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Six New Nasal Mites (Mesostigmata, Ptilonyssidae) from Cuban Birds

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Abstract. Six new Ptilonyssidae are described from Cuban passeriform birds: *Ptilonyssus teretistris* sp. n., *P. ludovicianus* sp. n., *P. insularis insularis* subsp. n., *P. insularis cubanus* subsp. n., *Neonyssus pirangae* sp. n. and *Tyranninyssus tyrannus caribaeus* subsp. n.

Among the avian nasal mites collected during the field expeditions of the Institute of Biology of the Cuban Academy of Sciences and the Institute of Parasitology of the Czechoslovak Academy of Sciences in the years 1964—1965 new species and subspecies have been found which are described below. I accept here the point of view of BREGETOVA (1967) who considers the genus *Neonyssus* Hirst, 1921 as a distinct taxon. The abbreviations in the descriptions are used after FAIN and HYLAND (1962) and the measurements are given in μ. The holotypes of the new forms are deposited in the collections of the Institute of Parasitology in Prague, the paratypes in the same institute and in the Institute of Biology in Havana. The author wishes to express his acknowledgement to O. Garrido for the determination of birds and to J. de la Cruz and F. Dusbábek for collecting part of the examined material.

1. *Ptilonyssus teretistris* sp. n. Figs. 1, 2

Holotype: female from *Teretistris fornsi* Gundlach (Parulidae), El Dorado, prov. of Las Villas, 9. 3. 1965, Nr CU 683, leg. V. Černý and J. de la Cruz.

Female: LId 601, WId 250, LPP 217, WPP 160, LpP 33, WpP 81, LGP 114, WGP 40, LAP 101, WAP 49, LG 154, WG 73, LCH 202, LCh 7, LB (= length of cheliceral bulbus) 65, Lper 24.

Podosomal plate broadest posteriorly, with minuscule setae. Due to the position the number of pairs of setae cannot be seen exactly. Pygidial plate with 2 very short setae, 4 μ long. The podosomal plate is flanked laterally by 5 pairs of short setae not exceeding 10 μ. A pair of short setae (8 μ) just posterior to podosomal

plate. Dorsum of opisthosoma with 8 pairs of short setae not exceeding 10 μ and a pair of terminal setae, 15 μ long. Three pairs of sternal setae, all off the plate. (One of the setae of the first pair lacking in our specimen.) Four pores in the region of sternal plate. A pair of setae located on the lateral margin of genital plate and

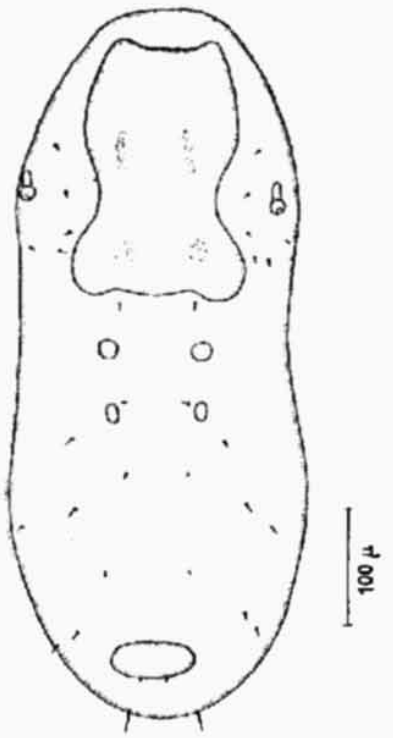

Fig. 1. *Ptilonyssus teretistris* sp. n., female, dorsal view

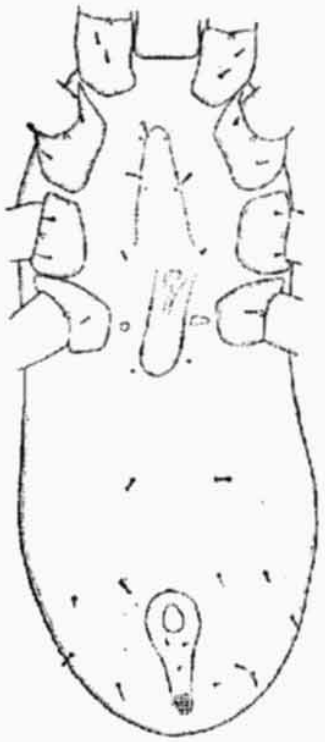

Fig. 2. *Ptilonyssus teretistris* sp. n., female, ventral view

a pair of pores off the genital plate posterolateral to the setae. The paired adanal setae are situated behind the level of posterior margin of the anal opening, 8 μ long. The post-anal seta a little shorter. The ventral side of the opisthosoma with 5 pairs of setae and 2 unpaired setae. The longest of them reach 16 μ. Coxal formula 2-2-2-1. Coxa II with long anterodorsal spine. Legs with spinose setae. Claws on tarsus I modified. Deutosternum with 8 denticles.

Ptilonyssus teretistris sp. n. belongs to the species with the posterior position of adanal setae such as *P. sialiae* George, *P. mimi* George, *P. richmondenae* George. It differs from these species in the form of the podosomal plate, in having the pores associated with the anterior two pairs of sternal setae and in having the pores of genital setae located off the genital plate. Some differences exist also in the length and position of body setae.

2. *Ptilonyssus ludovicianus* sp. n. Figs. 3, 4

Holotype: female from *Pheucticus ludovicianus* (Linné) (Fringillidae), Soledad, Botanical Garden, prov. of Las Villas, 18. 11. 1964, Nr CU 39/3, leg. V. Černý and J. de la Cruz. Paratypes: 5 ♀ 1 protonymph, the same data as the holotype.

Female: LId 621 (621—795), WId 313 (313—406), LPP 240 (235—260), WPP 187 (187—215), LpP 41 (41—57), WpP 90 (77—101), LGP 126 (126—146), WGP 57 (57—62), LAP — (114—130), WAP 73 (65—81), LG 203, WG 83, LCH 231, LCh 7, LB 71, Lper 29. In parentheses minimal and maximal values.

Podosomal plate irregular, with 7 pairs of minute setae, those situated laterally being longer. Pygidial plate concave posteriorly, with 2 short setae (8 μ). The podosomal plate is flanked by 5 pairs of setae. Two pairs are distinctly longer reaching up to 36 μ (in one paratype 45 μ). A pair of setae inserted just on the posterior margin of the podosomal plate (in other specimens closely to it). On the dorsal side of opisthosoma 8 pairs of setae not exceeding 25 μ and a pair of terminal setae, 32 μ long. Three pairs of sternal setae situated off the plate. (The setae of the first pair may by located on the margin.) Two pairs of anterior pores very indistinct. A pair of genital setae situated on the lateral margin of the genital plate, with

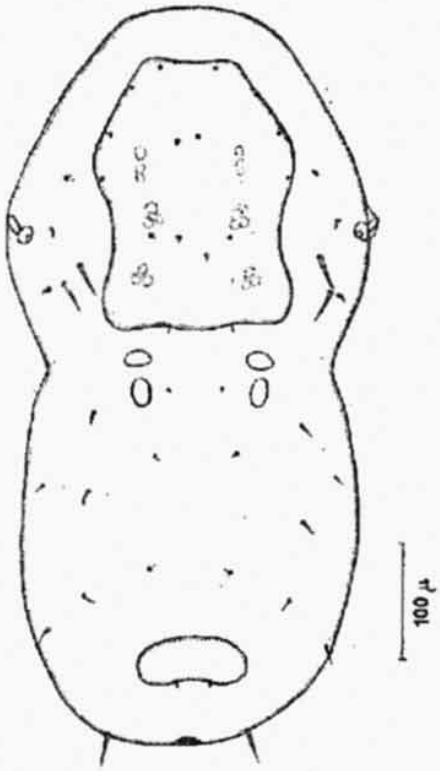

Fig. 3. *Ptilonyssus ludovicianus* sp. n., female, dorsal view

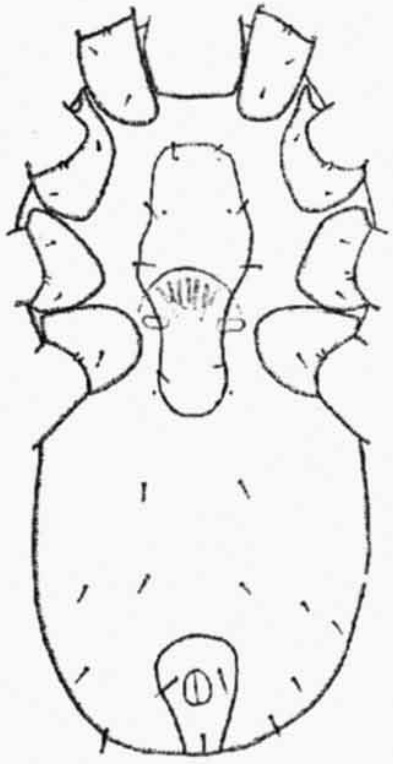

Fig. 4. *Ptilonyssus ludovicianus* sp. n., female, ventral view

a pair of pores posterolaterally. The paired adanal setae located at the level of the anterior margin of the anal opening. The ventral side of the opisthosoma with 5 pairs of setae and 1 unpaired seta. (The paratypes bear 5 or 6 pairs.) Coxal formula 2-2-2-1. Coxa II with long anterodorsal spine. Legs with spinose setae. Claws on tarsus I modified. Deutosternum with 10 denticles.

Ptilonyssus ludovicianus sp. n. differs from other members of the "sairae"-group from America in having 7 pairs of setae on podosomal plate and in the number and relative size of body setae.

3. *Ptilonyssus insularis* sp. n.

This nasal mite was collected from two species of icterid birds, greater Antillean grackle and Cuban black bird. The specimens collected from both species in Isla de Pinos have the same characteristics. The few specimens found in Cuban black bird from the province of Oriente show some differences to which subspecific rank can be attributed.

Ptilonyssus insularis insularis subsp. n. Figs. 5,6

Holotype: female from *Quiscalus niger caribaeus* (Todd) (Icteridae), Cayo Piedra, Isla de Pinos, 8. 10. 1965, Nr CU 2472/1, leg. F. Dusbábek and J. de la Cruz. Paratypes: 3 ♂ 14 ♀ 2 deutonymphs 6 protonymphs, the same data as the holotype. Other material: 2 ♂ 30 ♀ 2 deutonymphs 9 protonymphs from 3 *Q. niger caribaeus*, Cayo Piedra, Isla de Pinos, 8. 10. 1965; 1 ♂ 10 ♀ 6 protonymphs from 3 *Q. niger caribaeus*, La Cocodrila, Isla de Pinos, 11. 10. 1965; 4 ♀ 1 protonymph from 2 *Dives atroviolaceus* (d'Orbigny) (Icteridae), La Cocodrila, 11. 10. 1965.

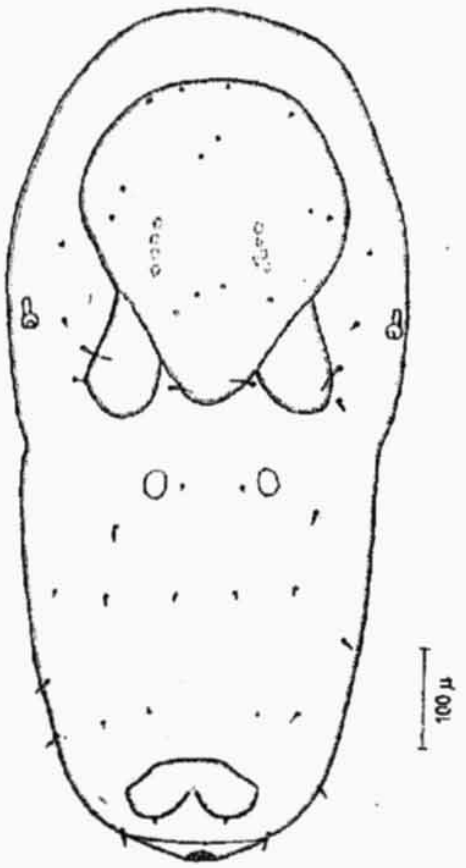

Fig. 5. *Ptilonyssus insularis insularis* subsp. n., female, dorsal view

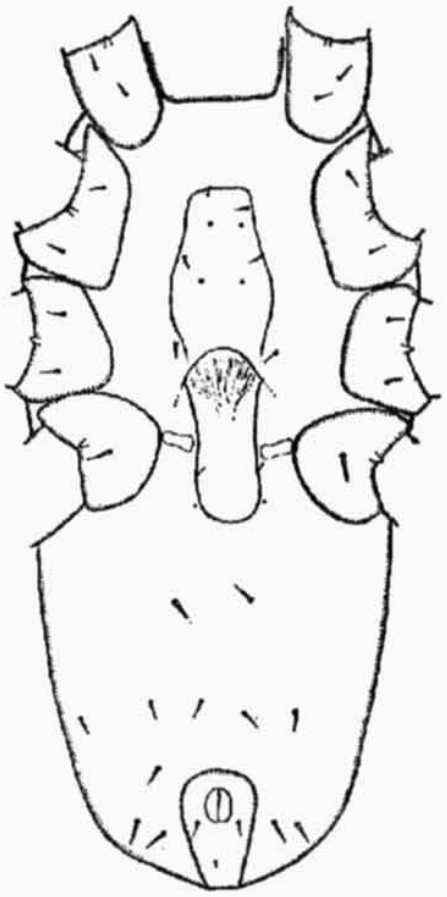

Fig. 6. *Ptilonyssus insularis insularis* subsp. n., female, ventral view

Female: LId 831 (767—1493), WId 398 (398— 660), LPP 323 (323—385), WPP 277 (277—325), LpP 61 (59—77), WpP 114 (110—126), LGP 177 (158—177), WGP 76 (57—80), LAP 146 (146—159), WAP 72 (72—97), LG 284, WG 133, LCH 303, LCh 9, LB 93, Lper 36.

Podosomal plate deeply incised posteriorly and almost divided in 3 shields, with 7 pairs of minuscule setae. Pygidial plate with deep incision posteriorly and

with 2 short setae (5 μ). In some specimens the pygidial plate can be divided in 2 shields. The podosomal plate is flanked by 4 pairs of setae, the first pair being the smallest (4 μ) and the third pair the longest (28 μ). A pair of spinose setae (25 μ) situated in the incisions of the podosomal plate. Dorsum of opisthosoma with 8 pairs of setae, 1 unpaired seta and a pair of terminal setae. The median setae are shorter than the lateral ones. The length of the lateral setae does not exceed 25 μ. Three pairs of sternal setae. The third pair of setae located off the plate. Each of the 4 anterior sternal setae is associated with a pore. The genital setae are situated on the lateral margin of the plate and also associated with a pair of pores. The anal plate is pear-shaped. The adanal setae are located at the level of posterior end of the anal opening. The post-anal seta is shorter. The ventral side of the opisthosoma with 5 pairs and 2 unpaired setae (mostly 6 pairs of setae in paratypes), the longest of them reach 32 μ. Coxal formula 2-2-2-1. Coxa II with medium-sized anterodorsal spine. Claws on tarsus I modified, claws on tarsi II—IV strongly curved. Deutosternum with 10 denticles.

The male specimens are in poor condition so that no detailed description can be given. The form of the podosomal plate is the same as in the female.

Ptilonyssus agelaii Fain and Aitken has been recently described from American icterid birds. *P. insularis* sp. n. is a larger form and differs also in having more pronounced division of podosomal plate, strongly incised till divided pygidial plate and longer body setae in other arrangement. The form of the podosomal and pygidial plate in combination with the chaetotaxy separate the new species also from other members of the genus from the American continent.

Ptilonyssus insularis cubanus subsp. n.

Holotype: female from *Dives atroviolaceus* (d'Orbigny) (Icteridae), Aguacate, Mantingua, Baracoa, prov. of Oriente, 18. 9. 1965, Nr CU 2367/1, leg. F. Dusbábek and J. de la Cruz. Paratypes: 1 ♂ 2 ♀ 2 deutonymphs 1 protonymph, the same data as the holotype.

Female: LId 956 (956—1100), WId 447 (447—483), LPP 317 (288—317), WPP 250 (250—268), LpP 59 (59—65), WpP 134 (132—134), LGP 122 (122—138), WGP 69 (69—81), LAP 142 (142—145), WAP 81 (81—85), LG 254, WG 110, LCH 219, LCh 8, LB 75, Lper 31.

Ptilonyssus insularis cubanus differs from the nominate subspecies in having the podosomal plate a little smaller, the genital plate and chelicerae shorter. The third pair of setae which flank the podosomal plate 18 μ, the setae in the incisions of posterior margin of podosomal plate 13 μ and the longest ventral setae 25 μ long.

The male specimen is distorted. It shows the same differences in the length of setae adjacent to the podosomal plate as in female.

4. *Neonyssus (Paraneonyssus) pirangae* sp. n. Figs. 7—10

Holotype: female from *Piranga rubra rubra* (Linné) (Thraupidae), Havana, Botanical Garden, 4. 10. 1965, Nr CU 2422/4, leg. F. Dusbábek and J. de la Cruz. Paratypes: 1 ♂ 8 ♀ 1 deutonymph 1 protonymph 1 larva, the same data as the holotype; 1 ♂ 9 ♀ 1 deutonymph from *P. r. rubra*, Havana, Botanical Garden, 5. 9. 1965.

Female: LId 660 (568—774), WId 325 (296—337), LPP 197 (195—215), WPP 240 (217—240), LOP 260 (240—272), WOP 197 (162—209), LGP 114 (101—114), WGP 57 (49—57) LAP 90 (90—101), WAP 70 (56—80), LG 122, WG 73, LCH 89, LCh 4, Lper 26.

Podosomal plate rounded pentagonal, with posterior margin nearly straight, with 7 pairs of minuscule setae and a pair of short acute setae in the posterolateral angles. (One unpaired minuscule seta present in the holotype.) Opisthosomal plate

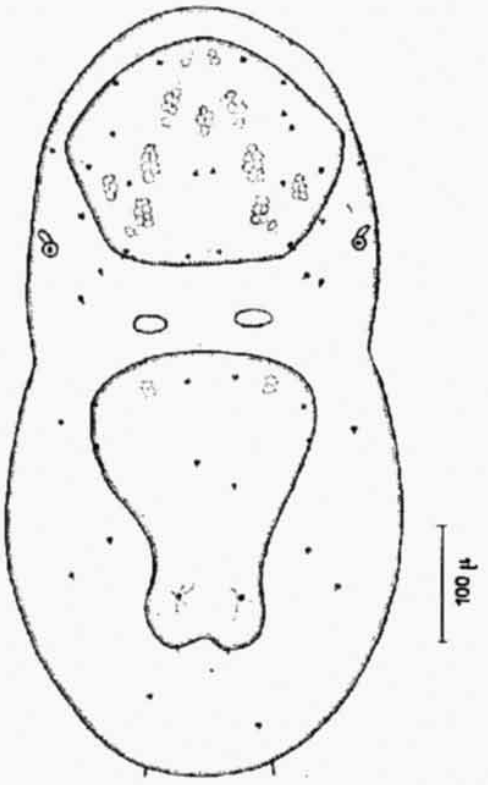

Fig. 7. *Neonyssus pirangae* sp. n., female, dorsal view

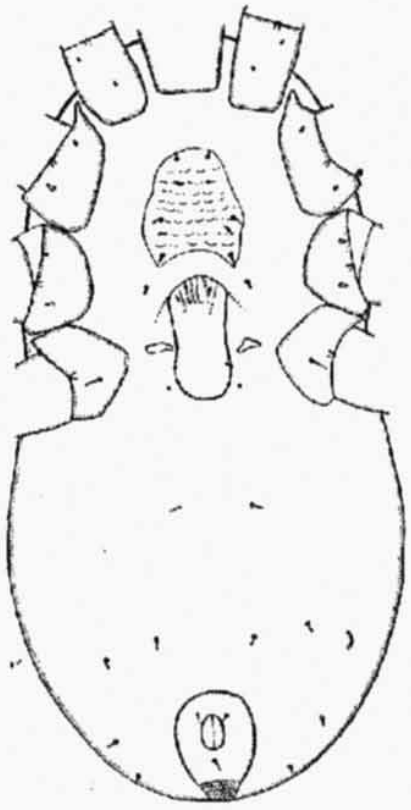

Fig. 8. *Neonyssus pirangae* sp. n., female, ventral view

large, widest anteriorly, concave laterally and posteriorly, with 6 pairs of minute setae, the marginal ones being more developed. Alveolar structures on dorsal plates as figured. Two small platelets situated between the dorsal plates. Peritreme short, of nearly the same length as the diameter of stigma, located over coxa III. The podosomal plate is flanked by 4 pairs of short setae. Dorsal opisthosoma with 4 pairs of short setae not exceeding 8 µ and a pair of terminal setae, 10 µ long. Sternal plate relatively broad, with 3 pairs of setae and 2 pairs of lyriform pores. One pair

of metasternal setae present. Genital plate tongueshaped. The genital setae situated on the lateral margin of the plate. They are associated with a pair of pores located off the plate. Anal plate oviform, cribrum short. The paired adanal setae at the level of anterior margin of anal opening. The post-anal seta of nearly the same size as adanal setae. Ventral opisthosoma with 5 pairs of short setae not exceeding 12 μ, arranged as 2-4-2-2. Coxal formula 2-2-2-1. The setae on coxae I—III are very short and blunt, those on coxae IV distinctly longer and acute. Setae of legs in general short. Longer setae present especially on tarsi. Tarsi II—IV each with a pair of strong ventral setae with filamentous distal part. Claws on tarsus I strongly modified. Gnathosomal and hypostomal setae very short, deutosternum with 7 denticles. Movable digit of chelicera very short.

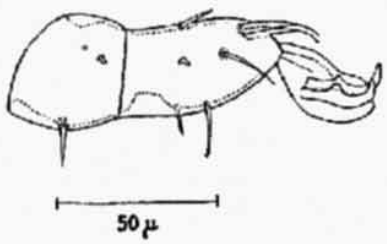

Fig. 9. *Neonyssus pirangae* sp. n., female, leg IV

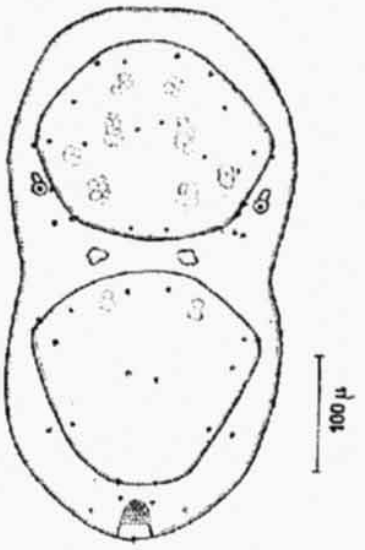

Fig. 10. *Neonyssus pirangae* sp. n., male, dorsal view

Male: LId 483 (490), WId 264 (284), LPP 173 (197), WPP 211 (227), LOP 187 (215), WOP 199 (217), WAP 66 (77).

Podosomal plate rounded pentagonal, opisthosomal plate shorter than in female. Their chaetotaxy similar as in female. In our specimens, posterior tip of anal plate is folded over margin of opisthosoma to extend onto dorsal surface. Holoventral plate 162 (183) μ long, extending to mid-level of coxae IV, with genital opening at anterior margin. It bears 4 pairs of setae and 2 pairs of pores. A pair of setae situated lateral to the plate. Legs similar to those of female. Claws on tarsus I of normal shape.

Neonyssus pirangae sp. n. is very similar to *N. icteridius* (Str. and Furm.). It differs in the position of sternal setae on the sternal plate, in the apico-ventral setae on tarsi II—IV with filamentous distal part and in the number of ventral opisthosomal setae (5 pairs).

5. *Tyranninyssus tyrannus caribaeus* subsp. n. Figs. 11—13

Holotype: female from *Contopus caribaeus caribaeus* (d'Orbigny) (Tyrannidae), Santo Tomás, Ciénaga de Zapata, prov. of Las Villas, 26. 2. 1965, Nr CU 557/3, leg. V. Černý and J. de la Cruz. Paratypes: 4 ♂ 19 ♀ 2 deutonymps 1 protonymph, the same data as the holotype.

Female: LId 839 (589—862), WId 390 (300—405), LPP 240 (213—252), WPP 264 (248—264), LOP 361 (296—386), WOP 130 (103—134), LGP 158 (150—175), WGP 101 (85—101), LG 194, WG 107, LCH 147, LCh 16, Lper 28.

Podosomal plate subcircular, broader than long, with 7 pairs of setae. Opisthosomal plate elongated, biconcave in its median part, with 2 small subtriangular plates joined anterolaterally. The plate bears 2 pairs of setae in the anterior part and 2 pairs in the posterior part. The striated dorsal cuticle with 8 pairs of short setae,

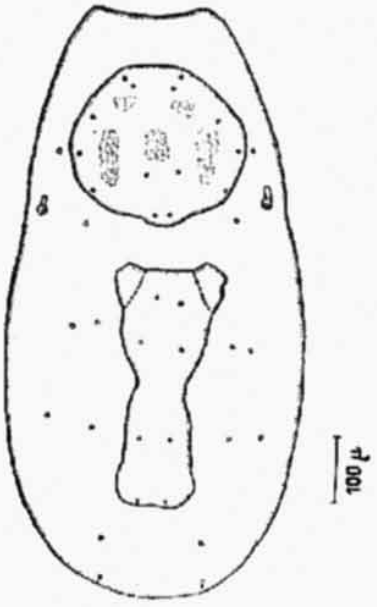

Fig. 11. *Tyranninyssus tyrannus caribaeus* subsp. n., female, dorsal view

Fig. 12. *Tyranninyssus tyrannus caribaeus* subsp. n., female, ventral view

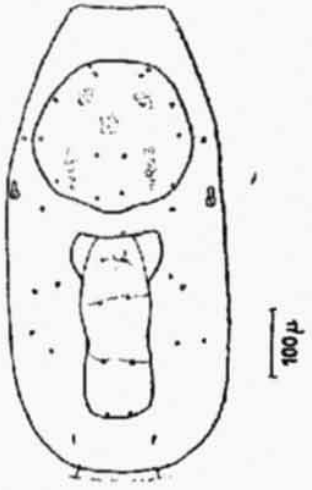

Fig. 13. *Tyranninyssus tyrannus caribaeus* subsp. n., male, dorsal view

2 pairs near the stigmata, 2 pairs at the level of anterior part of opisthosomal plate, 2 pairs at the level of posterior part of this plate, 1 pair posterior to this plate and 1 pair of terminal setae. All these setae except the terminal pair with rounded tips. Three pairs of sternal setae, the anterior 2 pairs with rounded tips. The first pair distant from the weakly developed sternal plate, the second pair on its margin and the third pair located off the plate. Genital plate broadly rounded, with a pair of setae. A pair of pores situated lateral to these setae and off the plate. Anal plate broadly oval, with 3 setae. The post-anal seta distinctly shorter than the adanal ones. Ventral opisthosoma with 4 pairs of short setae arranged as 2-4-2. Coxal formula 2-2-2-1. Coxal setae very short with rounded tips. Genu III dorsally with a row of 4 blunt setae. Tarsi II—IV distally and ventrally with a pair of strong spur-like setae and a third more distant and more weakly developed seta. Claws on tarsus I strongly modified. Gnathosoma with 4 pairs of setae, deutosternum with 7 denticles. Chelicerae taper from base to tips.

Male: LId 690 (585—690), WId 325 (280—325), LPP 227 (217—227), WPP 244 (233—244), LOP 282 (272—304), WOP 122 (106—122), LCH 122, LCh 20, Lper 28.

Podosomal and opisthosomal plates, their chaetotaxy and chaetotaxy of the body as in female. Holoventral plate 249 (223) μ long, with a pair of posterior setae, each associated with a pore. Three pairs of sternal setae situated off the plate. Genital opening before the first pair of sternal setae. Claws on tarsus I smaller than in remaining tarsi.

Having material only from one bird, I consider provisionally these specimens as a subspecies of *Tyranninyssus tyrannus* Brooks and Str., known from the flycatchers *Nuttallornis borealis* and *Contopus sordlidulus*. They differ from the nominate form in having only 6 pairs of dorsal and 4 pairs of ventral opisthosomal setae. The anterior 2 pairs of sternal setae lack the pores and the chelicerae taper more considerably.

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THREE INTERESTING NEMATODES FROM *AONYX CINEREA* (CARNIVORA) FROM MALAYA

In 1966 we were asked by the Prague Zoological Garden to examine helminthologically the cadaver of *Aonyx* (*Amblonyx*) *cinerea* Illinger, 1815, because the animal had died a fortnight after its import from Malaya. In autopsy we recovered 3 nematode species which are new to this host and most interesting findings from the medical and zoological point of view:

1. *Dracunculus medinensis* (L., 1758)

We discovered four gravid females in the subcutaneous connective tissue measuring 180 to 450 mm in length, maximum width 2.0 mm and containing mobile larvae in their uteri. Length of larvae 0.466—0.531 mm, maximum width 0.017—0.020 mm. The morphology of the nematodes in our material corresponds full toy morphological data in the literature (MOORTHY V. N., J. Parasit. 23: 220—224, 1937). The definitive hosts of these worms are man, cattle, horse and various beasts of prey. Wild beasts of prey are reservoirs and distributors of dracunculosis in a natural focus.

2. *Gnathostoma hispidum* Fedtsch., 1872

Only a fragment of the posterior portion of a male worm was found in the stomach. This was covered with sharp cuticular spines of 0.007 mm in length. Seven pairs of caudal papillae present. Spicules unequally long; length of right spicule 0.425 mm, proximal width 0.030 mm, of left spicule 0.836 mm, proximal