THE DESCRIPTION OF *LAMINOSIOPTES HYMENOPTERUS* n. sp. (SARCOPTIFORMES) FROM THE AMERICAN CROW [1]

BY

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The name *Laminosioptes hymenopterus* is proposed for specimens of a new species of mites collected from the eastern crow, *Corvus brachyrhynchos brachyrhynchos*, in Montgomery County, Ohio. The description, presented below, is based on a study of one male and seven female mites which were taken from two male crows during the winter months of 1959.

Materials and Methods.

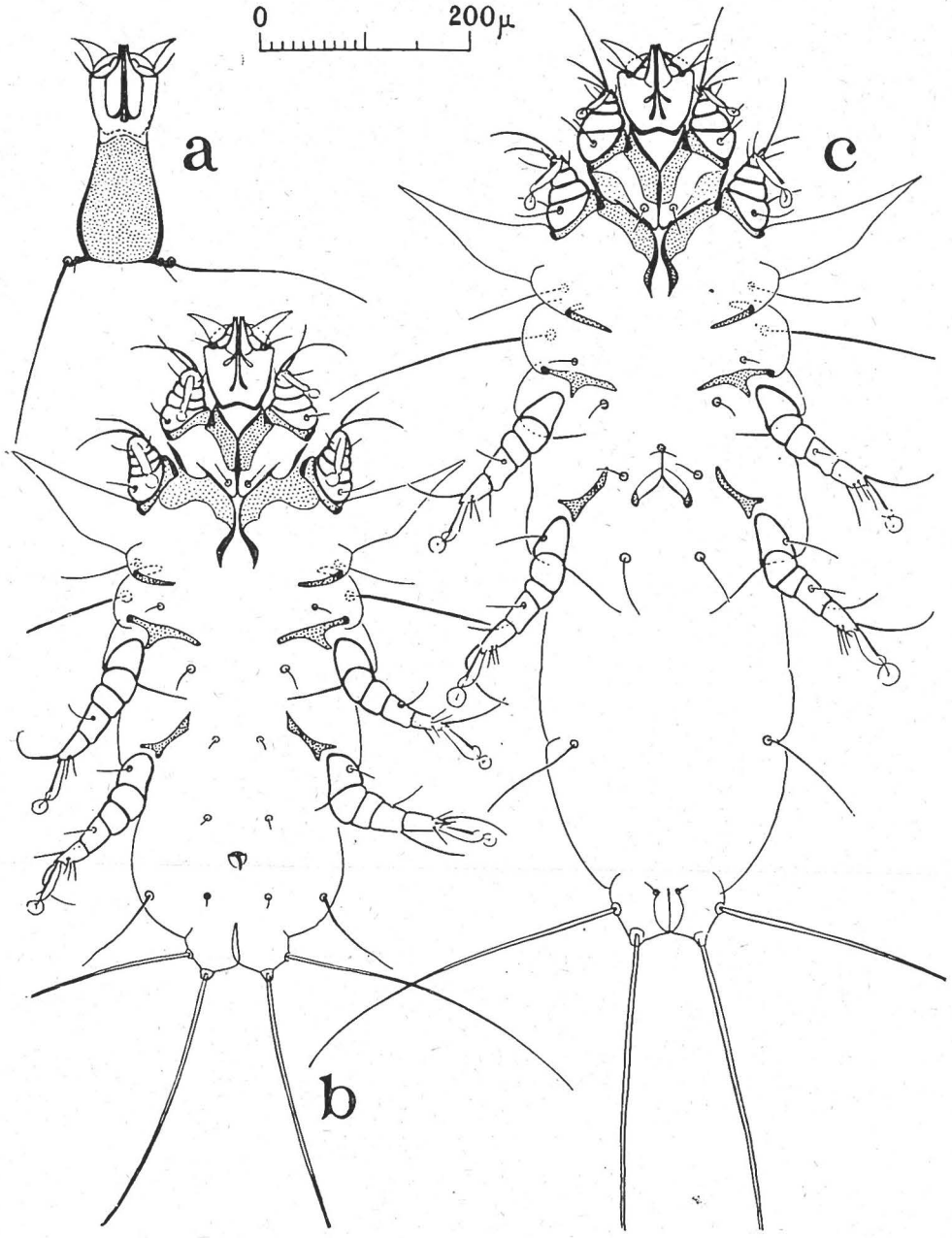
The crows were shot in the field, and transported to the laboratory wrapped individually in sealed paper bags. Each bird was washed in a bath which contained about five grams of a detergent (Dreft) in about two quarts of water. This solution facilitated the removal of the mites from the skin and feathers of the host. The feathers were combed to dislodge any mites adhering to them. The bath water was then strained through a double layer of cheesecloth, and the mites, which were suspended on the cloth, were collected with the aid of a binocular dissecting microscope. The mites were fixed, cleared, and mounted in Hoyer's mounting medium.

Drawings were made with the aid of a microprojector. The size range, when given, precedes the mean measurement which is placed in parenthesis.

Laminosioptes hymenopterus n. sp.

Male (Fig. B) : Body regularly cylindrical in form, abruptly tapered on both ends ; 640 μ in length ; 225 μ in maximal width, in the vicinity of trochanter III. Idiosoma 555 μ in length. Propodosoma 170 μ in length.

1. A portion of these data also appears in a dissertation submitted by Joseph JONES, Jr., to the Graduate School, Ohio State University, in partial fulfillment of the requirements for the Ph. D. DEGREE.



Laminosioptes hymenopterus n. sp.
Fig. A. — Propodosomal shield, dorsal view ; Fig. B. — Male venter (holotype) ; Fig. C. — Female venter (allotype).

Dorsum. A single, chitinous shield, the propodosomal shield, occurs on the dorsal surface. This shield (Fig. A), which is elongated and tapered anteriorly and posteriorly, measures 120 μ in length, and 80 μ in maximal width. The surface of the shield is finely granulated, but without hairs and ornamentations. The lateral borders are outlined by a chitinous thickening which is especially pronounced in the posterior region. A pair of external and a pair of internal scapulary hairs are inserted on the outside of the posterior border of the propodosomal shield. The external scapulary hairs are long and thick ; the internals are short, fine, and inserted very close to the externals.

Behind the propodosomal shield, the dorsal surface is wrinkled with scattered, transverse, cutaneous folds. These wrinkles are prominent in the median line and in the anterior half of the body, but are less visible in the lateral and posterior regions. A pair of very thin, alate, hyaline, propodosomal membranes is attached dorsally, immediately behind leg II. These membranes are 125-130 μ (127 μ) in length, and similar in shape and thickness. The anterior border of each propodosomal membrane is slightly concaved, and extends outward and forward. The postero-lateral border is sinuous but generally convexed in shape. Two pairs of dorsally inserted, lateral hairs occur immediately behind the insertion of the propodosomal membranes. On either side, between the lateral hairs, is a pair of ventral apodemes. The middle of the hysterosoma bears a pair of prominent hairs.

Venter. Sternum formed by the Y-shaped union of epimera I. Posterior extremity of sternum united to epimera II forming a coxal segment closed around the insertion of each of the forelegs. The epimera of legs I and II border laterally and posteriorly on an area of granular, scerotized tissue. Genital organ situated in posterior fifth of idiosoma. Penis 70 μ in length, curved perpendicular to ventral side, and bending progressively towards the rear. The supporting arch of the genitalia is short and well chitinized. An ovoid genital loop is formed by the posterior union of two slender, bracket-shaped apodemes which proceed from the anterior extremity of the supporting arch. Genital suckers absent. Anus subterminal. The venter bears the following short hairs : one pair each of sternals, postero-internals, anterior inguinals, posterior inguinals, supra-genitals, and adanals. A pair of long, latero-ventral hairs occurs at the level of the adanals. The posterior margin of the abdomen bears two pairs of large, long, stiff, subequal, terminal hairs.

Gnathosoma. The rostrum is very prominent, and gradually widens from the rear forward, narrowing abruptly at its apex, near the base of the distal segment of the maxillary palps. Length of rostrum 67 μ ; maximal width 50 μ. Maxillary palps 30 μ in length, two-segmented, antero-mesially directed. A short, thick hair occurs on the lateral border, at the base of each maxillary palp. The chelicerae are styliform, and possess a bidentated anterior extremity. A triangular,

hyaline, membranous expansion, 21 μ in length, and similar to the propodosomal membranes, is inserted near the base of each maxillary palp.

Legs. The legs are five-segmented, thick, conical, and short, especially legs I and II. Legs III and IV are inserted laterally. Tarsi bearing short, dorsal, apical prong, and ventral caruncles. The caruncal stalk is long, flat, and dorsally thickened. Caruncal disk round, small. The caruncles are smallest on the anterior legs, particularly legs I. A Y-shaped apodeme occurs at the base of coxae III and IV.

Female. (Fig. C). In general form very similar to the male, but distinctly larger than male. Body 633-860 μ (726 μ) in length ; 182-280 μ (220 μ) in width at level of coxa IV.

Dorsum. Propodosomal shield 161-168 μ (166 μ) in length, similar in shape and features to that of male. The description given for the dorsal surface of the male applies to that of the female. The pair of large, dorsal hairs on the hysterosoma is more anteriorly inserted in the female than in the male. The description given for the lateral hairs, propodosomal membranes, rostrum and legs of the male applies likewise to these features in the female. Propodosomal membranes 120-175 μ (140 μ) in length. Rostrum 70 μ in length ; 49-53 μ (51 μ) in maximal width.

Venter. The external genitalia occur near the middle of the body, and are shaped as an inverted Y, with chitinous reënforcement at the extremity of each branch. Sub-genital hairs thicker and much longer than the other ventral hairs. Large latero-ventral hairs inserted 176-190 μ (185 μ) in front of adanal hairs. Anus subterminal. Adanal hairs nearer to anal slit in female than they are in male.

Host : Corvus brachyrhynchos brachyrhynchos, eastern crow.
Site of Infection : Apparently on skin and feathers.
Type Locality : Montgomery County, Ohio.
Holotype (male); Paratype (female) : United States National Museum Collection, No. 2298.
Allotype : In private collection of Jean Gaud.

Discussion.

The genus *Laminosioptes* Megnin, 1880, was established for the species *Laminosioptes cysticola* (Vizioli, 1870) Megnin, 1880, which occurs in the subcutaneous tissues of fowl in Europe and North America. With the addition of *Laminosioptes hymenopterus* n. sp., the genus now contains two species.

Laminosioptes hymenopterus differs from *L. cysticola* in that the former species is about 400 microns longer than the latter. Male and female specimens of *L. hymenopterus* bear caruncles on tarsi I and II, and a pair of membranous alae near the maxillary palps and also on the propodosoma. In *L. cysticola,* tarsi I

and II do not bear caruncles, and membranous alae are not present. Moreover, the abdomen of *L. hymenopterus* bears two pairs of long, terminal hairs while that of *L. cysticola* has only one pair. *Laminosioptes hymenopterus* and *L. cysticola* apparently occupy different tissue sites in their respective hosts. *Laminosioptes cysticola* occurs in the subcutaneous tissues while *L. hymenopterus* is apparently a parasite of the skin and feathers.

The two species show similarities in rostral features, the relative size of the legs, the paucity of setae, the localization of transverse striations, and in the absence of anal suckers in the male.

Less than one per cent of the crows, examined during the course of this investigation, were found to be infected with this mite. No studies were made on the crow to determine the pathological conditions resulting from the presence of this parasite.

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