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A NEW SPECIES OF *PNEUMOPHIONYSSUS* FROM ARGENTINA AND NEW LOCALITY RECORDS OF ACARINE PARASITES OF REPTILES IN MEXICO AND VENEZUELA (MESOTIGMATA: ENTONYSSIDAE AND LAELAPIDAE)[1]

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Abstract: *Pneumophionyssus jellisoni*, n. sp., from the lungs of an unidentified snake in Azul, Argentina, is described. *Ixodorhynchus liponyssoides* Ewing, 1922 is recorded for the first time from Mexico and *Ixobioides butantanensis* Fonseca, 1934, previously known only from Brazil and Chile, is recorded from Venezuela.

In this paper we report new Central and South American records for 2 ixodorhynchine species (Laelapidae) and describe a new species of *Pneumophionyssus* Fonseca, 1934 (Entonyssidae). The latter was collected from the lungs of an unidentified snake by Dr W. L. Jellison during the course of a survey of Argentinian vertebrates for pulmonary pathogens.

Family LAELAPIDAE Berlese, 1892
Subfamily IXODORHYNCHINAE Ewing, 1922
Genus IXODORHYNCHUS Ewing, 1922
Ixodorhynchus liponyssoides Ewing, 1922

Two females were collected 4.8 km (3 mi) N Chuhuichupa, Chihuahua, Mexico, 4.VII.1958, by W. W. Tanner (host not given). This species, the generotype, has previously been recorded on colubrid snakes from various localities in Canada and the United States (Fain 1962). Ixodorhynchine mites have not previously been reported for Mexico (Hoffmann 1969), although a collection of *I. liponyssoides* from British Honduras has been recorded (Fain 1962).

Genus IXOBIOIDES Fonseca, 1934
Ixobioides butantanensis Fonseca, 1934

A single female was taken off *Carollia* sp., 1 km SW Altimira, Puente Ricón, Barinas, Venezuela, 13.XII.1967, by N. E. Peterson. The host, a bat, is considered to be accidentally associated with the mite. Although widely distributed in Brazil and known also from Chile (Fain 1962), *I. butantanensis* has not been previously reported for Venezuela.

Family ENTONYSSIDAE Ewing, 1923
Subfamily PNEUMOPHIONYSSINAE Fonseca, 1940
Genus PNEUMOPHIONYSSUS Fonseca, 1940
Pneumophionyssus jellisoni, n. sp. FIG. 1–6

Diagnosis: Tritosternum well-developed, lacinate; stigma associated with a short, anterior peritreme; metasternal setae absent; sternal shield subrectangular. Differing from *P. aristoterisi* Fonseca 1940, the only other representative of the genus, in having a well-developed fixed chela, 2 rather than 3 pairs of setae on the sternal shield, and a greater number of dorsal shield setae.

Description: Holotype ♀ (FIG. 1–6): Idiosoma broadly oval and 828 μ long by 560 μ wide. Total length, including gnathosoma, 1020 μ. *Dorsum:* (FIG. 2). An elongate shield on dorsum bears 15 setae (7 pairs and an unpaired submedian seta). *Venter:* (FIG. 1). Tritosternum ends in 2 short barbed lacinae which do not reach base of palps. Sternal shield subrectangular and bears the 2 anterior pairs of sternal setae. Metasternal setae lacking. Genital shield long and narrow and bears 1 pair of setae. Soft cuticle of opisthosoma has 4 pairs of setae arranged 2-4-2. Anal shield oval, subterminally located, and bears 3 setae. Spiracles open ventrolaterally at level of coxae IV; anteriad of these is a short peritreme. *Gnathosoma:* (FIG. 3 and 4). Palps much longer (123 μ) than base of gnathosoma (75 μ); well-developed bifurcate apotele on tarsus. Seven deutosternal teeth disposed in a single row. Chelicerae 168 μ long and at most 21 μ wide, movable digit is poorly sclerotized and triangular in shape, fixed digit is cylindrical and as long as movable one. *Legs:* (FIG. 5 and 6). Tarsal claws of legs I are less robust than those of other legs. Setae of most segments are short. Setal formula as follows:

	I	II	III	IV
coxa	2	2	2	1
trochanter	$1\frac{0}{2}1$	$1\frac{0}{2}1$	$1\frac{0}{2}0$	4
femur	$2\frac{4}{2}1$	$1\frac{5}{1}1$	$1\frac{3}{1}0$	$1\frac{3}{0}0$
genu	$2\frac{4}{2}1$	$2\frac{4}{0}1$	$2\frac{4}{0}1$	$2\frac{4}{0}1$
tibia	$2\frac{4}{2}1$	$2\frac{3}{2}1$	$2\frac{3}{2}1$	$2\frac{3}{2}1$
tarsus	32	$3\frac{7}{4}3$	$3\frac{7}{4}3$	$3\frac{6}{5}3$

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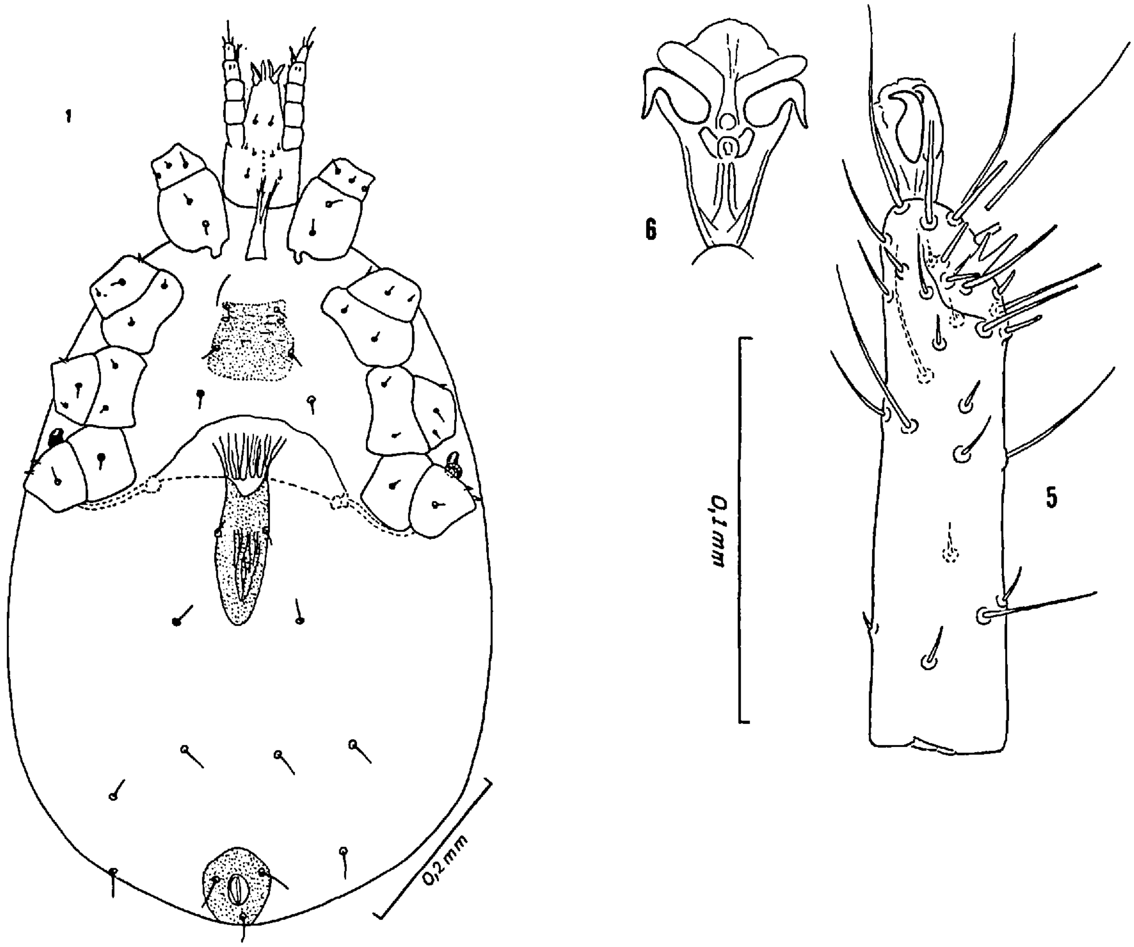

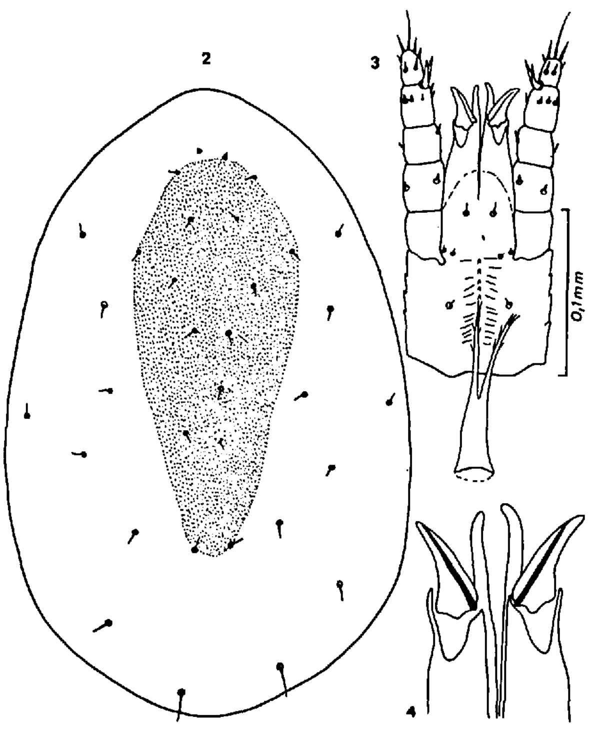

FIG. 1–6. *Pneumophionyssus jellisoni*, n. sp. Holotype female: (1) venter, (2) dorsum, (3) gnathosoma and tritosternum, (4) chelae, (5) tarsus I, (6) claws of tarsus II.

Material examined: Known only from the holotype, a single female found in the lungs of an unidentified snake near Azul, Argentina, 14.I. 1962, by W. L. Jellison.

Holotype specimen (USNM No. 3491) in the National Museum of Natural History, Smithsonian Institution, Washington, D.C.

Remarks: We are pleased to name this species for its collector, Dr William L. Jellison, Medical Entomologist and Parasitologist (retired) of the U.S. Public Health Service, Rocky Mountain Laboratory, Hamilton, Montana, U.S.A.

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BOOK REVIEW

INSECTICIDE RESISTANCE IN ARTHROPODS

By A. W. A. Brown & R. Pal. 1971 Wld Hlth Organ. Monogr. Series No. 38, 491 p. U.S. $12.00.

The title of this work is somewhat misleading, in that it is entirely concerned with arthropods of public health importance; though indeed, any one concerned with pesticide resistance would find much basic information in it. The 1st edition, by Dr A. W. A. Brown, was published by the World Health Organization in 1958, showing an early appreciation of the threat which resistance posed to control of vector-borne diseases. At that time, comparatively little was understood of the complex nature of resistance, so much of the book was taken up with factual data on the occurrence and distribution of resistant strains of vector species. Since then, there has been a progressive growth of incidence of resistance in all kinds of pests; from 35 in 1958 to 104 in 1970. Furthermore, new types of insecticides (organophosphorus compounds and carbamates) have been increasingly involved; and above all, the techniques for investigating mechanisms of resistance have become much more sophisticated. Its inheritance is no longer studied by simple tests for segregation; now, by the use of marker genes, various factors responsible for different systems have been identified and often mapped in appropriate chromosomes. At the same time, biochemical studies of detoxication systems developed by resistant strains have progressed to radiometry and various forms of chromatography and electrophoresis.

It is small wonder that the new edition has had to be considerably revised and expanded; from 240 pages it has grown to 491; and the 660 references have swollen to 1500. Dr Rajindar Pal of W.H.O. assisted Dr Brown in this demanding task.

There are 2 points on which one might be critical: the general arrangement and its topicality. As might be expected, the authors begin with a chapter on general concepts of the nature and characterization of resistance; there follows an excellent chapter on the detection and measurement of resistance. This is a field in which the W.H.O. has made a great contribution to international collaboration in the struggle against resistance. The remaining chapters deal with resistance in specific pests (anophelines, culicines, lice plus fleas plus other vectors, houseflies and finally, non-vector pests of public health importance). These sections give incomparably detailed accounts of each important species; unfortunately, they also include aspects of basic research, scattered throughout the book, which would be better collected together in the chapter on fundamentals.

The other drawback is the absence of recent information; thus, of the 1st 200 references, only 6 are from 1969 and 1 from 1971. To some extent, any book on a constantly developing subject becomes rapidly out of date, a problem best met by periodic reviews. Meanwhile, this book provides a unique summary of virtually every record and study of resistance in pests of medical importance up to about 1968.

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