

NEW SPECIES OF PALPIMANIDAE (ARANEAE)
FROM THE WEST INDIES*

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Members of the family Palpimanidae have been reported from many parts of the world but the number of genera and species remains small as compared to many other families of spiders. Five genera have long been recognized from the Western Hemisphere, as follows: *Anisaedus* Simon, 1893; *Compsopus* Tullgren, 1905; *Theringia* Keyserling, 1891; *Otiothops* Macleay, 1839; and *Palpimanus* Dufour, 1820. Species assigned to the genus *Otiothops* far outnumber the species belonging to the remaining four genera, taken in the Western Hemisphere, whereas species belonging to the genus *Palpimanus* have been described far more frequently than in any other genus in the Eastern Hemisphere.

Apparently, only one species of *Anisaedus* has heretofore been described from the Western Hemisphere and that was collected in Ecuador. As far as I have been able to learn, up to the present time twelve species of *Otiothops* have been described from South America, Central America and the West Indies. Both sexes are now known for *O. brevis* Simon from Venezuela, *O. macleayi* Banks from Panama, *O. walckenaeri* MacLeay from Cuba. *O. calcaratus* Mello-Leitão from Colombia is known only from the male. The eight remaining species are known only from females.

Ever since finding both sexes of *O. macleayi* Banks in Panama in 1934 and 1936 I have been interested in the family. I have taken this species in large numbers in many different localities in Panama. I have not yet found species belonging to the genus *Otiothops* in Jamaica, W. I. where I have spent considerable time on collecting trips in the last decade. The genus did not appear in my recent collection from Puerto Rico where I had hoped to find the male of *O. lutzi* Petrunkevitch. I have two immature specimens taken in the spring of 1964 on St. John, U. S. Virgin Islands which I am tentatively assigning to *O. lutzi*. In my collection made on the island of Trinidad, W. I., in the spring of 1964 I found a very interesting male and several females of a species which I am assigning to *Otiothops* even though the male palp shows features not heretofore associated with this genus. This species is described later in this brief paper. While searching through the collection of palpimanid

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spiders here in the Museum of Comparative Zoology, I found a vial containing what appears to be a male and a female belonging to a new species of the genus *Anisaedus* Simon, which has previously contained only one species from the Western Hemisphere, *A. gaujoni* Simon, 1893 from Ecuador. The label in the vial gives the locality of collection as simply "West Indies." The writing appears to be that of Miss Elizabeth Bryant, who was in charge of the collection of arachnids in this Museum for many years. In view of the rarity of spiders in this genus and after some discussion with colleagues, the decision has been made to describe these specimens as representing a new species in spite of the indefinite type locality. Types of the new species described in this paper will be deposited in the Museum of Comparative Zoology, Harvard University.

Genus *Anisaedus* Simon, 1893

Anisaedus levii sp. nov.

Figures 1-6

The species is named after Dr. Herbert W. Levi, Associate Curator of Arachnology in the Museum of Comparative Zoology at Harvard University.

Male holotype. Total length 4.81 mm. Carapace 2.21 mm. long; 1.58 mm wide opposite second coxae where it is widest; about .67 mm tall; pedicel quite well exposed by separation of cephalothorax and abdomen; general shape about like that of *Otiotohops*; median thoracic groove a well defined short groove in the upper and steeper third of the posterior declivity; surface finely granulate. Eyes: eight in two rows (Fig. 1); posterior row slightly wider than anterior row; AME circular; all others oval or irregular to some degree; viewed from above, anterior row gently recurved; posterior row definitely procurved; anterior medians slightly raised from general surface and directed anterolaterally. Ratio of eyes AME : ALE : PME : PLE = 11 : 6 : 5 : 5.5 (irregularities in shape of all eyes except AME make it difficult to measure with desired accuracy). Viewed from in front, anterior row gently procurved, measured by centers; posterior row strongly procurved. AME separated from one another by about their diameter; from ALE by slightly more than three quarters of their diameter. Height of clypeus equal to about 2.3 times the diameter of AME; deeply grooved just above ventral margin. PME separated from one another by a little less than four times their diameter, from PLE by slightly less than that distance. LE separated from one another by nearly the radius of ALE. Central ocular quadrangle slightly wider in front than behind and slightly wider



Figs. 1-6 *Anisaedus levii* sp. nov. Fig. 1. Eyes of male holotype from above. Fig. 2. Right first leg; retrolateral view. Fig. 3. Right first metatarsus and tarsus; nearly dorsal view. Fig. 4. Left male palp; prolateral view. Fig. 5. Tibia and tarsus; left male palp; nearly ventral view. Fig. 6. Epigynum of female paratype; ventral view.

than long but nearly square. Chelicerae robust; flattened on anterior surface; somewhat swollen in region of fang groove; apparently with a row of 3-4 low, retromarginal teeth and a cluster of spines and hairs in region of promargin but some have been broken off and

details are obscure. Lip: somewhat longer than wide at base in ratio of about 8 : 7; deeply notched at narrowed distal end; firmly united to sternum. Maxillae: moderately convergent; somewhat longer than lip but not meeting at distal ends; with lateral margins regularly rounded. Sternum: longer than wide in ratio of about 29 : 24; continued broadly between first and second coxae and narrowed between third and fourth; moderately convex; surface finely granulate; posterior end between bases of fourth coxae which are separated by their width. All coxae basally lobed but first most conspicuously so; coxae 1423 in order of length. Legs: 4123 in order of length but fourth only slightly longer than first; tibial index of first leg 16, of fourth leg 13. Figures 2-3 show essential features of first leg with its robust femur, long patella, short metatarsus and short, clubshaped tarsus; several low cusps occur on the prolateral and ventral surfaces of the patella and tibia; the metatarsus has a series of ventral teeth difficult to observe clearly because of presence of scopulae; the first tarsus and metatarsus have conspicuous prolateral scopulae with considerable iridescence; the tibia has an inconspicuous similar scopula; somewhat similar scopulae appear on other legs but they are much less conspicuous. No tarsal claws have been found on the first legs but all others have a pair; no teeth observed on them; claw tufts are present and may obscure the teeth. Palp: essentials shown in Figures 4-5; femur slender; patella very short and rounded; tibia swollen and nearly as broad as long. Abdomen: viewed from above, longer than wide in ratio of about 38 : 29; 2.47 mm long, 1.9 mm wide; broadly rounded at base and only slightly pointed posteriorly; with only two spinnerets; with a conspicuous ventral scutum anterior to genital groove and extended dorsally to cover nearly the entire basal end of the abdomen. Color in alcohol: carapace, palps, chelicerae, lip and first legs a deep, reddish brown; other legs yellowish brown with variations; sternum only slightly lighter than carapace; abdominal scutum about the same as sternum with remainder of abdomen light yellowish brown.

Female paratype. Total length 5.53 mm. Carapace 1.93 mm long; 1.43 mm wide; about .65 mm tall; considerably less robust than in male. Eyes essentially as in male with minor differences. Chelicerae: in general as in male; fang groove apparently with only two very short teeth on retromargin; promargin with a row of several long, slender spines or teeth associated with a weakly developed scopula of long, slender hairs; anterior surface finely corrugated but less flattened than in male. Lip, maxillae and sternum all essentially as in male holotype. Legs: 4123 in order of length; tibial index

of first leg 15, of fourth leg 13. Only one very short claw observed on first tarsus; other tarsi apparently with two each and each claw with but one tooth. The scopulae are present but are considerably less conspicuous than in male. Anterior tarsi not clubshaped as in male but shortest of the four; first patellae much longer than others; first femora enlarged dorsoventrally much as in male. Abdomen: 3.45 mm long; 2.02 mm wide; tracheal spiracle (hidden in male) clearly shown some distance anterior to base of paired spinnerets; ventral scutum not extended dorsally to cover base of abdomen as in male. Epigynal area (Fig. 6) singularly lacking in distinctive features. Color in alcohol: essentially as in male but some differences may be noted as follows: carapace with light, irregular lines which divide the area into a series of irregular, faintly indicated stripes; sternum somewhat the same but there is a narrow median line from which radiate a series of lines toward the margin; these seem to show through from internal organs. All legs paler than in male. Abdomen also a light yellowish brown with a fine reticulation.

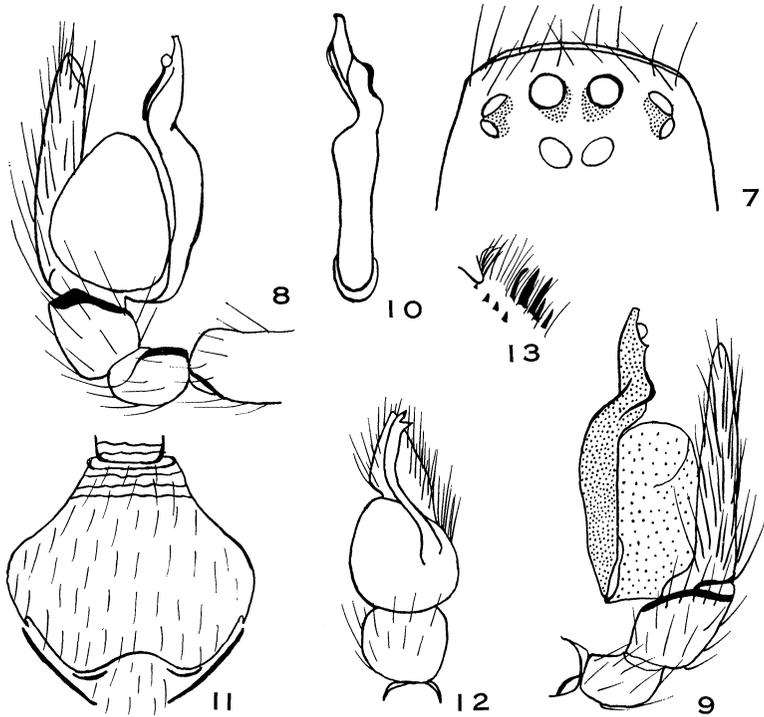
Type locality. As already indicated, the label accompanying the holotype and female paratype merely states that they came from the West Indies with no date of collection. It seems very likely that the specimens were sent to Miss Bryant, at that time in charge of the arachnid collections, with this very inadequate location as cited.

Otiothops carpenteri sp. nov.

Figures 7-11

The species is named after Dr. Frank M. Carpenter, Alexander Agassiz Professor of Zoology, Professor of Entomology, and Curator of Fossil Insects in the Museum of Comparative Zoology at Harvard University.

Male holotype. Total length from clypeus to posterior end of abdomen 5.27 mm; length from anterior border of slightly extended chelicerae to posterior end of abdomen 5.52 mm. Carapace 2.2 mm long; 1.54 mm wide opposite second coxae where it is widest; .77 mm tall; very convex; very gently arched along median line to beginning of posterior declivity opposite second coxae; declivity steep at first, then gradual to posterior border; with a conspicuous median pit at bottom of steepest part of declivity; surface finely granulate and corrugated throughout; with many fine hairs. Eyes: eight in two rows; viewed from above, anterior row moderately recurved and posterior row moderately procurved (Fig. 7) thus bringing lateral eyes very close together. AME circular; all others oval to some



Figs. 7-11 *Otiotrops carpenteri* sp. nov. Fig. 7. Eyes of male holotype from above. Figs. 8-9. Left male palp; prolateral and retrolateral views, respectively. Fig. 10. Embolus; nearly ventral view. Fig. 11. Epigynum of female paratype; ventral view.

Figs. 12-13 *Otiotrops walckenaeri* MacLeay. Fig. 12. Left palp; ventral view. Fig. 13. Right fang groove of female.

degree. AME dark; all others light with PME bright silvery. Anterior row only slightly wider than posterior row. Ratio of eyes AME : ALE : PME : PLE = 12 : 10.5 : 10 : 9 (long axes used for measurements of oval eyes; irregularities introduce the usual difficulties in making accurate measurements). AME separated from one another by about two thirds of their diameter, from ALE by about seven twelfths of their diameter. PME separated from one another by about two fifths of their long axis, from PLE by about 1.7 times their long axis. Laterals separated from one another by about one fifth of the long axis of PLE. Central ocular quadrangle wider in front than behind in ratio of about 16 : 13; longer than

wide in front in ratio of about 9 : 8. Clypeus with a broad, heavily chitinized border; height equal to a little more than twice the diameter of AME. Palp: essential features shown in Figures 8-10; tarsal features quite different from others seen in the genus. Abdomen: general features as usual in the genus; ventral scutum essentially as represented for the female paratype but the area around the scutum is chitinized so that the whole basal region appears to be surrounded by this structure. Color in alcohol: carapace, chelicerae, lip and sternum a bright reddish brown; abdomen with dorsum finely dotted yellow and purplish with a clear yellowish central region and with lateral sides and venter yellowish except the scutum which is nearly like the sternum.

Female paratype. Total length 7.54 mm; base of chelicerae only slightly anterior to border of clypeus. Pedicel quite well exposed by separation of cephalothorax and abdomen. Carapace 3.05 mm long; 2.01 mm wide opposite second coxae where it is widest; 1.24 mm tall; otherwise essentially typical of the genus and as in male. Eyes essentially as in male. Chelicerae: general features as usual in the genus; with an unusual soft, membranous lobe at base of fang on ventral side; retromargin of fang groove with four small teeth and promargin with a group of several long, slender teeth or spines and long hairs. Maxillae essentially typical of females of the genus. Lip: very rugulose; a little longer than wide at base; distal end bifurcated and deeply grooved. Sternum essentially as in male and typical of the genus. Legs: 4123 in order of length; tibial index of first leg 16, of fourth leg 11; first patella longest of the four and longer than first tibia; first metatarsus shortest of the four and only slightly more than one third as long as fourth. Very few trichobothria and no true spines observed. Abdomen: essentially as in male except for region of scutum and extra-scutal region; appearance of ventral scutum and epigynal region shown in Figure 11; the scutum extends dorsally a short distance above the pedicel but there is no extended chitinized region beyond the scutum as in male; a low protuberance lies just posterior to the ventral scutum. Color in alcohol: only slightly different from that of the male; light area through middle of abdominal dorsum almost absent.

Type locality. Male holotype and female paratype selected for description were taken in Caroni Swamp, Trinidad, W. I., April 14, 1964. Nine females and immature specimens were taken in Caroni Swamp and in the vicinity of the Wm. Beebe Tropical Research Station at Simla, Arima Valley, Trinidad, W. I. during April, 1964.

Otiotrops walckenaeri MacLeay, 1839

Figures 12-13

Otiotrops walckenaeri MacLeay, 1839, Ann. & Mag. Nat. Hist., 1839, 2: 12, pl. 2, fig. 5. Holotype female from Cuba probably in the British Museum (Nat. Hist.). Walckenaer, 1841; Simon, 1887, 1893; Petrunkevitch, 1911; Bryant, 1940; Roewer, 1942; Bonnet, 1958.

This species remained known only from the female until Miss Bryant very briefly described the male in 1940. Because this description is so brief I have thought it worth while to add some details and a figure to aid in identification of the species. Total length 4.49 mm. Carapace 2.11 mm long; 1.43 mm wide; .91 mm tall. Essential features of the palp shown in Figure 12; embolic spine bifurcated distally. Eyes: viewed from above, posterior row procurved, anterior row gently recurved; viewed from in front, anterior row slightly procurved, measured by centers; posterior row strongly procurved. Ratio of eyes AME : ALE : PME : PLE = 14 : 10.5 : 14 : 9. AME circular, all others oval to some degree and with some irregularities. AME separated from one another by slightly more than their radius; from ALE by about their radius. PME white and shining; obliquely placed and hardly separated from one another; separated from PLE by about 1.2 times their diameter. Lateral eyes separated by about one sixth of the long axis of PLE. Central ocular quadrangle wider in front than behind in ratio of about 15 : 13; longer than wide in front in ratio of about 7 : 6. Clypeus convex; deeply grooved near ventral margin; height equal to a little less than twice the diameter of AME. Legs: 4123 in order of length; tibial index of first leg 14, of fourth leg 10; first femora the most robust and slightly longer than the fourth; anterior patellae by far the longest; fourth tibiae and metatarsi the longest of the four. Sternum with a pair of minute cusps at lateral angle of termination between fourth coxae which are separated by 1.3 times their width. Claw tufts throughout; claws two. Anterior tarsi club-shaped; anterior tibiae with iridescent, prolateral scopulae or brush; anterior metatarsi with thick scopulae along the whole prolateral surface; anterior tarsi with similar scopulae on basal third of prolateral surface. Abdomen with a ventral scutum extending from genital groove to pedicel and dorsally to cover base of abdomen to dorsal anterior border. Two spinnerets as usual; nearly surrounded by a chitinous ring incomplete dorsally in region of anal tubercle. Tracheal spiracle apparently indicated by a pair of minute chitinous plates a short distance anterior to base of spinnerets.

Female. Trichobothria have been regarded as absent in this family

(Petrunkevitch, 1939) but I think I have found at least a few in the course of my study of species from Panama and the West Indies; these have been most frequently observed on the female palp. Total length 5.22 mm. Eyes: viewed from above, anterior row slightly recurved, posterior row procurved; viewed from in front, anterior row slightly procurved, measured by centers and posterior row strongly procurved. Ventral scutum much less extensive on the base of the abdomen than in male. A female from Soledad, Cuba shows cheliceral teeth as illustrated in Figure 13.

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