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DATA ON THE CHEWING LOUSE FAUNA (PHTHIRAPTERA: AMBLYCERA, ISCHNOCERA) FROM SOME WILD AND DOMESTIC BIRDS OF ROMANIA

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Abstract. We present the results of the studies on the chewing lice from 80 birds belonging to 33 species (only two domestic, the others being wild) of Romania, collected mostly during the last three years (2006-2008). From the 55 chewing louse species identified in the studied material, four of them are new reports for the parasitological fauna of Romania, namely: *Goniodes tetraonis*, *Brueelia kratochvili*, *B. tenuis* and *Penenirmus speciosus*. Also, the following six new chewing louse species – bird species associations are reported for the first time all over the world: *Austromenopon transversum* on *Larus michahellis*; *Colpocephalum nanum* on *Buteo rufinus*; *Menacanthus eurysternus* on *Passer montanus*; *Laemobothrion* (*Laemobothrion*) *tinnunculi* on *Accipiter nisus*; *Sturnidoecus* sp. on *Fringilla montifringilla*; and *Philopterus* sp. on *Acrocephalus agricola*. The presence of a chewing louse species on *A. agricola* is reported for the first time in the world. And not the least, it is reported, for the first time, the presence of six chewing louse species – bird species associations in the Romanian parasitological fauna.

Résumé. On présente les résultats de l´étudie contre les mallophages collectées principalement au cours de les derniers trois années (2006-2008) sur 80 oiseaux appartenir à 33 d´espèces (seulement deux domestiques, le reste étant sauvage) originaire du territoire de Roumanie. Entre les 55 espèces de mallophages identifies dans le matériel analysé, quatre sont des nouveaux, signalés pour la faune parasitologique de la Roumanie, comme sont: *Goniodes tetraonis*, *Brueelia kratochvili*, *B. tenuis* et *Penenirmus speciosus*. Aussi sont signalées pour la première fois dans le monde les suivants six nouvelles associations espèces mallophage - espèces oiseaux: *Austromenopon transversum* sur *Larus michahellis*; *Colpocephalum nanum* sur *Buteo rufinus*; *Menacanthus eurysternus* sur *Passer montanus*; *Laemobothrion* (*Laemobothrion*) *tinnunculi* sur *Accipiter nisus*; *Sturnidoecus* sp. sur *Fringilla montifringilla*; et *Philopterus* sp. sur *Acrocephalus agricola*. On a signalée pour la première fois dans le monde la présence d'une espèce de mallophage sur *A. agricola.* Et non des moindres, on a signalée pour la première fois dans la faune parasitologique de la Roumanie, l´existence six associations espèce mallophage - espèce oiseaux.

Key words: Phthiraptera, Amblycera, Ischnocera, chewing lice, birds, fauna, Romania.

The analyse of the present stage of the knowledge on the chewing louse fauna from the Romanian birds, made by Adam (2008), clearly points out the necessity of continuing the studies on it, up to now being reported about 55% of the total number of chewing lice, possibly present in the Romanian fauna. Basing on the study developing in this respect, in this paper we present the results of the studies on the collected chewing lice, most of them from the representatives of different species of wild birds of the Romanian fauna.

Thus, by the results of our studies included in this paper as well as by their comparing to the already published data in the specialized literature, we succeed in completing both the world list of the bird species – chewing louse species associations (host – parasite), as well the faunistic list of the chewing louse species

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parasite on the autochthonous and domestic birds from Romania. Also in this paper, we clarify the situation of the previous reports in the ectoparasitological fauna of Romania of the studied chewing louse species and which are not reported for the first time in this country.

MATERIAL AND METHODS

Our material was collected mostly during the period 2006 – 2008, only some samples being taken within 2003 – 2005. Examined birds and found infested with chewing lice were collected from 26 localities (Tab. 2) from the following 13 counties, most of them from the southern, south-eastern, western, north-western and central Romania (between brackets, the abbreviation for each county, used in the paper, is presented, as well as the number of the collecting stations from the territory of the respective county): Arad (AR) (1), Cluj (CJ) (4), Constanța (CT) (5), Dâmbovița (DB) (2), Giurgiu (GR) (1), Gorj (GJ) (1), Ilfov (IF) (1), Maramureş (MM) (1), Mureş (MS) (2), Prahova (PH) (1), Satu Mare (SM) (2), Sălaj (SJ) (1) and Tulcea (TL) (4). From the studied birds only two were domestic and they were taken from two private breeding farms, while the rest of the birds were wild and collected or found dead in their own environment. In the studied living birds, the ectoparasite collecting was made after the application of an antiectoparasitic spray, base substance being the pyrethine. In the dead specimens, the chewing louse collecting was made directly, moving the entomologic clamps through the bird plumage, and the collecting of each observed parasite. Collected material was labelled and preserved in 90% alcohol. A total number of 226 birds was studied (197 adults and 29 juveniles) which belong to 56 species of 26 families and 11 orders. From all these studied birds, we found chewing lice only on 80 individuals (belonging to 33 species of 22 families and 11 orders). On the other 146 birds (belonging to 33 species of 14 families and two orders) (Tab. 1) we did not find chewing lice. The greatest share of the uninfested birds with chewing lice was within Passeriforms.

For identification, a part of the collected material was mounted in Entellan (a synthetic balsam), following the classic technique of including in balsam. The rest of the material is preserved in 90% alcohol. The photos were made at „Olympus – BX41" microscope, using the oculars 15X and the objective 4X.

The species identification was made using the above-mentioned microscope and the following authors' papers, as bibliography: Balát (1958), Bechet (1961 c, 1962), Clay (1940), Mey (1982), Nelson (1972), Price (1975, 1977), Price, Hellenthal & Palma (2003), Rheinwald (1968), Sychra (2008) and Z□otorzycka (1972 a, b, 1976, 1977). Scientific names of the chewing lice, used in this paper, are according to the chewing louse list published by Price, Hellenthal & Palma (op. cit.), and those used for the host species, that one published by Dickinson (2003).

Table 1

Studied bird species on which no chewing louse was found.

Bird Order/Family	Scientific name of the bird species	Number of the controlled individuals on which no chewing louse was found
Piciformes: Picidae	*Dendrocopos major* (L.)	1
	Picus viridis L.	1
Passeriformes: Hirundinidae	*Riparia riparia* (L.)	10

Table 1 (continued)

Bird Order/Family	Scientific name of the bird species	Number of the controlled individuals on which no chewing louse was found
Passeriformes: Motacillidae	*Motacilla alba* L.	3
	Motacilla flava L.	9
Passeriformes: Turdidae	*Erithacus rubecula* (L.)	4
	Luscinia megarhynchos Brehm	1
	Phoenicurus ochruros (Gmelin)	1
	Saxicola torquatus (L.)	1
	Turdus philomelos Brehm	2
	Turdus viscivorus L.	1
Passeriformes: Muscicapidae	*Muscicapa striata* (Pallas)	4
Passeriformes: Sylviidae	*Acrocephalus arundinaceus* (L.)	1
	Acrocephalus palustris (Bechstein)	1
	Acrocephalus scirpaceus (Hermann)	1
	Acrocephalus sp.	6
	Sylvia atricapilla (L.)	8
	Sylvia curruca (L.)	5
	Sylvia nisoria (Bechstein)	2
	Sylvia sp.	2
Passeriformes: Paridae	*Cyanistes caeruleus* (L.)	8
	Parus major L.	33
Passeriformes: Sittidae	*Sitta europaea* L.	1
Passeriformes: Certhiidae	*Certhia familiaris* L.	1
Passeriformes: Laniidae	*Lanius collurio* L.	2
Passeriformes: Corvidae	*Garrulus glandarius* (L.)	1
	Pica pica (L.)	1
Passeriformes: Passeridae	*Passer domesticus* (L.)	8
	Passer montanus (L.)	18
Passeriformes: Fringillidae	*Carduelis carduelis* (L.)	2
	Carduelis chloris (L.)	1
	Fringilla coelebs L.	5
Passeriformes: Emberizidae	*Emberiza schoeniclus* (L.)	1

Table 2

Studied host bird species and their chewing louse parasites (Phthiraptera: Amblycera, Ischnocera).

Hosts (birds)			Parasites (chewing lice)				
Order/Family/ Species	Number of specimens / Sex / Development stage	Collecting data	Species	Number of specimens ♀♀	♂♂	Nymphs	Total
Gaviiformes: Gaviidae							
Gavia stellata (Pontoppidan)	1 adult	Cluj-Napoca (CJ); 10.02.2007; Leg.: Köböllniti Lóránd	*Craspedonirmus colymbinus* (Denny, 1842)	1	1	0	2
Ciconiiformes: Ciconiidae							
Ciconia ciconia (L.)	1 adult	Dej (CJ); 19.08.2007; Leg.: Gábor Árpád Czirják	*Colpocephalum zebra* Burmeister, 1838	3	2	0	5
			Ardeicola ciconiae (Linnaeus, 1758)	10	3	23	36
			Neophilopterus incompletus (Denny, 1842)	13	9	6	28
	1 adult	Cluj-Napoca (CJ); 20.08.2007; Leg.: Gábor Árpád Czirják	*Ciconiphilus quadripustulatus* (Burmeister, 1838)	71	66	47	184
			Colpocephalum zebra Burmeister, 1838	0	1	1	2
Anseriformes: Anatidae							
Cygnus olor (Gmelin)	1 juvenile	Mangalia (CT); 15.02.2008; Leg.: Costică Adam	*Trinoton anserinum* (Fabricius, J. C., 1805)	2	0	1	3
			Ornithobius bucephalus (Giebel, 1874)	3	3	5	11
Falconiformes: Accipitridae							
Accipiter nisus (L.)	1 adult	Cluj-Napoca (CJ); 05.10.2006; Leg.: Attila D. Sándor	*Laemobothrion* (*Laemobothrion*) *tinnunculi* (Linnaeus, 1758)	1	0	0	1
Aquila heliaca Savigny	1 juvenile	Tulcea (TL); 25.11.2003; Leg.: Attila D. Sándor	*Craspedorrhynchus fraterculus* Eichler & Z□otorzycka, 1975	0	1	0	1
Buteo rufinus (Cretzschmar)	1 nestling (♀)	Agighiol (TL); 09.06.2007; Leg.: Szilárd J. Daróczi	*Colpocephalum nanum* Piaget, 1890	1	0	1	2
	1 adult	Mogoşoaia (IF); 24.01.2008; Leg.: Matei Petre Bogdan	*Colpocephalum nanum* Piaget, 1890	5	2	5	12
			Degeeriella fulva (Giebel, 1874)	74	70	55	199

Table 2 (continued)

Hosts (birds)			Parasites (chewing lice)				
Order/Family/ Species	Number of specimens / Sex / Development stage	Collecting data	Species	Number of specimens			
				♀♀	♂♂	Nymphs	Total
Haliaeetus albicilla (L.)	1 juvenile	Unknown locality (lower course of the Danube); 05.2005 (the day is not precisely known); Leg.: Gabriel Chişamera	*Craspedorrhynchus macrocephalus* (Nitzsch [in Giebel], 1874)	2	4	0	6
Galliformes: Tetraonidae							
Tetrao tetrix L.	1 adult (♂)	Unknown locality (Rodna Mountains) (MM); 03.2008 (the day is not precisely known); Leg.: Gabriel Chişamera	*Goniodes tetraonis* (Linnaeus, 1761)	73	28	21	122
Galliformes: Phasianidae							
Gallus gallus domesticus (L.)	1 adult (♂)	Arad (AR); 02.12.2006; Leg.: Szilárd J. Daróczi	*Menopon gallinae* (Linnaeus, 1758)	11	13	11	35
			Menacanthus cornutus (Schömmer, 1913)	6	5	13	24
			Goniocotes gallinae (De Geer, 1778)	4	2	0	6
			Lipeurus caponis (Linnaeus, 1758)	7	6	10	23
Charadriiformes: Laridae							
Larus michahellis J. F. Naumann	1 juvenile	Târgu Mureş (MS); 25.07.2007; Leg.: Szilárd J. Daróczi	*Austromenopon transversum* (Denny, 1842)	2	0	0	2
Columbiformes: Columbidae							
Columba livia domestica Gmelin	1 adult	Târgu Mureş (MS); 28.12.2006; Leg.: Szilárd J. Daróczi	*Columbicola columbae* (Linnaeus, 1758)	7	12	6	25
Cuculiformes: Cuculidae							
Cuculus canorus L.	1 adult (♀)	Lainici (GJ); 06.05.1968; Leg.: Gabriel Chişamera	*Cuculoecus latifrons* (Denny, 1842)	1	0	0	1

Table 2 (continued)

Hosts (birds)			Parasites (chewing lice)				
Order/Family/ Species	Number of specimens / Sex / Development stage	Collecting data	Species	Number of specimens			
				♀♀	♂♂	Nymphs	Total
Coraciiformes: Meropidae							
Merops apiaster L.	1 adult (♀)	Tichileşti (CT); 22.05.2006; Leg.: Attila D. Sándor	*Meromenopon meropis* Clay & Meinertzhagen, 1941	0	1	2	3
			Meropoecus meropis (Denny, 1842)	6	6	14	26
	1 adult (♂)	Tichileşti (CT); 27.05.2006; Leg.: Attila D. Sándor	*Meromenopon meropis* Clay & Meinertzhagen, 1941	1	2	9	12
			Meropoecus meropis (Denny, 1842)	6	1	10	17
			Brueelia apiastri (Denny, 1842)	0	2	0	2
	1 adult (♀)	Crivăţu (DB); 19.05.2007; Leg.: Gabriel Chişamera	*Meropoecus meropis* (Denny, 1842)	11	9	15 (+ 3 eggs)	35
			Brueelia apiastri (Denny, 1842)	3	5	1	9
Coraciiformes: Coraciidae							
Coracias garrulus L.	1 adult	Sfântu Gheorghe (TL); 03.09.2007; Leg.: Péter László Pap	*Capraiella subcuspidata* (Burmeister, 1838)	7	4	2	13
Piciformes: Picidae							
Dendrocopos major (L.)	1 adult (♂)	Hăbud (PH); 17.03.2007; Leg.: Gabriel Chişamera	*Menacanthus pici* (Denny, 1842)	0	0	2	2
			Penenirmus auritus (Scopoli, 1763)	1	2	17	20
	1 adult (♀)	Crivăţu (DB); 18.05.2007; Leg.: Gabriel Chişamera	*Penenirmus auritus* (Scopoli, 1763)	0	0	1	1
	1 adult	Crivăţu (DB); 18.05.2007; Leg.: Gabriel Chişamera	*Penenirmus auritus* (Scopoli, 1763)	3	6	5	14
	1 adult (♀)	Hăbud (PH); 26.06.2007; Leg.: Gabriel Chişamera	*Penenirmus auritus* (Scopoli, 1763)	2	1	9 (+ 1 egg)	12
Dryocopus martius (L.)	1 adult	Sfântu Gheorghe (TL); 02.09.2007; Leg.: Péter László Pap	*Colpocephalum inaequale* Burmeister, 1838	16	11	0	27

Table 2 (continued)

Hosts (birds)			Parasites (chewing lice)				
Order/Family/ Species	Number of specimens / Sex / Development stage	Collecting data	Species	Number of specimens			
				♀♀	♂♂	Nymphs	Total
Passeriformes: Hirundinidae							
Hirundo rustica L.	1 adult (♂)	Câmpurelu (GR); 30.05.2007; Leg.: Costică Adam	*Myrsidea rustica* (Giebel, 1874)	0	0	1	1
			Brueelia domestica (Kellogg & Chapman, 1899)	1	0	2	3
	1 adult (♂)	Hăbud (PH); 31.07.2008; Leg.: Gabriel Chișamera	*Brueelia domestica* (Kellogg & Chapman, 1899)	1	0	0	1
Riparia riparia (L.)	1 adult (♂)	Câmpurelu (GR) (Sabar River); 30.05.2007; Leg.: Gabriel Chișamera	*Myrsidea latifrons* (Carriker [& Shull], 1910)	0	0	1	1
	1 adult	Câmpurelu (GR) (Sabar River); 31.05.2007; Leg.: Gabriel Chișamera	*Brueelia tenuis* (Burmeister, 1838)	1	0	0	1
Passeriformes: Motacillidae							
Motacilla flava L.	1 juvenile	Sfântu Gheorghe (TL); 09.06.2008; Leg.: Costică Adam	*Menacanthus pusillus* (Nitzsch, 1866)	0	0	2	2
			Brueelia kratochvili Balát, 1958	3	2	9	14
	1 juvenile	Sfântu Gheorghe (TL); 09.06.2008; Leg.: Costică Adam	*Brueelia kratochvili* Balát, 1958	4	0	9	13
	1 juvenile			2	3	11	16
	1 juvenile			5	2	3 (+ 1 egg)	10
Passeriformes: Turdidae							
Turdus merula L.	1 adult (♀)	Letea (TL); 03.05.2007; Leg.: Viorel Pocora	*Brueelia merulensis* (Denny, 1842)	7	1	1 (+ 8 eggs)	9
	1 adult (♀)	Crivățu (DB); 18.05.2007; Leg.: Gabriel Chișamera	*Ricinus elongatus* (Olfers, 1816)	3	0	0	3

Table 2 (continued)

Hosts (birds)			Parasites (chewing lice)				
Order/Family/ Species	Number of specimens / Sex / Development stage	Collecting data	Species	Number of specimens			
				♀♀	♂♂	Nymphs	Total
Turdus merula L.	1 adult (♀)	Canaraua-Fetii (CT); 14.06.2007; Leg.: Szilárd J. Daróczi	*Philopterus turdi* (Denny, 1842)	8	2	18	28
	1 adult (♀)	Letea (TL); 23.06.2007; Leg.: Viorel Pocora	*Brueelia merulensis* (Denny, 1842)	23	9	3 (+ 2 eggs)	35
	1 adult (♂)	Hăbud (PH); 11.05.2008; Leg.: Gabriel Chișamera	*Ricinus elongatus* (Olfers, 1816)	0	0	1	1
			Brueelia merulensis (Denny, 1842)	4	5	0	9
	1 adult (♂)	Hăbud (PH); 11.05.2008; Leg.: Gabriel Chișamera	*Ricinus elongatus* (Olfers, 1816)	7	0	1	8
			Brueelia merulensis (Denny, 1842)	11	4	8 (+ 18 eggs)	23
	1 adult (♂)	Hăbud (PH); 11.05.2008; Leg.: Gabriel Chișamera	*Ricinus elongatus* (Olfers, 1816)	1	1	1	3
	1 adult (♂)	Hăbud (PH); 11.05.2008; Leg.: Gabriel Chișamera	*Ricinus elongatus* (Olfers, 1816)	0	0	1	1
			Brueelia merulensis (Denny, 1842)	13	6	7	26
	1 juvenile	Glodeni (MS); 02.08.2008; Leg.: Szilárd J. Daróczi	*Brueelia merulensis* (Denny, 1842)	3	0	0	3
Passeriformes: Sylviidae							
Acrocephalus agricola (Jerdon)	1 adult	Vadu (CT); 27.05.2008; Leg.: Costică Adam	*Philopterus* sp.	1	1	3	5
	1 adult			2	0	0	2
Acrocephalus scirpaceus (Hermann)	1 adult (♂)	Pike Lake – Sic (CJ); 09.05.2004; Leg.: Attila D. Sándor	*Menacanthus curuccae* (Schrank, 1776)	1	0	0	1
Sylvia curruca (L.)	1 adult	Sfântu Gheorghe (TL); 09.06.2008; Leg.: Costică Adam	*Brueelia currucae* Bechet, 1961	1	0	2	3
			Penenirmus speciosus Mey, 1982	1	1	2	4

Table 2 (continued)

Hosts (birds)			Parasites (chewing lice)				
Order/Family/ Species	Number of specimens / Sex / Development stage	Collecting data	Species	Number of specimens			
				♀♀	♂♂	Nymphs	Total
Sylvia curruca (L.)	1 adult	Sfântu Gheorghe (TL); 09.06.2008; Leg.: Costică Adam	*Brueelia currucae* Bechet, 1961	0	0	2	2
			Penenirmus speciosus Mey, 1982	0	0	1	1
	1 juvenile	Sfântu Gheorghe (TL); 09.06.2008; Leg.: Costică Adam	*Penenirmus speciosus* Mey, 1982	1	2	0	3
	1 juvenile	Sfântu Gheorghe (TL); 09.06.2008; Leg.: Costică Adam	*Brueelia currucae* Bechet, 1961	2	0	6	8
			Penenirmus speciosus Mey, 1982	1	1	2	4
Passeriformes: Paridae							
Parus major L.	1 adult (♀)	Târgu Mureş (MS); 28.12.2006; Leg.: Szilárd J. Daróczi	*Menacanthus sinuatus* (Burmeister, 1838)	0	0	1	1
	1 adult (♀)	Târgu Mureş (MS); 17.01.2007; Leg.: Szilárd J. Daróczi	*Menacanthus sinuatus* (Burmeister, 1838)	0	0	2	2
Passeriformes: Corvidae							
Corvus monedula L.	1 adult	Hăbud (PH); 17.03.2007; Leg.: Gabriel Chişamera	*Menacanthus eurysternus* (Burmeister, 1838)	21	12	53	86
Passeriformes: Sturnidae							
Sturnus roseus (L.)	1 adult	Tariverde (CT); 16.07.2004; Leg.: Attila D. Sándor	*Sturnidoecus pastoris* (Denny, 1842)	2	0	10	12
	1 juvenile			3	0	0	3
	1 juvenile			2	1	3	6
Sturnus vulgaris L.	1 adult	Hăbud (PH); 18.03.2007; Leg.: Gabriel Chişamera	*Myrsidea cucullaris* (Nitzsch, 1818)	0	2	4	6
			Sturnidoecus sturni (Schrank, 1776)	0	0	9	9
	1 adult	Izvoarele (DB); 27.03.2007; Leg.: Gabriel Chişamera	*Myrsidea cucullaris* (Nitzsch, 1818)	0	0	3	3
			Brueelia nebulosa (Burmeister, 1838)	2	2	0	4

Table 2 (continued)

Hosts (birds)			Parasites (chewing lice)				
Order/Family/ Species	Number of specimens / Sex / Development stage	Collecting data	Species	Number of specimens			
				♀♀	♂♂	Nymphs	Total
Sturnus vulgaris L.	1 adult	Hăbud (PH); 01.04.2007; Leg.: Gabriel Chişamera	*Myrsidea cucullaris* (Nitzsch, 1818)	2	2	1	5
			Brueelia nebulosa (Burmeister, 1838)	10	6	8	24
	1 adult	Sfântu Gheorghe (TL); 08.06.2008; Leg.: Costică Adam	*Myrsidea cucullaris* (Nitzsch, 1818)	3	0	0	3
			Brueelia nebulosa (Burmeister, 1838)	13	7	0	20
			Sturnidoecus sturni (Schrank, 1776)	9	7	3	19
	1 adult (♂)	Sfântu Gheorghe (TL); 08.06.2008; Leg.: Costică Adam	*Brueelia nebulosa* (Burmeister, 1838)	5	3	1	9
	1 adult (♂)	Sfântu Gheorghe (TL); 08.06.2008; Leg.: Costică Adam	*Brueelia nebulosa* (Burmeister, 1838)	3	3	0	6
			Sturnidoecus sturni (Schrank, 1776)	9	8	2	19
	1 juvenile	Sfântu Gheorghe (TL); 08.06.2008; Leg.: Costică Adam	*Myrsidea cucullaris* (Nitzsch, 1818)	0	0	6	6
			Brueelia nebulosa (Burmeister, 1838)	15	23	8	46
			Sturnidoecus sturni (Schrank, 1776)	0	0	5	5
	1 adult (♀)	Turulung (SM); 27.06.2008; Leg.: Costică Adam	*Brueelia nebulosa* (Burmeister, 1838)	2	4	10	16
			Sturnidoecus sturni (Schrank, 1776)	1	0	2	3
	1 adult (♂)	Petreşti (SM); 28.06.2008; Leg.: Costică Adam	*Sturnidoecus sturni* (Schrank, 1776)	1	1	0	2
	1 juvenile	Hăbud (PH); 31.07.2008; Leg.: Gabriel Chişamera	*Myrsidea cucullaris* (Nitzsch, 1818)	0	1	0	1
			Brueelia nebulosa (Burmeister, 1838)	0	1	0	1
			Sturnidoecus sturni (Schrank, 1776)	1	3	0	4
	1 juvenile	Hăbud (PH); 31.07.2008; Leg.: Gabriel Chişamera	*Myrsidea cucullaris* (Nitzsch, 1818)	1	2	1	4
			Brueelia nebulosa (Burmeister, 1838)	7	2	0	9
			Sturnidoecus sturni (Schrank, 1776)	2	8	2	12

Table 2 (continued)

Hosts (birds)			Parasites (chewing lice)				
Order/Family/ Species	Number of specimens / Sex / Development stage	Collecting data	Species	Number of specimens			
				♀♀	♂♂	Nymphs	Total
Passeriformes: Passeridae							
Passer domesticus (L.)	1 adult (♀)	Stana (SJ); 16.02.2007; Leg.: Costică Adam	*Philopterus fringillae* (Scopoli, 1772)	1	3	4	8
	1 adult (♂)	Cluj-Napoca (CJ); 16.03.2007; Leg.: Péter László Pap	*Philopterus fringillae* (Scopoli, 1772)	3	1	0	4
	1 adult (♂)	Cluj-Napoca (CJ); 16.03.2007; Leg.: Péter László Pap	*Philopterus fringillae* (Scopoli, 1772)	0	1	0	1
	1 adult (♀)	Hăbud (PH); 26.06.2007; Leg.: Gabriel Chişamera	*Sturnidoecus refractariolus* (Z□otorzycka, 1964)	1	0	0	1
Passer montanus (L.)	1 adult	Stana (SJ); 16.02.2007; Leg.: Costică Adam	*Sturnidoecus ruficeps* (Nitzsch [in Giebel], 1866)	0	1	0	1
	1 adult	Stana (SJ); 17.02.2007; Leg.: Costică Adam	*Menacanthus eurysternus* (Burmeister, 1838)	2	0	3	5
			Myrsidea balati MachaŹek, 1977	1	0	0	1
			Sturnidoecus ruficeps (Nitzsch [in Giebel], 1866)	1	4	11	16
			Philopterus montani (Z□otorzycka, 1964)	0	1	0	1
	1 adult	Stana (SJ); 17.02.2007; Leg.: Costică Adam	*Brueelia cyclothorax* (Burmeister, 1838)	0	0	1	1
			Sturnidoecus ruficeps (Nitzsch [in Giebel], 1866)	1	0	0	1
	1 adult	Stana (SJ); 17.02.2007; Leg.: Costică Adam	*Sturnidoecus ruficeps* (Nitzsch [in Giebel], 1866)	0	1	0	1
	1 adult	Cojocna (CJ); 06.10.2007; Leg.: Costică Adam	*Myrsidea balati* MachaŹek, 1977	4	5	12	21

Table 2 (continued)

Hosts (birds)			Parasites (chewing lice)				
Order/Family/ Species	Number of specimens / Sex / Development stage	Collecting data	Species	Number of specimens			
				♀♀	♂♂	Nymphs	Total
Passer montanus (L.)	1 adult	Cojocna (CJ); 06.10.2007; Leg.: Costică Adam	*Brueelia cyclothorax* (Burmeister, 1838)	1	2	4	7
	1 adult	Sfântu Gheorghe (TL); 08.06.2008; Leg.: Costică Adam	*Sturnidoecus ruficeps* (Nitzsch [in Giebel], 1866)	1	1	0	2
	1 adult			3	1	5	9
Passeriformes: Fringillidae							
Fringilla coelebs L.	1 adult (♂)	Hăbud (PH); 11.05.2008; Leg.: Gabriel Chişamera	*Ricinus fringillae* De Geer, 1778	3	0	2	5
Fringilla montifringilla L.	1 adult	Cluj-Napoca (CJ); 06.03.2006; Leg.: Attila D. Sándor	*Sturnidoecus* sp.	1	0	0	1
Passeriformes: Emberizidae							
Emberiza calandra L.	1 adult	Câmpurelu (GR); 30.05.2007; Leg.: Costică Adam	*Philopterus citrinellae* (Schrank, 1776)	3	2	2	7
Emberiza schoeniclus (L.)	1 adult (♂)	Sfântu Gheorghe (TL); 09.06.2008; Leg.: Costică Adam	*Philopterus citrinellae* (Schrank, 1776)	14	2	2	18

RESULTS

From all collected material, 1,624 chewing louse specimens were identified. Afterwards, these chewing louse specimens were identified as belonging to 27 genera and 55 species. From the 1,624 collected specimens, 614 were females (37.8%), 441 males (27.16%) and 569 nymphs (35.04%).

From the chewing lice collected by us, 484 specimens (168 females, 128 males and 188 nymphs) (29.8%) belong to the suborder Amblycera, the best represented being the genus *Ciconiphilus* (184 specimens: 71 females, 66 males and 47 nymphs), and the rest of 1,140 specimens (446 females, 313 males and 381 nymphs) (70.2%) belong to the suborder Ischnocera, the best represented being the genus *Brueelia* (330 specimens: 142 females, 92 males and 96 nymphs). From the point of view of the species number, from the 55 chewing louse species identified by us, 21 (of 10 genera and three families) belong to suborder Amblycera, and 34 (of 17 genera and a family) belong to suborder Ischnocera. Also, from the point of view of the species number, the best represented genus of the suborder Amblycera was the genus *Menacanthus* in our material, with six species, and within the suborder Ischnocera, genus *Brueelia* was represented the best, with eight species. It can be observed that in our material Ischnocera are prevalent, both in specimen number and in species number.

Table 2 includes the systematic list of the host species, with all studied individuals, which were found infested, with their collecting data, for each host individual indicating the chewing louse species found and identified, as well as the collected specimen number.

Also, for each chewing louse species from the systematic list presented below we mentioned all known host species according to the data offered by the most recent chewing louse list of the world fauna, published by Price, Hellenthal & Palma (2003). We have done this in order to compare the host species mentioned by the above-mentioned authors for the respective chewing louse species with the hosts on which we or other Romanian authors found that species. The host species from which the type specimens of the respective chewing louse species were collected are marked with „•". Chewing louse genera are listed below, in Z□otorzycka's systematic order (1994), and the species are ordered alphabetically.

Systematic list of the collected and identified chewing louse species

Suborder Amblycera
Family Menoponidae
Genus *Menopon* Nitzsch, 1818
Menopon gallinae (Linnaeus, 1758)

Studied material taken from: Gallus gallus domesticus (L.) (Tab. 2).

Known hosts: This species has a less obvious parasitic specificity, up to now being found on the representatives of several species of the family Phasianidae (Galliformes). According to the most recent chewing louse list of the world fauna (Price, Hellenthal & Palma, op. cit.), at present it was reported from 15 species of genera *Caloperdix*, *Gallus* (including the species *G. gallus domesticus*), *Lophura*, *Meleagris*, *Numida*, *Syrmaticus* and *Tragopan*.

Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

The studied bird on which we found this chewing louse species was from a private farm and it was also parasitized by *Menacanthus cornutus*, *Goniocotes gallinae* and *Lipeurus caponis*, all being typical parasites for hens (Tab. 2).

Genus *Menacanthus* Neumann, 1912
Menacanthus cornutus (Schömmer, 1913)

Studied material taken from: *Gallus gallus domesticus* (L.) (Tab. 2).

Known hosts: •*Gallus gallus* (L.) (Galliformes: Phasianidae).

Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

The studied bird on which we found this chewing louse species was from a private farm and it was also parasitized by *Menopon gallinae*, *Goniocotes gallinae* and *Lipeurus caponis*, all being typical parasites for hens (Tab. 2).

Menacanthus curuccae (Schrank, 1776)
(Fig. 2 A)

Studied material taken from: *Acrocephalus scirpaceus* (Hermann) (Tab. 2).

Known hosts: This species has a less obvious parasitic specificity, up to now being found on the representatives of several species of the families Sylviidae and Vireonidae (Passeriformes). According to the most recent chewing louse list of the world fauna (Price, Hellenthal & Palma, op. cit.), and to the data published by Sychra et al. (2008), up to now, it was reported from 10 species of the genera *Acrocephalus* (including from *A. scirpaceus*), *Phylloscopus* and *Sylvia* (Sylviidae) and from 4 species of the genus *Vireo* (Vireonidae).

Remarks: This species was previously reported from Romania by Adam (2007) from *Sylvia borin*. We report this species now, for the second time from Romania, basing on a biologic material which also was included by Adam (2008) in his unpublished PhD thesis, but under the synonym name of *Menacanthus eisenachensis* Balát, 1981. But, taking into consideration the data published by Sychra et al. (2008) and studying again our material, we established that the species *M. eisenachensis* is synonym to *M. curuccae,* indeed.

We report the presence of this parasite species on the host species *A. scirpaceus* for the first time in Romania.

Menacanthus eurysternus (Burmeister, 1838)
(Fig. 2 B)

Studied material taken from: *Corvus monedula* L. and *Passer montanus* (L.) (Tab. 2).

Known hosts: This species has a less obvious parasitic specificity, up to now being found on the representatives of numerous families of the orders Piciformes and Passeriformes. According to the most recent chewing louse list of the world fauna (Price, Hellenthal & Palma, op. cit.), up to the present it was reported from eight species of five genera (two families) of the order Piciformes and from 168 species of 98 genera (35 families) of the order Passeriformes. From the two bird species on which we found this chewing louse species, only *C. monedula* is included in the list of the host species.

Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

The specimen of *P. montanus,* controlled by us and on which we found this chewing louse species, was also parasitized by the species *Myrsidea balati*, *Sturnidoecus ruficeps* and *Philopterus montani*, all being typical parasites for this host species (Tab. 2).

We report the presence of this parasite species on the host species *C. monedula* for the first time in Romania.

Also, we report the presence of this chewing louse species on the host species P. montanus for the first time all over the world.

Menacanthus pici (Denny, 1842)

Studied material taken from: *Dendrocopos major* (L.) (Tab. 2).

Known hosts: This species has a less obvious parasitic specificity, up to now being found on the representatives of several species of the families Capitonidae and Picidae (Piciformes). According to the data offered by Price, Hellenthal & Palma (op. cit.), up to now it was reported from three species of the genus *Megalaima* (Capitonidae) and from 24 species of the genera *Colaptes*, *Dendrocopos* (including *D. major*), *Dryocopus*, *Melanerpes*, *Picoides*, *Picus* and *Sphyrapicus* (Picidae).

Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

The bird on which we found this chewing louse species was also parasitized by *Penenirmus auritus*, a typical parasite for several species of the family Picidae (Piciformes), including also *D. major* (Tab. 2).

Menacanthus pusillus (Nitzsch, 1866)

Studied material taken from: *Motacilla flava* L. (Tab. 2).

Known hosts: This species has a less obvious parasitic specificity, up to now being found on the representatives of several species of the family Motacillidae (Passeriformes). According to the data offered by Price, Hellenthal & Palma (op. cit.), up to present it was reported from 6 species of the genus *Anthus* and from 3 species of the genus *Motacilla* (including from the species *M. flava*).

Remarks: This species was previously reported in the Romanian parasitic fauna on *Motacilla alba* by Negru (1960 b) and Bechet (1961 a, 1962), and on *M. flava* by Rékási & Szombath (2000).

The bird on which we found this chewing louse species was also parasitized by *Brueelia kratochvili*, also a typical parasite for this host species (Tab. 2).

Menacanthus sinuatus (Burmeister, 1838)

Studied material taken from: *Parus major* L. (Tab. 2).

Known hosts: *Parus ater* L., *P. atricapillus* L., *P. bicolor* L., *P. caeruleus* L., *P. gambeli* Ridgway, •*P. major* L., *P. palustris* L. and *P. rufescens* Townsend (Passeriformes: Paridae).

Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

Genus *Myrsidea* Waterston, 1915
Myrsidea balati MachaŹek, 1977
(Fig. 2 C, D)

Studied material taken from: *Passer montanus* (L.) (Tab. 2).
Known hosts: •*Passer montanus* (L.) (Passeriformes: Passeridae).
Remarks: This species was reported for the first time in Romania by Adam (2007), also from its typical host. Now, we report for the second time the presence of this species in the Romanian parasitic fauna, on the same host.

One of the two specimens of *P. montanus,* controlled by us and on which we found this chewing louse species, was also parasitized by *Menacanthus eurysternus*, *Sturnidoecus ruficeps* and *Philopterus montani*, all being typical parasites for this host species, excepting the first one which is reported from this host for the first time (Tab. 2). The other bird was not parasitized by any other chewing louse species.

Myrsidea cucullaris (Nitzsch, 1818)
(Fig. 3 A, B)

Studied material taken from: *Sturnus vulgaris* L. (Tab. 2).
Known hosts: *Sturnus sturninus* (Pallas), •*S. vulgaris* L. (Passeriformes: Sturnidae).
Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

All seven birds on which we found this species were also parasitized by other chewing louse species, also typical parasites for *S. vulgaris* (Tab. 2).

Myrsidea latifrons (Carriker [& Shull], 1910)

Studied material taken from: *Riparia riparia* (L.) (Tab. 2).
Known hosts: •*Riparia riparia* (L.) (Passeriformes: Hirundinidae).
Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

The bird on which we found this species was not parasitized by other chewing louse species (Tab. 2).

Myrsidea rustica (Giebel, 1874)

Studied material taken from: *Hirundo rustica* L. (Tab. 2).
Known hosts: •*Hirundo rustica* L., *H. spilodera* Sundevall, *H. tahitica neoxena* Gould (Passeriformes: Hirundinidae).
Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

The bird on which we found this chewing louse species was also parasitized by *Brueelia domestica*, a typical parasite for *H. rustica* (Tab. 2).

Genus *Austromenopon* Bedford, 1939
Austromenopon transversum (Denny, 1842)
(Fig. 3 C)

Studied material taken from: *Larus michahellis* J. F. Naumann (Tab. 2)
Known hosts: This species has a less obvious parasitic specificity, up to now being found on the representatives of several species of the family Laridae

(Charadriiformes). According to the data given by Price, Hellenthal & Palma (op. cit.), up to now it was reported from 22 species of the genus *Larus* (here, the species *L. michahellis* is not included), from two species of the genus *Rissa* and from one species from each genera *Pagophila*, *Rhodostethia* and *Xema*.

Remarks: In Romania, this species was previously reported from: *Larus ridibundus* by Bechet (1956) (under the synonym name *Menopon ridibundum*), Bechet (1961 a, 1962), Rékási & Kiss (1977), Rékási & Kiss (1980, 1997) (under the synonym name *A. t. ridibundum*), Rékási & Szombath (2000); from *L. melanocephalus* by Bechet (1961 a, 1962) and Rékási & Kiss (1997); from *L. fuscus* by Rékási & Kiss (1984, 1997) (under the synonym name *A. t. circulor*); from *L. ichthyaetus* by Rékási & Kiss (1984); as deserter on *Gallinula chloropus* by Rékási & Szombath (2000).

The species *L. michahellis* got relatively recently the rank of species, in the past being considered a subspecies of *L. cachinnans*.

We report the presence of this chewing louse species on L. michahellis for the first time in the entire world, being considered a common parasite for this bird.

Genus *Meromenopon* Clay & Meinertzhagen, 1941
Meromenopon meropis Clay & Meinertzhagen, 1941
(Figs 3 D, 4 A)

Studied material taken from: *Merops apiaster* L. (Tab. 2).

Known hosts: •*Merops apiaster* L. (Coraciiformes: Meropidae).

Remarks: This species was previously reported from Romania, also from *M. apiaster*, by Negru (1958), Bechet (1961 a), Rékási & Kiss (1997) and Rékási et al. (1997).

One of the two birds on which we found this chewing louse species was also parasitized by the species *Meropoecus meropis*, and the other one by *M. meropis* and *Brueelia apiastri*, all of them being typical parasites for *M. apiaster* (Tab. 2).

Genus *Trinoton* Nitzsch, 1818
Trinoton anserinum (Fabricius, J. C., 1805)
(Fig. 4 B)

Studied material taken from: *Cygnus olor* (Gmelin) (Tab. 2).

Known hosts: This species has a less obvious parasitic specificity, up to now being found on the representatives of numerous species of the family Anatidae (Anseriformes). According to the data given by Price, Hellenthal & Palma (op. cit.), up to now it was reported from four species of the genus *Anser*, from four species of the genus *Cygnus* (including *C. olor*) and from a species of the genus *Branta*.

Remarks: This species was also reported in Romania, as follows: on *Anser anser domesticus*, by Constantineanu et al. (1955) and Voicu (1973); on *Anser anser*, by Rékási & Kiss (1977, 1980, 1984, 1994, 1997).

Also, this species was reported under the following synonymous names: *T. conspurcatum*, by Leon (1911) on *A. anser domesticus*; *T. squalidum*, by Bechet (1961 a), Rékási & Kiss (1980) and Rékási & Szombath (2000) on *Anser albifrons*, by Bechet (1961 a) and Rékási & Kiss (1984) on *Anas clypeata*, by Rékási & Kiss (1984, 1997) on *Aythya nyroca*; *T. cygni*, by Rékási & Kiss (1977, 1984, 1997) on *C. olor*. Iordan-Georgescu (1941) reported the species *T. querquedulae* (under the

synonym name of *T. spinosum*) on *C. cygnus*. Probably, it was an identification error, and in fact, it was also about *T. anserinum*.

The bird on which we found this chewing louse species was also parasitized by *Ornithobius bucephalus*, a typical parasite for *C. olor* (Tab. 2).

Genus *Colpocephalum* Nitzsch, 1818
Colpocephalum inaequale Burmeister, 1838
(Fig. 4 C, D)

Studied material taken from: *Dryocopus martius* (L.) (Tab. 2).

Known hosts: •*Dryocopus martius* (L.) (Piciformes: Picidae).

Remarks: This species was previously reported from Romania also from *D. martius*, by Bechet (1961 a), Negru (1958) and Rékási & Kiss (1984). Pisică & Andriescu (1972) reported this species from *C. frugilegus*, but clearly it was about an error, because this species is a typical parasite only for *Dryocopus martius* (Piciformes). Probably, in the case of that report, it is about *Colpocephalum fregili*.

Colpocephalum nanum Piaget, 1890
(Fig. 5 A, B, C)

Studied material taken from: *Buteo rufinus* (Cretzschmar) (Tab. 2).

Known hosts: This species has a less obvious parasitic specificity, up to now being found on the representatives of numerous species of the family Accipitridae (Falconiformes). According to the data given by Price, Hellenthal & Palma (op. cit.), up to now it was reported from five species of the genus *Accipiter*, from four of the genus *Buteo* (the species *B. rufinus* is not cited) and from a species of the genus *Circaetus*. The bird species from which this species was described for the first time is ?*Larus canus*, but the authors consider that it is an error because the genus *Colpocephalum* is not occurred normally on the representatives of the order Charadriiformes.

Remarks: This species was also reported from Romania, as follows: on *Buteo lagopus* by Rékási & Kiss (1977) and on *B. buteo* by Adam (2003). In the case of the reports from Romania of the species *Colpocephalum flavescens* on some of the common hosts of *C. nanum*, it is possible to deal with an identification error, in fact being about *C. nanum.*

One of the two birds controlled by us and on which we found this chewing louse species was also parasited by *Degeeriella fulva*, being a typical parasite for this host, too (Tab. 2). The other bird was not parasitized by any other chewing louse species.

Now we report, for the first time in the world, the presence of this chewing louse species on B. rufinus. It might be a common parasite for this bird species.

Colpocephalum zebra Burmeister, 1838
(Figs 5 D, 6 A)

Studied material taken from: *Ciconia ciconia* (L.) (Tab. 2).

Known hosts: •*Ciconia ciconia* (L.) (Ciconiiformes: Ciconiidae).

Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

From the two birds on which we found this chewing louse species, one of them was also parasitized by *Ciconiphilus quadripustulatus*, and the other one by the species *Ardeicola ciconiae* and *Neophilopterus incompletus* (Tab. 2), all these species being typical parasites for *C. ciconia*.

Genus *Ciconiphilus* Bedford, 1939
Ciconiphilus quadripustulatus (Burmeister, 1838)
(Fig. 6 B, C)

Studied material taken from: *Ciconia ciconia* (L.) (Tab. 2).

Known hosts: This species has a less obvious parasitic specificity, up to now being found on the representatives of several species of the family Ciconiidae (Ciconiiformes). According to the data given by Price, Hellenthal & Palma (op. cit.), up to now this species was reported from 10 species of genera *Anastomus*, *Ciconia* (including *C. ciconia*), *Ephippiorhynchus* and *Mycteria* (Ciconiiformes: Ciconiidae).

Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

The bird on which we found this chewing louse species was also parasitized by the species *Colpocephalum zebra* (Tab. 2), being a typical parasite for *C. ciconia*, too.

Family Laemobothriidae
Genus *Laemobothrion* Nitzsch, 1818
Subgenus *Laemobothrion* Nitzsch, 1818
Laemobothrion (*Laemobothrion*) *tinnunculi* (Linnaeus, 1758)
(Figs 6 D, 7 A)

Studied material taken from: *Accipiter nisus* (L.) (Tab. 2).

Known hosts: This species has a less obvious parasitic specificity, up to now being found on the representatives of numerous species of the family Falconidae (Falconiformes). According to the data given by Price, Hellenthal & Palma (op. cit.), up to now it was reported from 16 species of the genus *Falco*.

Remarks: This species was also reported in Romania from *Falco subbuteo*, by Bechet (1956), and from *F. tinnunculus*, by Bechet (1961 b). Also, Bechet (1961 b) reported it from *F. subbuteo*, but under the synonym name of *L. laticolle*.

Now, we report for the first time in the word, the presence of this species on the host species Accipiter nisus. Its presence on this host species is considered atypical and it couldn't be explained.

Family Ricinidae Neumann, 1890
Genus *Ricinus* De Geer, 1778
Ricinus elongatus (Olfers, 1816)
(Fig. 7 B, C, D)

Studied material taken from: *Turdus merula* L. (Tab. 2).

Known hosts: This species has a less obvious parasitic specificity, up to now being found on the representatives of numerous species of the order Passeriformes. According to the data given by Price, Hellenthal & Palma (op. cit.), up to now it was reported from eight species of the genus *Turdus* (Turdidae) (including *T. merula*), and on a species of each genera *Bombycilla* (Bombycillidae), *Prunella* (Prunellidae) and *Sturnus* (Sturnidae).

Remarks: This species was also reported from Romania by Negru (1958, 1960 b), on *Turdus viscivorus*, and by Rékási & Kiss (1980, 1997), on *Turdus pilaris*. Bechet (1961 a, 1962) reported it on *T. merula* under the synonym name *R. ernstlangi*.

Three of the five birds controlled by us and on which we found this chewing louse species were also parasitized by *Brueelia merulensis*, being a typical parasite for this host species, too (Tab. 2). The other two birds were not parasitized by any other chewing louse species.

Ricinus fringillae De Geer, 1778
(Fig. 8 A, B)

Studied material taken from: *Fringilla coelebs* L. (Tab. 2).

Known hosts: This species has a less obvious parasitic specificity, up to now being found on the representatives of numerous species of the order Passeriformes. According to the data given by Price, Hellenthal & Palma (op. cit.), up to now it was reported from 47 species of genera: *Bombycilla* (Bombycillidae); *Amphispiza*, *Emberiza*, *Junco*, *Melospiza*, *Passerella*, *Pipilo*, *Plectrophenax*, *Pooecetes*, *Spizella*, *Zonotrichia* (Emberizidae); *Acanthis*, *Carduelis*, *Carpodacus*, *Fringilla* (including *F. coelebs*), *Pyrrhula* (Fringillidae); *Riparia* (Hirundinidae); *Anthus*, *Motacilla* (Motacillidae); *Parus* (Paridae); *Passer* (Passeridae); and *Prunella* (Prunellidae).

Remarks: This species was also reported in Romania by Bechet (1956, 1962) and by Negru (1962), on *Emberiza citrinella*. Also, it was reported under the following synonymous names: *R. bombycillae*, by Bechet (1961 a, 1962) and by Negru (1962), on *Bombycilla garrulus*; *R. irascens*, by Bechet (1961 a, 1962), on *Fringilla coelebs*; *R. japonicus*, by Bechet (1961 a, 1962) and by Negru (1959), on *Anthus spinoletta*; and *R. subpallidus*, by Negru (1963 a), on *Prunella collaris*.

Suborder Ischnocera
Family Philopteridae
Genus *Goniodes* Nitzsch, 1818
Goniodes tetraonis (Linnaeus, 1761)
(Fig. 8 C, D)

Studied material taken from: *Tetrao tetrix* Linnaeus, 1758 (Tab. 2).

Known hosts: •*Tetrao tetrix* Linnaeus, 1758 (Galliformes: Tetraonidae).

Remarks: *Now, we report the presence of this chewing louse species in the parasitological fauna of Romania for the first time.*

Genus *Goniocotes* Burmeister, 1838
Goniocotes gallinae (De Geer, 1778)
(Fig. 9 A, B)

Studied material taken from: *Gallus gallus domesticus* (L.) (Tab. 2).

Known hosts: *Caloperdix oculea* (Temminck), •*Gallus gallus* (L.) (Galliformes: Phasianidae) and *Meleagris gallopavo* L. (Galliformes: Meleagrididae).

Remarks: This species was also reported in Romania, as follows: on *G. gallus domesticus*, by Bechet (1956, 1962), Pisică (1980, 1985) and Șerban (1970); on *M. gallopavo*, by Bechet (1956), Constantineanu et al. (1961) and Șerban (1970); on *Phasianus colchicus*, by Bechet (1956); and on *Numida meleagris*, by Șerban (1970).

The bird controlled by us and on which we found this chewing louse species, originated in a private breeding farm and it also was parasitized by the species *Menopon gallinae*, *Menacanthus cornutus* and *Lipeurus caponis*, all being typical parasites for hen (Tab. 2).

Genus *Lipeurus* Nitzsch, 1818
Lipeurus caponis (Linnaeus, 1758)
(Fig. 9 C, D)

Studied material taken from: *Gallus gallus domesticus* (L.) (Tab. 2).

Known hosts: This species has a less obvious parasitic specificity, up to now being found on the representatives of several species of the families Meleagridae and Phasianidae (Galliformes). According to the data given by Price, Hellenthal & Palma (op. cit.), up to now it was reported on a species of the genus *Meleagris* (Meleagridae); one of the genus *Colinus*, four of the genus *Gallus* (including *G. gallus*) and one of the genus *Phasianus* (Phasianidae).

Remarks: This species was also reported in Romania on *G. gallus domesticus*, by Marcu (1929) and Pisică (1980, 1985). Also, it was reported by Constantineanu & Pisică (1959) on *Phasianus colchicus*, *Chrysolophus pictus* and *Lophura nycthemera*.

The bird controlled by us and on which we found this chewing louse species, originated in a private breeding farm and it also was parasitized by the species *Menopon gallinae*, *Menacanthus cornutus* and *Goniocotes gallinae*, all being typical parasites for hen (Tab. 2).

Genus *Degeeriella* Neumann, 1906
Degeeriella fulva (Giebel, 1874)

Studied material taken from: *Buteo rufinus* (Cretzschmar) (Tab. 2).

Known hosts: This species has a less obvious parasitic specificity, up to now being found on the representatives of several species of the family Accipitridae (Falconiformes). According to the data given by Price, Hellenthal & Palma (op. cit.), up to now it was also reported on 28 species of genera *Accipiter*, *Aquila*, *Buteo* (including the species *B. rufinus*), *Geranoaetus*, *Hieraaetus*, *Ichthyophaga*, *Melierax*, *Spilornis* and *Spizaetus* (Falconiformes: Accipitridae).

Remarks: The history of the previous reports of this species in the parasitological fauna of Romania was presented by Adam & Daróczi (2006) and Adam (2007).

The bird on which we found this chewing louse species was also parasitized by the species *Colpocephalum nanum* (Tab. 2), it being a possible typical parasite for *B. rufinus*, because it was reported for the first time on this host.

Genus *Capraiella* Conci, 1941
Capraiella subcuspidata (Burmeister, 1838)
(Fig. 10 A, B)

Studied material taken from: *Coracias garrulus* L. (Tab. 2).

Known hosts: •*Coracias garrulus* L. (Coraciiformes: Coraciidae).

Remarks: This species was previously reported from Romania, also on the typical host, by Negru (1960 a), Bechet (1961 a, 1962) and by Rékási & Kiss (1984, 2005).

Genus *Neophilopterus* Cummings, 1916
Neophilopterus incompletus (Denny, 1842)
(Fig. 10 C, D)

Studied material taken from: *Ciconia ciconia* (L.) (Tab. 2).

Known hosts: •*Ciconia ciconia* (L.) (Ciconiiformes: Ciconiidae).

Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

The bird on which we found this chewing louse species was also parasitized by the species *Colpocephalum zebra* and *Ardeicola ciconiae* (Tab. 2), also typical parasites for this host species.

Genus *Ardeicola* Clay, 1936
Ardeicola ciconiae (Linnaeus, 1758)
(Fig. 11 A, B)

Studied material taken from: *Ciconia ciconia* (L.) (Tab. 2).

Known hosts: •*Ciconia ciconia* (L.) (Ciconiiformes: Ciconiidae).

Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

The bird on which we found this chewing louse species was also parasitized by the species *Colpocephalum zebra* and *Neophilopterus incompletus* (Tab. 2), also chewing louse species typical for *C. ciconia*.

Genus *Craspedonirmus* Thompson, 1940
Craspedonirmus colymbinus (Denny, 1842)
(Figs 11 C, D, 12)

Studied material taken from: *Gavia stellata* (Pontoppidan) (Tab. 2).

Known hosts: *Gavia arctica* (L.), *G. pacifica* (Lawrence), •*G. stellata* (Pontoppidan) (Gaviiformes: Gaviidae).

Remarks: This species was also reported in Romania, but on *G. arctica*, by Bechet (1959, 1962), Rékási & Kiss (1980, 1994, 1997) and Rékási & Szombath (2000). Also, Constantineanu et al. (1961) reported it from *G. artica*, but under the synonym name *Philopterus colymbinus*.

A special situation is the report made by Rékási & Kiss (1977), on *Gavia immer* (Brünnich), of the species *C. colymbinus*. According to the data given by Price, Hellenthal & Palma (op. cit.), *G. immer* is not included in the list of the host species on which *C. colymbinus* was reported up to now, on this host species being reported only the species *C. immer* Emerson, 1955 of the genus *Craspedonirmus*. Considering all these things, we think that, in the case of the above-mentioned report, it is possible to be about the species *C. immer*, the material on which the respective report had been made requesting new studies in this respect.

We report, for the first time in Romania, the presence of this parasite species – host species association (*C. colymbinus* on *G. stellata*).

Genus *Columbicola* Ewing, 1929
Columbicola columbae (Linnaeus, 1758)
(Fig. 13 A, B)

Studied material taken from: *Columba livia* Gmelin (var. *domestica*) (Tab. 2).

Known hosts: *Columba eversmanni* Bonaparte, *C. guinea* L., •*C. livia* Gmelin, *C. oenas* L. (Columbiformes: Columbidae).

Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

Genus *Ornithobius* Denny, 1842
Ornithobius bucephalus (Giebel, 1874)
(Fig. 14)

Studied material taken from: *Cygnus olor* (Gmelin) (Tab. 2).
Known hosts: *Cygnus melanocoryphus* (Molina) and •*C. olor* (Gmelin) (Anseriformes: Anatidae).
Remarks: This species was also reported in Romania, on *C. olor*, by Negru (1963 a) and Rékási & Kiss (1977, 1984, 1997).
Marcu (1929) reported the species *Ornithobius goniopleurus* Denny, 1842 on *C. olor*. But, according to the data given by Price, Hellenthal & Palma (op. cit.), *O. goniopleurus* is a typical parasite only for the host species *Branta canadensis* (L.) (Anseriformes: Anatidae). Considering this thing, we think that in the case of the above mentioned report it is about a misidentification, probably being about the species *O. bucephalus*, too.
The bird on which we found this chewing louse species was also parasitized by *Trinoton anserinum* (Tab. 2), this last species being a widely distributed parasite on several Anatidae species, among which *C. olor* is present.

Genus *Craspedorrhynchus* Kéler, 1938
Craspedorrhynchus fraterculus Eichler & Z□otorzycka, 1975
(Fig. 13 C)

Studied material taken from: *Aquila heliaca* Savigny (Tab. 2).
Known hosts: •*Aquila heliaca heliaca* Savigny (Falconiformes: Accipitridae).
Remarks: This species was also reported in Romania, on *A. heliaca*, too, by Rékási & Kiss (2005).

Craspedorrhynchus macrocephalus (Nitzsch [in Giebel], 1874)

Studied material taken from: *Haliaeetus albicilla* (L.) (Tab. 2).
Known hosts: *Haliaeetus albicilla* (L.) (Falconiformes: Accipitridae).
Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam & Daróczi (2006).

Genus *Meropoecus* Eichler, 1940
Meropoecus meropis (Denny, 1842)

Studied material taken from: *Merops apiaster* L. (Tab. 2).
Known hosts: •*Merops apiaster* L. and *M. superciliosus* L. (Coraciiformes: Coraciidae).
Remarks: This species was also reported in Romania, on *M. apiaster*, by Negru (1958), Bechet (1961 a, 1962), Rékási & Kiss (1977, 1980, 1994), Petrescu & Adam (2001) and Adam (2003). Also, it was reported on the same host by Knechtel (1934) under the synonym name *Docophorus bifrons*.
All the three birds on which we found this chewing louse species were parasitized by other species, too, all being typical parasites for *M. apiaster* (Tab. 2).

Genus *Cuculoecus* Ewing, 1936
Cuculoecus latifrons (Denny, 1842)
(Fig. 13 D)

Studied material taken from: *Cuculus canorus* L. (Tab. 2).
Known hosts: •*Cuculus canorus* L. and *C. saturatus* Blyth (Cuculiformes: Cuculidae).

Remarks: This species was reported in Romania, also on *C. canorus*, by Negru (1958, 1961), Bechet (1961 a, 1962) and Rékási & Kiss (1980, 2005). Negru & Elekeş (1957) reported it under the synonym name *Docophorus latifrons*, from the same host.

Now, we found a female belonging to this species on a skin of *C. canorus*, old of over 40 years, from the collections of the Faculty of Biology within the University of Bucharest (Tab. 2).

Genus *Brueelia* Kéler, 1936

Brueelia apiastri (Denny, 1842)

Studied material taken from: *Merops apiaster* L. (Tab. 2).

Known hosts: •*Merops apiaster* L. (Coraciiformes: Meropidae).

Remarks: This species was reported in Romania, also on *M. apiaster*, by Negru (1958), Bechet (1961 a, 1962), Rékási & Kiss (1980). It was reported by Petrescu & Adam (2001) and Adam (2003), too, under the synonym name *Meropsiella apiastri*.

One of the two birds on which we found this chewing louse species was also parasitized by *Meromenopon meropis* and *Meropoecus meropis*, and the other one by *Meropoecus meropis*, all being typical parasites for *M. apiaster* (Tab. 2).

Brueelia currucae Bechet, 1961
(Fig. 15 A)

Studied material taken from: *Sylvia curruca* (L.) (Tab. 2).

Known hosts: •*Sylvia curruca curruca* (L.) (Passeriformes: Sylviidae).

Remarks: This species was reported in Romania for the first time and described as a new species to science by Bechet (1961 c).

All the three birds on which we found this chewing louse species were also parasitized by *Penenirmus speciosus,* also a typical parasite for *S. curruca* (Tab. 2).

Now, we report for the second time the presence of this chewing louse species on the host species S. curruca.

Brueelia cyclothorax (Burmeister, 1838)

Studied material taken from: *Passer montanus* (L.) (Tab. 2).

Known hosts: *Passer domesticus domesticus* (L.) and •*P. montanus* (L.) (Passeriformes: Passeridae).

Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

One of the two birds on which I found this chewing louse species was parasitized by *Sturnidoecus ruficeps*, too, a typical parasite for *P. montanus* (Tab. 2).

Brueelia domestica (Kellogg & Chapman, 1899)
(Fig. 15 B)

Studied material taken from: *Hirundo rustica* L. (Tab. 2).

Known hosts: •*Hirundo rustica erythrogaster* Boddaert (Passeriformes: Hirundinidae).

Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

One of the two birds on which I found this chewing louse species was parasitized by *Myrsidea rustica*, too, a typical parasite for *H. rustica* (Tab. 2).

Brueelia kratochvili Balát, 1958
(Fig. 15 C, D)

Studied material taken from: *Motacilla flava* L. (Tab. 2).

Known hosts: •*Motacilla flava* L. (Passeriformes: Motacillidae).

Remarks: One of the four birds on which I found this chewing louse species was parasitized by *Menacanthus pusillus*, too, this last mentioned species being a parasite occurred on several species of Motacillidae, among which there is *M. flava* (Tab. 2).

Now, we report this species for the first time in the parasitological fauna of Romania, on its typical host.

Brueelia merulensis (Denny, 1842)

Studied material taken from: *Turdus merula* L. (Tab. 2).

Known hosts: •*Turdus merula* L. (Passeriformes: Turdidae).

Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

Three of the six birds on which we found this chewing louse species were also parasitized by the species *Ricinus elongatus*, the last mentioned species being a parasite occurred on several species of the order Passeriformes, among which there is *T. merula* (Tab. 2).

Brueelia nebulosa (Burmeister, 1838)
(Fig. 16 A, B)

Studied material taken from: *Sturnus vulgaris* L. (Tab. 2).

Known hosts: •*Sturnus vulgaris* L. (Passeriformes: Sturnidae).

Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

From the nine birds on which we found this chewing louse species, eight of them were also parasitized by other species (Tab. 2), all being typical parasites of this host species.

Brueelia tenuis (Burmeister, 1838)
(Fig. 16 C)

Studied material taken from: *Riparia riparia* (L.) (Tab. 2).

Known hosts: *Hirundo tahitica neoxena* Gould and •*Riparia riparia* (L.) (Passeriformes: Hirundinidae).

Remarks: *Now, we report this species for the first time in the parasitological fauna of Romania.*

Genus *Penenirmus* Clay & Meinertzhagen, 1938
Penenirmus auritus (Scopoli, 1763)
(Figs 16 D, 17 A)

Studied material taken from: *Dendrocopos major* (L.) (Tab. 2).

Known hosts: This species has a less obvious parasitic specificity, up to now being found on the representatives of several species of the family Picidae (Piciformes). According to the data given by Price, Hellenthal & Palma (op. cit.), up to now it was reported from 53 species of genera *Celeus*, *Colaptes*, *Dendrocopos*

(including *D. major*), *Dendropicos*, *Dryocopus*, *Eubucco*, *Melanerpes*, *Picoides*, *Piculus*, *Picumnus*, *Picus*, *Sphyrapicus* and *Veniliornis* (Piciformes: Picidae).

Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

One of the four birds on which we found this chewing louse species was also parasitized by *Menacanthus pici*, this last mentioned species being a parasite occurred on several species of Piciformes, among which there is *D. major* (Tab. 2).

Penenirmus speciosus Mey, 1982
(Fig. 17 B, C)

Studied material taken from: *Sylvia curruca* (L.) (Tab. 2).

Known hosts: •*Sylvia curruca curruca* (L.) (Passeriformes: Sylviidae).

Remarks: Three of the four birds on which we found this chewing louse species were also parasitized by *Brueelia currucae*, also a typical parasite for *S. curruca* (Tab. 2).

Now, we report this species for the first time in the parasitological fauna of Romania, on its typical host.

Genus *Sturnidoecus* Eichler, 1944
Sturnidoecus pastoris (Denny, 1842)
(Fig. 18 A, B)

Studied material taken from: *Sturnus roseus* (L.) (Tab. 2).

Known hosts: •*Sturnus roseus* (L.) (Passeriformes: Sturnidae).

Remarks: This species was also reported in Romania, on *S. roseus*, by Bechet (1961 a, 1962), Rékási & Kiss (1999) and Adam & Sándor (2005). It is a species closely related to *Sturnidoecus sturni*, but which distinguishes by some features mainly regarding the abdominal sternite structure (Fig. 18).

Sturnidoecus refractariolus (Z□otorzycka, 1964)

Studied material taken from: *Passer domesticus* (L.) (Tab. 2).

Known hosts: •*Passer domesticus domesticus* (L.) (Passeriformes: Passeridae).

Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

Sturnidoecus ruficeps (Nitzsch [in Giebel], 1866)
(Fig. 19 A, B)

Studied material taken from: *Passer montanus* (L.) (Tab. 2).

Known hosts: •*Passer montanus* (L.) (Passeriformes: Passeridae).

Remarks: This species was reported in Romania, from *P. montanus*, too, by Negru (1960 a) and Rékási & Kiss (1980, 1997). Also, Bechet (1961 a) reported it from the same host under the wrong name of *Penenirmus ruficeps* (this species never being included in genus *Penenirmus*, along its taxonomic history).

Negru (1963 b) reported this species from *Passer domesticus*. But, according to the last published chewing louse list (Price, Hellenthal & Palma, op. cit.), the only typical host on which the species *S. ruficeps* was reported, as yet, is *Passer montanus*, and on *P. domesticus* only the species *S. refractariolus* was reported till

now. That is why we consider that in the case of the above-mentioned report, probably it is about the species *S. refractariolus*.

From the six birds on which we found this chewing louse species, one of them was parasitized by the species *Menacanthus eurysternus*, *Myrsidea balati* and *Philopterus montani*, too, and another one by *Brueelia cyclothorax*, in addition, all of them being typical parasites for *P. montanus* (Tab. 2).

Sturnidoecus sturni (Schrank, 1776)
(Fig. 18 C, D)

Studied material taken from: *Sturnus vulgaris* L. (Tab. 2).

Known hosts: •*Sturnus vulgaris* L. (Passeriformes: Sturnidae).

Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

From the eight birds on which we found this chewing louse species, seven were also parasitized by other species, all being typical parasites for *S. vulgaris* (Tab. 2).

Sturnidoecus sp.
(Fig. 17 D)

Studied material taken from: *Fringilla montifringilla* L. (Tab. 2).

Known hosts: According to data given by Price, Hellenthal & Palma (op. cit.), genus *Sturnidoecus* includes 70 valid species, which parasitized only birds of the order Passeriformes. It is one of the most specious genera of Ischnocera.

Remarks: From an adult specimen of *Fringilla montifringilla*, captured at Cluj-Napoca (CJ) on 06.03.2006, we collected a single chewing louse female which belonged to the genus *Sturnidoecus* (Ischnocera: Philopteridae) (Tab. 2). In the last checklist of the chewing lice (Price, Hellenthal & Palma, op. cit.) there is no species of the genus *Sturnidoecus* which had been found on *F. montifringilla*, nor the other species of the genus *Fringilla*. Genus *Sturnidoecus* is metioned by Price, Hellenthal & Palma (op. cit.) as present on other representatives of the family Fringillidae (on *Carduelis carduelis* and on *Carpodacus erythrinus*). In spite of this, Touleshkov (1961) recorded the chewing louse species *Sturnidoecus ruficeps* on *F. montifringilla.* We consider that the specimen collected by us does belong neither to the other species of *Sturnidoecus* known up to now from the representatives of the family Fringillidae nor to other species from related hosts, because it distinguishes by some features as: body size, form of the dorsal-anterior cephalic plate, form and chetotaxy of the thoracic sternites, abdominal chetotaxy and the form of the genital plate. But we did not included it in a new species to science and made its description hoping to succeed in catching soon a male of this genus from the same host which can offer us more data in this respect. But it is sure that the bird species *F. montifringilla* is parasitized by a species of the genus *Sturnidoecus*, at least.

Genus *Philopterus* Nitzsch, 1818
Philopterus citrinellae (Schrank, 1776)
(Fig. 19 C, D)

Studied material taken from: *Emberiza calandra* L. and *E. schoeniclus* (L.) (Tab. 2).

Known hosts: This species has a less obvious parasitic specificity, up to now being found on the representatives of several species of the families Fringillidae and

Emberizidae (Passeriformes). According to data given by Price, Hellenthal & Palma (op. cit.) and Palma & Price (2006), up to now it was reported on the species *Carduelis chloris* and *Pyrrhula pyrrhula* from Fringillidae, and nine species of the genus *Emberiza* (including *E. calandra* and *E. schoeniclus*) from Emberizidae.

Remarks: This species was previously reported in Romania by Bechet (1961 a, 1962) on *E. calandra*, by Negru (1965) and Adam & Sándor (2004) on *E. citrinella*, and by Adam & Sándor (2004) on *P. pyrrhula*. Also, this species was reported under the following synonym names: *Docophorulus chloridis*, by Rékási & Kiss (1984) on *Carduelis carduelis* and *C. chloris*; *Docophorulus citrinellae*, by Rékási & Kiss (1984) on *E. citrinella*; *Docophorulus pyrrhulae*, by Rékási & Kiss (1997) on *P. pyrrhula*; *Docophorulus residuus*, by Rékási & Kiss (1984, 1997) on *E. schoeniclus*; „*Docophorus subfareceus citrinellae*", by Vasiliu (1946) on *E. calandra*; *Philopterus chloridis*, by Bechet (1961 a, 1962) on *Carduelis chloris*; *Philopterus cumulatus*, by Adam & Sándor (2005) on *E. calandra*; *Philopterus residuus*, by Rékási & Kiss (2005) on *E. schoeniclus*.

Bechet (1956) reported the species *?„Philopterus subflavescens* (Geoffroy, 1762)" on *P. pyrrhula* and *E. citrinella*. But this name is not considered valid, in fact any species of the genus *Philopterus* bearing such a name. Probably it is also about the species *P. citrinellae*. Negru & Elekeş (1957) reported some individuals of the genus *Philopterus* on *E. citrinella* (under the synonym name *Docophorus* sp.) (material identified up to the genus level), in this case, being about *P. citrinellae*, too.

Philopterus fringillae (Scopoli, 1772)
(Fig. 20 A, B)

Studied material taken from: *Passer domesticus* (L.) (Tab. 2).

Known hosts: •*Passer domesticus* (L.) (Passeriformes: Passeridae).

Remarks: The history of the previous reports of this species from the parasitological fauna of Romania was published by Adam (2007).

Philopterus montani (Z□otorzycka, 1964)
(Fig. 21 A)

Studied material taken from: *Passer montanus* (L.) (Tab. 2).

Known hosts: •*Passer montanus montanus* (L.) (Passeriformes: Passeridae).

Remarks: This species was reported from Romania on the typical host only under some synonym names, or under other valid names, but which we consider misidentifications. Thus, the following reports of the genus *Philopterus* on *Passer montanus* (L.) were made: *P. fringillae*, by Bechet (1961 a, 1962); *Docophorulus fringillae montani*, by Rékási & Kiss (1997); *Philopterus fringillae montani*, by Rékási & Szombath (2000). Taking into account the comments made by Adam (2007, p. 186) at the *Remarks* of the species *Philopterus fringillae*, we consider that it is about the species *P. montani* in all cases mentioned above.

Also, Negru (1960 a) reported *Philopterus* sp. on *P. montanus*, probably being about *P. montani*, too.

Bechet (1956) reported ?"*Philopterus subflavescens* Geoffroy" on *P. montanus*. But this is an unexisting species. In the past, it was wrongly considered a

valid species. Later, it was proved that „*subflavescens*" did not represent the name of a species but only a word from a sentence where the description of another species was made. Surely, Bechet (1956) referred also to the species *P. montani*.

The bird on which we found this chewing louse species was also parasitized by the species *Menacanthus eurysternus*, *Myrsidea balati* and *Sturnidoecus ruficeps*, all being typical parasites for this host species, excepting *M. eurysternus* which was reported for the first time on this host species (Tab. 2).

Philopterus turdi (Denny, 1842)
(Fig. 20 C, D)

Studied material taken from: *Turdus merula* L. (Tab. 2).

Known hosts: *Turdus merula* L. and •*T. philomelos* Brehm (Passeriformes: Turdidae).

Remarks: This species was also reported in Romania by Bechet (1961 a, 1962), on *T. philomelos*, and by Adam & Sándor (2004), on *T. merula*. Also, this species was reported under the synonym names: *P. merulae*, by Negru (1960 a) and Bechet (1962) on *T. merula*; *Docophorulus merulae*, by Rékási & Kiss (1997) on *T. merula*; *Docophorulus turdi*, by Rékási & Kiss (1997) on *T. philomelos*.

Philopterus sp.
(Fig. 21 B, C, D)

Studied material taken from: *Acrocephalus agricola* (Jerdon) (Tab. 2).

Known hosts: According to data given by Price, Hellenthal & Palma (op. cit.) and Palma & Price (2006), the genus *Philopterus* includes 172 valid species most of them parasitizing the birds of the order Passeriformes, only some of them parasitizing some representatives of the orders Coraciiformes and Piciformes. It is one of the most specious genera of Ischnocera.

Remarks: From two adult specimens of *Acrocephalus agricola*, captured at Vadu (CT) on 27.05.2008, we collected three females, one male and three nymphs of chewing lice belonging to the genus *Philopterus* (Ischnocera: Philopteridae) (Tab. 2). In the last checklist of chewing lice (Price, Hellenthal & Palma, op. cit.) there is no cited species of the genus *Philopterus* which had been found on *A. agricola*, but for other four species of *Acrocephalus* (*A. arundinaceus*, *A. luscinia*, *A. palustris* and *A. schoenobaenus*) are cited as typical parasites, some species of the genus *Philopterus*. We consider that the collected specimens do not belong to the other species of *Philopterus* known up to now on the host species of the genus *Acrocephalus*, because they distinguish by some features (body size, form of the dorsal-anterior cephalic plate, form and chetotaxy of the thoracic sternites, abdominal chetotaxy, form of the genital plates and structure of genitalia). We did not included them in a new species to science and described them, because we consider necessary to do more minute studies on the morphology of this species in comparison with the other species of *Philopterus* occurred on the representatives of the genus *Acrocephalus*. But, a thing is sure, namely, on the bird species *A. agricola* a species of the genus *Philopterus* parasitizes at least. *In this paper we certify this thing for the first time in the world.*

Also now, we report a chewing louse species on the bird species A. agricola for the first time in the world.

DISCUSSIONS

Analysing the present data from the papers regarding the Romanian chewing louse fauna, published up to now and which we knew, we can say that from all studied species the following four, collected from wild birds, are reported for the first time in the ectoparasitological fauna of Romania: *Goniodes tetraonis* (Linnaeus, 1761) (from *Tetrao tetrix*); *Brueelia kratochvili* Balát, 1958 (from *Motacilla flava*); *Brueelia tenuis* (Burmeister, 1838) (from *Riparia riparia*); and *Penenirmus speciosus* Mey, 1982 (from *Sylvia curruca*).

We report for the first time in the world six new parasite species – host species associations (unreported in the world catalogue published by Price, Hellenthal & Palma in 2003), which can be considered normal, because there is no desertion, taking into consideration that the new host found by us are closely related to the hosts on which those chewing lice were reported before. It is about the following chewing louse species – bird species associations, namely: *Austromenopon transversum* (Denny, 1842) – on *Larus michahellis*; *Colpocephalum nanum* (Piaget, 1890) – on *Buteo rufinus*; *Menacanthus eurysternus* (Burmeister, 1838) – on *Passer montanus*; *Laemobothrion* (*Laemobothrion*) *tinnunculi* (Linnaeus, 1758) – on *Accipiter nisus*; *Sturnidoecus* sp. – on *Fringilla montifringilla*; and *Philopterus* sp. – on *Acrocephalus agricola*.

We report for the first time in the world the presence of the chewing louse genus *Philopterus* on the bird species *Acrocephalus agricola*, this chewing louse genus being previously reported on other species of *Acrocephalus*. As a matter of fact, we report the presence of a chewing louse species on the bird species *A. agricola* for the first time in the world. Also, we report for the second time in the world the presence of the chewing louse genus *Sturnidoecus* on the bird genus *Fringilla* (namely, on the species *F. montifringilla*), but this chewing louse species (possible a new species to science) not being reported on any *Fringilla* species, up to now. The reason why we did not described the above-mentioned material as new species to science was mentioned in the *Remarks* made at the respective species in this paper (*Philopterus* sp. and *Sturnidoecus* sp.). This material is studied further on with the perspective of its classification and description as a new species to science.

We report for the second time since its description, made by the Romanian scientist Ion Bechet, the presence of the following species on its typical host from which it was described: *Brueelia currucae* Bechet, 1961 (from *Sylvia curruca*). Thus, we certify the presence of this species at least on the host it was initially described.

We report for the first time in the parasitological fauna of Romania the following host-parasite associations: *Menacanthus curuccae* (Schrank, 1776) – on *Acrocephalus scirpaceus*; *Degeeriella fulva* (Giebel, 1874) – on *Buteo rufinus*; and *Craspedonirmus colymbinus* (Denny, 1842) – on *Gavia stellata*.

And not the least, we clarify the situation of the previous reports in the ectoparasitological fauna of Romania for the other 51 studied chewing louse species and which are not reported for the first time in this country.

If we refer further at the infestation intensities with chewing lice, we can assert that most of the studied birds were weakly infested; only some of them were moderately infested. This thing explains itself by that all studied birds, excepting two of them, were healthy and vigorous wild species, which were captured in their natural environment.

From the birds studied by us, the bird with the highest infestation intensity was an adult individual of the species *Buteo rufinus* (Tab. 2), from Mogoşoaia (IF), near Bucharest. On this bird we found 211 chewing louse specimens, out of which 199 belonged to the species *Degeeriella fulva* (Ischnocera: Philopteridae), and the other 12, to the species *Colpocephalum nanum* (Amblycera: Menoponidae). Other two cases, with a higher intensity of infestation, were: an adult individual of *Ciconia ciconia*, taken from its natural environment (centre of Romania), on which we found 184 specimens of the species *Ciconiphilus quadripustulatus* and two specimens of the species *Colpocephalum zebra* (totally 186 specimens); and an adult male of *Tetrao tetrix* also taken from his environment (from the Rodna Mountains) on which we found 122 specimens of the species *Goniodes tetraonis* (Tab. 2). If we take into consideration all above mentioned host species, these levels of infestation intensity with chewing lice can be considered moderate. The high level occurred in the individual of *B. rufinus* can be also explained by the fact that, in general, the chewing louse infestation intensity in the birds of prey is higher than in the other birds of the same size.

The lowest values of the chewing louse infestation intensity was occurred in 14 birds which belonged to the species *Accipiter nisus*, *Aquila heliaca*, *Cuculus canorus*, *Dendrocopos major*, *Hirundo rustica*, *Riparia riparia*, *Acrocephalus scirpaceus*, *Parus major*, *Passer domesticus*, *P. montanus* and *Fringilla montifringilla* on which we found only a chewing louse, on each of them (Tab. 2).

If we refer further on to the bird families from whose representatives we collected the material, and we make a ratio between the number of the collected chewing lice and the infested bird number of the respective family which were studied, we remark that the highest level of the chewing louse infestation degree (mean intensity) was occurred in the families Ciconiidae and Tetraonidae, being closely followed by the families Phasianidae and Corvidae (Fig. 1). In our material, the families with the lowest intensity of the chewing louse infestation were (in increasing order of intensity): Cuculidae, Paridae, Hirundinidae, Gaviidae, Laridae and Fringillidae (Fig. 1).

From table 2 all cases of chewing louse polyparasitism can be easily observed (the same host individual being parasitized by several chewing louse species), which we occurred in all studied birds. Thus, the most interesting chewing louse polyparasitism cases were: an adult individual of *Passer montanus* on which we found four chewing louse species (three of them being typical parasites for *P. montanus*, and one being reported for the first time on this host); and an adult male individual of *Gallus gallus domesticus* on which we also found four chewing louse species (all being typical parasites for this host species) (Tab. 2). Also, we remarked very many cases in which a single bird was parasitized by three chewing louse species.

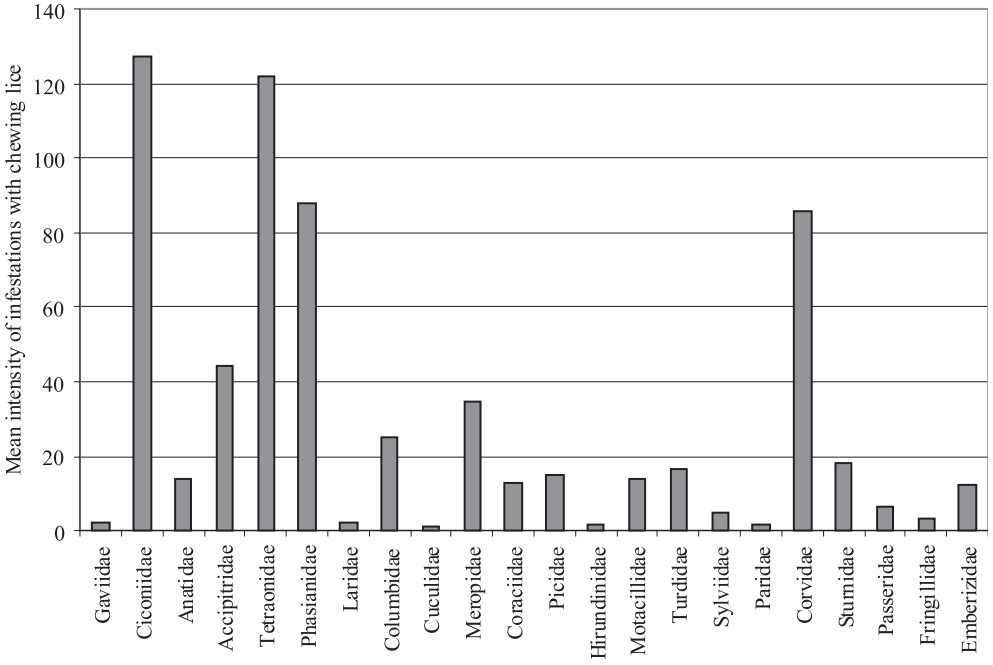

Fig. 1 – Comparative representation of the chewing louse infestation level in the 22 families to which the 80 birds infested with chewing lice belong.

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DATE PRIVIND FAUNA DE MALOFAGE (PHTHIRAPTERA: AMBLYCERA, ISCHNOCERA) DE PE UNELE PĂSĂRI SĂLBATICE ŞI DOMESTICE DIN ROMÂNIA

REZUMAT

Sunt prezentate rezultatele cercetării asupra malofagelor colectate în marea lor majoritate în perioada 2006-2008 (câteva probe fiind însă prelevate şi în intervalul 2003-2005) de pe 80 de păsări aparţinând la 33 de specii (doar două domestice, restul fiind sălbatice) provenite de pe teritoriul României. Cele 1624 de malofage colectate au fost identificate ca aparţinând la 55 de specii, iar dintre acestea patru reprezintă semnalări noi pentru fauna parazitologică a României, şi anume: *Goniodes tetraonis*, *Brueelia kratochvili*, *B. tenuis* şi *Penenirmus speciosus*. De asemenea, sunt semnalate pentru prima dată în lume următoarele şase asocieri noi specie malofag – specie pasăre: *Austromenopon transversum* pe *Larus michahellis*; *Colpocephalum nanum* pe *Buteo rufinus*; *Menacanthus eurysternus* pe *Passer montanus*; *Laemobothrion* (*Laemobothrion*) *tinnunculi* pe *Accipiter nisus*; *Sturnidoecus* sp. pe *Fringilla montifringilla*; şi *Philopterus* sp. pe *Acrocephalus agricola*. Pe *Acrocephalus agricola* se semnalează pentru prima dată în lume prezenţa unei specii de malofag. Şi nu în ultimul rând, este

semnalată pentru prima dată existența în fauna parazitologică a României a șase asocieri specie malofag – specie pasăre și este clarificată situația semnalărilor anterioare în fauna ectoparazitologică a acestei țări pentru cele 51 de specii de malofage identificate și care nu sunt la prima semnalare pe teritoriul României.

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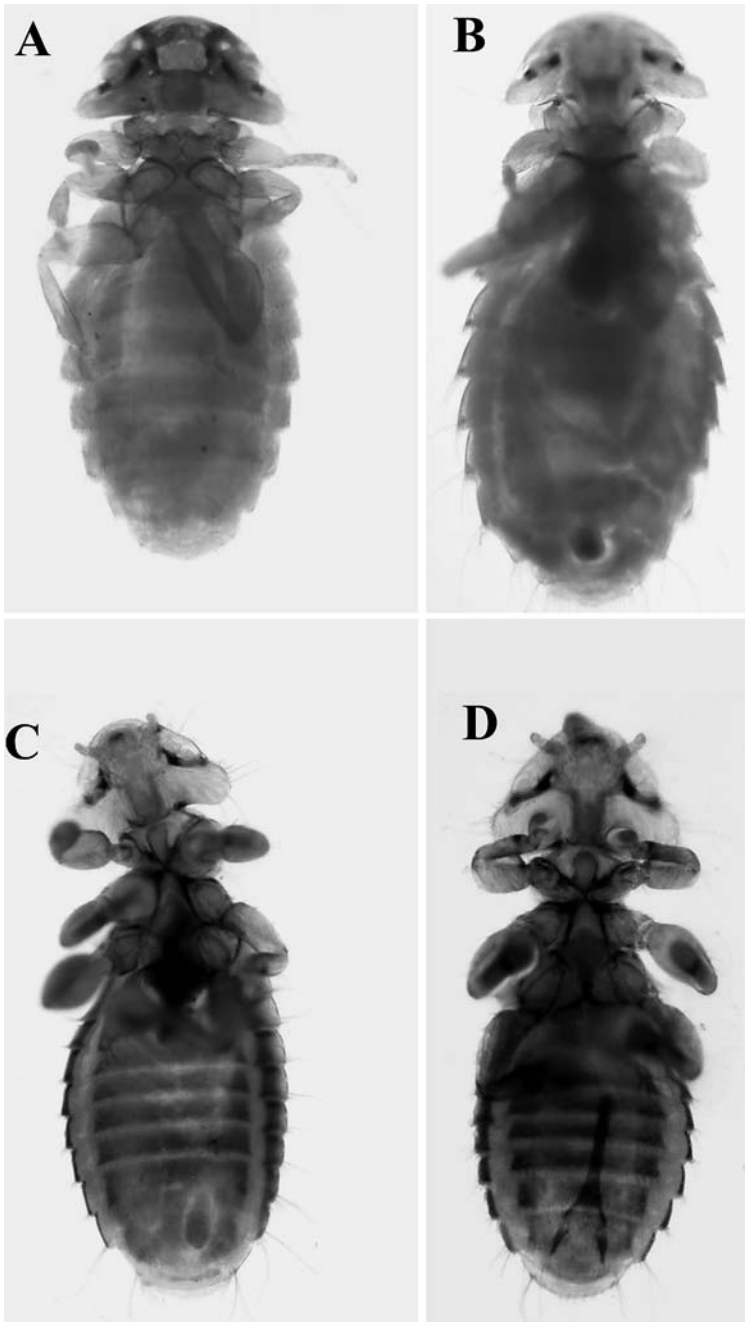

Fig. 2 – *Menacanthus curuccae* (from *Acrocephalus scirpaceus*): A, female; *Menacanthus eurysternus* (from *Passer montanus*): B, female; *Myrsidea balati* (from *Passer montanus*): C, female; D, male.

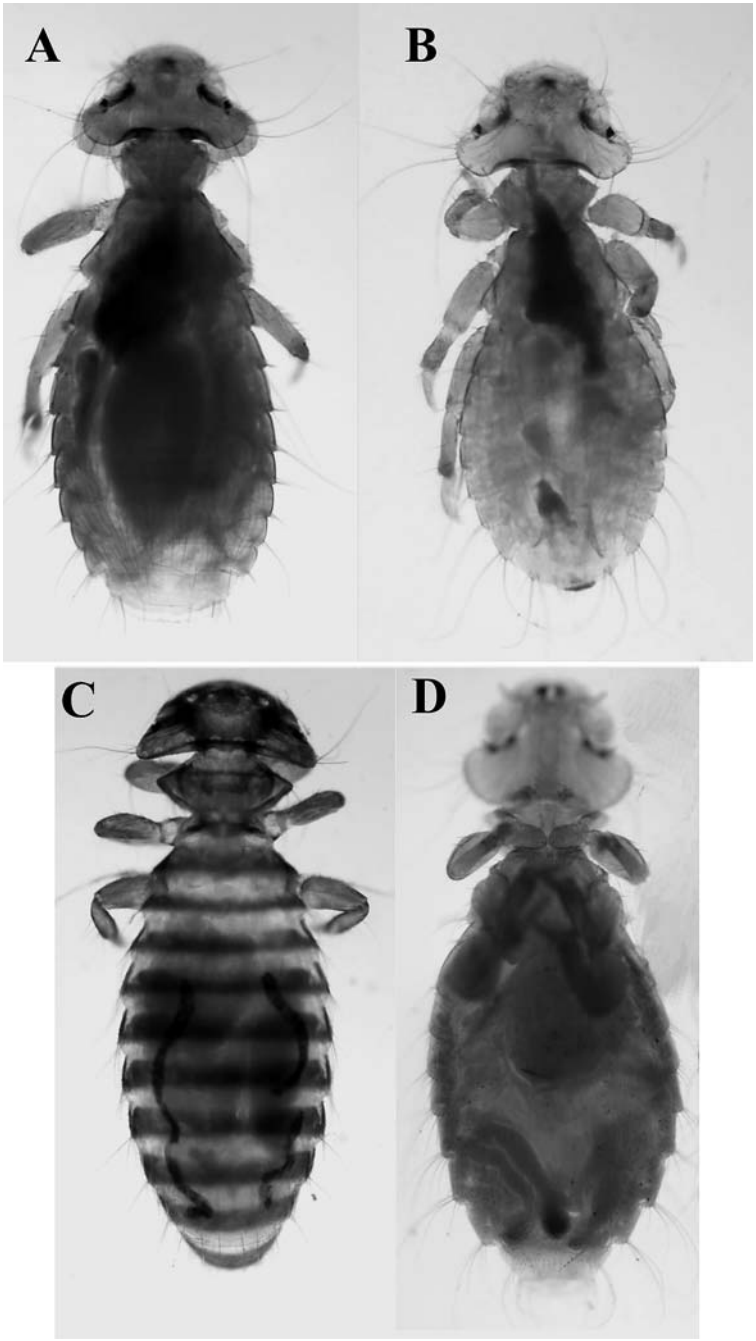

Fig. 3 – *Myrsidea cucullaris* (from *Sturnus vulgaris*): A, female; B, male; *Austromenopon transversum* (from *Larus michahellis*): C, female; *Meromenopon meropis* (from *Merops apiaster*): D, female.

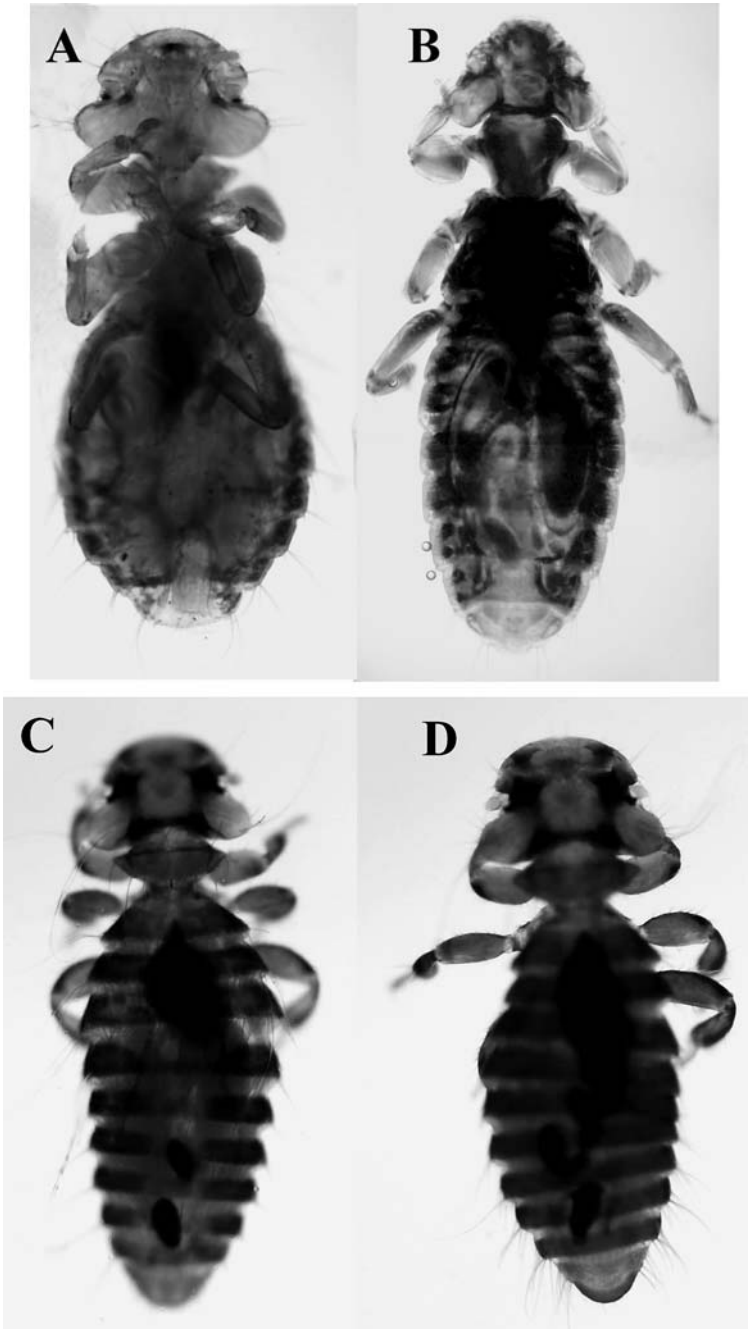

Fig. 4 – *Meromenopon meropis* (from *Merops apiaster*): A, male; *Trinoton anserinum* (from *Cygnus olor*): B, female; *Colpocephalum inaequale* (from *Dryocopus martius*): C, female; D, male.

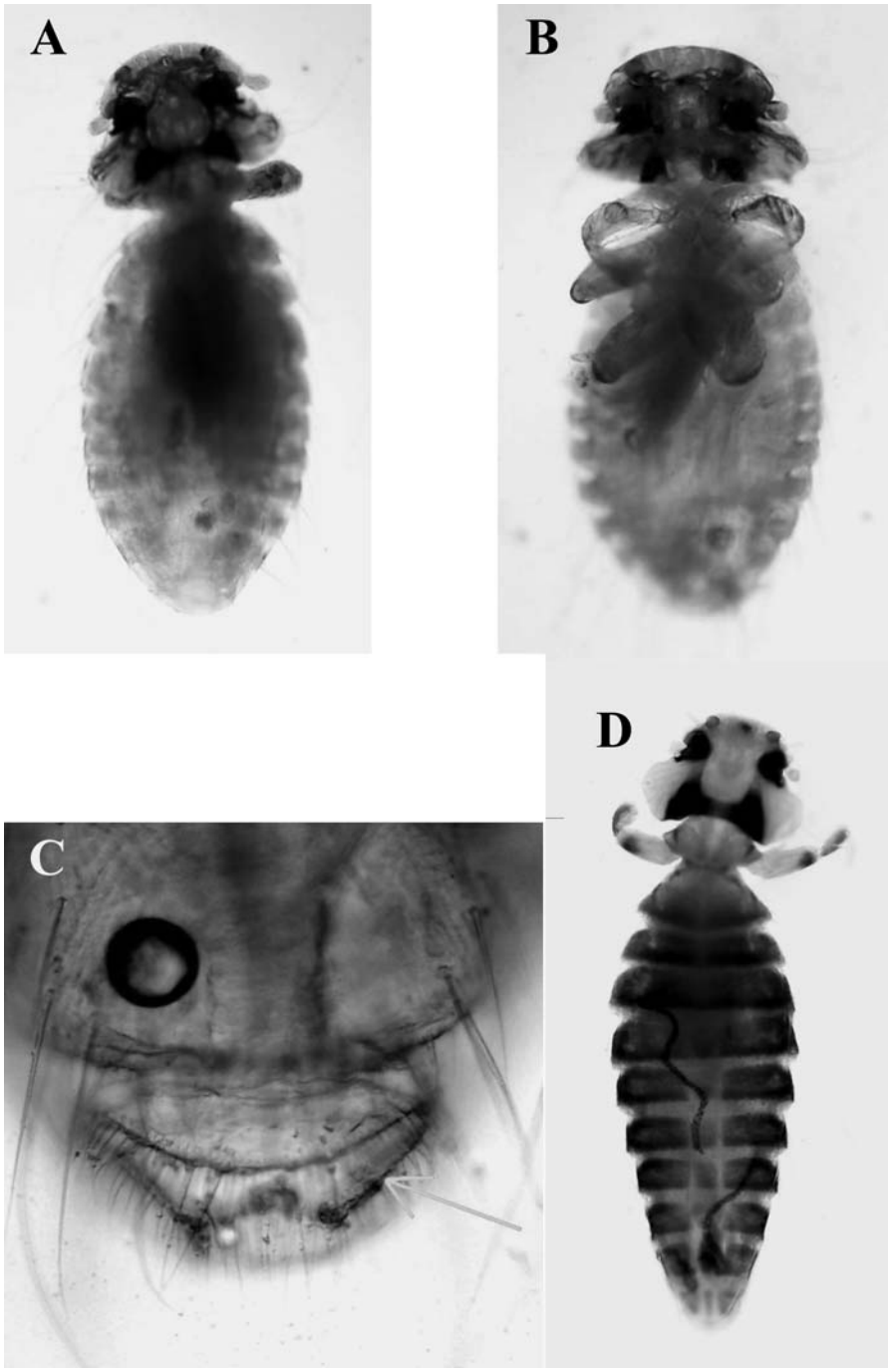

Fig. 5 – *Colpocephalum nanum* (from *Buteo rufinus*): A, female; B, male; C, female anus; *Colpocephalum zebra* (from *Ciconia ciconia*): D, female.

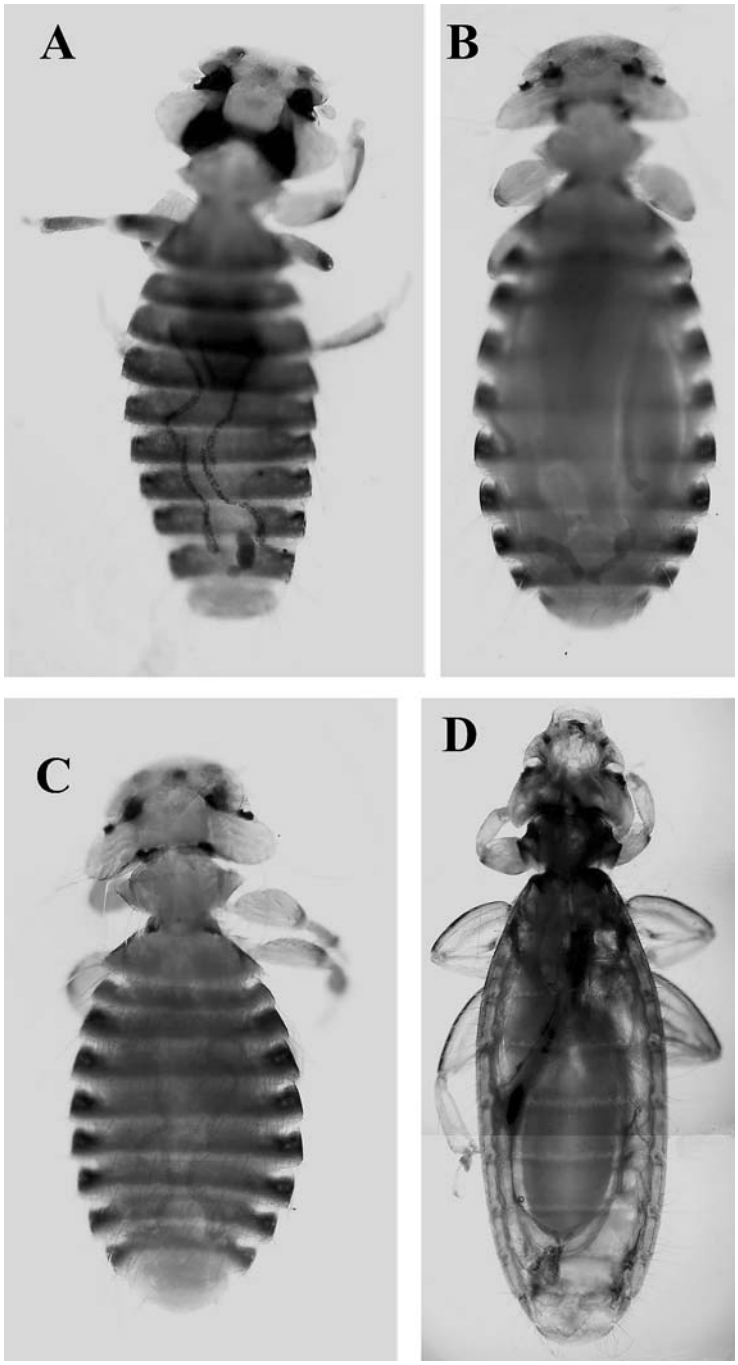

Fig. 6 – *Colpocephalum zebra* (from *Ciconia ciconia*): A, male; *Ciconiphilus quadripustulatus* (from *Ciconia ciconia*): B, female; C, male; *Laemobothrion* (*Laemobothrion*) *tinnunculi* (from *Accipiter nisus*): D, female.

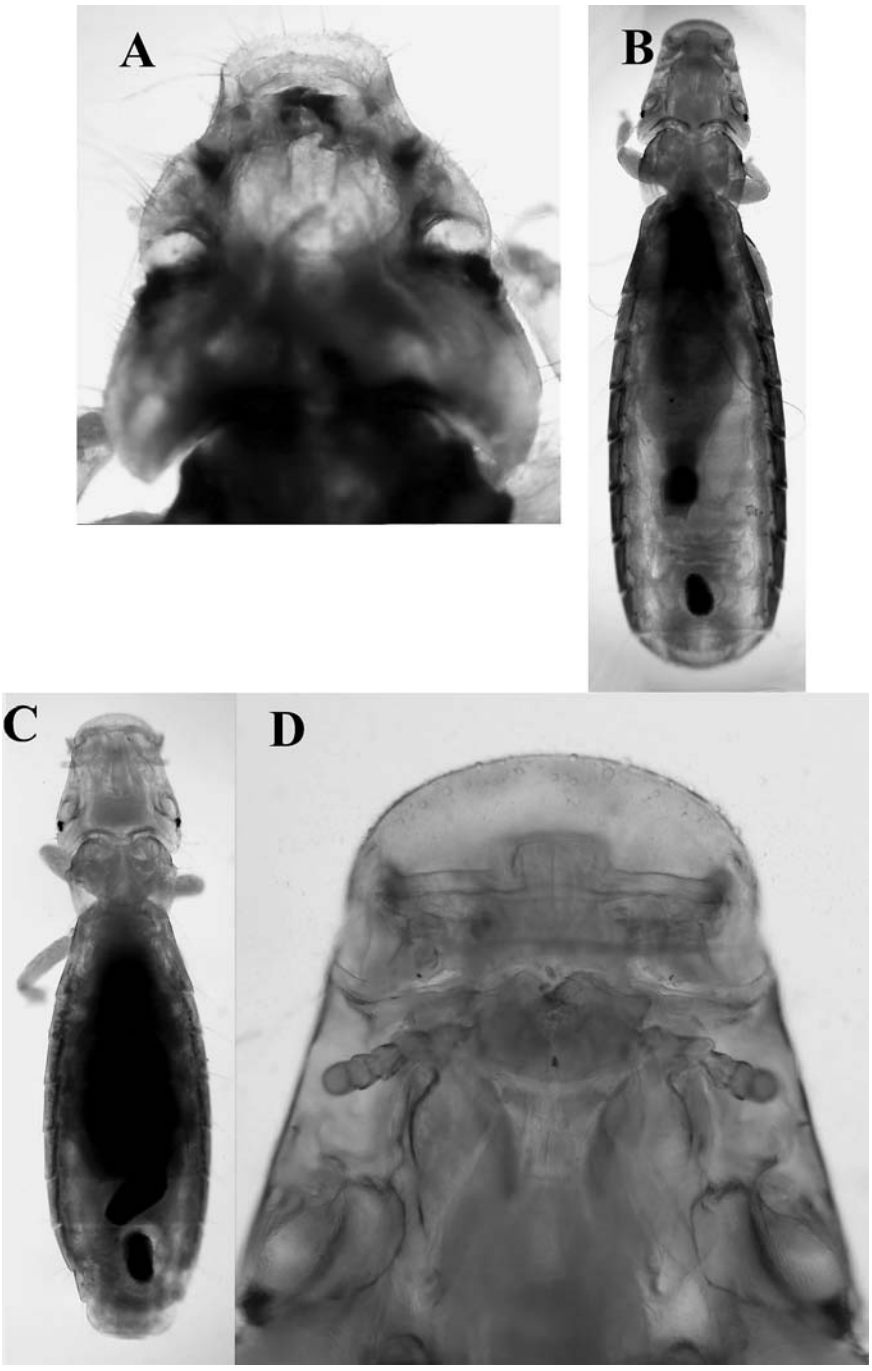

Fig. 7 – *Laemobothrion* (*Laemobothrion*) *tinnunculi* (from *Accipiter nisus*): A, head of female; *Ricinus elongatus* (from *Turdus merula*): B, female; C, male; D, antero-ventral region of head in female.

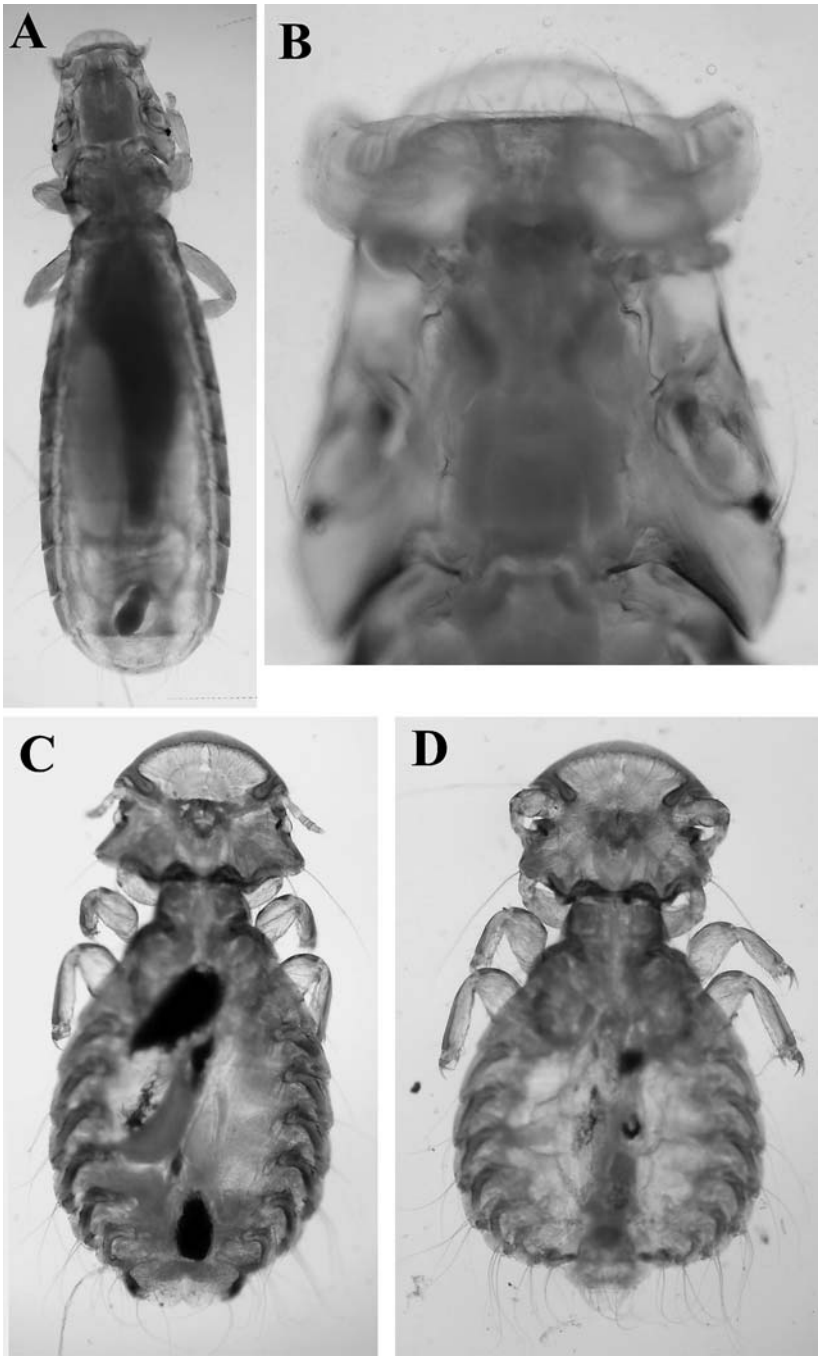

Fig. 8 – *Ricinus fringillae* (from *Fringilla coelebs*): A, female; B, head of female (ventral view); *Goniodes tetraonis* (from *Tetrao tetrix*): C, female; D, male.

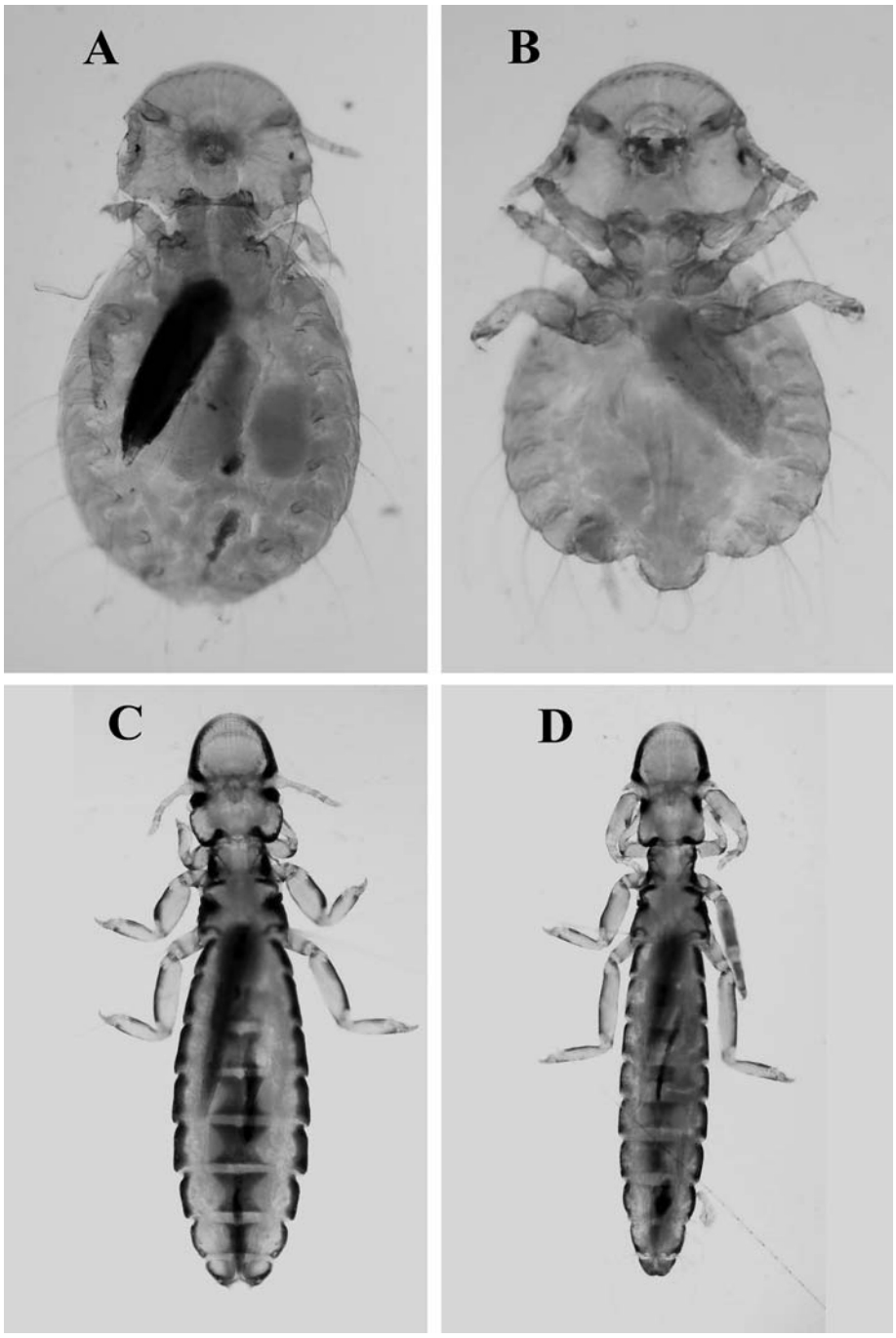

Fig. 9 – *Goniocotes gallinae* (from *Gallus gallus domesticus*): A, female; B, male; *Lipeurus caponis* (from *Gallus gallus domesticus*): C, female; D, male.

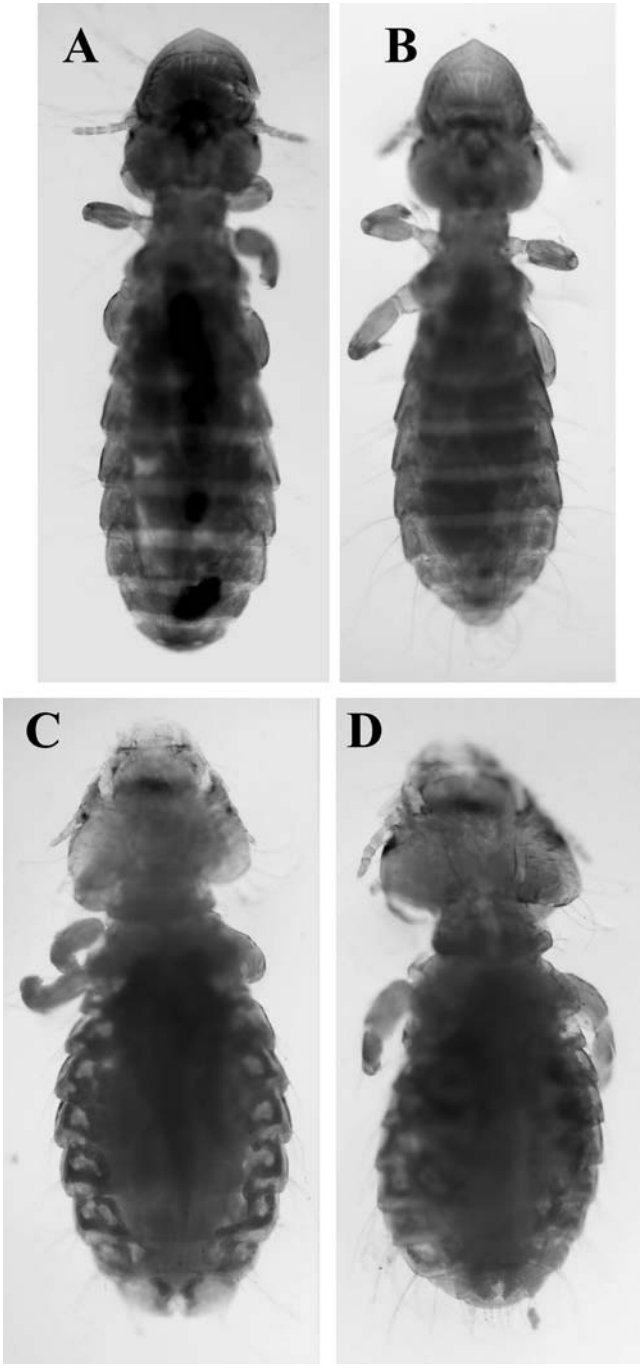

Fig. 10 – *Capraiella subcuspidata* (from *Coracias garrulus*): A, female; B, male; *Neophilopterus incompletus* (from *Ciconia ciconia*): C, female; D, male.

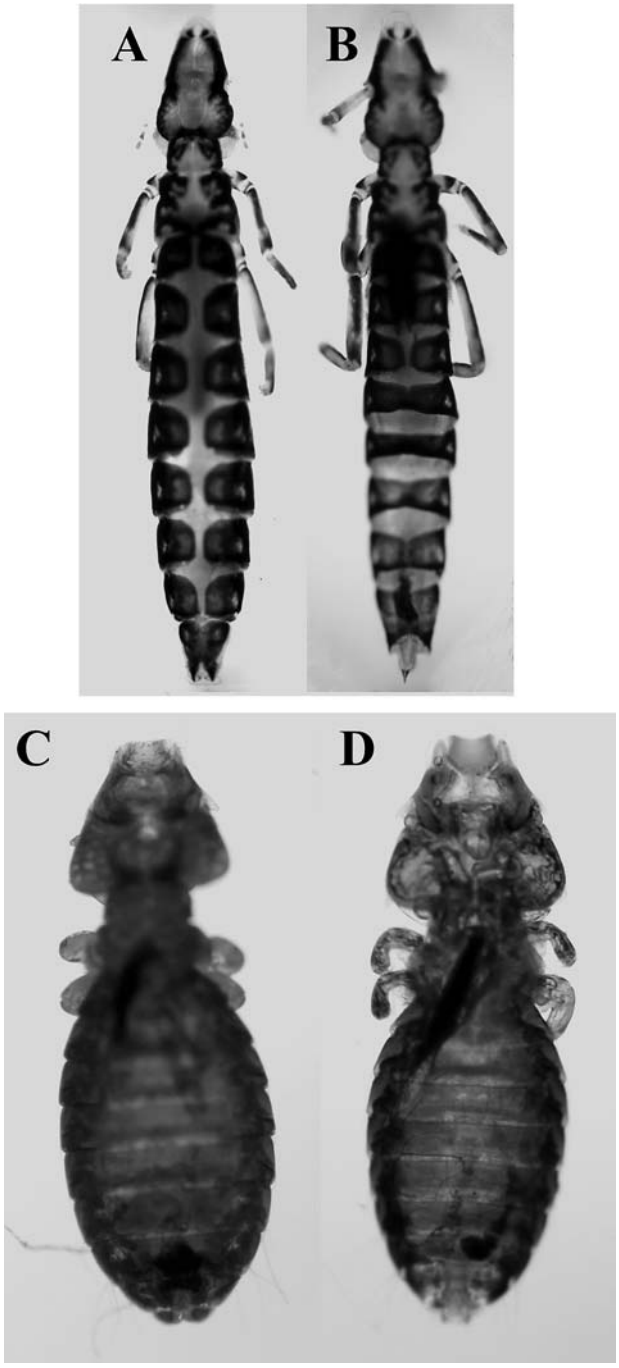

Fig. 11 – *Ardeicola ciconiae* (from *Ciconia ciconia*): A, female; B, male; *Craspedonirmus colymbinus* (from *Gavia stellata*): C, female; D, male.

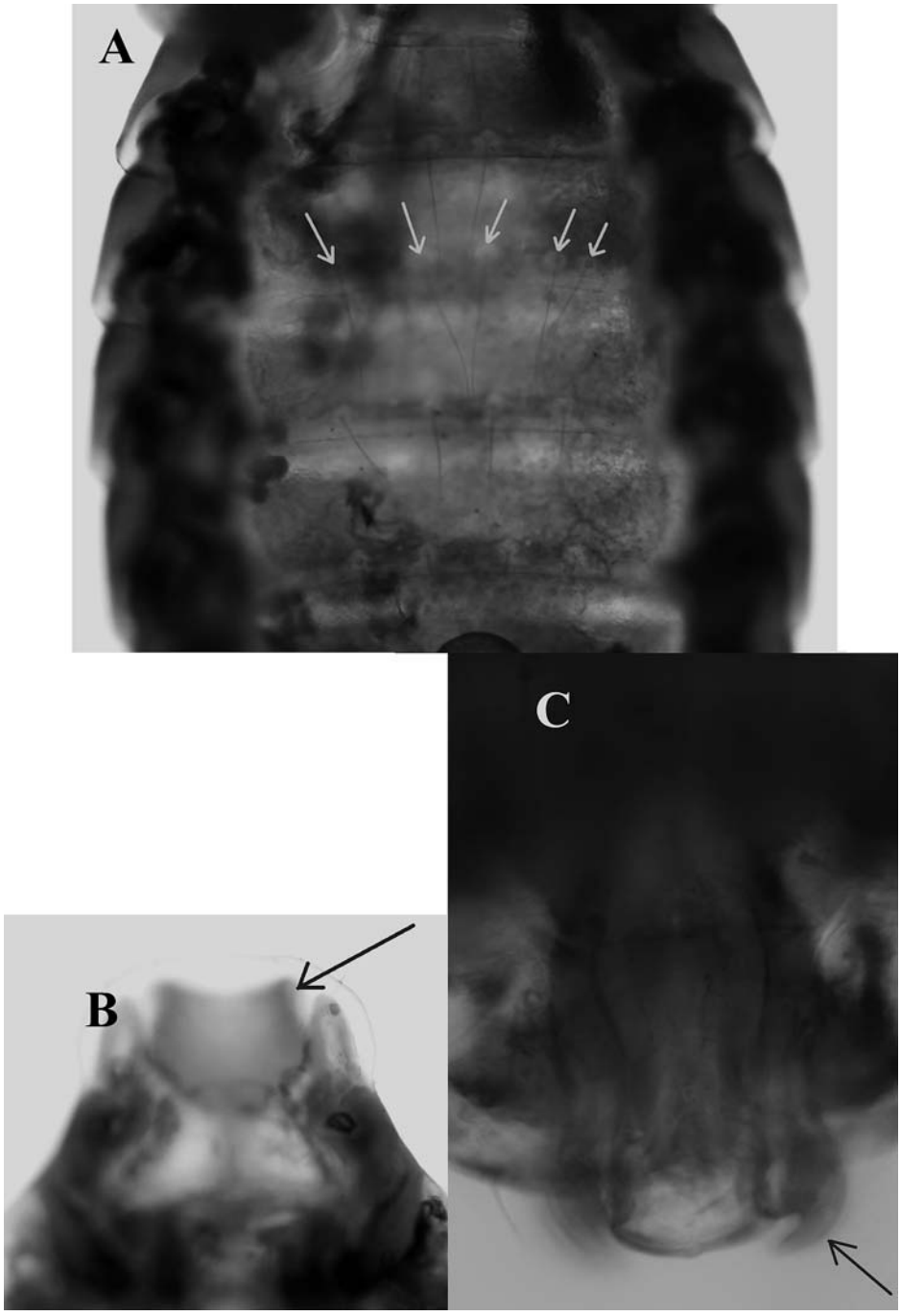

Fig. 12 – *Craspedonirmus colymbinus* (from *Gavia stellata*): A, abdominal sternites III-VI in female; B, anterior dorsal cephalic plate in male; C, copulatory organ.

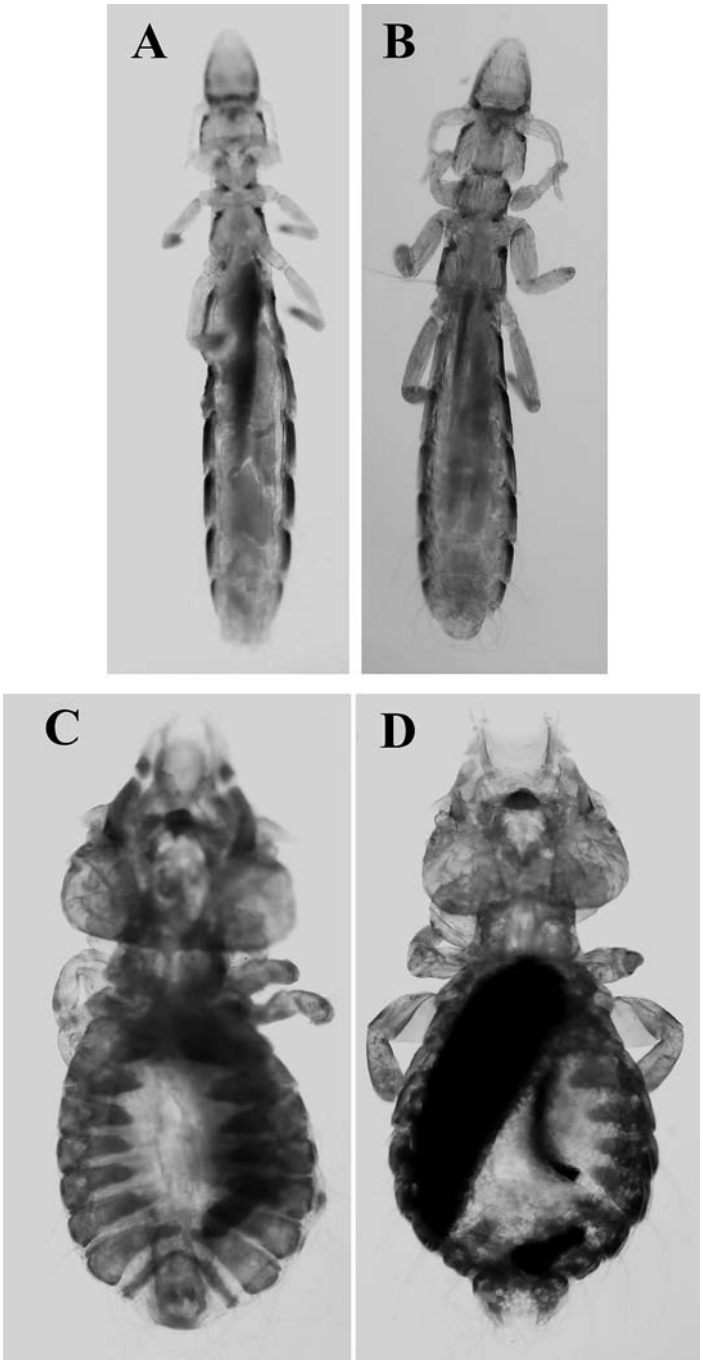

Fig. 13 – *Columbicola columbae* (from *Columba livia domestica*): A, female; B, male; *Craspedorrhynchus fraterculus* (from *Aquila heliaca*): C, male; *Cuculoecus latifrons* (from *Cuculus canorus*): D, female.

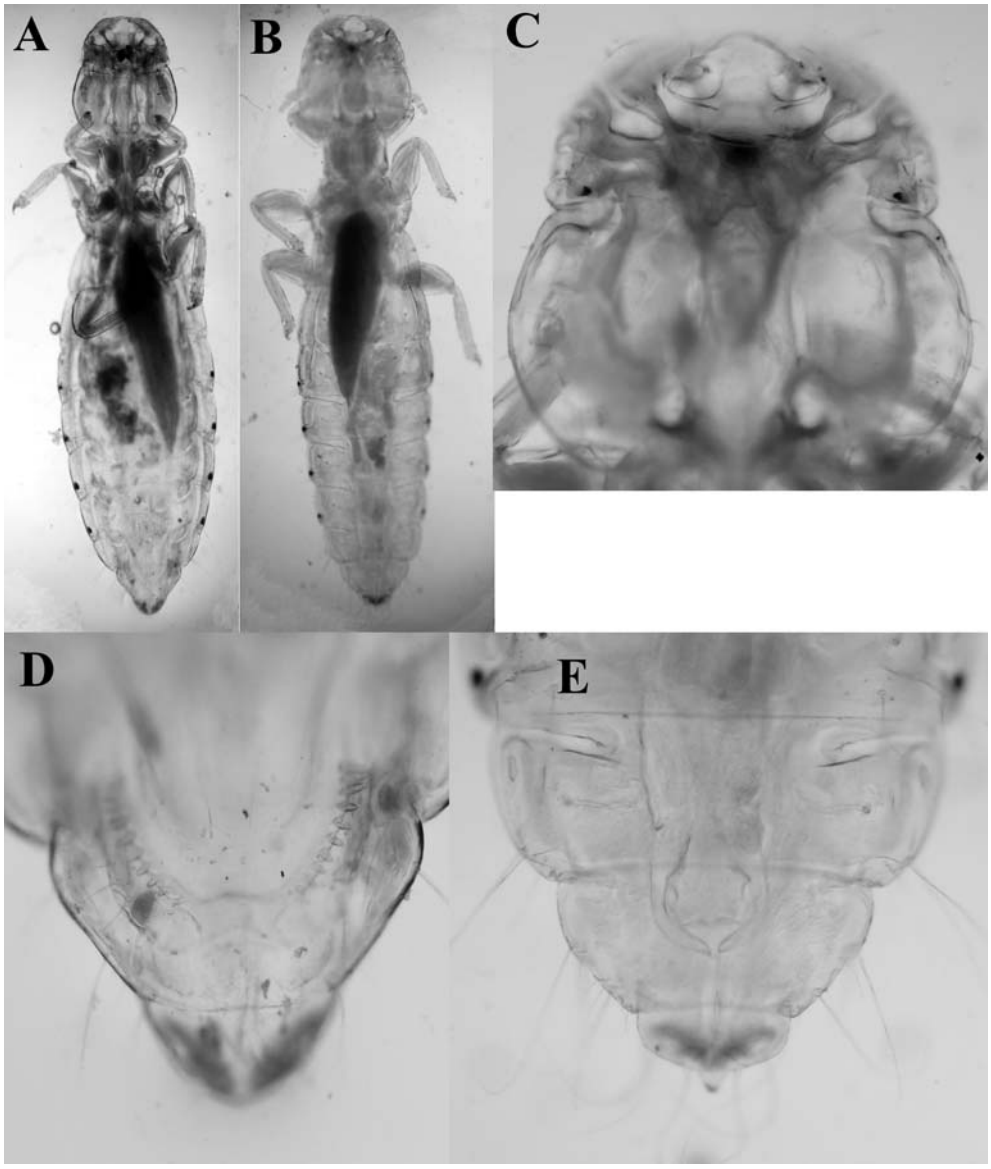

Fig. 14 – *Ornithobius bucephalus* (from *Cygnus olor*): A, female; B, male; C, head of female (dorsal view); D, female terminalia (ventral view) with vulval chaetotaxy; E, male terminalia (ventral view) with copulatory organ.

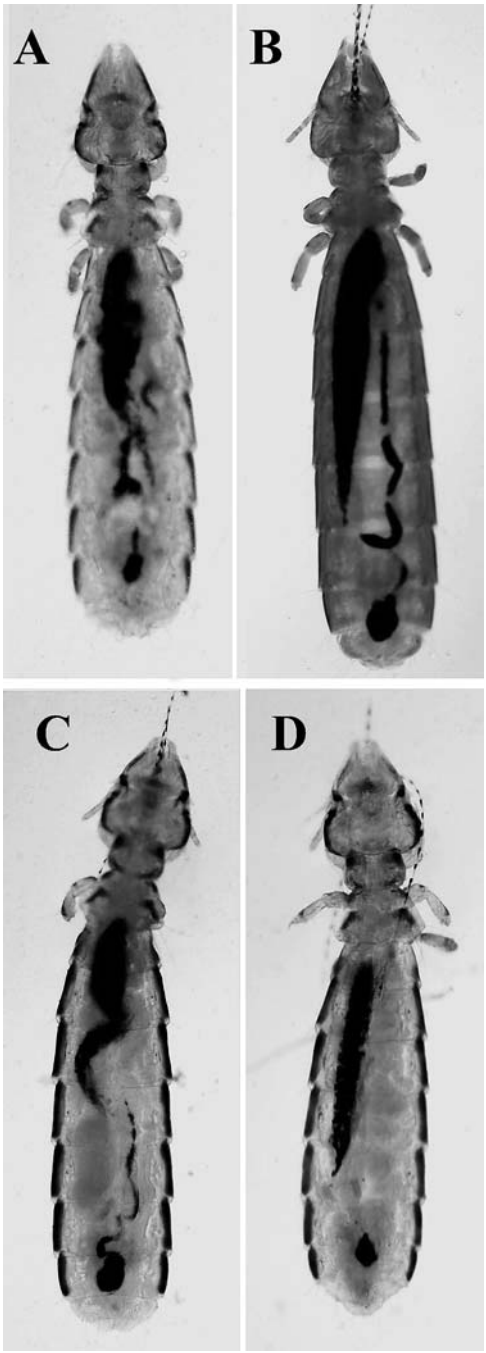

Fig. 15 – *Brueelia currucae* (from *Sylvia curruca*): A, female; *Brueelia domestica* (from *Hirundo rustica*): B, female; *Brueelia kratochvili* (from *Motacilla flava*): C, female; D, male.

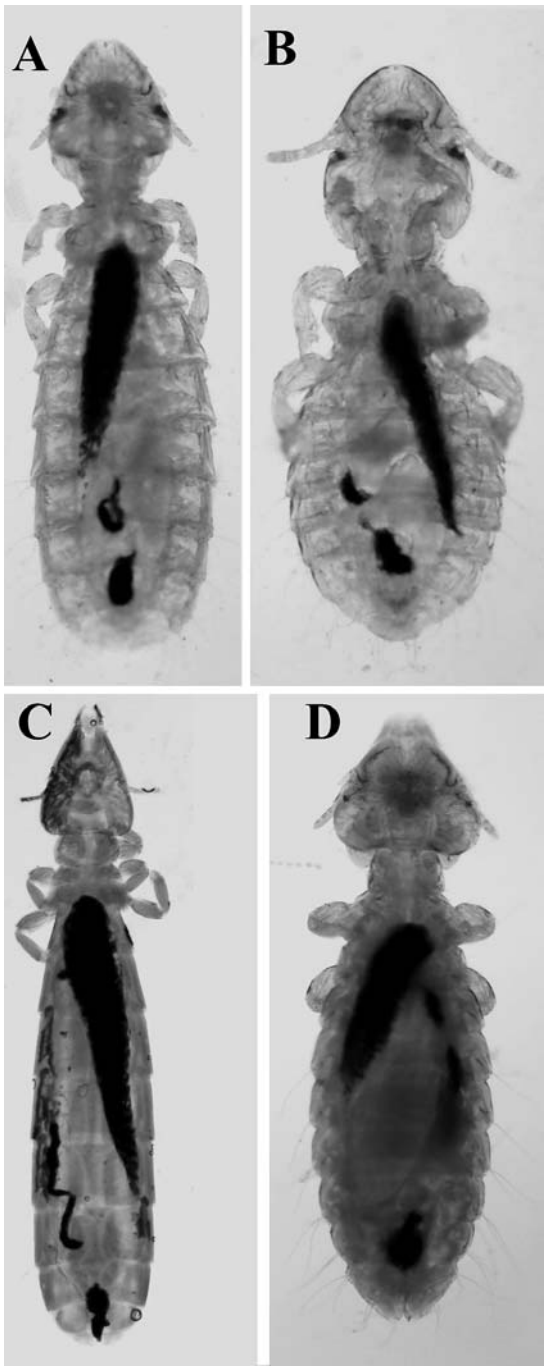

Fig. 16 – *Brueelia nebulosa* (from *Sturnus vulgaris*): A, female; B, male; *Brueelia tenuis* (from *Riparia riparia*): C, female; *Penenirmus auritus* (from *Dendrocopos major*): D, female.

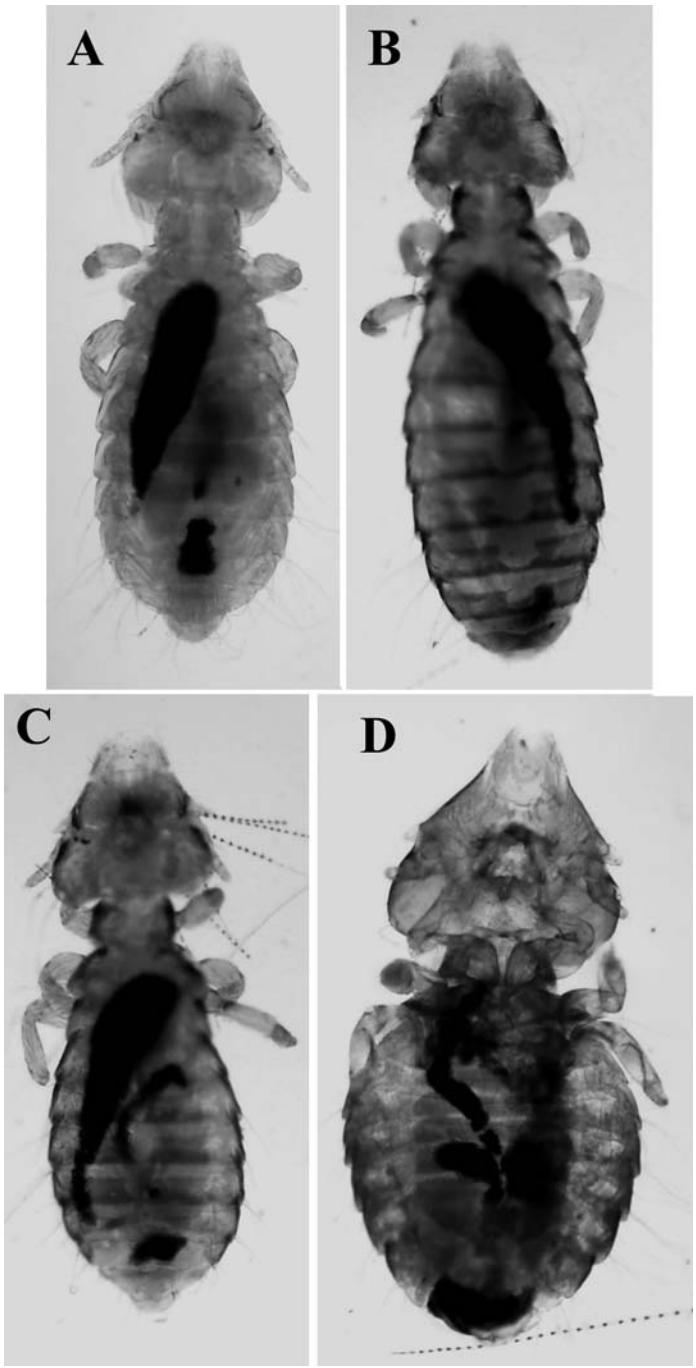

Fig. 17 – *Penenirmus auritus* (from *Dendrocopos major*): A, male; *Penenirmus speciosus* (from *Sylvia curruca*): B, female; C, male; *Sturnidoecus* sp. (from *Fringilla montifringilla*): D, female.

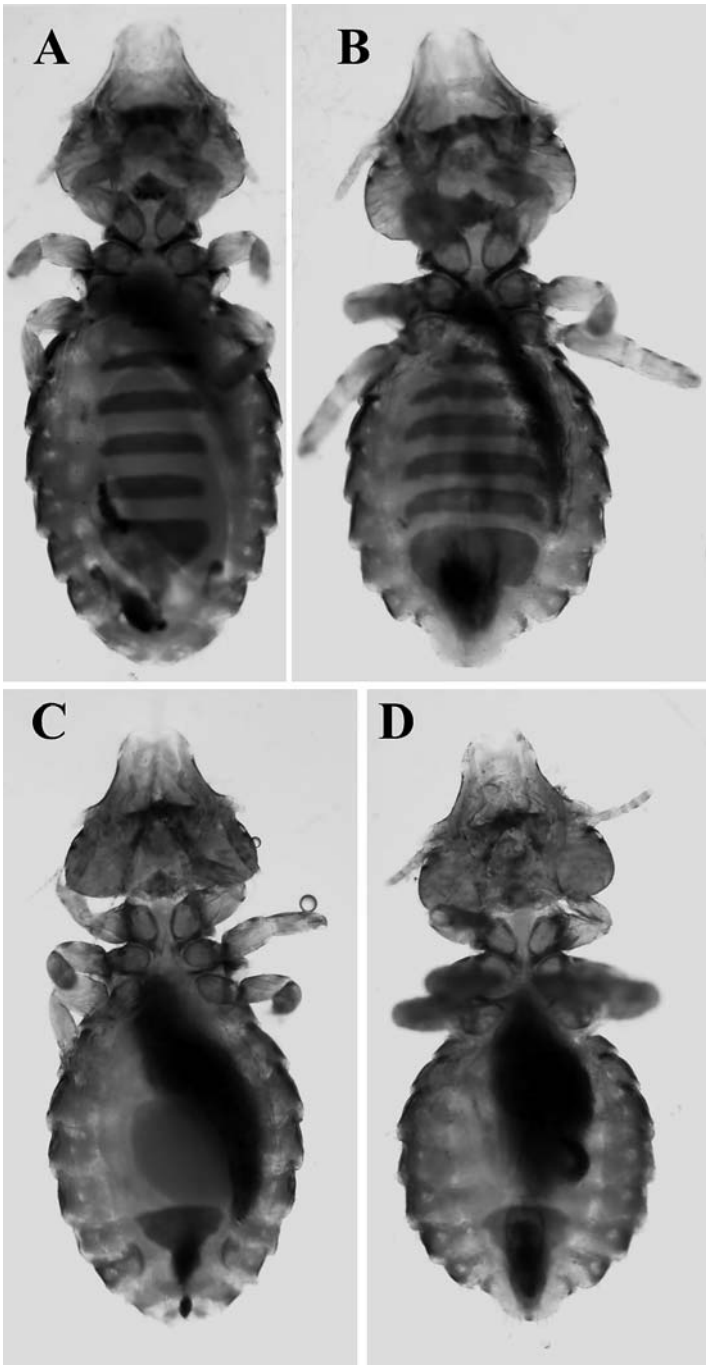

Fig. 18 – *Sturnidoecus pastoris* (from *Sturnus roseus*). Ventral view: A, female; B, male; *Sturnidoecus sturni* (from *Sturnus vulgaris*). Ventral view: C, female; D, male.

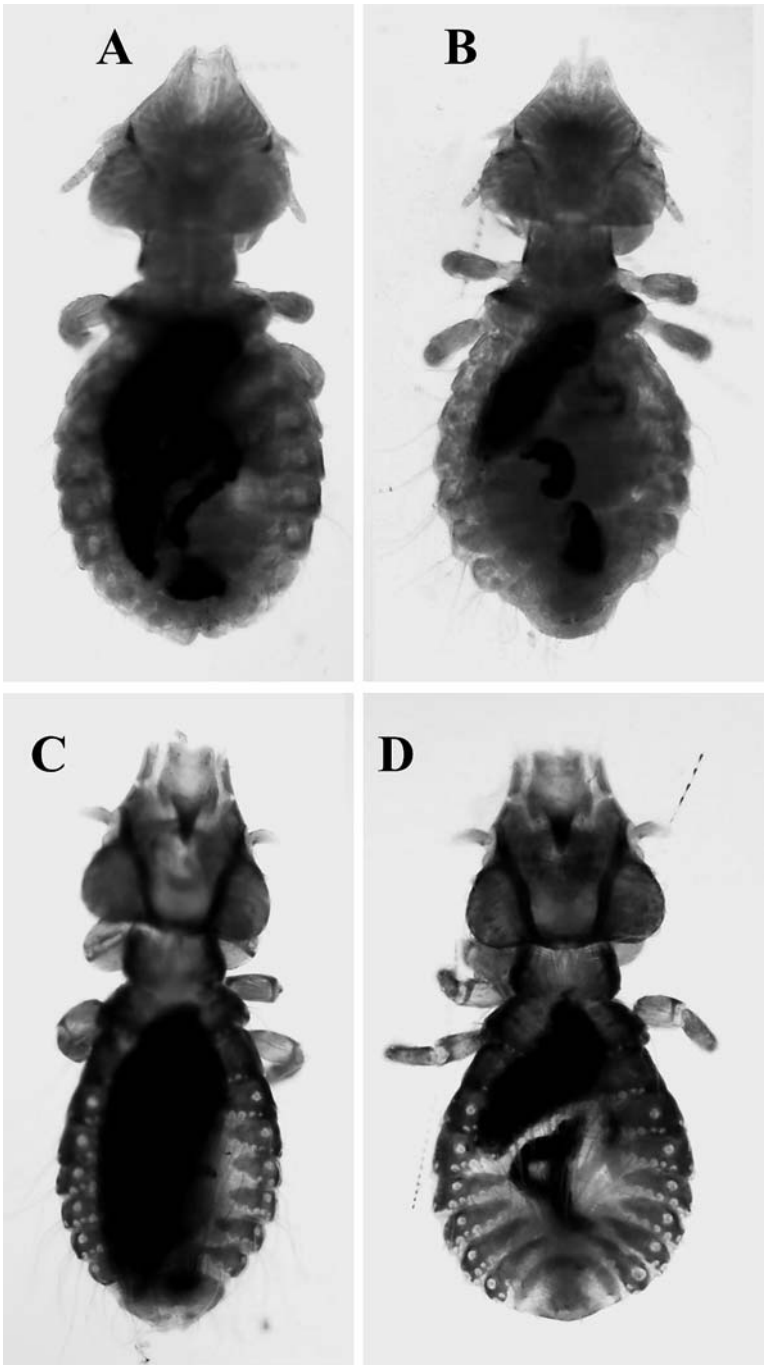

Fig. 19 – *Sturnidoecus ruficeps* (from *Passer montanus*): A, female; B, male; *Philopterus citrinellae* (from *Emberiza schoeniclus*): C, female; D, male.

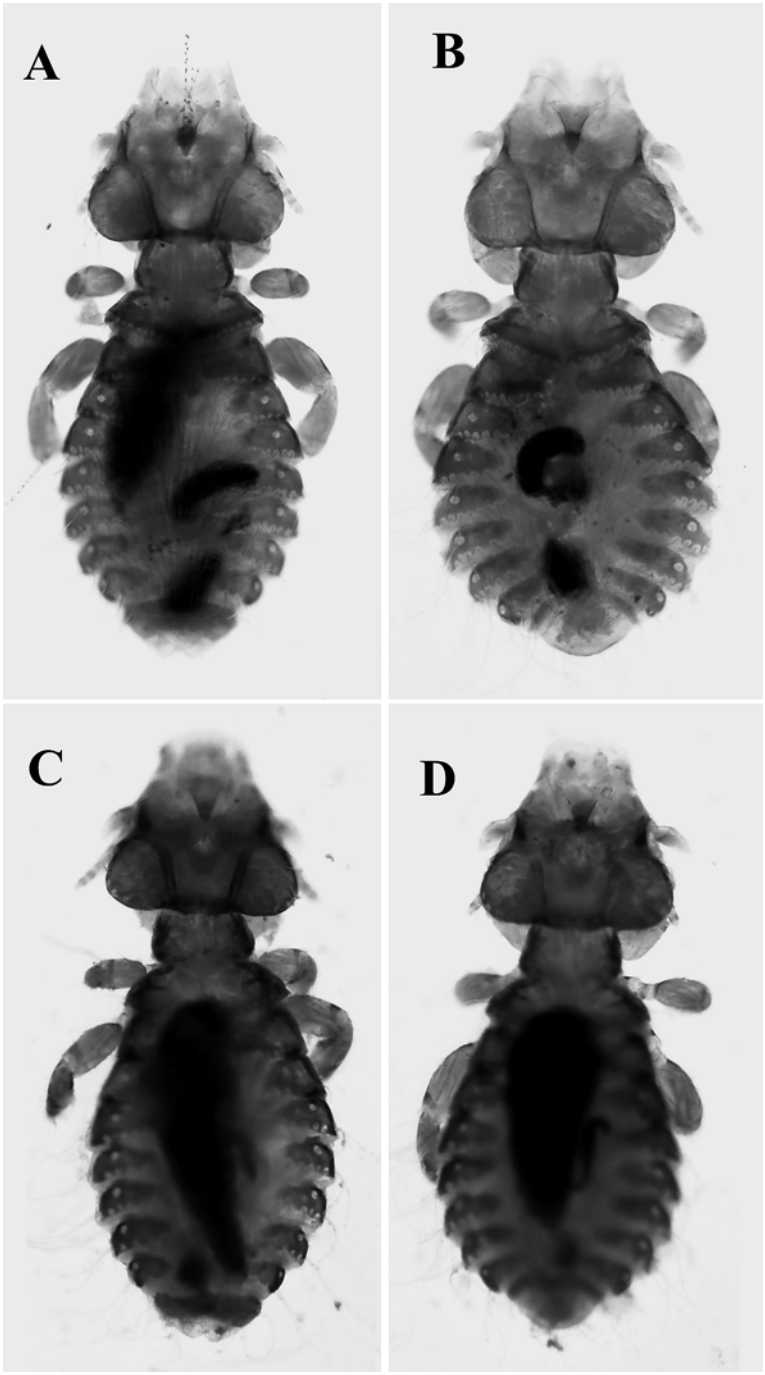

Fig. 20 – *Philopterus fringillae* (from *Passer domesticus*): A, female; B, male; *Philopterus turdi* (from *Turdus merula*): C, female; D, male.

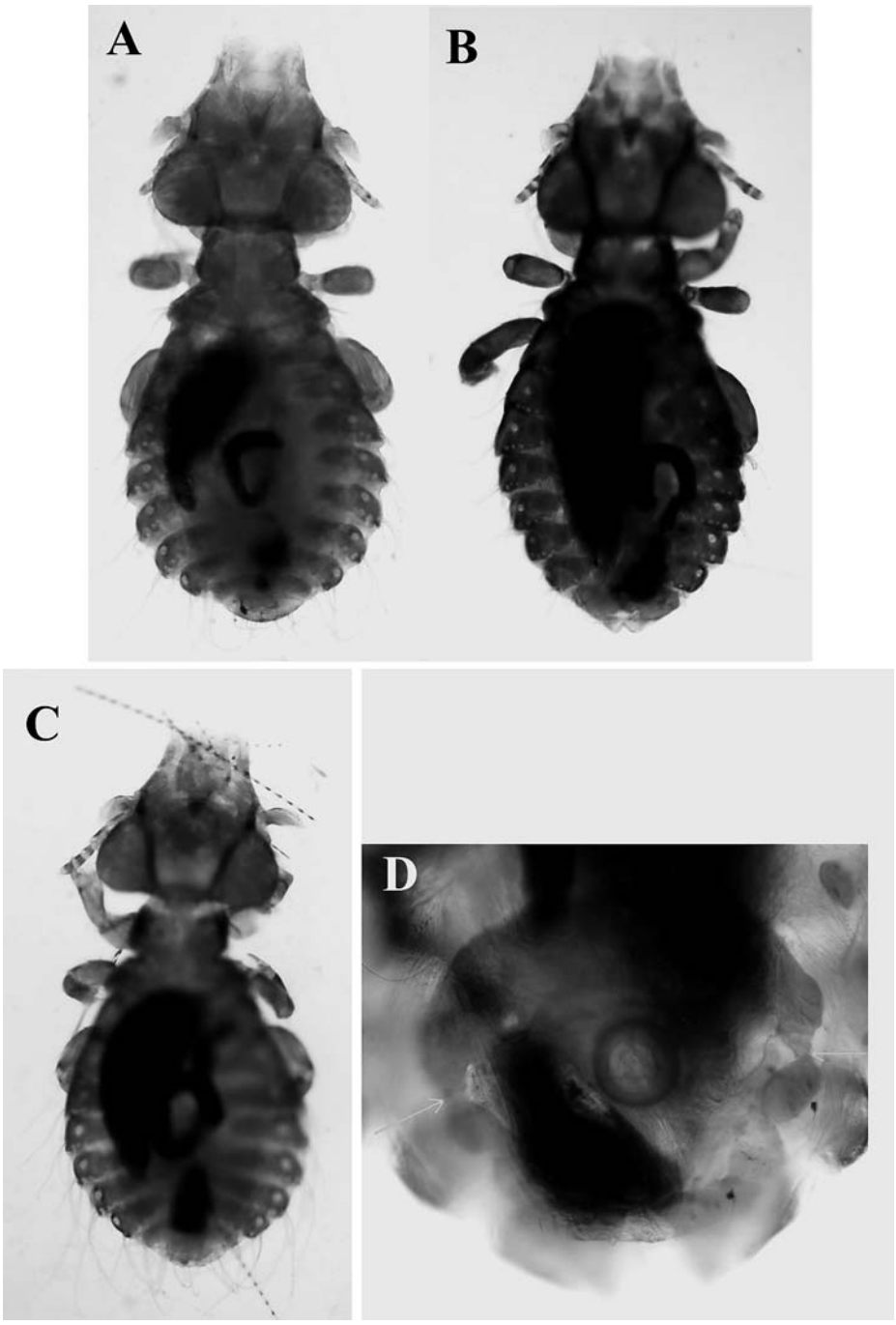

Fig. 21 – *Philopterus montani* (from *Passer montanus*): A, male; *Philopterus* sp. (from *Acrocephalus agricola*): B, female; C, male; D, female subgenital plate.