

THE NASAL MITES OF CUBAN BIRDS

II. PTILONYSSIDAE AND RHINONYSSIDAE (ACARINA : MESOSTIGMATA)

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This paper is the second part of the contribution dealing with nasal mites of Cuban birds belonging to the families Ascidae, Ereynetidae and Trombiculidae (DUSBÁBEK & ČERNÝ 1970). This part includes the families Ptilonyssidae and Rhinonyssidae. We follow here the point of view of BREGETOVA (1964, 1967) who considers both families as different taxa.

In the material the following species have been discovered.

Ptilonyssus Berlese and Trouessart, 1889.

1) *Ptilonyssus echinatus* Berlese and Trouessart, 1889.

This species is known from various Hirundinidae of Europe, Afrique, Asia, America and Australia. *Hirundo rustica*, *Petrochelidon pyrrhonota* and *Riparia riparia* are recorded as hosts from North America (AMARAL 1967 a).

Material examined : 10 females 1 male 2 protonymphs from *Hirundo rustica erythrogaster* Boddaert (Hirundinidae), Cacocum, Prov. of Oriente, 26.3.1965.

2) *Ptilonyssus constrictus* Ford, 1961.

This species was described after a holotype from *Dendroica coronata* (Parulidae) and further found on *Dolichonyx oryzivorus* (Icteridae) and *Pooecetes gramineus* (Fringillidae) (FORD 1961). FAIN & AITKEN (1967) found it in Trinidad on *Seiurus noveboracensis* and *Dendroica petechia* (Parulidae). We had the possibility to examine the material from 10 parulid species from Cuba and to compare it with the holotype and with the material from *Seiurus noveboracensis* from Trinidad. All birds were infested with this species. On the other hand, GEORGE (1961) reports from the U.S.A. 7 species of Parulidae to be parasitized by *Ptilonyssus japuicensis* Castro, 1948. This interesting fact can be explained in the following way. The measurements and characteristics of *P. japuicensis* in the paper by GEORGE (1961) do not correspond with this species as we can see from the description of 2 paratype specimens in the paper by FAIN (1964 a). The differences are as follows.

	WPP	WpP	setae PP	setae PS	hosts
GEORGE 1961	130-170 μ	62-91 μ	8 paires	5 paires	various Parulidae
FAIN 1964a	190-220 μ	105-118 μ	7 paires	4 paires	<i>Ramphocelus carbo</i> (Thraupidae)

Abbreviations : width of podosomal plate, width of pygidial plate, setae on podosomal plate, parascutal setae.

The female of *P. japiuibensis* from *Rhamphocelus carbo* from Trinidad which we examined agrees with the characteristics of the paratypes but it has 5 parascutal setae on one side. According to our opinion, GEORGE (1961) reported under the name of *P. japiuibensis* the specimens of another species which was later described as *P. constrictus*. This latter species shows a great variability, especially in the length of body setae (see table I and fig. 1, 2). If we compare all the measurements, we can see that the mites from various parulid hosts can be divided into two groups. The first group is represented by the specimens from *Dendroica* and *Parula*, the second group by the specimens from the remaining genera. We consider these groups as two subspecies : *Ptilonyssus constrictus constrictus* Ford, 1961 and *P. constrictus longisetosus* ssp. n.

TABLE I : Dimensions of body plates and length of setae of females of *Ptilonyssus constrictus* Ford, 1961 from various hosts of the family Parulidae.

SPECIES	n	LPP	WPP	LpP	WpP	LGP	WGP	LAP	WAP	LPS	LDS
<i>Parula americana</i>	8	171-202	126-146	32-45	69-85	110-116	39-48	88-103	57-73	18-22	8-12
<i>Dendroica tigrina</i>	2	191-203	114-162	37-41	73-80	118-121	35-36	85-114	63-69	19	15-16
<i>Dendroica dominica</i>	3	193-195	130-138	28-41	69-85	116-118	39-41	85-105	65-69	19-24	12-14
<i>Dendroica petechia</i>	1	191	126	36	65	118	45	91	65	22	13
<i>Dendroica coronata</i> *	1	197	149	42	75	116	51	106	76	24	17
<i>Dendroica virens</i>	2	191-203	146-152	36-45	73-85	106-118	53	103	77	21-23	14-18
<i>Dendroica cerulea</i>	5	190-211	134-152	36-44	66-81	106-124	43-49	97-101	61-71	22-24	12-16
Total	22	171-211	114-162	28-45	65-85	106-124	35-53	85-114	57-77	18-24	8-18
<i>Protonotaria citrae</i>	10	207-237	146-179	36-53	60-77	134-150	48-61	93-117	65-77	31-36	20-25
<i>Helmintheros vermivorus</i>	3	223-235	173-177	37-49	73-75	130-138	51-53	100-101	65-72	30-33	20-24
<i>Wilsonia citrina</i>	6	211-223	139-162	36-49	65-75	130-134	45-51	101-110	64-72	30-32	20-22
<i>Seiurus motacilla</i>	10	211-235	154-181	40-49	73-83	130-142	58-63	101-111	65-76	41-49	36-43
<i>Seiurus noveboracensis</i> **	4	223-231	165-181	45-49	77-81	130-146	56-61	106-121	70-78	39-41	24-26
Total	33	207-237	139-181	36-53	60-83	130-150	45-63	93-121	64-78	30-49	20-43

n = number of specimens measured L = length W = width PP = podosomal plate pP = pygidial plate GP = genital plate AP = anal plate LPS = maximal length of parascutal setae LDS = maximal length of dorsal opisthosomal setae *holotype of *P. constrictus* **Specimens from Trinidad.

Ptilonyssus constrictus constrictus Ford, 1961.

We attribute to this subspecies the specimens from the hosts belonging to the genera *Dendroica*, *Parula* and *Vermivora*. The females from *P. americana* have especially short dorsal setae.

Material examined : 4 females 2 males from *Parula a. americana* (L.), Havana, 4.8.1965 ; 2 protonymphs from *P. a. americana*, Havana, 6.8.1965 ; 7 females 4 protonymphs from *P. a. ame-*

ricana, Havana, 20.8.1965; 11 females 1 male 2 deutonymphs from *P. a. americana*, Aguacate, Mandinga, Baracoa, Prov. of Oriente, 18.9.1965; 1 male from *Vermivora chrysoptera* (L.), Havana, 4.10.1965; 2 females from *Dendroica tigrina* (Gmelin), Laguna del Tesoro, Prov. of Las Villas, 24.2.1965; 5 females 2 males 1 protonymph 1 larva from *Dendroica cerulea* (Wilson), Havana, 6.8.1965; 4 females from *D. cerulea*, Havana, 16.10.1965; 4 females from *Dendroica d. dominica* (L.), Havana, 28.8.1965; 1 female from *Dendroica virens waynei* Bangs, Havana, 16.10.1965; 3 females 1 deutonymph from *D. virens waynei*, Havana, 17.10.1965; 1 female from *Dendroica petechia aestiva* (Gmelin), Havana, 16.10.1965. All hosts belong to Parulidae.

Ptilonyssus constrictus longisetosus ssp. n.

Diagnosis: The new subspecies differs from the nominate subspecies in having the podosomal and genital plates longer and in having longer and stouter parascutal and dorsal opisthosomal setae.

The setal length varies from specimens with shortest setae from *Wilsonia citrina* to specimens with extremely long setae from *Seiurus motacilla*. The mites from *S. noveboracensis* from Trinidad are intermediate between *S. motacilla* and *Protonotaria citrea*.

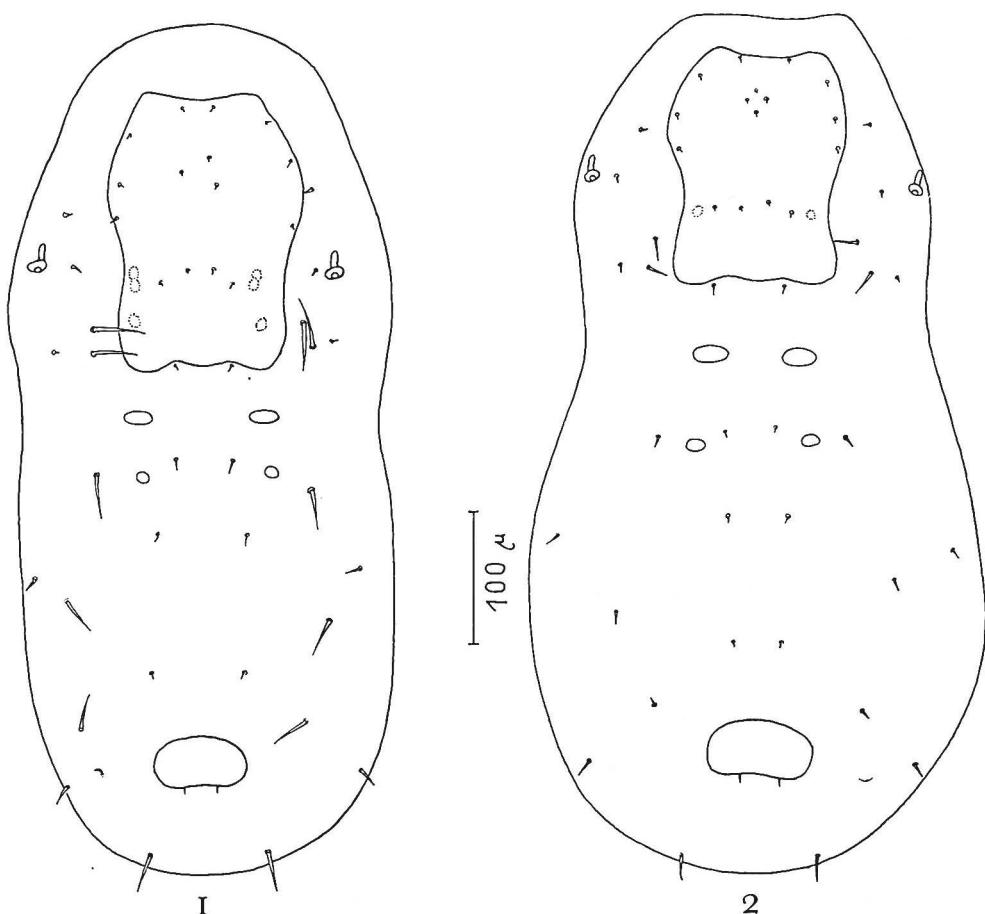


FIG. 1 : *Ptilonyssus constrictus longisetosus* ssp. n., holotype, female, dorsal view
(one microseta on podosomal plate is lacking).

FIG. 2 : *Ptilonyssus constrictus constrictus* Ford, 1961. Female from *Parula americana*, dorsal view.

Female (holotype, prep. No PÚ ČSAV 1638) : LId 656 μ , WId 300 μ , LPP 219 μ , WPP 162 μ , LpP 41 μ , WpP 81 μ , LGP 138 μ , WGP 61 μ , LAP 101 μ , WAP 65 μ , LG 199 μ , WG 81 μ , LCH 191 μ , LCh 6 μ , Lper 24 μ . The morphology resembles that of the typical subspecies except the characters given in the diagnosis.

Type host : *Seiurus motacilla* (Vieillot) (Parulidae).

Type locality : Botanical Garden, Havana, Cuba, 28.8.1965.

Material examined : 11 females 1 deutonymph with the same data as holotype ; 8 females 1 deutonymph 1 protonymph from *Wilsonia citrina* (Boddaert), Havana, 4.8.1965 ; 3 females from *Helmintheros vermivorus* (Gmelin), Havana, 1.9.1965 ; 1 deutonymph from *Protonotaria citrea* (Boddaert), Havana, 25.8.1965 ; 10 females 2 deutonymphs 1 protonymph from *P. citrea*, Havana, 28.8.1965 ; 13 females 3 males 1 deutonymph 2 protonymphs from *P. citrea*, Havana, 30.8.1965. All hosts belong to Parulidae.

Holotype and some paratypes are deposited in the collections of the Institute of Parasitology, Czechoslovak Academy of Sciences in Prague, some paratypes also in the Institute of Biology, Cuban Academy of Sciences in Havana.

3) *Ptilonyssus mimicola* Fain and Hyland, 1963 status nov.

On the ground of morphological characters we consider this taxon as a distinct species and not as a subspecies of *Ptilonyssus euroturdi* Fain and Hyland, 1963 to which it is closely related. Our specimen shows some differences from the original description. It is longer and wider (1 337 \times 521 μ), the podosomal plate is narrower (207 μ) with a straight posterior margin, anal plate greater (211 \times 106 μ) with an elongated cribrum, pygidial plate divided into 2 distinct shields. It may represent a new subspecies of *P. mimicola*, but more comparative material is required to solve this problem. The type was described from *Dumetella carolinensis* (Mimidae).

Material examined : 1 female from *Mimocichla plumbea schistacea* Baird (Turdidae), Cabo Cruz, Vereón, Prov. of Oriente, 30.3.1965.

4) *Ptilonyssus chalybeaedomesticae* Amaral, 1967.

This species has been recently described after 2 females from *Progne chalybea* from Brasil (AMARAL 1967 b). This is the second finding.

Material examined : 1 female from *Progne dominicensis cryptoleuca* Baird (Hirundinidae), Herradura, Prov. of Pinar del Río, 28.7.1965.

5) *Ptilonyssus teretistris* Černý, 1969.

Material examined : 1 female from *Teretistris fornsi* Gundlach (Parulidae), El Dorado, Prov. of Las Villas, 9.3.1965.

6) *Ptilonyssus ludovicianus* Černý, 1969.

Material examined : 6 females 1 protonymph from *Pheucticus ludovicianus* (L.) (Fringillidae), Soledad, Prov. of Las Villas, 18.11.1964.

7) *Ptilonyssus insularis* Černý, 1969.

The specimens collected in Isla de Pinos from the greater Antillean grackle and the Cuban black bird show the same characteristics, but the specimens found on the last-named host in Cuba differ in some morphological features such as the size of podosomal and genital plate and the length of body setae to which we attribute the subspecific degree. Hence, two subspecies

are reported : *Ptilonyssus insularis insularis* from Isla de Pinos and *P. insularis cubanus* from Cuba.

Material examined : 45 females 5 males 4 deutonymphs 15 protonymphs from 3 *Quiscalus niger caribaeus* (Todd), Cayo Piedra, Isla de Pinos, 8.10.1965 ; 10 females 1 male 6 protonymphs from 3 *Q. niger caribaeus*, Jucaro, Isla de Pinos, 9.10.1965 ; 2 females 1 male from *Q. niger caribaeus*, La Cocodrila, Isla de Pinos, 11.10.1965 ; 4 females 1 protonymph from 2 *Dives atroviolaceus* (d'Orbigny), La Cocodrila, 11.10.1965 ; 3 females 1 male 2 deutonymphs 1 protonymph from *D. atroviolaceus*, Aguacate, Mantinga, Baracoa, Prov. of Oriente, 18.10.1965. All hosts belong to Icteridae.

Neonyssus Hirst, 1921.

8) *Neonyssus (Spizonyssus) morofskyi* (Hyland, 1962).

The species was described from various Northamerican Fringillidae : *Spinus tristis* (type host), *Passerulus sandwichensis*, *Pooecetes gramineus*, *Junco hyemalis*, *Spizella pusilla*, *Passerella iliaca* and *Melospiza melodia* (HYLAND 1962). Later, it was found in Europe on *Plectrophenax nivalis* (Fringillidae) (FAIN 1964 b) and in South America (Brazil) on *Zonotrichia capensis* (Fringillidae) (AMARAL 1967 a). The morphology of European specimens differs in some respects from the original description : the third pair of sternal setae is distinctly longer than the remaining anterior pairs, a metasternal pore is present, the ventral idiosoma bears more setae and the anal plate bears only 2 setae. The morphology of Brasilian specimens is also different. The opisthosomal plate bears only 3 pairs of setae, dorsum only 6 pairs of setae, sternal plate lacks pores, a pair of pores is situated posterolaterally to it and the third pair of sternal setae is distinctly longer than the first 2 pairs. Maybe all these specimens are not conspecific with *N. morofskyi*.

Our material represents the first finding of this mite on parulid birds. The specimens agree with the original description with exception of some minor characters as arrangement of setae on opisthosomal plate and presence of a pair of additional setae on dorsal and ventral surface. Further material is needed to solve the problem whether all the above mentioned differences represent intraspecific variability.

Material examined : 3 females 1 protonymph from *Mniotilla varia* (L.) (Parulidae), Havana, 4.10.1965.

9) *Neonyssus (Paraneonyssus) hirsti* Castro and Pereira, 1947.

This species is known to parasitize *Passer domesticus* in South and North America and Europe and *P. ugandae* in Africa (FAIN 1957).

Material examined : 7 females 2 males from *Passer domesticus* L. (Ploceidae), Havana, 6.8.1965.

10) *Neonyssus (Paraneonyssus) icteridius* Strandtmann and Furman, 1956.

This species was found on many icterid birds : *Molothrus ater* (type host), *Sturnella magna*, *Xanthocephalus xanthocephalus*, *Agelaius phoeniceus*, *A. tricolor*, *Euphagus cyanocephalus*, *Quiscalus quiscula* and also on *Piranga ludoviciana* (Thraupidae) (STRANDTMANN & FURMAN 1956). The morphology and chaetotaxy of our specimens from *Mimocichla plumbea* agrees with the original description. Only some differences in dimensions can be observed. The propodosomal plate is longer (211-219 μ) and wider (223-237 μ) similarly as the opisthosomal plate (231-244 \times 195-209 μ) and the ventral, sternal and dorsal setae are a little longer when compared with

those of *Icterus dominicensis*. Because of lack of more material, we consider these differences as intraspecific variability.

Material examined : 2 females from *Icterus dominicensis melanopsis* (Wagler) (Icteridae), Viñales, Valle de San Vicente, Prov. of Pinar del Río, 20.8.1965 ; 2 females from *I. dominicensis melanopsis*, Sabaniya, Baracoa, Prov. of Oriente, 13.9.1965 ; 3 females from *Mimocichla plumbea schistacea* Baird (Turdidae), Sabaniya, Baracoa, 13.9.1965.

11) *Neonyssus (Paraneonyssus) pirangae* Černý, 1969.

Material examined : 9 females 1 male from *Piranga rubra rubra* (L.) (Thraupidae), Havana, 4.10.1965 ; 9 females 1 male 1 deutonymph from *P. r. rubra*, Havana, 5.10.1965.

Tyranninyssus Brooks and Strandtmann, 1960.

12) *Tyranninyssus spinosus* Brooks and Strandtmann, 1960.

This species is known to parasitize various Tyrannidae in the U.S.A. : *Muscivora forficata* (type host), *Tyrannus verticalis*, *T. dominicensis* and *T. tyrannus* (BROOKS & STRANDTMANN 1960).

Material examined : 15 females 2 males 1 protonymph from 4 *Tyrannus caudifasciatus flaves-*
cens Parkes, Carapachibey, Isla de Pinos, 18.4.1965 ; 2 females from *T. c. caudifasciatus* d'Orbigny, Canal de Vijil, La Gloria, Prov. of Camagüey, 30.10.1965.

13) *Tyranninyssus tyrannus caribaeus* Černý, 1969.

The nominate subspecies is known from flycatchers *Nuttallornis borealis* and *Contopus sordidulus* (BROOKS & STRANDTMANN 1960).

Material examined : 20 females 4 males 2 deutonymphs 1 protonymph from *Contopus cari-*
baeus caribaeus (d'Orbigny) (Tyrannidae), Santo Tomás, Ciénaga de Zapata, Prov. of Las Villas, 26.2.1965.

Rhinonyssus Trouessart, 1894.

14) *Rhinonyssus coniventris* Trouessart, 1894.

According to the last revision of FAIN (1963), three subspecies of *R. coniventris* are known from various Charadriidae and Scolopacidae. Our specimens found on both species of *Charadrius* belong to *R. coniventris echinipes* Hirst, 1921. Specimens from *Arenaria interpres* agree in their morphology with *R. c. coniventris* Trt., 1894 except the presence of only 2 spine-like setae on the ventral side of femur IV.

Material examined : 1 female 2 nymphs from *Charadrius melanodus* Ord (Charadriidae), Cayo Lanzanillo, north of Sagua la Grande, Prov. of Las Villas, 11.3.1965 ; 1 female from *Ch. wilsonia wilsonia* Ord, Cayo Lanzanillo, 11.3.1965 ; 2 females from *Arenaria interpres morinella* (L.) (Scolopacidae), Cayo Tío Pepe, north of Sagua La Grande, 12.3.1965.

15) *Rhinonyssus himantopus* Strandtmann, 1951.

This species is known from various genera of charadriiform birds from North America, Africa and Australia (FAIN 1957, DOMROW 1965 a). *Himantopus himantopus mexicanus* is its type host.

Material examined : 5 females 1 male from *Himantopus himantopus mexicanus* (Müller) (Recurvirostridae), Canal de Vijil, La Gloria, Prov. of Camagüey, 30.10.1965.

16) *Rhinonyssus tringae* Fain, 1963.

This species was described from *Tringa glareola* (type host) and *T. ochropus* from Africa (FAIN 1963). DOMROW (1965 b) mentions *R. tringae* as a synonym of *R. coniventris*, but in our opinion this is incorrect.

Material examined : 2 females 1 nymph from *Tringa melanoleuca* (Gmelin) (Scolopacidae), Laguna Los Dias Mones near Trinidad, prov. of Las Villas, 7.3.1966.

17) *Rhinonyssus spinactitis* Dusbábek, 1969.

Material examined : 1 female 1 male from *Actitis macularia* (L.) (Scolopacidae), Canal de Vijil, La Gloria, Prov. of Camagüey, 30.10.1965.

Sternostoma Berlese and Trouessart, 1889.

18) *Sternostoma hirundinis* Fain, 1956.

The species was described from African Hirundinidae *Psalidoprocne albiceps* (type host) and *Hirundo smithi* (FAIN 1956). Our specimens differ from the original description only in greater dimensions, especially in the podosomal plate.

Material examined : 10 females 1 nymph from *Hirundo rustica erythrogaster* Boddaert (Hirundinidae), Sabaniya, Baracoa, Prov. of Oriente, 13.9.1965.

19) *Sternostoma kelloggi* Hyland and Clark, 1959.

The species was described from *Dumetella carolinensis* in the U.S.A. (HYLAND & CLARK 1959). The type host belongs also to Mimidae.

Material examined : 1 female from *Mimus polyglottos orpheus* (L.) (Mimidae), Baracoa, Prov. of Oriente, 3.2.1965.

20) *Sternostoma quiscale* Fain and Aitken, 1967.

The type host of this species is *Quiscalus lugubris* (FAIN &AITKEN 1967). Our specimens agree in the morphology with the original description, but differ in smaller dimensions of the body and plates. Their sensory setae on tarsi II-IV are very fine and hardly distinguishable, only very slightly flattened. The chaetotaxy of tarsi II-IV corresponds fully with the figures in the original description.

Material examined : 8 females from *Quiscalus niger caribaeus* (Todd) (Icteridae), Jucaro, Isla de Pinos, 9.10.1965.

21) *Sternostoma* sp. A.

In its morphology our specimen is similar to *S. hutsoni* Furman, 1957 described from *Hylocichla ustulata* (= *Catharus ustulatus*) (Turdidae). The specificity of that species to the family Turdidae was later confirmed by FAIN & AITKEN (1967). Because our specimen is in poor condition and originates from a larid bird we hesitate to regard it as *S. hutsoni*.

Material examined : 1 female from *Thalasseus sandvicensis acuflavidus* (Cabot) (Laridae), El Socorro, north of Sagua La Grande, Prov. of Las Villas, 13.3.1965.

22) *Sternostoma* sp. B.

Our specimen resembles in its morphology *S. boydi* Strandtmann, 1951 known from birds of the families Laridae and Scolopacidae. It is impossible to make a definitive determination due to the bad condition of the mite.

Material examined : 1 female from *Teretistris fornsi* Gundlach (Parulidae), El Dorado, Sagua La Grande, Prov. of Las Villas, 9.3.1965.

Sternostomoides Bregetova, 1965.

- 23) *Sternostomoides spatulatus* (Furman, 1957).

This species was described from *Hylocichla ustulata* (= *Catharus ustulatus*) in the U.S.A. (FURMAN, 1957).

Material examined : 1 female from *Catharus fuscescens fuscescens* (Stephens) (Turdidae), Havana, 4.10.1965.

- 24) *Sternostomoides orlandoi* Dusbábek, 1969.

Material examined : 2 females from *Mimocichla plumbea rubripes* (Temminck) (Turdidae), Santa Fé, Prov. of Havana, 3.2.1965 ; 1 female from *M. plumbea schistacea* Baird, Gran Piedra, Prov. of Oriente, 26.3.1965.

Passeronyssus Fain, 1960.

- 25) *Passeronyssus vireonis* Dusbábek, 1969.

Material examined : 2 females 2 nymphs from *Vireo olivaceus olivaceus* (L.) (Vireonidae), Havana, 4.10.1965.

- 26) *Passeronyssus havanensis* Dusbábek, 1969.

Material examined : 22 females 1 male from *Vireo flavifrons* Vieillot (Vireonidae), Havana, 5.10.1965 ; 1 female from *V. griseus* (Boddaert), Havana, 5.10.1965.

Mesonyssus Fain, 1960.

- 27) *Mesonyssus belopolskii* (Bregetova, 1950).

This species occurs on various ardeid birds and is known from Europe, Asia, Africa, America and Australia. Our specimens from *Butorides virescens* agree fully with the nominate subspecies both in the form of podosomal plate and in total dimensions. The specimens found on *Egretta thula* agree in the form of podosomal plate with the description of *M. belopolskii nycticoracis* Fain, 1961, but in the dimensions they resemble more *M. b. belopolskii* (Breg., 1950). The specimens from *Florida coerulea* correspond with those from *E. thula*, but differ in greater length of opisthosomal plate which reaches 350-412 μ .

Material examined : 1 female 5 males 1 nymph from *Butorides virescens maculatus* (Boddaert), Santa Fé, Prov. of Havana, 3.2.1965 ; 17 females 22 males 6 nymphs from *B. virescens maculatus*, Salinas, Ciénaga de Zapata, Prov. of Las Villas, 27.2.1965 ; 12 females 7 males 3 nymphs from *Egretta thula thula* (Molina), La Bajada, Guanajacabibes, Prov. of Pinar del Río, 24.8.1965 ; 12 males 1 nymph from *Florida coerulea* (L.), Carijí near Sola, Sierra de Cubita, Prov. of Camagüey, 26.10.1965 ; 3 females from *F. coerulea*, Cayo Piedra, Isla de Pinos, 9.10.1965. All hosts belong to Ardeidae.

- 28) *Mesonyssus bubulci* (Zumpt and Till, 1955).

This species is known from *Ardeola ibis* (syn. *Bubulcus ibis*) (type host) and *Egretta intermedia* (FAIN, 1957).

Material examined : 15 females 12 males 5 nymphs from *Ardeola ibis ibis* (L.) (Ardeidae), Baracoa near Havana, 2.12.1964 ; 11 females 8 males 3 nymphs from *A. i. ibis*, Santo Tomás, Ciénaga de Zapata, Prov. of Las Villas, 6.1.1965 ; 7 females 4 males 1 nymph from *A. i. ibis*, Chiririco, Prov. of Oriente, 22.1.1965 ; 10 females 5 males 3 nymphs from *A. i. ibis*, Sabaniya, Baracoa, Prov. of Oriente, 13.9.1965 ; 9 females 6 males 7 nymphs from *A. i. ibis*, Canal de Vijil, La Gloria, Prov. of Camagüey, 28.10.1965.

29) *Mesonyssus geotrygoni* Dusbábek, 1969.

Material examined : 7 females from *Geotrygon chrysia* Salvadori (Columbidae), Carapachibey, Isla de Pinos, 18.4.1965.

Tinaminyssus Strandtmann and Wharton, 1958.

30) *Tinaminyssus carapachibeyus* Dusbábek, 1969.

The occurrence of a member of this genus on a pigeon is very surprising. Therefore it seems to be an accidental finding.

Material examined : 1 female from *Geotrygon chrysia* Salvadori (Columbidae), Carapachibey, Isla de Pinos, 18.4.1965.

Larinyssus Strandtmann, 1948.

31) *Larinyssus orbicularis* Strandtmann, 1948.

This species is a wide-spread parasite known until now only from Laridae. The material from the black skimmer is the first record from the related family Rynchopidae.

Material examined : 5 females 1 male 2 nymphs from *Larus atricilla* L. (Laridae), Santa Fé near Havana, 10.12.1964 ; 23 females 8 males 1 nymph from *Rynchosops nigra nigra* (L.) (Rynchopidae), Laguna Los Dias Mones near Trinidad, Prov. of Las Villas, 8.3.1966.

All specimens were collected by the authors and J. de la Cruz, Institute of Biology, Cuban Academy of Sciences.

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SUMMARY.

Thirteen species of Ptilonyssidae and eighteen species of Rhinonyssidae are reported from the nasal cavities of Cuban birds. *Ptilonyssus constrictus longisetosus* ssp. n. is described as new subspecies from some genera of parulid birds. A list of all nasal parasites found during the investigations is given.

LIST OF PARASITES AND THEIR HOSTS.

Ciconiiformes.

Ardeidae

- Ardeola ibis* *Mesonyssus bubulci* (Zumpt and Till, 1955).
Butorides virescens *Mesonyssus belopolskii belopolskii* (Breg., 1950).
Egretta thula *Mesonyssus belopolskii* ssp.
Florida coerulea *Mesonyssus belopolskii* ssp.

Charadriiformes.

Charadriidae

- Charadrius melanotos* *Rhinonyssus coniventris echinipes* Hirst, 1921.
Charadrius wilsonia *Rhinonyssus coniventris* Hirst, 1921.

Recurvirostridae

- Himantopus himantopus* *Rhinonyssus himantopus* Str., 1951.

Scolopacidae

- Actitis macularia* *Rhinonyssus spinactitis* Dusb., 1969.
Arenaria interpres *Rhinonyssus coniventris* ssp.
Crocethia alba *Babiangia danieli* Dusb. and Černý, 1970.
Squatarola squatarola *Babiangia danieli* Dusb. and Černý, 1970.
Tringa melanoleuca *Rhinonyssus tringae* Fain, 1963.

Laridae

- Larus argentatus* *Babiangia danieli* Dusb. and Černý, 1970.
Larus atricilla *Larinnyssus orbicularis* Str., 1948.
Thalasseus maximus *Babiangia danieli* Dusb. and Černý, 1970.
Thalasseus sandvicensis *Babiangia danieli* Dusb. and Černý, 1970.
Sternostoma sp. A.

Rynchopidae

- Rynchops nigra* *Larinnyssus orbicularis* Str., 1948.

Columbiformes.

Columbidae

- Geotrygon chrysia* *Mesonyssus geotrygoni* Dusb., 1969.
Tinaminyssus carapachibeyus Dusb., 1969.

Apodiformes.

Trochilidae

- Chlorostilbon ricordii* *Tropicoseius bakeri* Dusb. and Černý, 1970.

Strigiformes.

Tytonidae

- Tyto alba* *Neoboydaia* sp.

Passeriformes.

Tyrannidae

Contopus caribaeus ♂
Tyrannus caudifasciatus
Tyrannus dominicensis

Tyranninyssus tyrannus caribaeus Černý, 1969.
Tyranninyssus spinosus Brooks and Str., 1960.
Boydaia tyrannis Ford, 1959.

Hirundinidae

Hirundo rustica
Progne dominicensis

Ptilonyssus echinatus Berl. and Trt., 1889.
Sternostoma hirundinis Fain, 1956.
Ptilonyssus chalybeaedomesticae Amaral, 1967.

Mimidae

Mimus polyglottos

Boydaia morenoi Dusb. and Černý, 1970.
Sternostoma kelloggi Hyland and Clark, 1959.

Turdidae

Catharus fuscescens
Mimocichla plumbea

Sternostomoides spatulatus (Furm., 1957).
Boydaia sp.
Ptilonyssus mimicola Fain and Hyland, 1963.
Neonyssus icteridius Str. and Fur., 1956.
Sternostomoides orlandoi Dusb., 1969.

Vireonidae

Vireo flavifrons
Vireo griseus
Vireo olivaceus

Passeronyssus havanensis Dusb., 1969.
Passeronyssus havanensis Dusb., 1969.
Passeronyssus vireonis Dusb., 1969.

Thraupidae

Piranga rubra

Neonyssus pirangae Černý, 1969.

Icteridae

Agelaius humeralis
Dives atroviolaceus

Boydaia agelaii Fain and Aitken, 1968.
Boydaia agelaii Fain and Aitken, 1968.
Ptilonyssus insularis insularis Černý, 1969.
Ptilonyssus insularis cubanus Černý, 1969.
Ptilonyssus insularis insularis Černý, 1969.
Sternostoma quiscale Fain and Aitken, 1967.

Fringillidae

Passerina cyanea
Pheucticus ludovicianus

Boydaia rosickyi Dusb. and Černý, 1970.
Ptilonyssus ludovicianus Černý, 1969.

Ploceidae

Passer domesticus

Neonyssus hirsti Castro and Pereira, 1947.

Parulidae

Dendroica cerulea
Dendroica dominica
Dendroica petechia
Dendroica tigrina
Dendroica virens
Helminthorus vermivorus
Mniotilla varia

Boydaia faini Dusb. and Černý, 1970.
Ptilonyssus constrictus constrictus Ford, 1961.
Ptilonyssus constrictus longisetosus ssp. n.
Neonyssus morofskyi (Hyland, 1962).

<i>Parula americana</i>	<i>Ptilonyssus constrictus constrictus</i> Ford, 1961.
<i>Protonotaria citrea</i>	<i>Ptilonyssus constrictus longisetosus</i> ssp. n.
<i>Seiurus motacilla</i>	<i>Ptilonyssus constrictus longisetosus</i> ssp. n.
<i>Teretistris fornsi</i>	<i>Ptilonyssus teretistris</i> Černý, 1969.
<i>Vermivora chrysopétra</i>	<i>Sternostoma</i> sp. B.
<i>Wilsonia citrina</i>	<i>Ptilonyssus constrictus constrictus</i> Ford, 1961. <i>Ptilonyssus constrictus longisetosus</i> ssp. n.

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