

THE TICK FAUNA OF CUBA

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Abstract. The investigations of recent years and also older records revealed in Cuba and adjacent islands 22 tick species of 10 genera. 12 species belong to Argasidae (1 *Argas*, 1 *Otobius*, 2 *Antricola*, 8 *Ornithodoros*), 10 to Ixodidae (1 *Ixodes*, 1 *Anocentor*, 5 *Amblyomma*, 1 *Aponomma*, 1 *Boophilus*, 1 *Rhipicephalus*). Bats are parasitized by 10 species, domestic mammals by 5 species, reptiles by 3 species, amphibians by 2 species, rodents by 1 species and domestic fowl by 1 species. For *Ixodes capromydis* Černý, 1966 a new subgenus, *Alloixodes* sg. nov. is erected.

In the years 1964—1968 the tick fauna of Cuba has been intensively studied in the framework of cooperation between the Institute of Biology of the Cuban Academy of Sciences and the Institute of Parasitology of the Czechoslovak Academy of Sciences. Some species have been discovered as new both for science and for the territory of Cuba (ČERNÝ 1966a, b, c, 1967a, b, ČERNÝ and DUSBÁBEK 1967). This contribution presents evidence about the distribution of the species and their hosts, and adds new species to the monograph by PÉREZ VIGUERAS (1956). The species not viewed by the author are marked with an asterisk. The author is greatly indebted to J. de la Cruz, F. Dusbábek, M. Jaume and G. Silva for collecting part of the examined material.

The following species are represented in the Cuban tick fauna:

1. *Argas (Persicargas) persicus** (Oken, 1818)

Distribution: Mentioned by PÉREZ VIGUERAS (1934) from the province of Havana, Matanzas and Santa Clara (= Las Villas).

Hosts: Mainly domestic fowl.

No specimens collected or examined during our work.

2. *Otobius megnini** (Dugès, 1884)

Distribution: PÉREZ VIGUERAS (1934) mentions only one finding in the province of Havana and expresses his doubts about normal occurrence of this species in

the country. Later, the same author (1956) reports its scarce occurrence without any additional data.

Host: horse.

Recently, no specimens found in Cuba.

3. *Antricola (Antricola) silvai* Černý, 1967

Distribution: Actually known from eight localities of the four western provinces of Cuba (Pinar del Río, Havana, Matanzas, Las Villas).

Hosts: *Chilonycteris fuliginosa torrei* G. M. Allen, *Mormoops blainvillei* Leach (Chilonycteridae), *Phyllonycteris poeyi* (Gundlach) (Phyllostomidae).

Only larvae were found on the hosts similarly as in the following bat-infesting tick species. In caves, nymphs and adults, often together with *A. marginatus* but much less abundant.

4. *Antricola (Parantricola) marginatus* (Banks, 1910)

Distribution: Known from some bat caves in all the provinces of Cuba except Camagüey.

Hosts: *Chilonycteris fuliginosa torrei* G. M. Allen, *Mormoops blainvillei* Leach, *Phyllonycteris poeyi* (Gundlach).

In suitable habitats on bat guano in numbers exceeding 2000 specimens/m² (ČERNÝ 1967a).

5. *Ornithodoros (Subparmatus) viguerasi* Cooley and Kohls, 1941

Distribution: Known from bat caves in all the provinces except Camagüey.

Hosts: *Chilonycteris fuliginosa torrei* G. M. Allen, *Chilonycteris macleayi macleayi* Gray (Chilonycteridae), *Brachyphylla nana* Miller, *Phyllonycteris poeyi* (Gundlach) (Phyllostomidae).

6. *Ornithodoros (Alectorobius) azteci* Matheson, 1935

Distribution: Actually known from four localities of Cuba and one locality (Cueva de las Cayamas, Punta del Este) of Isla de Pinos.

Hosts: *Artibeus jamaicensis parvipes* Rehn, *Macrotus waterhousei minor* Gundlach, *Brachyphylla nana* Miller (Phyllostomidae).

7. *Ornithodoros (Alectorobius) kelleyi* Cooley and Kohls, 1941

Distribution: Known only from three localities: Cueva de Colón, Yaguajay; San José del Lago (province of Las Villas); Boca de Jaruco (province of Havana).

Host: *Eptesicus fuscus dutertrei* (Gervais) (Vespertilionidae).

Our material represents the first records of this species in the Antillean subregion.

8. *Ornithodoros (Alectorobius) dusbabeki* Černý, 1967

Distribution: Isla de Pinos. Only one record from Cuba (El Pilón, Mayarí, Province of Oriente).

Hosts: *Molossus major tropidorhynchus* Gray (Molossidae), *Eptesicus fuscus* ssp. (Vespertilionidae), *Noctilio leporinus mastivus* (Vahl) (Noctilionidae), *Artibeus jamaicensis parvipes* Rehn (Phyllostomidae).

All stages known. Nymphs and adults were found under the bark of a palm tree.

9. *Ornithodoros (Alectorobius) tadaridae* Černý and Dusbábek, 1967

Distribution: Known from two localities: Yaguajay, Province of Las Villas and La Tasajera, Monte Malo, Province of Camagüey.

Host: *Tadarida minuta* (Miller) (Molossidae).

Collected only three specimens—larvae.

10. *Ornithodoros (Alectorobius) brodyi* Matheson, 1935

Distribution: Boca de Jaruco, Province of Havana.

Host: *Eptesicus fuscus dutertrei* (Gervais) (Vespertilionidae).

Our material—four larvae—represents the first record from the Antillean subregion.

11. *Ornithodoros (Alectorobius) capensis* Neumann, 1901

Distribution: El Socorro, Sagua La Grande, Province of Las Villas.

Host: *Thalasseus sandvicensis acuflavidus* (Cabot) (Laridae).

Only one larva collected.

12. *Ornithodoros* (subgenus)? *natalinus* Černý and Dusbábek, 1967

Distribution: Cueva de los Lagos, Cerro de Guanábana, Isla de Pinos.

Host: *Natalus lepidus* (Gervais) (Natalidae).

Only the holotype—larva known.

13. *Ixodes (Alloixodes) capromydis* Černý, 1966

Distribution: Isla de Pinos. The locality of the typical material is Guayaacanal.

Host: *Capromys pilorides relictus* G. M. Allen (Capromyidae).

This tick has very peculiar morphological features. The comparison with other members of the genus *Ixodes* shows that the species may deserve a subgeneric rank. The author proposes, therefore, to create a new subgenus.

ALLOIXODES SG. NOV.

Diagnosis. Adults: Palpi long, especially in the female, auriculac present, coxa I with two large membranaceous expansions, the external one being broader, coxae II—IV each with one external spur, genital opening between coxae III in

the male and in the zone between coxae III and IV in the female, anal groove horseshoe-shaped, scutum of the female elongated.

Nymph: Capitulum with a trifurcated lateral projection, auriculae present, coxa I with membranaceous expansions, anal groove horseshoe-shaped.

Larva: Eight pairs of marginal dorsal setae, five pairs of central dorsal setae, four pairs of premarginal setae and three pairs of marginal ventral setae. Coxa I as in the nymph.

Type-species: *Ixodes capromydis* Černý, 1966

14. *Anocentor nitens* (Neumann, 1897)

Distribution: Throughout Cuba.

Hosts: Mainly horse, less frequently cattle. PÉREZ VIGUERAS (1934) reports one finding on *Epicrates angulifer angulifer* Bibron (Boidae).

This is the most common species on horses.

15. *Amblyomma cajennense* (Fabricius, 1787)

Distribution: PÉREZ VIGUERAS (1934) reports this species from the provinces of Havana, Pinar del Río and Santa Clara (= Las Villas). Recently recorded from Camagüey, Pinar del Río and Isla de Pinos (ZAJÍČEK and MAURI MÉNDEZ 1969).

Hosts: horse, cattle, dog, occasionally man. Larvae and nymphs were found on *Saurothera merlini decolor* Banks and Zappey (Cuculidae).

In its area of distribution a very troublesome species.

16. *Amblyomma albopictum* Neumann, 1899

Distribution: Cuba; Isla de Pinos; Cayo Cantiles, Canarreos; Cayo Largo, Canarreos.

Hosts: *Cyclura macleayi macleayi* Gray (Iguanidae), *Epicrates angulifer angulifer* Bibron (Boidae).

MOREL (1967) regards *Aponomma quadricavum* Schulze, 1941 as a doubtful synonym of this species. But it is a quite distinct independent taxon.

17. *Amblyomma torrei* Pérez Vigueras, 1934

Distribution: Known from some localities in the provinces of Pinar del Río, Havana, Oriente and from Cayo Largo, Canarreos.

Hosts: *Cyclura macleayi macleayi* Gray. Nymphs collected from *Leiocephalus macropus* Cope (Iguanidae).

MOREL (1967) considers *A. torrei* Vigueras, 1934 to be a questionable synonym of *Amblyomma cruciferum* Neumann, 1901. But *A. torrei* is a distinct species which differs clearly from *A. cruciferum* in the colour pattern of the scutum and in the coxal armature. Also THOMPSON (1950) considers *A. torrei* as a good species.

18. *Amblyomma dissimile* Koch, 1844

Distribution: Some localities in the provinces of Pinar del Río and Las Villas.

Host: *Bufo peltacephalus* (Tschudi) (Bufonidae).

MOREL (1967) expressed doubts about the presence of this species in the Greater Antilles. The morphology of the Cuban specimens agrees with the descriptions in the literature. The males predominate in our material.

19. *Amblyomma* sp.*)

PÉREZ VIGUERAS (1934) reports from *Bufo peltacephalus* and *Cyclura macleayi* an *Amblyomma* sp. near *scutatum* Neumann, 1899 which is quite different from *A. dissimile* Koch. MOREL (1967) mentions these findings under *Amblyomma rotundatum* Koch, 1844. SCHULZE (1941a) described from Cuba two species parasitic on *Bufo peltacephalus*: *Amblyomma cubanum* and *Aponomma thumbi*. SANTOS DIAS (1958) examined the type specimens of both and found them to be identical with *Amblyomma testudinis* (Conil, 1877). KOHLS (1960) considers *A. cubanum* as a synonym of *A. dissimile* Koch. MOREL (1967) mentions both Schulze's species as questionable synonyms of *Amblyomma cruciferum* Neumann, 1901.

The problem of the true identity of a second tick species of Cuban toads remains still open and it is necessary to obtain further material.

20. *Aponomma quadricavum* Schulze, 1941

Distribution: Province of Pinar del Río, Havana and Las Villas.

Hosts: *Epicrates angulifer angulifer* Bibron (Boidae), *Alsophis cantherigerus* (Bibron) (Colubridae).

MOREL (1967) considers *A. quadricavum* as a doubtful synonym of *A. albopictum* Neumann, 1899. This is incorrect. *A. quadricavum* is a valid species. Our material represents the first records of this tick—originally described from Haiti (SCHULZE 1941b)—in Cuba.

21. *Boophilus microplus* (Canestrini, 1887)

Distribution: Cuba, Isla de Pinos.

Hosts: cattle, horse; *Odocoileus virginianus* (Bodd.) (Cervidae).

This is the most abundant tick species of Cuba.

22. *Rhipicephalus sanguineus* (Latreille, 1806)

Distribution: Throughout Cuba.

Host: Dog.

This species is common on its hosts.

Some other species, although collected in Cuba, cannot be listed in the Cuban fauna. The record of a male of *Amblyomma tuberculatum* Marx, 1893 by NEUMANN (1899) may represent a finding on a host introduced from the U.S.A. (PÉREZ VIGUERAS 1956, MOREL 1967). MAYO (1906) reports *Boophilus annulatus* (Say, 1821) from imported cattle. However, this species did not spread over the island and all records from the last decades mention only *B. microplus*. Other records from the past century concerning the ticks *Dermacentor reticulatus* Fabricius, 1794, *Ixodes ricinus* (Linné, 1758) and *Rhipicephalus bursa* Canestrini and Fanzago, 1877 may be interpreted as misidentifications or cases of importation with domestic animals from other Continents (PÉREZ VIGUERAS 1956).

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