

OCCASIONAL PAPERS OF THE MUSEUM OF
ZOOLOGY

UNIVERSITY OF MICHIGAN

ANN ARBOR, MICHIGAN

UNIVERSITY OF MICHIGAN PRESS

A NEW SPECIES OF *ARCHILESTES* FROM MEXICO
(ODONATA: LESTINAE)

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IN the fall of 1938, H. Devlin Thomas and Louis J. Lipovsky collected insects for one week at Huichihuayan, kilometer 410 south of Valles, San Luis Potosí, Mexico. Among the Odonata taken is an undescribed lestine species which appears so stately in its shining metallic green coat of mail that I am describing it as

Archilestes regalis, new species

HOLOTYPE MALE.—Labium and underparts of the head light buff; labrum bright glossy light blue, with a narrow apical margin of black; mandibles, except for the black teeth and genae, pale light blue; clypeus black, with an irregular blue area in medial ventral half; frons, vertex, occiput, and antennae mostly black, but brown on a small area surrounding the base of antennae, on a small triangular patch lateral to the lateral ocelli, and on the filamentous terminal segment of antennae.

Prothorax dark brown to black with a large buff area on the epimeron; posterior lobe convex, entire.

Pterothorax (Pl. I, Figs. 1-2) dark brown, with large metallic green areas covering all but a narrow border of the mesepisternum and mesepimeron. Darker areas of brown or

brownish black present as follows: a large spot on the mesin-fraepisternum; a narrow ill-defined stripe on second lateral suture; lower posterior angle of the metepimeron above the carina, and a triangular patch below the carina; a large mid-ventral area on metasternum; and a stripe on mid-ventral mesepimeral suture with a diagonal arm on each side extending from anterior end, forming an arrow-like mark.

Legs mostly black; the anterior surface of the second segment of the trochanters and the posterior (extensor) surface of the femora, brown. Tarsal claws normal, i.e., the inferior tooth is shorter than is the superior.

Abdomen brownish black to black, with metallic green reflections on dorsum of segments 1-3, and brown on a large diffuse, rounded, lateral spot on segment 1 and on an obscure lateral stripe on segment 2. Sternite of segment 1 dark buff, with a large triangular median black spot; sternites of segments 3-9 and ventrum of 10, black.

The black posterior hamule (Pl. I, Figs. 5-6) of abdominal segment 2 is laminate, slightly sigmoid, without a prominent high mid-lateral carina, broadened apically, and prolonged posteriorly. It is similar in shape to that of *Archilestes grandis* (Rambur), but in that species the hamule is pale buff or yellow with a dark anterior and ventral border, and the portion beyond the angulation is broader.

Superior abdominal appendages (Pl. I, Figs. 7-9) black, slightly longer than segments 9-10; subbasal tooth prominent; a large ventral protuberance at about three-fourths the length; elongated apices decurved and fringed with long golden yellow bristles. Inferior appendages black except for a mesal border of brown or yellow, reaching to about one-fourth the length of the superiors; apices broad and blunt, heavily fringed with long, dorsally directed golden yellow bristles. The appendages, except for the long decurved apices of the superiors, are quite similar to those of *A. grandis*.

Wings slightly smoky; venation black or very dark brown; pterostigma dark brown, covering slightly less than 4 cells in 1

front wing, 5 in the other 3 wings. First antenodal space 4.5 mm.; third antenodal space 7.0 mm. (1.55 times first). Post-nodal crossveins in front wing 20-20, in hind wing 17-17. Origin of M_2 in front wing at or near the level of third post-nodal crossvein, in hind wing about halfway between second and third crossveins. Proximal side (inner end) of the quadrangle (Pl. I, Figs. 3-4) in front wing slightly longer than one-half the inferior and distinctly longer than the superior side; in the hind wing, slightly less than one-half the inferior and a little longer than the superior. M_{1a} slightly zigzag, more pronounced in proximal half. Longest sector between M_2 and R_s arises 4 cells before the level of the pterostigma in 1 front wing, 3 cells before that level in the other wings. Wings petiolated to Ac.

MEASUREMENTS (in mm.).—Length of abdomen, 51.0 (to apex of segment 10); superior appendages, 3.4, inferior appendages, 1.1; hind wing, 38.8; pterostigma, front and hind wings, 3.0.

Holotype male: Huichihuayan, San Luis Potosí, Mexico (elevation 250 feet or less), September 25, 1938, Louis J. Lipovsky. Williamson collection of the Museum of Zoology, University of Michigan.

Female unknown.

HABITAT.—H. Devlin Thomas said that *Archilestes regalis* was taken near a well-shaded spring in a wooded area. Mr. Lipovsky (*in litt.*, November 23, 1942) wrote of the place:

Huichihuayan is situated in a densely overgrown river valley surrounded by mountains and high hills. From a collector's standpoint it was an entomologist's "happy hunting grounds," and from my personal point of view it was the most interesting locality in which I had collected in Mexico. Primarily, it was my conception of a tropical paradise minus the palm trees (which are plentiful 100 miles north). . . . The spring Mr. Thomas mentioned flowed into a narrow stream which was from knee to hip deep in spots. This stream meandered through the dense tropical brush.

The generic characters pertaining to *Archilestes* only, as given in rubric 5 of the key to genera of the subfamily Lestinae

by Munz¹ are: "The inner end of the quadrangle almost one-half the length of the lower side. M_{1+2} forking less than two cells beyond the subnodus. The third antenodal space almost twice the length of the first." According to this, *regalis* would qualify only on the first character. On the second, it would follow through the key to *Lestes* in which M_{1+2} is supposed to fork from 3 to 7 cells beyond the subnodus, and on the third character, it would be uncomfortably close to the dividing line between *Archilestes* and *Lestes*, in which the third antenodal space is less than one and one-half times the first. As an indication of the variability of these last two characters, ten specimens each of *Archilestes grandis* (Rambur), *Lestes eurinus* Say, and *L. vigilax* Hagen were selected for study. In *A. grandis*, the forking of M_{1+2} (i.e., the origin of M_2) took place anterior to the level of the second antenodal crossvein in all wings; in *Lestes eurinus*, at or proximal to 2 in 4 wings, between 2 and 3 in 22 wings, and from 3 to 4 in 14 wings; in *L. vigilax*, at 3 in 2 wings, and between 3 and 6 in 38 wings. The third antenodal space of the front wing was twice the length of the first in half, and less (1.75) in the other half of the specimens of *A. grandis*; less than twice in *L. eurinus* but more than one and one-half times (1.6); and distinctly less than one and one-half times in all of *L. vigilax*. This indicates that these two characters are not sufficient to separate *Archilestes* and *Lestes*, and species should not be excluded from either genus because of nonconformity. The new species *regalis* has been placed in *Archilestes* because of the proportions of the quadrangle and the similarity of the posterior hamules and abdominal appendages to those of *A. grandis*.

¹ Philip A. Munz, "A Venational Study of the Suborder Zygoptera (Odonata) with Keys for the Identification of the Genera," *Mem. Amer. Ent. Soc.*, 3 (1919): 48.

PLATE I

Archilestes regalis, new species, holotype male

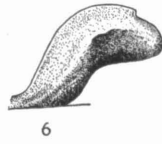
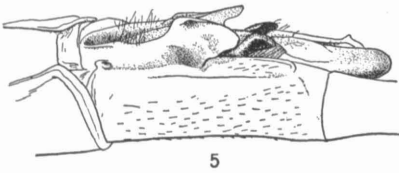
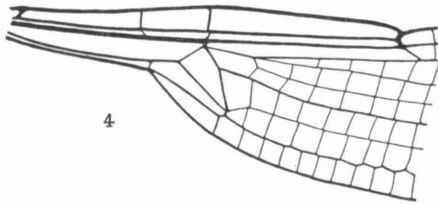
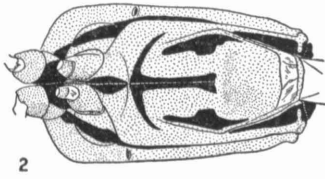
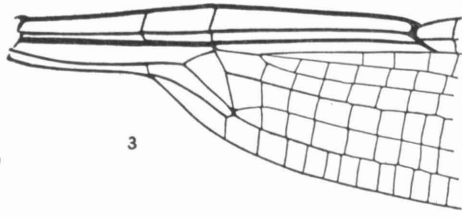
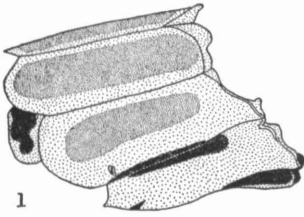
FIGS. 1-2. Color pattern of the pterothorax. The intermediately shaded dark areas of the upper part represent the metallic green color.

FIGS. 3-4. Basal part of front and hind wings.

FIGS. 5-6. Ventrolateral view of second abdominal segment showing position of posterior hamules and (Fig. 6) the right hamule greatly enlarged.

FIGS. 7-9. Abdominal appendages in dorsal, lateral, and ventral views.

The drawings are by Miss Grace Eager, Museum artist.



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