, *Comiconchus zduni* sp. n., male: **9**, head; **13**, spicule. **10-12,** *C. trionchus* (Thorne), male: **10**, head; **11**, posterior end; **12**, spicule. Scales: 50 μm (11); 30 μm (9, 10, 12, 13).



Figs 14-15. *Comiconchus zduni* sp. n., male: **14**, body; **15**, posterior end. Scales: 200 μm (14); 50 μm (15).

tal system diorchic. Testes opposed. Spermatozoa elliptical. Well marked constriction with associated muscle present between vas deferens and ductus ejaculatorius. Spicules relatively stout, curved ventrally, their length 91-95 μm or 1.6 anal body width. Lateral guiding pieces furcate distally. Gubernaculum 38-39 μm long, with strong swelling. Tail conical, curved ventrally, with a finely rounded tip. Tail 1.3-1.7 times anal body width. No caudal glands or spinneret.

Juveniles IV (N = 2): L = 1.36-1.80 mm; a = 29-31; b = 3.6-3.9; c = 19-23; buccal cavity 37.9-39.3 × 18.5-19.4 μm; tail length 71-77 μm. Dorsal tooth apex located at 39.2-40.6 (40.0)% of buccal cavity length.

Juveniles III (N = 3): L = 1.03-1.18 (1.08) mm; a = 28-30 (29); b = 3.3-3.7 (3.5); c = 18-22 (19); buccal cavity 30.8-32.2 × 14.0-14.9 μm; tail length 47-64 (57) μm. Dorsal tooth apex located at 39.0-40.6 (39.4)% of buccal cavity length.

Diagnosis. C. zduni sp. n. can be distinguished from *C. trionchus* (Thorne, 1924) by the markedly shorter body, smaller buccal cavity with thinner walls and considerably smaller teeth, and also by differing structure of gubernaculum in males.

Habitat. High bank of the Slutch River, moss on granite rocks.

Etymology. This species is named in memory of Prof. V.I. Zdun, outstanding Ukrainian parasitologist.

Discussion. The revealed characteristics in the structure of buccal cavity, oesophago-intestinal junction, certain elements of reproductive system in females and males of *Comiconchus* species confirm the correctness of transferring the genus to the family Mononchidae. However, the same characters, and especially the presence of ventral ridge in buccal cavity, in our opinion, cast doubt on the place of this genus in the subfamily Cobbonchinae. In a number of morphological characters, the examined species of *Comiconchus* show propinquity to the specific group *C. zschokkei* from the genus *Coomansus* Jairajpuri & Khan, 1974.

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