

STRESZCZENIE

W latach 1982–1984 przeprowadzono badania nad parazytofauną płastug (*Pleuronectiformes*) południowo-wschodniego wybrzeża Bałtyku (Zatoka Gdańska i okolice). Ogółem zbadano 723 ryby należące do 4 gatunków, w tym 663 flądry, *Platichthys flesus*. Znaleziono w nich tylko 7 gatunków pasożytów: *Diplostomum* spp., *Bothriocephalus scorpii*, *Thynnascaris adunca*, *Cucullanus heterochrous*, *Cucullaneilus minutus*, *Echinorhynchus gadi* i *Pomphorhynchus laevis*. Zbadano zależność występowania pasożytów od charakteru środowiska (Zatoka Gdańska, Zatoka Pucka, otwarte morze) oraz sezonowość występowania pasożytów. Stwierdzono, że w porównaniu z wcześniejszymi danymi odnoszącymi się do badanego terenu nastąpiło znaczne zubożenie parazytofauny płastug, głównie przez eliminację gatunków rzadziej występujących. Natomiast większość gatunków stwierdzonych obecnie wykazuje tendencję do wzrostu liczebności. Wyjątkiem jest Zatoka Gdańska, w której zaobserwowano znacznie niższy poziom zarażenia ryb przez pasożyty, co przypuszczalnie ma związek ze znacznym skażeniem jej wód ściekami komunalno-przemysłowymi.

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Some *Mallophaga* (*Brueeliinae*) from birds of the family *Fringillidae*

O trzech gatunkach wszołw (*Brueeliinae*) z ptaków rodziny *Fringillidae*

Abstract

SOLER CRUZ M. D., BENÍTEZ RODRÍGUEZ R., FLORIDO NAVÍO A. M., MUÑOZ PARRA S. 1987. Some *Mallophaga* (*Brueeliinae*) from birds of the family *Fringillidae*. *Acta parasit. pol.* 31, 241–246.

Nigrinirmus densilimbus stadleri is reported from *Acanthis cannabina*, *Serinus serinus* and *Carduelis spinus*. *Maculinirmus granatensis* sp.n. from *Acanthis cannabina*, and *Serinirmus scyrtanum* gen. n., sp.n. from *Serinus serinus* are described and figured. Taxonomy of *Brueeliinae* is briefly discussed.

ZŁOTORZYCKA 1964, 1977 divides subfamily *Brueeliinae* into 5 groups of genera basing on the morphological and ecological characters. In the group II she includes the genus *Nigrinirmus* comprising specimens which present external slats of abdominal pleurites from I to VII dark brown, sharply cut off from the internal slats, rectangular brown spots in central parts of the first five abdominal segments, and a common five-sided spot on segments VI and VII. Into this group she introduces as well the genus *Maculinirmus* possessing single spots on the pleurites of abdomen [spots on the abdominal segments are neither mentioned nor drawn by ZŁOTORZYCKA (op. cit.) for this genus].

In this work a morphological study is presented of *Mallophaga* of the above genera found on birds belonging to the family *Fringillidae* (*Acanthis cannabina*, *Serinus serinus* and *Carduelis spinus*).

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Material and methods

Specimens of *Nigronirmus densilimbus stadleri* were collected from *Fringillidae*: a male from *Acanthis cannabina*, three females from *Serinus serinus* and three females from *Carduelis spinus*. Two females from *A. cannabina* classified in the genus *Maculinirmus* are described as belonging to a new species; a male from *S. serinus* is considered as a new genus and new species.

The bird hosts were collected in the province of Granada, Spain. The research methods applied in this study are those recommended by SOLER CRUZ et al. 1979.

Results

Nigronirmus densilimbus stadleri (Wd. Eichler, 1954) (Plate I: 1 and 2, Fig. 1)

Type-host: *Acanthis cannabina* (L.).

Material examined: a male from *Acanthis cannabina*, three females from *Serinus serinus* and three females from *Carduelis spinus*.

Dark coloured abdominal pleurites (Fig. 1 f). Spots on the abdomen as

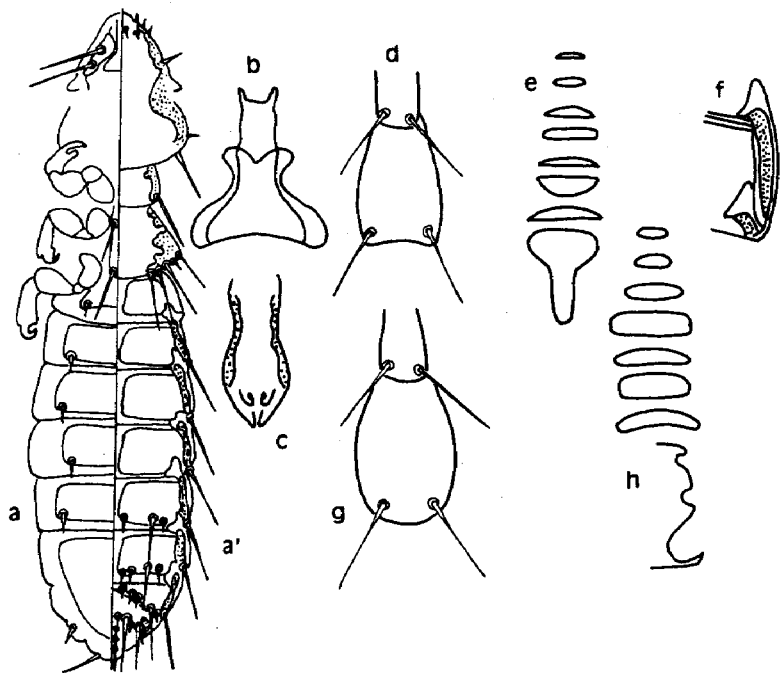


Fig. 1. *Nigronirmus densilimbus stadleri*, male: a - ventral part, a' - dorsal part, b - clypeal signature, c - genitalia, d - prosternal and metasternal scute, e - spots on abdominal segments, f - abdominal pleurites. Female: g - prosternal and metasternal scute, h - spots on abdominal segments

shown in Fig. 1 c and h. Clypeal signature (Fig. 1 b). Prosternal and metasternal scute (Fig. 1 d and g). Male genital apparatus as shown in Fig. 1 c.

Maculinirmus granatensis sp.n. (Plate I: 3, Fig. 2 A, Table I)

Type-host: *Acanthis cannabina* (L.).

Material examined from *A. cannabina*: a female (28 F) (holotype) and a female (28 LL) (paratype).

Plaque gular (Fig. 2 A b). Prosternal and metasternal scute as shown in Fig. 2 A a.

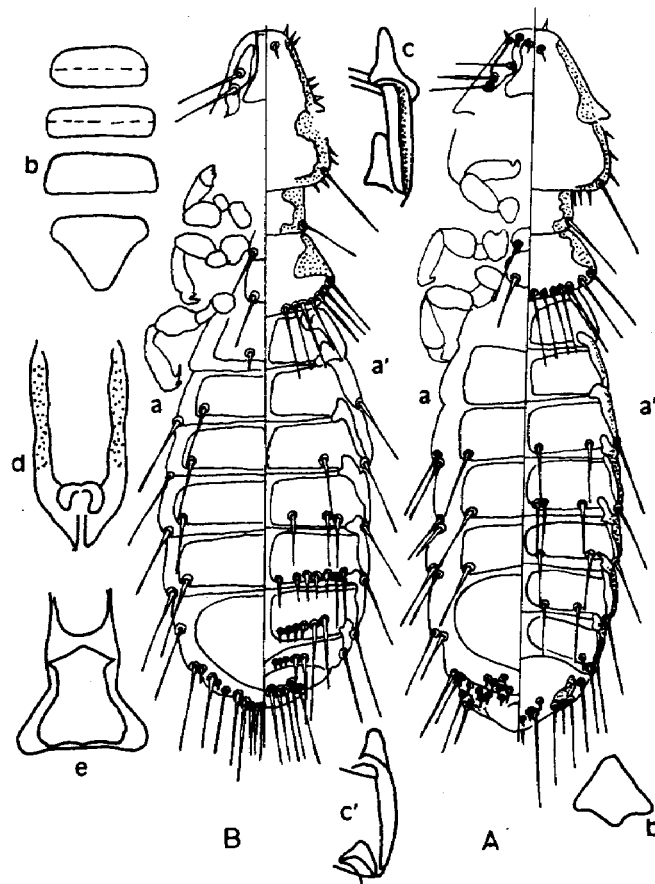


Fig. 2. (A) *Maculinirmus granatensis* sp. n., female: a - ventral part, a' - dorsal part, b - gular plaque, c - abdominal pleurites; (B) *Serinirmus scyrtanum* gen. n., sp. n., male: a - ventral part, a' - dorsal part, b - spots on abdominal segments, c' - abdominal pleurites, d - genitalia, e - clypeal signature

Table I

Specific characters of *Maculinirmus granatensis* sp. n.

Characters	Holotype			Paratype		
	long.	lat.	index	long.	lat.	index
Cephalon	456	433	1.06	450	425	1.06
Prothorax	123	223		120	215	
Mesometathorax	164	352		164	342	
Abdomen	1103	493		992	477	
Total length	1748			1686		
Corporal index			3.54			3.46

Serinirmus gen. n.Type-species: *Serinirmus sexytanum* sp.n. (Plate I: 4, Fig. 2 B, Table II).Type-host: *Serinus serinus* (L.).Material examined: a male from *S. serinus*.

Place of capture: Almuñecar, Granada, Spain.

Slightly elongated head (cephalic index = 1.28) with marginal and temporal carina dark and festooned. Dark spots on prothorax and pterothorax as shown in Fig. 2 B a'. Pleural segments without brown spots. Dark spots on abdominal segments III to VII (Fig. 2 Bc). Male genital apparatus as shown in Fig. 2 Bd. Clypeal signature as in Fig. 2 Be.

Table II

Generic and specific characters of *Serinirmus sexytanum* gen. n., sp. n.

Characters	Long.	Lat.	Index
Cephalon	352	274	1.28
Prothorax	101	181	
Mesometathorax	176	305	
Abdomen	858	396	
Genitalia	49		
Total length	1487		
Corporal index			3.75

Discussion

The first description of *Nigrinirmus densilimbus chryso-mytris* was realized by BLAGOVESHENSKIJJ 1940 with a female found on *Carduelis carduelis* and was denominated *Degeeriella chryso-mytris*. BALÁT 1955 investigated a male found on the same host and he referred to EICHLER who considered it in 1954 as a subspecies of *Brueelia densilimba*. NEGRU 1961 and BECHET 1961

mentioned it as *Brueelia chryso-mytris*. Again NEGRU 1965 called it *Brueelia chryso-mytris* but in this case the material derived from *Serinus serinus* samples. ZŁOTORZYCKA 1964 agreed with EICHLER (op. cit.) but transferred it to the genus *Nigrinirmus* (Złot.), with the subspecific name *N. densilimbus chryso-mytris*. In 1977, ZŁOTORZYCKA studied species of the genus *Brueelia* Kél. recorded on birds of genera *Carduelis* and *Acanthis* of the family *Fringillidae*, considering these species within the genus *Nigrinirmus*. She founded this opinion on that their representatives show external slats of abdominal pleurites from I to VII dark brown, sharply cut off from the internal slats, rectangular brown spots in central parts of the first five abdominal segments, and on segments VI and VII a common five-sided spot. At the same time, she found that a different subspecies of *Nigrinirmus densilimbus* occurred on each investigated host species: *N. d. breueri* on *Carduelis chloris*, *N. d. chryso-mytris* on *Carduelis spinus*, *N. d. densilimbus* on *Carduelis carduelis* and *N. d. stadleri* on *Acanthis cannabina*. Summarizing, the following species have hitherto been reported from the hosts studied: *N. d. stadleri* on *Acanthis cannabina*, *N. d. chryso-mytris* on *Carduelis spinus* and *Serinus serinus*.

N. d. stadleri specimens captured in the province of Granada (Spain) present the following features: (1) neither of the specimens has been recorded on their type-host; (2) male genitalia morphology presents differs from that drawn by ZŁOTORZYCKA 1964 for this species, due perhaps to effects of mounting technique.

Two females recorded from *A. cannabina* present sufficient morphological characters to belong to genus *Maculinirmus*. However, they notably differ from *M. mundus* with respect to gular plaque form and dark spots form on prothorax and pterothorax. The differences between them are sufficient to recognize the specimens as a new species named *Maculinirmus granatensis* sp. n.

None of the five groups of genera proposed by ZŁOTORZYCKA 1964 within *Brueeliinae* includes genus with morphological characters that coincide with those of the male recorded on *Serinus serinus* in the present study. Hence it is justifiable to establish a new genus: *Serinirmus* gen. n. with a type-species *Serinirmus sexytanum* sp. n. described above from that male.

REFERENCES

- BALÁT F. 1955. Příspěvek k poznání všenek rodu *Brüelia*. I. *Pr. brn. Zvl. čsl. Akad. Věd.* 27, 499-524.
- BECHET I. 1961. Doua specii noi de *Brüelia* Kéler (*Mallophaga*). *Studia Univ. Babeş-Bolyai, Biol.*, 2, 153-158.
- BLAGOVESHENSKIJJ D. I. 1940. *Mallophaga* s ptic Talysha. *Parazit. Sh.*, 8, 25-90.
- EICHLER Wd. 1954. Deutsche Federlinge. I. Genus *Brüelia*. *Nachr. naturw. Mus. Aschaffenh.*, 42, 59-66.
- NEGRU Şt. 1961. Malofage noi pentru fauna R.P.R. (*Mallophaga* Nitzsch) (V). *Studii Cerc. Biol., Ser. "biologie animală"*, 13, 313-324.
- NEGRU Şt. 1965. Contribution à la connaissance des mallophages (*Mallophaga* Nitzsch) du *Serinus canaria serinus* (L.). *Trav. Mus. Hist. nat. Gr. Antipa.* 5, 495-500.
- SOLER CRUZ M. D., MARTIN MATEO M. P., MORILLAS MARQUEZ F. 1979. *Brüelia parviguttata*

(Blagoveshchensky, 1940) (*Mallophaga*) parásito de *Galerida cristata* L. *Revta ibér. Parasit.*, 39, 165-173.

ZŁOTORZYCKA J. 1964. *Mallophaga* parasitizing *Passeriformes* and *Pici*. II. *Bruecelinae*. *Acta parasit. pol.*, 12, 239-282.

ZŁOTORZYCKA J. 1977. Klucze do oznaczania owadów Polski. Wszolę — *Mallophaga*. Nadrodzina *Philoapteroidea*: rodzina *Philoapteridae*. 15 (4). PWN. Warszawa.

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Autorzy badali w hiszpańskiej prowincji Grenada trzy gatunki luszczaków, *Fringillidae*: makolągwę, *Acanthis cannabina* (L.), czyża, *Carduelis spinus* (L.) i kulczyka, *Serinus serinus* (L.). Na ptakach tych znaleźli 3 gatunki wszolów, z których dwa okazały się nowe dla nauki. Samce i samice *Nigrinirmus densilimbus stadleri* (Wd. Eichl., 1954) występowały na makolągwie, czyżu i kulczyku. Nowy gatunek *Maculinirmus granatensis* sp. n. opisany został na podstawie samicy i samca zebranych z czyża. Natomiast jeden samiec znaleziony na kulczyku stanowił podstawę do opisu nowego gatunku i ustanowienia dla niego nowego rodzaju *Serinirmus sexytanum* gen. n., sp. n.

EXPLANATION OF PLATE I

Mallophaga from fringillid birds of Granada, Spain: 1 and 2 — *Nigrinirmus densilimbus stadleri*, male (1) and female (2); 3 — *Maculinirmus granatensis* sp. n., female; 4 — *Serinirmus sexytanum* gen. n., sp. n., male.

