

ECOLOGICAL-PARASITOLOGICAL CHARACTERISTICS OF THE SWALLOW (*HIRUNDO RUSTICA*) CESTODE FAUNA IN UKRAINE

Salamatin R.^{1,2}, Kornuyshin V.², Malega O.², Cielecka D.¹, Grytner-Zięcina B.¹

¹Department of General Biology and Parasitology, Medical University of Warsaw, Chałubiskiego 5, 02-004 Warsaw, Poland, E-mail: ruslan@salamatin.eu

²I. I. Schmalhausen Institute of Zoology, National Academy of Sciences of Ukraine, B. Chmielnicki 15, 01601, Kyiv, Ukraine, E-mail: ruslan@salamatin.eu

The host-species has been studied mostly in two points: Lebedivka village (Kiev region) and Kaniv (Cherkassy region) and, partly, in some other localities. Total 207 individuals were examined (77 juvenile and 130 adults). The Cestode infestation appeared to be significantly lower than in other Swallow/Martin species — invasion extension is $27,47 \pm 6,01\%$ (in juveniles only $15,98 \pm 7,81\%$, in adults $35,06 \pm 8,07\%$).

Twenty helminth species were recorded in Swallow (Kornuyshin *et al.*, 2002; Salamatin *et al.*, 2006), inclusive 10 Cestode species (table 1). Apart of 8 Dilepidid, one Hymenolepidid (*Passerilepis passeris*) and one Biuterinid (*Notopentorchis* sp.) Cestode species were recorded. The Cestodan fauna core is rather small and consists of only two species: *Angularella beema*, which is dominant in this host, and *Vitta riparia*. The rest are incidental Swallow parasites occurring very rarely. Among them some unusual for Swallow species like *Sobolevitaenia anthusi* (a parasite of Motacillids Pipit, Wagtail and some other Passeriform birds), *P. passeris* (a parasite of Turdinae and rarely of other Passeriform birds) and *Notopentorchis* sp. (a parasite of Apodiform birds). All of them were found only once and only as juvenile specimens (scolecex).

Only 3 Cestodan species were found in juvenile birds. All of them are common with adults. The core is represented by the only species *A. beema*, which is subdominant, two others (*V. riparia* i *Vitta* sp.) are rare and each found once.

The adult Swallow Cestodan fauna is substantially richer — 9 species, and its faunal core includes 2 species — *A. beema* and *V. riparia*. Remainder belongs to an incidental category.

A fairly complete material for the Cestodan fauna structure evaluation in a local Swallow population, its age peculiarities and seasonal changes has been collected in Lebedivka colony. 112 birds were examined (41 juvenile and 71 adult). The Cestode invasion extension is only $31,01 \pm 8,40\%$. The Cestode invasion extension to Trematode invasion extension ratio is 0.37. Juvenile bird infestation by Cestodes and Trematodes is not so inferior to that in adults ($71,19 \pm 13,12\%$ and $84,07 \pm 8,09\%$ — Trematodes and $26,58 \pm 12,76\%$ and $34,63 \pm 10,75\%$ respectively). The Cestode and Trematode invasion extension ratio is almost similar (0.33 and 0.39). Of 7 Cestode species found in Swallow of this colony, 2 form the core of the Cestodan fauna: *A. beema* (invasion extension $24,97 \pm 7,84\%$; average invasion intensity = 4.74 sopecimens) and *V. riparia* (invasion extension $7,70 \pm 4,64\%$; average invasion intensity = 1.00 specimen). Provided that the former is equally common in both, juvenile and adult birds, the later is common parasite of the adults and rare in juveniles. One more rare parasite species has been found in juvenile birds — *Vitta* sp. Their Cestodan fauna consists thus in only 3 species, whereas 7 species were recorded in adult birds, 5 of which were found only once. In their number 4 species characteristic to Swallows may be considered as rare, and *S. anthusi* as incidental parasite of these birds.

The seasonal dynamics of the Swallow Cestode infestation is pretty peculiar. A relatively high invasion extension is pointed out in May — $43,46 \pm 14,34\%$. In June these indices are the subject of a sharp downfall — $10,60 \pm 7,57\%$ — due to adult birds low infestation ($19,84 \pm 13,69\%$) and complete Cestode lack in juvenile Swallows. However, in July the Cestode infestation rises in both juvenile ($23,41 \pm 13,90\%$) and adult ($37,21 \pm 13,25\%$) birds,

reaching $30.83 \pm 10.02\%$ and staying practically at this level ($31.50 \pm 14.67\%$) in August ($29.03 \pm 17.84\%$ in juvenile and $38.79 \pm 22.45\%$ in adults).

The Swallow Cestodan fauna has certain regional peculiarities. A large Swallow samples were examined from small colonies in different regions of Ukraine — in Forest (Polissya) and Forest-Steppe (Lisostep) zones (total 38 individuals) and in the Steppe (33 individuals). In total 71 Swallow specimens were examined. The total Cestode infestation of this sample was $29.69 \pm 10.36\%$. The helminth fauna structure was the same, characteristic for Swallow — the Cestode and Trematode invasion extension relation is 0.50.

In case if northern regions and Steppe zone will be taken separately, then some substantial differences become notable, similar to those pointed out for Sand and House Martins. The first sample is closer by its indices to the Lebedivka colony — the Cestode invasion extension is $34.08 \pm 14.45\%$. The Cestode/Trematode invasion extension ratio is equal to 0.41.

Completely different structure is characteristic to the Swallow helminth fauna in southern (mostly coastal) regions. The Cestode infestation is notably lower — $26.93 \pm 14.10\%$ and Cestode/Trematode invasion extension ratio is 0.73.

ACKNOWLEDGMENT

"We are grateful of INTAS Fellowship Grant for Young Scientist (no. 04-83-3420) and Otto Kinne Foundation for financial support for Ruslan Salamatin".

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Table 1. The Swallow Cestode fauna structure (207 individuals examined)

Cestode species	No. birds invaded	Invasion extension
<i>Angularella beema</i>	43	21.31 ± 5.50
<i>Hirundinicola parvirostris</i>	1	1.39 ± 1.30
<i>Hirundinicola sp.</i>	1	1.39 ± 1.30
<i>Vitta rustica</i>	4	2.81 ± 2.05
<i>V. riparia</i>	9	5.18 ± 2.87
<i>V. magniuncinata</i>	2	1.86 ± 1.59
<i>Vitta sp.</i>	2	1.86 ± 1.59
<i>Notopentorchis sp.</i>	1	1.39 ± 1.30
<i>Passerilepis passeris</i>	1	1.39 ± 1.30
<i>Sobolevitaenia . anthusi</i>	1	1.39 ± 1.30
Total Cestodes	56	27.47 ± 6.01