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New Species of Nasal Mites (Acarina: Rhinonyssidae) from Cuban Birds

F. DUSBÁBEK

Institute of Parasitology, Czechoslovak Academy of Sciences, Prague

Abstract. Six new species of mites of the family Rhinonyssidae are described: *Rhinonyssus spinactitis* sp. n. from *Actitis macularia* (L.) (Scolopacidae), *Tinaminyssus carapachibeyus* sp. n. from *Geotrygon chrysia* Salvadori (Columbidae), *Mesonyssus geotrygoni* sp. n. from the same host, *Passeronyssus vireonis* sp. n. from *Vireo olivaceus* (L.) (Vireonidae), *Passeronyssus havanensis* sp. n. from *Vireo flavifrons* Vieillot and *Vireo griseus* (Boddaert) (Vireonidae) and *Sternostomoides orlandoi* sp. n. from *Mimocichla plumbea schistacea* Baird and *M. p. rubripes* (Temminck) (Turdidae). All these species were collected in Cuba or Isla de Pinos.

During the investigation of the ectoparasites of Cuban birds carried out by the workers of the Czechoslovak Academy of Sciences and Academy of Sciences of Cuba, a rich material of rhinonyssid mites was collected. While studying a part of this material some new species have been identified and are described in the present communication.

The holotype, allotype and paratypes of all species are deposited in the collection of the Institute of Parasitology of the Czechoslovak Academy of Sciences in Prague, the paratypes of *Passeronyssus vireonis* sp. n., *Passeronyssus havanensis* sp. n., *Sternostomoides orlandoi* sp. n. and *Mesonyssus geotrygoni* sp. n. also in the Institute of Biology of the Academy of Sciences of Cuba in Havana.

1. *Rhinonyssus spinactitis* sp. n. Figs. 1, 2

Material examined: Holotype (female) and allotype (male) from *Actitis macularia* (L.), Canal de Vijil, La Gloria, Prov. of Camagüey, Cuba, 30. 10. 1965, lgt. F. Dusbábek and J. de la Cruz.

Female (Holotype) (Figs. 1—2): LId 1176; WId 523; LGP 216; WGP 184; WG 110; LP 78; LCH 145; WCH 23; LCh 29; LLeg I 707; LLeg IV 726 (all measurements in μ).

Dorsum (Fig. 1A): Dorsal plate divided into seven weakly sclerotized completely separated plates: a large unpaired anteromedian plate which is rounded, with irregular borders, 188 long, 212 wide, and three pairs of lateral platelets of irregular

shape. One pair of alveoli on anteromedian plate, six pairs of alveoli on unarmed propodosoma as figured. Stigmata lateral at the level of coxa IV. Posterior to stigmata five pairs of lateral opisthosomal setae which are setiform and 55 long (in the holotype the left seta of the second pair is very short).

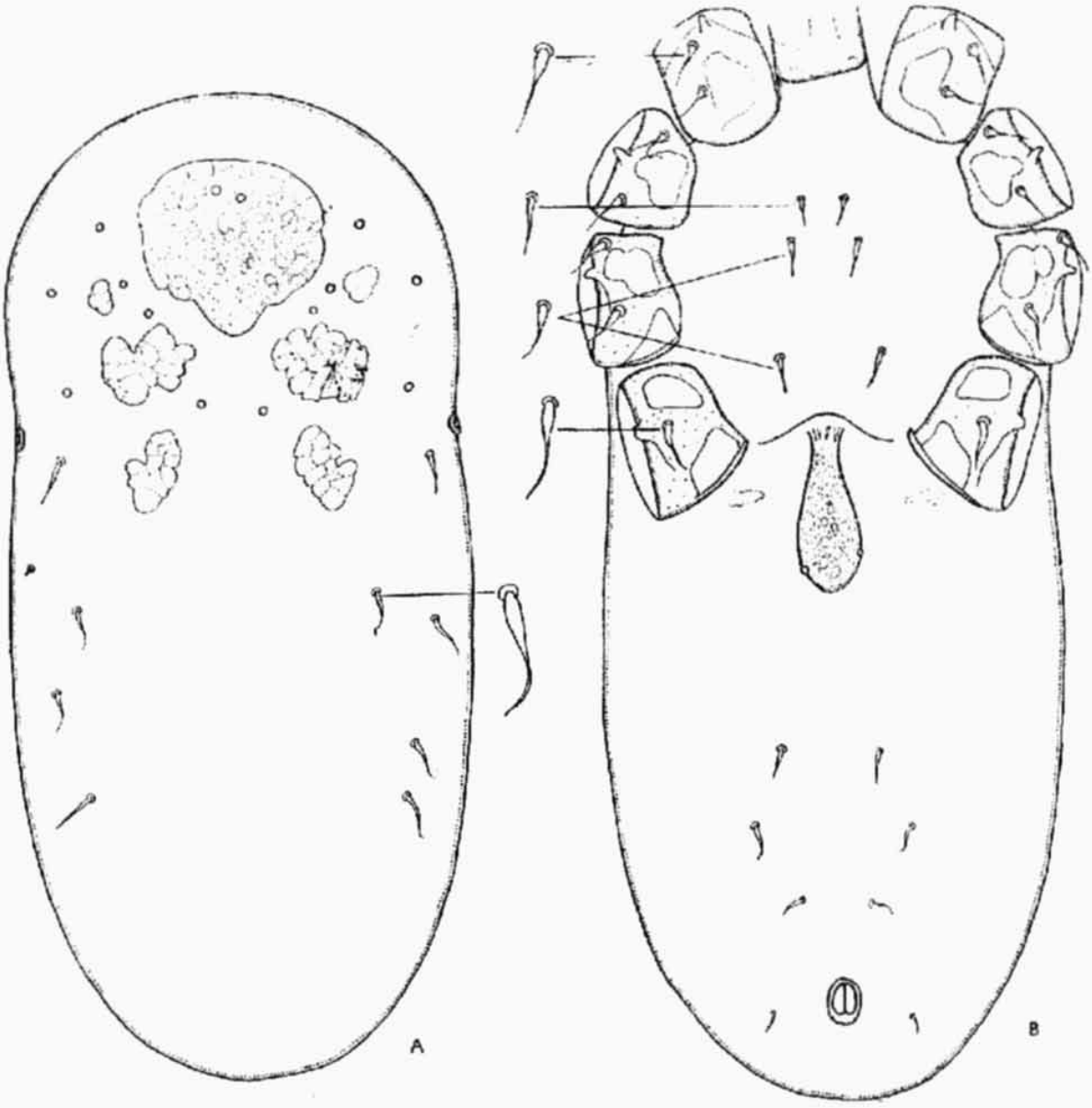

Fig. 1. *Rhinonyssus spinactitis* sp. n., female: A — dorsal view, B — ventral view.

Venter (Fig. 1B): No sternal plate. Three pairs of sternal setae setiform, the first pair 27 long, the remaining two pairs slightly enlarged basally, 42 long. Genital plate of pear-like form, with a pair of alveoli at the posterolateral border. Anal plate absent, anal pore situated ventrally. Opisthosoma with three pairs of setiform setae anterior to the anal pore, 32 long, the fourth pair of short setae at the level of anal orifice.

Gnathosoma (Fig. 2A): Deutosternal teeth not visible. Tectum rounded, with anterior margin serrated. Hypostome with two pairs of longer proximal setae and

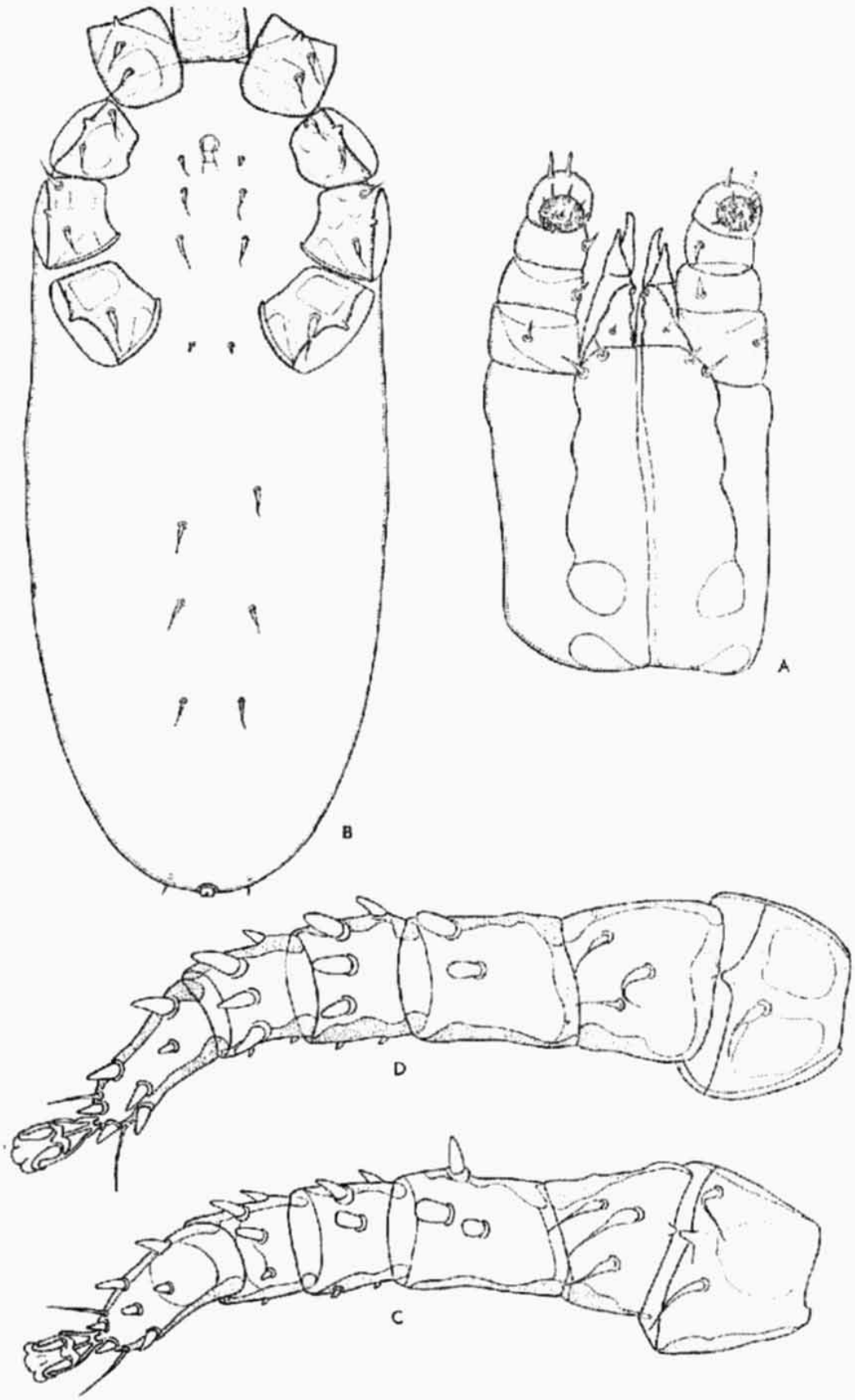

Fig. 2. *Rhinonyssus spinactitis* sp. n.: A — gnathosoma of female, ventral view, B — ventral view of male, C — leg III of male, ventral view, D — leg IV of male, ventral view.

one pair of very fine distal setae. No gnathosomal setae. Palpal setae setiform. Movable chela longer than fixed chela.

Legs: Dorsal setae very fine, setiform, but some of them thorn-like with blunt tips. In ventral surface of coxae and trochanters I—IV long hairlike setae inflated basally. Femur, genu, tibia and tarsus III and IV with robust ventrolateral spines, which are 35—44 long, 12 wide and with some fine blunt spinelets. Chaetotaxy of all legs as in male (Fig. 2C, D).

Male (Allotype) (Fig. 2B): LId 1012; WId 440; LG 168; WG 102; LP 78; LCH 133; WCH 22; LCh 35; LLeg I 542; LLeg IV 580.

Dorsal surface similar to that of the female; the second pair of opisthosomal setae is very short on both sides. Anal pore situated terminally, with two pairs of short anal setae anteriorly. Three pairs of sternal setae are setiform, the metasternal setae very fine. Only three pairs of ventral opisthosomal setae. Legs as in female (Fig. 2 C, D).

This new species belongs to *Rhinonyssus coniventrix* complex, but it differs from all known species or subspecies in the following features: Setiform sternal setae in female, relatively long spines on legs III and IV and the form of dorsal plate. Our specimens are considerably smaller than *R. coniventris* Trouessart, 1894 or *R. tringae* Fain, 1963.

2. *Tinaminyssus carapachibeyus* sp. n. Fig. 3

Material examined: Holotype (female) from *Geotrygon chrysia* Salvadori, Carapachibey, Isla de Pinos, 18. 4. 1965, lgt. V. Černý and J. de la Cruz.

Female (Holotype) (Fig. 3): LId 817; WId 436; LPP 250; WPP 313; LOP 225; WOP 174; LPiP 76; WPiP 82; LGP 178; WGP 90; LAP 153; WAP 111; LPer. 32; LG 153; WG 75; LP 63; LCH 92; WCH 13; LCh 18; LLeg I 392; LLeg IV 463.

Dorsum (Fig. 3A): There are three dorsal plates very finely punctated. Propodosomal plate wider than long, with regular borders. Five pairs of lateral and two pairs of submedian alveoli with fine spiniform setae present on the plate. Opisthosomal plate with three pairs of alveoli with setae (at the level of the second pair there is one unpaired alveolus). The anterolateral angles of this plate appear to be separated. Pygidial plate broadly triangular, with one pair of very fine alveoli near the posterior margin. Peritreme dorsolaterally, at the level of posterior margin of coxa III, relatively short. Unarmed dorsum with five pairs of great alveoli with fine setae as figured.

Venter (Fig. 3B): Tritosternum, sternal plate and metasternal setae absent. Three pairs of sternal setae (8—11); the first pair situated in the centre of unstriated area (it may be a slightly sclerotized sternal plate), the second pair laterally to another unstriated area. The genital plate broad and truncated posteriorly, with longitudinal striation. One genital seta situated out of plate, the second at the same lateral

margin of plate. Anal plate longer than wide, the anal setae situated near the anterior margin of anal pore. Postanal seta is very fine. Anteriorly to the anal plate three pairs of short setae, the fourth pair laterally to the anal plate.

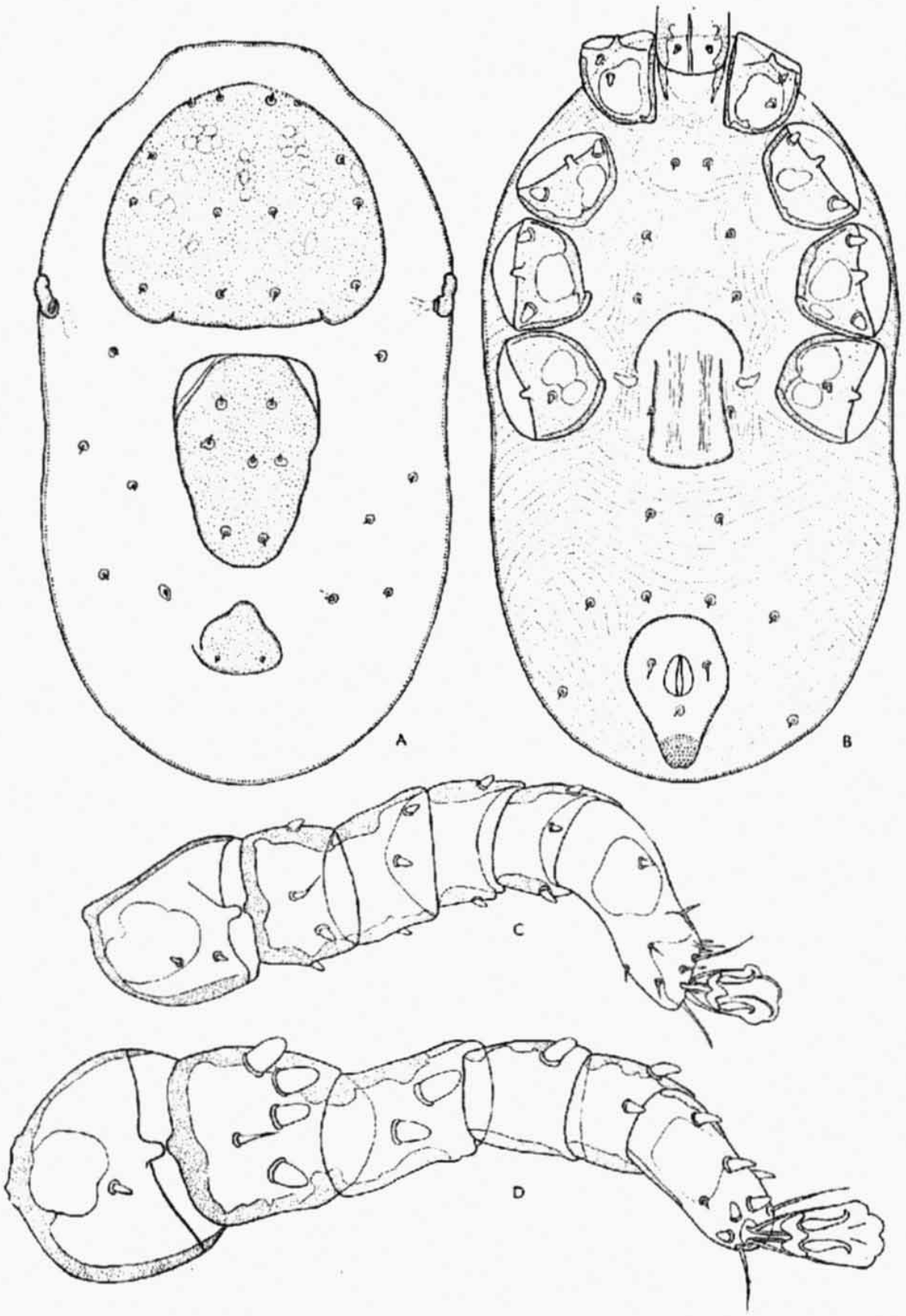

Fig. 3. *Tinaminyssus carapachibeyus* sp. n., female: A – dorsal view, B – ventral view, C – leg I, ventral view, D – leg IV, ventral view.

Gnathosoma: Deutosternal groove with 5—6 rows of blunt teeth, 3—4 teeth per row. One pair of gnathosomal and two pairs of peg-like blunt hypostomal setae. Palpal setae peg-shaped, very fine, some tibial and tarsal setae conical or setiform.
Legs (Fig. 3C, D): Most dorsal setae conical or setiform, ventral setae peg-like or wedge-like with blunt tips, except one conical or setiform seta on trochanter I—IV. The ventral setae on coxa II and III, trochanter and femur II and all segments of legs III and IV (except coxa IV) extremely robust, wedge-shaped, 18—23 long, 12 wide.

Tinaminyssus carapachibeyus sp. n. is very similar to *Tinaminyssus chiarellii* Amaral, 1963, but it differs in the presence of seven pairs of alveoli in propodosomal plate and of three pairs of alveoli in opisthosomal plate, in the greater length of opisthosomal and genital plate. The genital setae are situated out of plate and the anal plate is longer than wide. But the main differences are in the chaetotaxy of legs, namely in the presence of peg-like and robust wedge-like thorns on ventral surface of legs in the new species. In *T. carapachibeyus* sp. n. the legs I are shorter than in *T. chiarellii*.

3. *Mesonyssus geotrygoni* sp. n. Fig. 4

Material examined: Holotype (female), allotype (male) and five paratypes (females) from *Geotrygon chrysia* Salvadori, Carapachibey, Isla de Pinos, 18. 4. 1965, lgt. V. Černý and J. de la Cruz.

Female (Holotype) (Fig. 4): LId 697 (649—746); WId 362 (330—436); LPP 267 (255—267); WPP 325 (305—341); LOP 365 (344—374); WOP 282 (258—290); LGP 166 (166—196); WGP 55 (47—58); LAP 99 (99—125); WAP 86 (78—92); LPer. 57; LG 202; WG 70; LP 102; LCH 110; WCH 12; LCh 27; LLeg I 582; LLeg IV 620.
Dorsum (Fig. 4A): Two dorsal heavily punctated plates. Propodosomal plate broadly rounded anteriorly and laterally, straight posteriorly. Twenty pairs of small alveoli without setiform structure present as figured. Opisthosomal plate elongated, with straight anterior margin, slightly tapered near the posterior tip. Eighteen pairs of small alveoli present in the plate or in its close vicinity, from which only the terminal posterior one bears fine setae. Stigmata and the peritreme dorsally at the level of posterior margin of coxa III.
Venter (Fig. 4B): Tritosternum, sternal plate and metasternal setae absent. Three pairs of fine alveoli and two pairs of lyra-shaped pores near the first two pairs of alveoli situated in the sternal area. Genital plate with parallel lateral borders, rounded posteriorly, with fine longitudinal striation. Genital alveoli laterally to the plate. Anal plate triangular, cribrum clearly separated. Three anal setae, the anterior two situated anteriorly to the anal orifice. Two pairs of alveoli (the second pair with minute setae) between genital and anal plate, three pairs of longer setae laterally to the anal plate. Integument with very fine striation only.
Gnathosoma (Fig. 4C): Deutosternal teeth invisible. Two pairs of very fine proximal hypostomal setae. Distal pair of hypostomal setae situated apically. Tec-

tum tongue-shaped, with anterior margin serrated. Palps very long and slender. Palpal setae fine, conical. Two longer apical setae on palptibia.

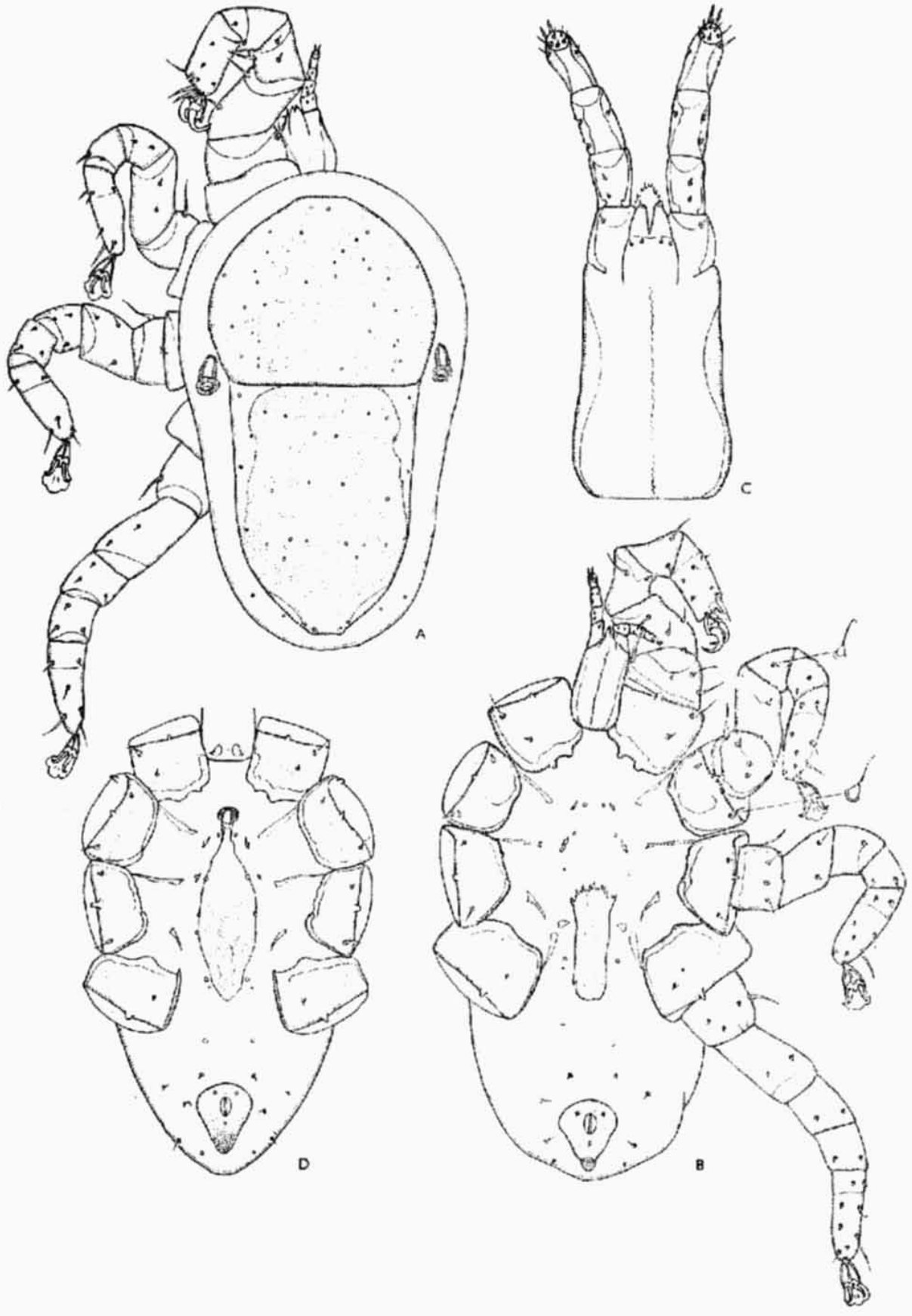

Fig. 4. *Mesonyssus geotrygoni* sp. n.: A — dorsal view of female, B — ventral view of female, C — gnathosoma of female, ventral view, D — ventral view of male.

Legs: long and robust. Dorsal setae very fine, conical. Ventral setae short and thickened, with blunt tips, some of them with flageliform prolongation. Long setiform setae situated only in ventrolateral surface of all segments of legs I and trochanter and tarsus II—IV. Posterior setae of coxae I and II bulbous basally, with flageliform prolongation. The remaining coxal setae short, with blunt tips. The tarsal claws on tarsus I more robust than other claws.

Male (Allotype) (Fig. 4D): LId 630; WId 340; LPP 247; WPP 314; LOP 306; WOP 282; LGvP 274; WGvP 80; LAP 98; WAP 82; LPer. 55; LG 196; WG 75; LCH 110; WCH 16; LCh 35; LLeg I 445; LLeg IV 484. Dorsal chaetotaxy and plates as in female. Genitoventral plate lanceolate, in the posterior half clearly punctated. Four pairs of alveoli without setae, the first and fourth out of plate, the second and third one on the only margin of plate. In the close vicinity of the first pair of these alveoli two pairs of lyra-shaped pores are developed. Two pairs of alveoli between genitoventral and anal plate, the second pair with setae. Three pairs of setae laterally to the anal plate. Gnathosoma and legs as in female.

Mesonyssus geotrygoni sp. n. is very similar to *Mesonyssus cunhai* Amaral, 1963, but it differs in the absence of sternal plate, the dimensions of propodosomal and opisthosomal plates, the greater length of legs etc. The gnatosoma is longer and narrower in the new species and there are lyra-shaped pores in the sternal area.

4. *Passeronyssus vireonis* sp. n. Figs. 5,6

Material examined: Holotype (female) and three paratypes (one female and two nymphs) from *Vireo olivaceus olivaceus* (L.), Botanical garden, Havana, Cuba, 4. 10. 1965, lgt. F. Dusbábek and J. de la Cruz.

Female (Holotype) (Figs. 5,6): LId 678 (620); WId 282 (274); LPP 231 (239); WPP 227 (215); LOP 224 (212); WOP 260 (256); LSP 129 (127); WSP 74 (51); LGP 109 (98); WGP 82 (67); LAP 86 (90); WAP 64 (59); Diameter of stigmata 11; LG 102; WG 63; LP 46; LCH 110; WCH 14; LCh 5; LLeg I (323); LLeg IV (310).

Dorsum (Fig. 5A): Two dorsal plates without any structure. Propodosomal plate rounded, with slightly convex posterior margin. Seven pairs of fine alveoli are present on the plate. Opisthosomal plate of clearly mushroom shape, with seven pairs of alveoli from which the pair situated on the posterior margin of plate bears minute setae. Two pairs of alveoli near stigmata, one pair of alveoli anterior to the opisthosomal plate. Between propodosomal and opisthosomal plates two minute platelets. Two pairs of setae posterior to the opisthosomal plate. Stigmata situated dorsally at the level of the anterior margin of coxa IV.

Venter (Fig. 5B): Sternal plate elongated, without any structure. One pair of setae situated inside of the plate near its anterior margin, one pair of setae laterally outside of the plate and one pair of setae posterior to the plate. One pair of fine alveoli situated in the posterior part of the plate. Genital plate broadly rounded posteriorly, with one pair of fine genital setae. Anal plate egg-shaped, anal setae

situated anteriorly to the anal orifice; postanal seta present. Between genital and anal plate three pairs of setae, one pair laterally to the anal plate.
Gnathosoma (Fig. 6A): Seven deutosternal teeth in a single file. No gnathosomal neither hypostomal setae. Tectum tongue-shaped with an entire margin. The palps four-segmented with two long apical setae in the palptibia.

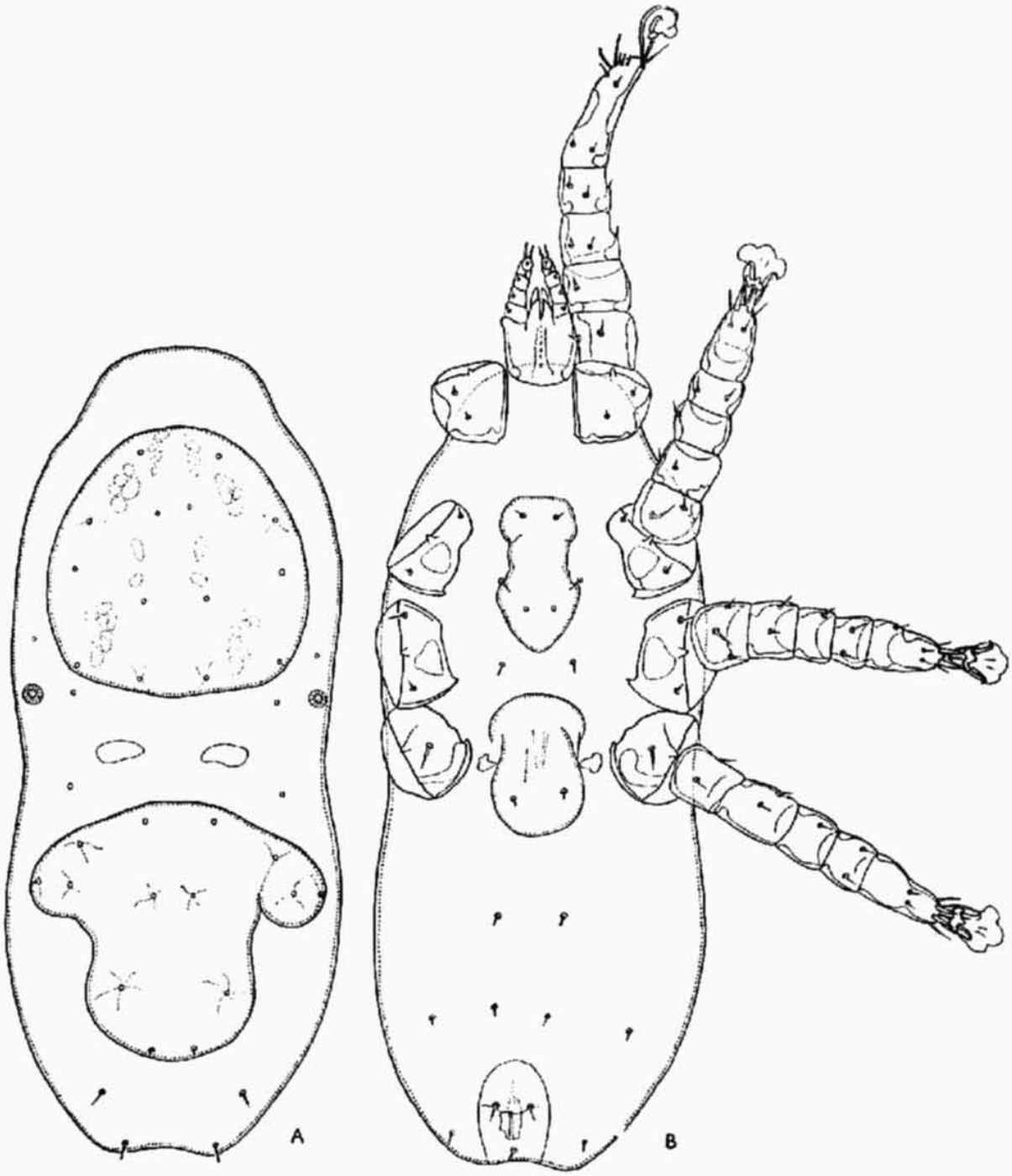

Fig. 5. *Passeronyssus vireonis* sp. n., female: A — dorsal view, B — ventral view.

Legs (Fig. 6B, C, D): Coxal setae very fine, conical except relatively longer and setiform anterior seta on coxa III and the seta on coxa IV. Dorsal setae short, conical, longer setiform setae on praetarsus and tarsus I—IV only. Ventral setae short and setiform, longer setae developed on trochanter, tibia and tarsus I—IV only. Tarsus II—IV with two robust apical spines. Claws on legs I rudimental.

This species is very closely related to *Passeronyssus hoseini* Fain et Aitken, 1967, but it differs in longer and narrower body, in narrower propodosomal plate but namely in the form of opisthosomal plate, which is wider and mushroom-shaped.

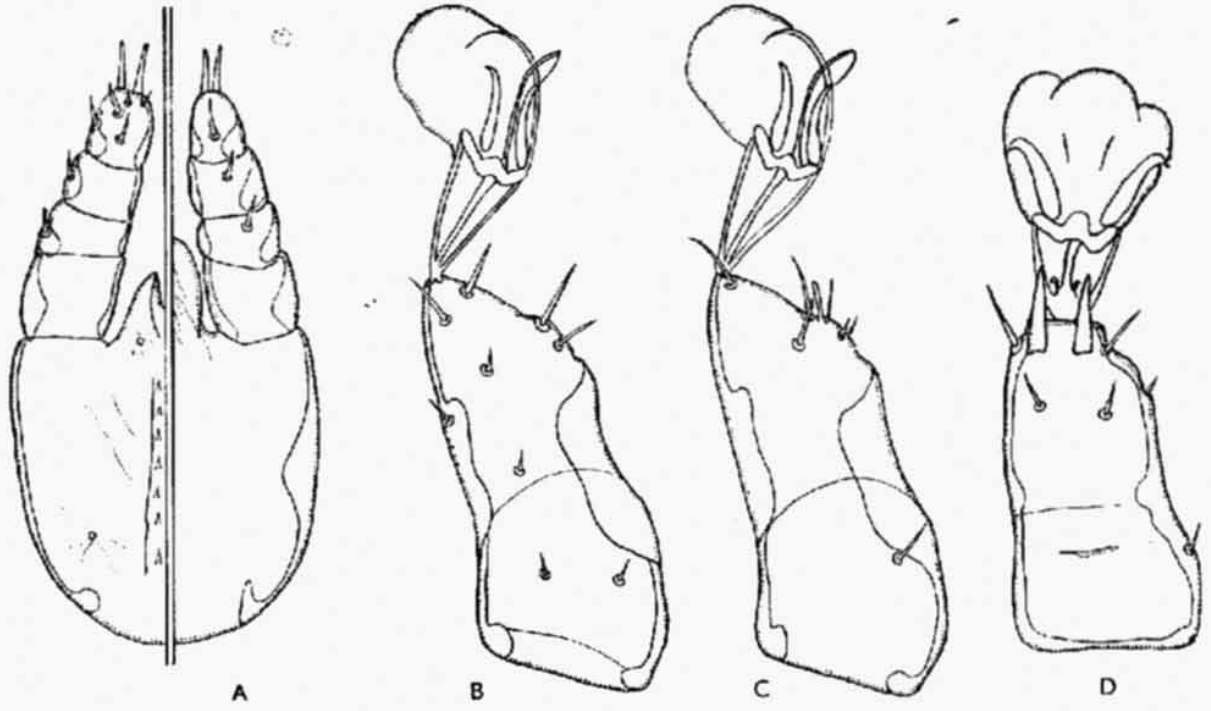

Fig. 6. *Passeronyssus vireonis* sp. n., female: A — gnathosoma, B — tarsus I, ventral view, C — tarsus I, dorsal view, D — tarsus IV, ventral view.

5. *Passeronyssus havanensis* sp. n. Fig. 7

Material examined: Holotype (female), allotype (male) and twenty-one paratypes (females) from *Vireo flavifrons* Vieillot, Botanical garden, Havana, Cuba, 5. 10. 1965. One paratype (female) from *Vireo griseus* (Boddaert) from the same locality and data — all lgt. F. Dusbábek and J. de la Cruz.

Female (Holotype) (Fig. 7): LId 639 (581—727); WId 290 (271—329); LPP 208 (207—217); WPP 207 (188—215); LOP 212 (211—246); WOP 194 (164—199); LSP 121 (114—125); WSP 51 (49—55); LGP (86—95); WGP 86 (78—90); WAP 70 (70—90); LG 86; WG 66; LP 41; LCH 94; WCH 12; LCh 2; LLeg I 251; LLeg IV 247. Diameter of stigmata 11.

Dorsum (Fig. 7A): Two dorsal plates. Propodosomal plate rounded, with slightly convex posterior margin. Seven pairs of very fine alveoli present on the plate. Opisthosomal plate triangular with convex anterior margin and concave lateral margins. Posterior margin of plate broadly rounded (Fig. 7A) or pointed (Fig. 7B). There are six pairs of fine alveoli on the plate, from which the only alveoli situated on the posterior margin of plate bear short setae. Between propodosomal and opisthosomal plates two small platelets. Stigmata situated dorsolaterally at the level between coxa III and IV. Near stigmata three pairs of alveoli as figured. Posterior to the opisthosomal plate two pairs of short setae.

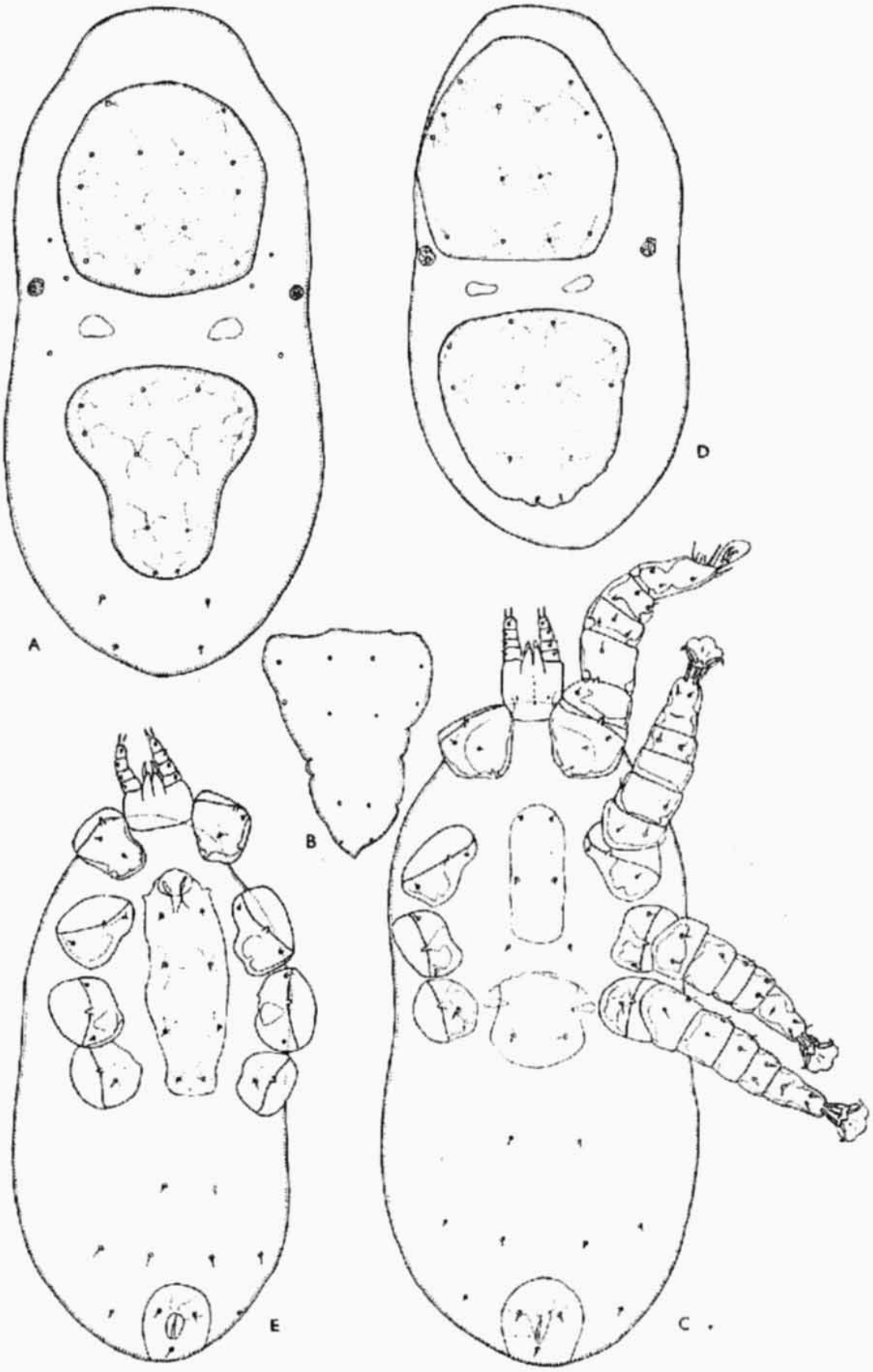

Fig. 7. *Passeronyssus havanensis* sp. n.: A — dorsal view of female, B — variation of the form of the opisthosomal plate in female, C — ventral view of female, D — dorsal view of male, E — ventral view of male.

Venter (Fig. 7C): Sternal plate rectangular, elongated, with rounded angles. Two pairs of sternal setae situated on the plate, the third pair posteriorly to the plate. Genital plate short, very broad, posteriorly broadly rounded, with one pair of genital setae. Anal plate oval, with three setae, from which the paired anal setae are situated anteriorly to the anal pore. Three pairs of short setae anteriorly to the anal plate, one pair of setae laterally to the plate.

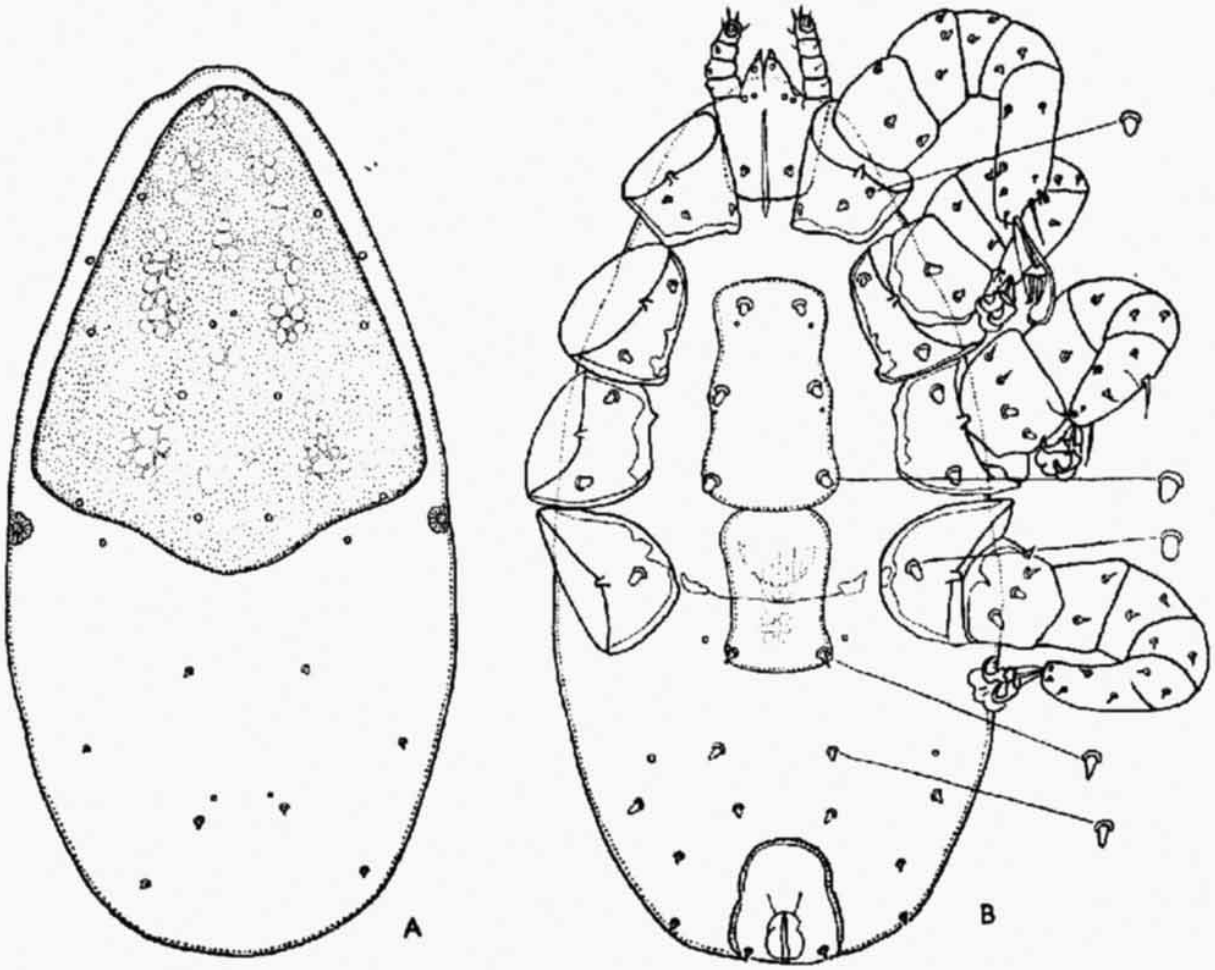

Fig. 8. *Sternostomoides orlandoi* sp. n., female: A — dorsal view, B — ventral view.

Gnathosoma: Deutosternum with five teeth in a single file. One pair of alveoli at the base of gnathosoma. No hypostomal setae. Tectum entire, tongue-shaped. Palpal setae conical, two longer apical setae on palptibia.

Legs: Coxal and dorsal setae short, conical, setae on coxa IV and tarsus I—IV relatively longer. Ventral setae longer, setiform, but not dilated. Tarsus II—IV with two apical ventral thorns. Claws on legs I rudimental.

Male (Allotype) (Fig. 7D, E): LId 523; WId 270; LPP 221; WPP 200; LOP 200; WOP 200; LGvP 200; WGvP 86; WAP 70; LLeg I 208; LLeg IV 235. Opisthosomal plate of different form than in female (Fig. 7D). Genitoventral plate oblong, very long, with four pairs of fine setae. Three pairs of setae anteriorly to the anal plate, one pair laterally to the plate. Legs as in female. Claws on legs I strongly reduced.

The new species is very closely related to *Passeronyssus vireonis* sp. n. and *Passeronyssus hoseini* Fain et Aitken, 1967. *Passeronyssus havanensis* sp. n. can be separated by the narrower opisthosomal plate which does not exceed 200 μ and by broad anal plate which is broader than 70 μ. The genital plate of female is very short in the new species.

6. *Sternostomoides orlandoi* sp. n. Fig. 8

Material examined: Holotype (female) and one paratype (female) from *Mimocichla plumbea rubripes* (Temminck), Santa Fé, Prov. of Havana, Cuba, 3. 2. 1965. One paratype (female) from *Mimocichla plumbea schistacea* Baird, Gran Piedra, near Santiago de Cuba, Prov. of Oriente, Cuba, 26. 3. 1965 — all lgt. V. Černý and J. de la Cruz.

Female (Holotype) (Fig. 8): LId 536 (513—600); WId 310 (297—333); LPP 278 (270—282); WPP 240 (235—243); LSP 123 (121—130); WSP 78 (74—82); LGP 106 (84—106); WGP 63 (63—82); WAP 75 (75); LG 110; WG 84; LP 55; LCH 110; WCH 21; LCh 4. Diameter of stigmata 12.

Dorsum (Fig. 8A): Only one triangular dorsal plate, slightly punctated, with convex posterior margin. Seven pairs of alveoli without setae present on the plate and one pair of alveoli without setae situated laterally to the plate. One pair of alveoli developed posterior to the plate at the level of stigmata. Opisthosoma with four pairs of short, thick and blunt setae and one pair of small alveoli in the close vicinity of the third pair of these setae. Stigmata dorsolaterally at the level of the anterior margin of coxa IV.

Venter (Fig. 8B): Tritosternum and metasternal setae absent. Sternal plate oblong with three pairs of blunt dilated setae. Genital plate also oblong, with only very slightly convex posterior margin. A pair of thorn-like genital setae, which are pointed at the tips, is situated on the plate. Anal plate egg-shaped, narrower anteriorly than posteriorly, with thorn-like anal setae situated at the level of posterior margin of anal pore. Unpaired postanal alveolus present. Unarmed portion of venter with five pairs of thorn-like blunt setae and two pairs of alveoli as figured.

Gnathosoma: Deutosternal teeth absent. Gnathosomal setae dilated and blunt. Two pairs of proximal and one pair of distal hypostomal setae present, slightly dilated and blunt. Tectum with entire margin.

Legs: Coxal setae dilated and blunt, the setae on coxa I the smallest, the others increasing in the length to the coxa IV, where they are robust. Similar setae present also in ventral surface of trochanter I—IV. The remaining segments of legs bear only short conical setae, the tarsi have also long setiform setae. Dorsal setae very fine, conical, clearly shorter than ventral setae.

The new species is very closely related to *Sternostomoides technaui* (Vitzthum, 1935), but it differs from it in some respects: Sternal and coxal setae are dilated and blunt, anal plate narrower anteriorly than posteriorly, on the unarmed venter are present five pairs of setae etc. Some differences are also in the form and dimensions of sternal plate.

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F. D., Parasitologický ústav ČSAV, Flemingovo n. 2, Praha 6, ČSSR