

DESCRIPTION OF NEW MORPHOLOGICAL FORM OF *SKRJABINOCOELUM PETROWI* F. *PANNONIENSIS* (TREMATODA, CYCLOCOELIDAE), A RARE PARASITE OF JACK SNIPE (*LYMNOCRYPTES MINIMUS*, CHARADRIIFORMES) IN SLOVAKIA

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Abstract: A distinct morphological form of rare parasite *Skrjabinocoelum petrowi* Kurashvili, 1953, *S. petrowi* f. *pannonensis* was found during spring migration of Jack snipe *Lymnocyrtus minimus* Brünnich, 1764 in East Slovakia. The newly described form differs from the originally described *S. petrowi* from Georgia in 1) greater measurements of body and organs; 2) pharyngeal position of genital pore; 3) post-testicular position of ovary; 4) uterus exceeding behind testes to cyclocoel; 5) occurrence of the parasite in Central Europe. These features contribute to the knowledge on potential morphological variability of *S. petrowi*. Providing that relative stability of these features is confirmed in new material, further awaiting findings may serve as a basis for description of the new taxon.

Key words: flukes, morphological variability, *Skrjabinocoelum petrowi*, Jack snipe, Central Europe

INTRODUCTION

Diagnosis of the cyclocoelid genus *Skrjabinocoelum* Kurashvili, 1953 and description of *S. petrowi* Kurashvili, 1953 have been based on a single specimen dissected from the body cavity of a Jack snipe *Lymnocyrtus minimus* Brünnich, 1764 in Georgia, February 23, 1950 (KURASHVILI 1953, 1957). According to literature data, the species has been found also in common snipe *Gallinago gallinago* (Linnaeus) from Azerbaidzhan (FEJZULLAEV 1980; KANEV et al. 2002), thus confirming that it might belong to geographic 'southern form' sensu DOGIEL (1963). To date, no other congeneric species has been described; the taxon is the only member of the subfamily Skrijabinocoelinae Dronen, 2007. The present paper describes the new form of *S. petrowi* found in East Slovakia in the type host Jack snipe, whose European north-breeding population winters either from North-west Europe to the Iberian Peninsula or in central and eastern Africa, and in southern and south-eastern Asia to Vietnam (HU-

DEC et al. 2005). The Slovak locality is situated on the northern border of Pannonian environmental zone. Due to the very rare occurrence of *S. petrowi* and existence of its diverse morphological forms, the paper is applied also to a discussing up-to-date knowledge on variability within the group of cyclocoelid trematodes (MACKO 1959, 1964, 1965; MACKO & FEIGE 1960 and others).

MATERIAL AND METHODS

The specimen of *S. petrowi* f. *pannonensis* was recovered from a single host *L. minimus* (Charadriiformes: Scolopacidae) out of 33 examined Jack snipes in vicinity of Senné (Eastern Slovakia). The birds were captured in spring (March – April) during the period from 1965 to 1970. The isolated trematode was fixed in alcohol-formol-acetic acid (AFA), stained with Semichon's carmine, de-stained in acid ethanol, dehydrated in ethanol series, cleaned in clove oil and mounted in Canada balsam. Measurements and drawings were taken using light microscope Olym-

pus BX equipped with AnalysisDocu programme and a drawing tube. Measurements are given in μm unless stated otherwise.

RESULTS

Taxonomic summary

Family Cyclocoelidae Stossich, 1902

Subfamily Skrjabinocoelinae Dronen, 2007

Skrjabinocoelum petrowi Kurashvili, 1953

Skrjabinocoelum petrowi f. *pannonensis* (Figs 1, 2)

Host: *Lymnocyptes minimus* Brünnich, 1764 (Charadriiformes, Scolopacidae), Jack snipe

Site: body cavity

Locality: Senné, Michalovce district, Slovakia, 48° 40' N, 22° 01' E. Date: 19.4.1970

Infection intensity: 1 specimen

Prevalence: 1 bird out of 33 examined, i.e. 3 %

Deposited specimen: voucher specimen No. 149/70, Institute of Parasitology SAS, Košice, Slovakia.

Etymology: The form designation comes from the geographical region where the specimen was found, the Pannonian environmental zone.

Description (based on one specimen)

Body large, flattened, 16.0 mm long by 4.8 mm wide at widest point, markedly tapered anteriorly. Oral sucker and acetabulum absent. Mouth slightly subterminal. Prepharynx indistinct, pharynx well developed, 366 long by 421 wide. Oesophagus 533 long, heavily winding, indistinct. Caeca simple,

long, united near posterior extremity forming cyclocoel. Testes rounded, smooth, arranged in transverse slightly oblique row near posterior extremity in intracaecal region. Slightly anterior testis 943 long by 817 wide, slightly posterior testis 880 long by 755 wide. Cirrus sac 700 long by 172 wide, prebifurcal, laterally reaching to midpart of the pharynx. Genital pore indistinct, slightly before midpart of pharynx (Fig. 1). Ovary oval, smooth, 409 x 440, situated intertesticularly behind right testis, forming obtuse triangle with testes (Fig. 2). Vitellarium follicular, vitelline fields distributed along caeca, united both anteriorly, just posterior to intestinal bifurcation, and posteriorly (Figs 1, 2). Uterine coils intercaecal, posteriorly reaching to cyclocoel, separating testes and ovary (Fig. 2). Eggs 182–217 long by 90–107 wide, miracidia with eyespot pigment.

Remarks

Skrjabinocoelum petrowi f. *pannonensis*, obtained in Slovakia, differs from the type specimen in body size, measurements, and position of genital organs. 1) Particularly, the type specimen was shorter (11.1 mm), having smaller pharynx up to 256 μm in diameter, smaller testes (512 and 486 μm) and ovary (179 μm). 2) Genital pore of the type specimen was situated laterally to pharynx; 3) Ovary was situated in a straight line with the testes; 4) Uterus did not exceed testes posteriorly (data according to KURASHVILI 1953, 1957). Moreover, the two records differ geographically; geographical distribution is often considered to be a taxonomical criterion (see MACKO 1983).

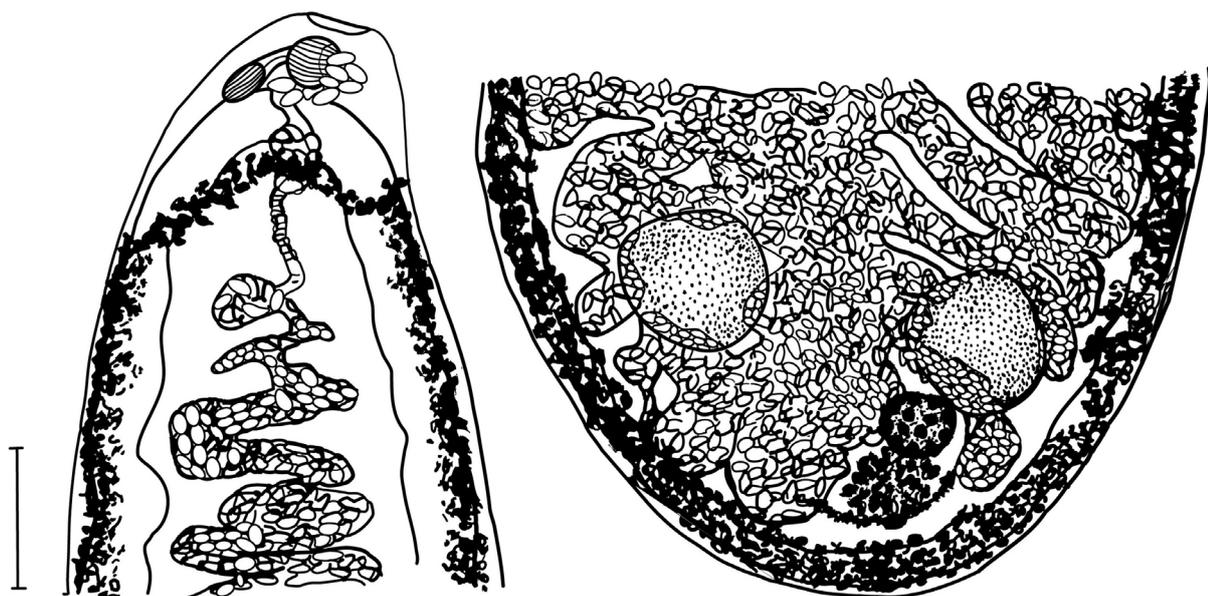


Fig. 1. *Skrjabinocoelum petrowi* f. *pannonensis*. Anterior (left) and posterior (right) body end. Vitelline fields (black follicles) confluent both anteriorly and posteriorly (drawing made by JKM). Bar = 1000 μm .

DISCUSSION

Based on the observed differences, the trematode found in Slovakia could represent a new species from traditional taxonomical point of view. However, we could not assess a range of morphological variability within a taxon represented by a single type specimen. An intraspecific morphological variation within other members of the family Cyclocoelidae differs from genus to genus (MACKO 1959, 1964, 1965; MACKO & FEIGE 1960). For instance, the genus *Haematotrephus* Stossich, 1902 (Cyclocoelidae, Trematoda) is characterised by vitelline fields not united at posterior body end (KANEV et al. 2002). Despite that, MACKO (1960) analysed 51 specimens of *Haematotrephus lanceolatum* (Wedl, 1858) dissected from a single whimbrel *Numenius phaeopus* (Linnaeus, 1758), and found that vitelline branches were more or less converged in 4 specimens and apparently united in 7 other worms. Similar results were obtained in *H. lanceolatum* collected from the ruff *Philomachus pugnax* (Linnaeus, 1758) (MACKO 1964). On the other hand, the genus *Uvitellina* is characterised by posteriorly united vitelline fields, and no exception was found among 11 specimens of the species *U. vanelli* (Rudolphi, 1819) (MACKO 1959). It is likely that united vitelline branches represent rather stable morphological feature in the family Cyclocoelidae. The only cyclocoelid with vitelline fields confluent both anteriorly and posteriorly is the genus *Skrjabinocoelum* and there-

fore, the trematode found in Slovakia, apparently belongs here.

Another important 'generic' taxonomic feature of cyclocoelid trematodes is mutual position of gonads (MACKO 1964). Among all genera, the only *Skrjabinocoelum* is characterized by testes in transverse row (KANEV et al. 2002; DRONEN et al. 2006, DRONEN 2007) which also proves the generic affiliation. However, the type specimen shows testes and ovary between them in one transverse line (KURASHVILI 1953) while the ovary of the newly described form lies slightly behind the right testis. It confirms the designation of *S. petrowi* f. *pannonensis*, together with the differences in size of body and organs and other morphological characters.

Based on recently known data on morphological variability of cyclocoelid flukes, it is not possible to decide unambiguously whether morphological characters of the newly described form represent a variance within *S. petrowi*, or whether they may represent characteristics of a new taxon. According to ICZN (2000), the first *Skrjabinocoelum* specimen found in Slovakia should be published as a distinct morphological form (a term that denotes infrasubspecific rank). There is a low chance of regaining abundant material of this rare parasite in short future, because the host, Jack snipe, is one of the birds to which the Convention on Migratory species, African-Eurasian Waterbird Agreement (AEWA), applies and one of the key issues is species and habitat conservation (<http://www>.

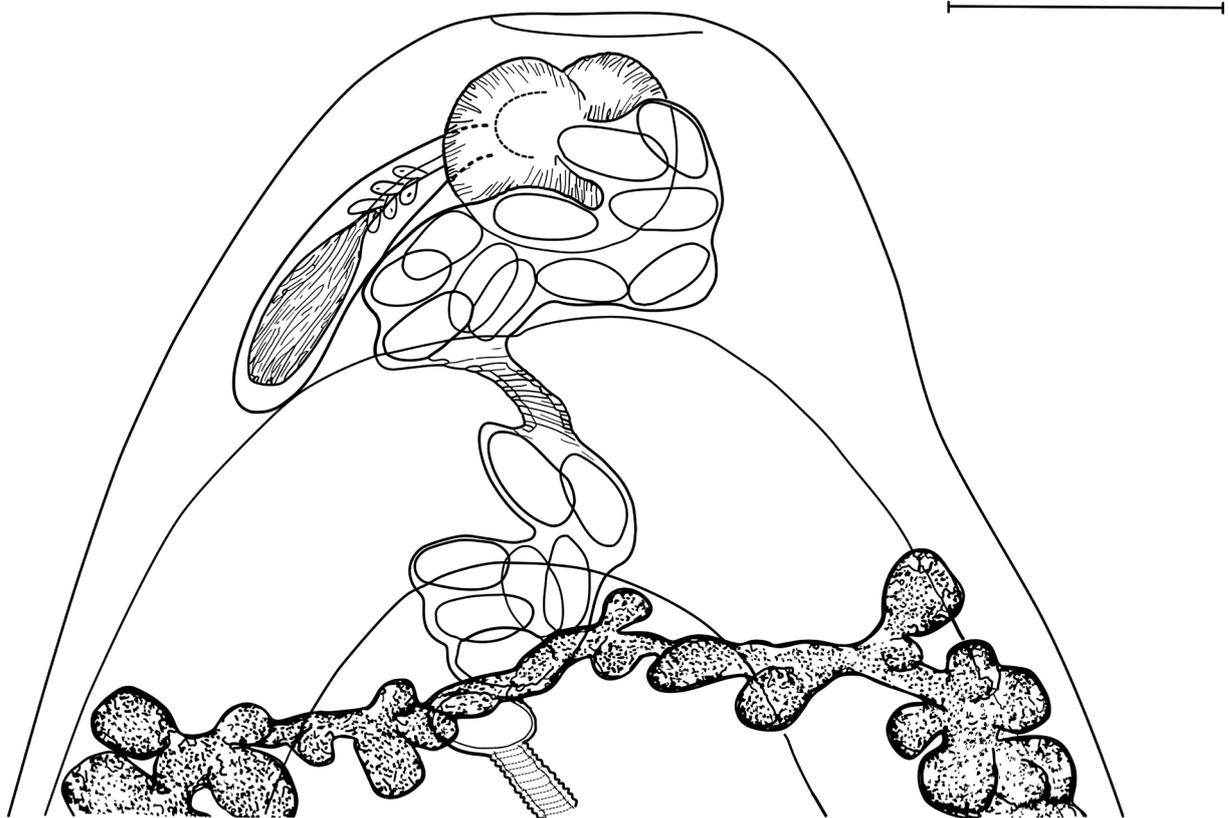


Fig. 2. *Skrjabinocoelum petrowi* f. *pannonensis*. Anterior body end, detail (drawing made by JKM). Bar = 500 μ m.

cms.int/species/aewa/aew_bkrd.htm). However, some helminth surveys still appear dealing either with bird carcasses (e.g. FORONDA et al. 2009) or the studies are based on yet unidentified material from ancient field collections (e.g. BLEND & DRONEN 2008; MUTAFCHIEV & GEORGIEV 2009). Therefore, the problem opened here might have a solution.

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