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Previous volumes (2010-2017): 250 € / year (4 issues)
Acarologia, CBGP, CS 30016, 34988 MONTFERRIER-sur-LEZ Cedex, France

The digitalization of Acarologia papers prior to 2000 was supported by Agropolis Fondation under the reference ID 1500-024 through the « Investissements d’avenir » programme (Labex Agro: ANR-10-LABX-0001-01)

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HIRSTIONYSSUS CHUNGWALII SP. NOV. (ACARINA: LAELAPIDAE), FROM FLYING SQUIRRELS IN SOUTH CHINA

BY

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In 1974, Mr. W. K. Lai, a teacher of the St. Augustine College, and the author collected three species of parasitic mites from the black and white flying squirrel, Hylopetes alboniger Hodgson, from which one is considered as a new species of Hirstionyssus and described here. The descriptions are based on fourteen specimens. Some paratypes will be deposited in the collection at the United State National Museum.

Hirstionyssus chungwalii sp. nov.

FEMALE (figs. 1-5):
Slightly brown in colour. Length of idosoma from 549.8 to 590 μ; width, from 347 to 356 μ.

Dorsal plate 453.2 to 467 μ long, 259 to 287 μ width, covers the most part of the dorsum. The narrowest middle part of the plate about 220 μ, slightly convex between S₅ and S₇, and tapering caudally in a blunt point. 26 pairs of dorsal setae. F₁ (7.3-8.1 μ) and ET₂ (8.1 μ) are small. F₃, ET₁ and T are rather stout, about 21.6 to 22 μ long. D₄ and M₁₁ with a small barb at the distant part. S₂ is not in the normal position. 12-13 pairs of pores on the dorsal plate are smaller. Exoplate portion with 12-14 pairs of setae, all are rather long and stout (23-36 μ long) with the exception of two pairs of setae just beside the S₁ and Sc. (fig. 1).

Sternal plate (fig. 2) widther than long, with three pairs of subequal setae, about 38.6 μ long. Two pairs of circular pores are very small. Near the anteromarginal and lateromarginal portions of the sternal plate are remarkably thicker with reticulation. Anterior margin undatus, lateral margin concave in front of the base of St₃, posterior margin broadly convex, or slightly concave. Anterior angles bifurcous.

Metasternal plate absent. Small endopodal apodeme present between coxa III and coxa IV. Epignyal plate linguiform, round caudally; surface with long V-shaped reticulation and one pair of stae (40.5 μ); membranous portion slightly over-lapping the sternal plate.

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Acarologia, t. XX, fasc. 1, 1978.
Figs. 1-5. — Hirstionyssus chungwalli sp. nov. Female:
1) Dorsum; 2) Venter; 3) Gnathosoma; 4) Chelicera; 5) Tarsus II.
Anal plate broadly triangular (46.7 μ wide by 80.9 μ long) with one pair of small circular marginal pores. Adanal setae (20.8 μ) at the anterior margin of anus, do not reach the base of the postanal seta (21 μ). All anal setae slightly smaller than the ventral setae. Anus slightly anterior on the plate.

Coxa I with 2 piliform setae. Coxa II with one seta near the posterior margin, with 4 spurs, the anterior spur stout and recurved, and directed toward the anterolateral corner of the sternal plate. Coxa III with two spurs on the posteromargin and one small seta just at the base of exterior spur. Coxa IV with one slender seta and a small spur.

Stigma dorsolateral or dorsal; peritreme dorsal and extending near to the posterior margin of coxa I.

Gnathosoma (fig. 3) with 10-12 deutosternal teeth arranged in an irregular file. Tectum like that of the male with a piligerous anterior margin. Fixed chela with an acute apex; at the base of the movable chela with some fine processes (fig. 4).

Tritosternum base trapezoid; laciniae weakly ciliate.

Tarsus II (fig. 5) with two claw-like setae, with two long piliform setae (37 μ) and one shorter piliform seta (17.5 μ) posteriorly.

MALE (figs. 6-9).

The length of idiosoma from 395 to 408.8 μ, the width from 254 to 262 μ.

Dorsal plate (fig. 6) as in female, but with a round caudal portion, length from 374.4 to 379.2 μ, width from 229 to 234 μ. M₁ and M₉ present, and M₅ almost separated from the plate in some specimens. F₁ and ET₂ smaller, about 7 μ long. F₉, T and ET₃ rather stout, from 13.8 to 14.5 μ long. D₈ and M₁₁ with a fine barb. Exoplate portion with 10-12 pairs of setae.

Holoventral plate narrow in front of the anal pore, with 8 pairs of subequal setae (24.3 μ), and VL₂ is almost separated from the plate. Adanal setae (11.6 μ) and postanal seta (13.8 μ) smaller. Exoplate region with 11 pairs of setae (9.2-11 μ) (fig. 9).

Tectum similar to that of female with a piligerous anteromargin. The chelicera is as the fig. 7.

Coxae as in female, but all spurs rather small. Tarsus II with one pair of claw-like setae and three long piliform setae (fig. 8).

MATERIAL: Holotype female, allotype male and paratypes were taken from *Hylopetes albogniger* Hodgson which was bought from the wild animal shop. The merchant told us that the flying squirrel was imported from Kiangsi province, China. I doubted whether this flying squirrel really collected from Kiangsi, because I could not find any record about it in this region (Shaw et al. 1962). It is believed that this flying squirrel was collected from Kwangsi in south China.

REMARKS: *H. chungwalii* is similar to *H. terogoteri* Teng et Pan, 1962. However, it is readily distinguished from the latter by having some characters: (1) larger size of the idiosoma and the dorsal plate, (2) the lateromargin of the dorsal plate at the S₅ and S₇ portions are remarkably convex, (3) ET₂ is small and similar to that of F₁, (4) D₈ and M₁₁ with small barb, (5) S₂ is not in the normal position, (6) near the anteromargin and lateromargin portions of the sternal plate are remarkably thicker, (7) the anterior angles of the sternal plate are bifurcous, (8) epigynial plate anteriorly overlapping part of the sternal plate, (9) anal plate with a pair of small, circular marginal pores, (10) peritreme extends to the posteromargin of coxa I, (11) tarsus II with three long piliform setae, and (12) M₁ and M₉ on the dorsal plate of the male.
This species is named for Mr. Li Chung-wa, chairman of the St. Augustine college council. Domrow (1963) synonymized Echinonyssus and Hirstionyssus, but Strandtmann (1967) prefers that Hirstionyssus should not be transferred to Echinonyssus. About ten years ago, the present author have provided a short statement concerning the generic diagnosis of the genus Echinonyssus, and recognized that the anterior hook-like projection of the dorsal plate is one of the major taxonomic characters which is different to all related genera. In addition, the hosts of the only two species in this genus, E. nasutus Hirst, 1925 and E. longisetosus Mo, 1964, are tree threws, Tupaia sp., belonging to Tupaiidae. Up to now, the distribution of these two species are limited in Indo-Malayan region (Domrow, 1955, Grokhovskaya et al., 1961 and Mo, 1964). It is very interesting that more than twenty thousand small mammals were examined during the
year of 1962 in Lingshui district of Hainan Island, and the E. longisetosus was only associated with the tree throws which may be the specialized host. In consideration of all directions, I think Echinonyssus may be an independant small group, and it is not necessary to transfer all species of Hirstionyssus to this genus.

ACKNOWLEDGEMENT

The author wishes to express thanks to Dr. Ronald C. Ko, Department of Zoology, University of Hong Kong, for his invaluabale advice; to Prof. B. Loftes for the use of the facilities in the Zoology Depart­ment, and to Mr. W. K. Lai and Mr. P. C. Yu, St Augustine College, for their kind help.

SUMMARY

The female and male of Hirstionyssus chungwalii sp. nov. from Hylopetes alboniger Hodgson are described.

Résumé

La femelle et le mâle d’Hirstionyssus chungwalii sp. nov. récoltée sur Hylopetes alboniger Hodgson sont décrits.

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