

THE GENUS *OONOPS* (ARANEAE, OONOPIDAE)  
IN PANAMA AND  
THE WEST INDIES. PART 3\*

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This is the eighth paper in the series on the various genera in the Family Oonopidae as it is now known in Central America and the West Indies. It is the third and final paper on the genus *Oonops* and deals with this genus as it is now known in the West Indies from the Virgin Islands, both American and British, westward to Trinidad, W. I. and Curaçao, Netherlands Antilles. My own collections have been supplemented by the loan of specimens from the American Museum Natural History and the British Museum (Natural History) together with specimens deposited in the Museum of Comparative Zoology from earlier collections.

Dr. W. J. Gertsch, formerly Curator of Arachnida in the American Museum of Natural History, New York City and Dr. J. A. L. Cooke, Associate Curator of Arachnida in the same institution have loaned me specimens of this genus from the West Indies. Dr. J. G. Sheals and Mr. D. J. Clark, Dept. of Zoology, British Museum (Natural History) have very kindly made it possible to examine three species of the genus *Oonops* described by E. Simon from St. Vincent, B. W. I. in 1891.

As I have repeatedly acknowledged in my published papers, I am deeply grateful for help and encouragement extended to me by members of the staff of the Museum of Comparative Zoology over a period of many years. Grants GB-1801 and GB-5013 from the National Science Foundation have given me financial aid for a period of nearly six years.

Numerous difficulties encountered during the study of this genus in the West Indies, mentioned in Part 2 of this series, have continued in this division of the study. This has been further complicated by increasing infirmities of advancing age. For these reasons this paper is somewhat less complete than originally planned. A small number of specimens have been laid aside because of uncertainty concerning their status and lack of sufficient time to clarify the problem.

In view of what I have written above, the list of species from the region under consideration in this paper and at present recog-

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nized with reasonable certainty may be given as follows: *Oonops aristelus* sp. nov.; *O. balanus* Chickering; *O. delegenus* sp. nov.; *O. ebenecus* sp. nov.; *O. figuratus* Simon; *O. globimanus* Simon; *O. oblucus* sp. nov.; *O. pallidulus* Chickering; *O. pulicarius* Simon; *O. reticulatus* Petrunkevitch; *O. validus* Bryant; *O. viridans* Bryant. A total of thirty species in the genus *Oonops* are now recognized from the region included in this study and reported in Parts 1-3.

Genus *Oonops* Templeton, 1835

*Oonops aristelus* sp. nov.

Figures 1-5

*Holotype*. The male holotype is from Antigua, B. W. I., August, 1967; collected by Mrs. Elsa Sabath. The name of the species is an arbitrary combination of letters.

*Description*. Total length 1.21 mm. Carapace nearly 0.57 mm long; 0.43 mm wide opposite second coxae; considerably narrowed just anterior to first legs; nearly 0.21 mm tall at beginning of posterior declivity which is very steep in uppermost third and then moderately so to posterior border (Fig. 1); with no evidence of a thoracic groove or pit. Eyes: six in two rows in a compact group (Fig. 2). Viewed from above, posterior row definitely recurved and wider than anterior row in ratio of nearly 17 : 15; occupies nearly 0.8 of width of carapace at that level. Ratio of eyes ALE : PME : PLE = nearly 6 : 5 : 5.25. ALE separated from one another by nearly two-thirds of their diameter and separated from PME and PLE only by lines. PME contiguous for nearly one-third of their circumference and narrowly separated from PLE. Clypeus very narrow; with height a little less than one-fourth of the diameter of ALE. Chelicerae and lip apparently typical of the genus and unmodified. Maxillae probably with distal modifications but absence of paratypes prevents dissection and careful observation. Sternum: moderately convex; nearly as wide as long at interval between first and second coxae; surface smooth and shining; with marginal hairs but without marginal lobes or grooves; bluntly terminated between bases of fourth coxae which are separated by a little more than their width. Legs: apparently 4 = 123 in order of length (curled and fragile legs prevent usual exact measurements); spines on first and second legs few in number and obscure; those on third and fourth legs fairly clear and more numerous; trichobothria observed but exact number and placement not determined. Palp: essential features shown in Figures 3-4; bulb inflated but cymbium is shorter than usual; tibia and patella short and rounded. Abdomen: typical of males of the genus and without special modifications.

*Female paratype.* Total length 1.43 mm. Carapace 0.65 mm long; nearly 0.46 mm wide opposite second coxae; nearly 0.27 mm tall; general shape as in male. Features of the external anatomy resemble those of the male so closely that a detailed description is regarded as unnecessary. The epigynal area appears to be quite distinctive (Fig. 5).

*Diagnosis.* This species seems to be closely related to *Oonops ronoxus* from St. Croix, U. S. Virgin Islands. The male palp, the shape of the carapace and the epigynal area of the female seem to establish it as a new species.

*Records.* The female paratype was taken in the same locality and within the same time period as the male holotype. There are no other paratypes.

#### *Oonops balanus* Chickering

*Telchius placidus*, Bryant, 1942: 323, figs. 3-4. Not *Oonops placidus* Dallas, 1916.

*Oonops balanus* Chickering, 1972: 204, figs. 1-11. New name for *Telchius placidus* Bryant.

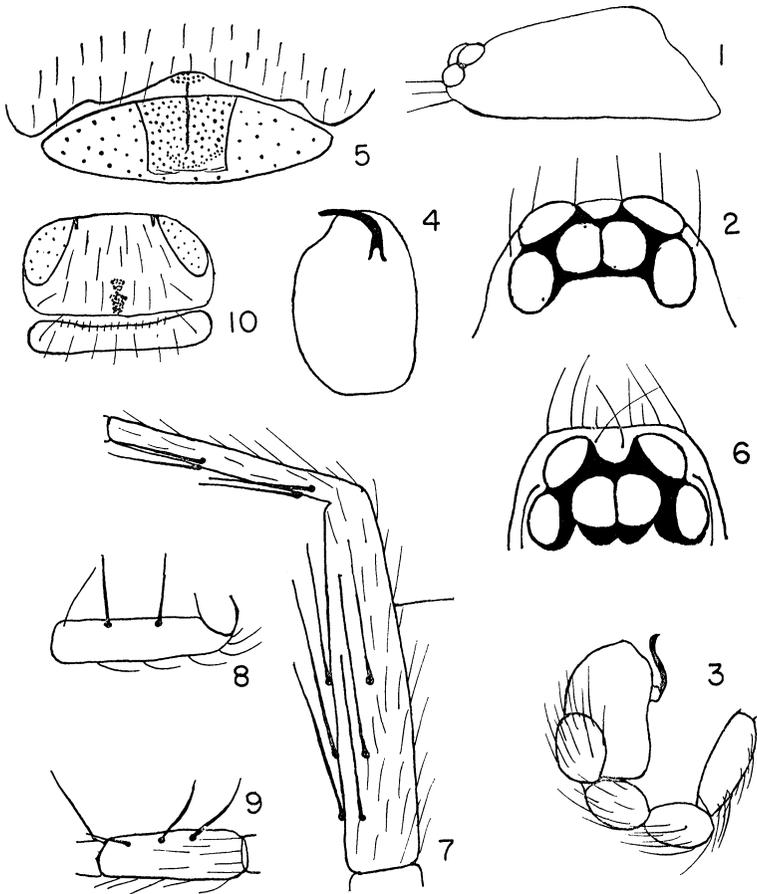
In addition to the distribution of this species as reported in Part 2 of this series on the genus *Oonops* I seem to have numerous specimens from St. Kitts, Nevis and Antigua, B. W. I. and Jamaica, W. I. where it appears to be abundant. There are puzzling variations among these numerous specimens at present assigned to this species and further study may show that the collection includes more than one species.

#### *Oonops delegenus* sp. nov.

Figures 6-10

*Holotype.* The female holotype is from Puerto Rico, W. I., Mayaguez, University campus; sifted from hay and weed debris January 11, 1964. The name of the species is an arbitrary combination of letters.

*Description.* Total length 2.26 mm. Carapace 0.75 mm long; 0.66 mm wide; nearly 0.33 mm tall; slightly arched just behind PME to beginning of steep posterior declivity; surface smooth with a moderately well developed coat of dark hair; with no evidence of any definite median fovea or groove. Eyes: six as usual in the genus (Fig. 6); posterior row occupies about five-fifths of width of carapace at that level and only a little wider than anterior row; viewed from above, definitely recurved. Ratio of eyes ALE : PME : PLE = 8.5 : 7.75 : 7.5. ALE separated from one another by nearly three-fourths of their long axis; separated from PME by somewhat less than one fourth of their long axis and from PLE



Figures 1-5. *Oonoψs aristelus* sp. nov. Fig. 1. Carapace of holotype; left lateral view. Fig. 2. Eyes of holotype from above. Fig. 3. Left palp of holotype; prolateral view. Fig. 4. Left palpal tarsus of holotype; ventral view. Fig. 5. Epigynal area of described female paratype from below. Figures 6-10. *Oonoψs delegenus* sp. nov. Fig. 6. Eyes of holotype from above. Fig. 7. First right tibia and metatarsus; prolateral view. Fig. 8. Left palpal femur; retrolateral view. Fig. 9. Left palpal patella; dorsal view. Fig. 10. Epigynal area of holotype; ventral view.

only by a line. PME contiguous to one another for fully one-fourth of their circumference and separated from PLE by slightly more than one-fourth of their long axis. Height of clypeus a little less than one-fourth of the long axis of ALE. Chelicerae, maxillae and lip essentially typical of females of the genus with no observed special modifications. Sternum: very convex; nearly as wide as long; with a cluster of stiff hairs at bluntly rounded posterior end which is nearly opposite the proximal end of fourth coxae which are separated by nearly their width. Legs: 4213 in order of length; well armed with spines; first legs with ventral and ventrolateral spines as shown in Figure 7 on tibiae and metatarsi; second legs essentially as in first but with ventral spines small and inconspicuous; third and fourth legs with numerous slender spines on femora, tibiae and metatarsi less conspicuous than those on first legs. Palp: with numerous spines on four terminal segments much like those on *Heteroonops spinnimanus* (Simon) (Figs. 8-9). Abdomen: ovoid; robust; with ventral scuta only weakly chitinized (Fig. 10); colulus appears to be represented by a pair of bristles; six spinnerets of moderate size and length. Epigynal area obscurely distinctive (Fig. 10). Color in alcohol: considerable pigment in ocular area with reddish tinge; nearly the whole body and appendages light yellowish with variations; abdomen reticulated with the angular areas of different sizes and shapes; the scuta are slightly more deeply yellowish than surrounding areas; just anterior to spinnerets, where darker bodies are often seen in many species, are a small pair of clusters of minute yellowish bodies.

*Diagnosis.* This species seems to belong in the group of species including *Oonops anoxus* and *Oonops vestus* as described in Part 1 of this series.

*Records.* Four paratype females are now in the collection from the following localities in Puerto Rico: 5 km. from Mayaguez on Route 106; Montanas de Urojan; University campus; University farm east of Nuclear Center; all collected in January 1964. The male of this species is unknown.

### ***Oonops ebenecus* sp. nov.**

Figures 11-14

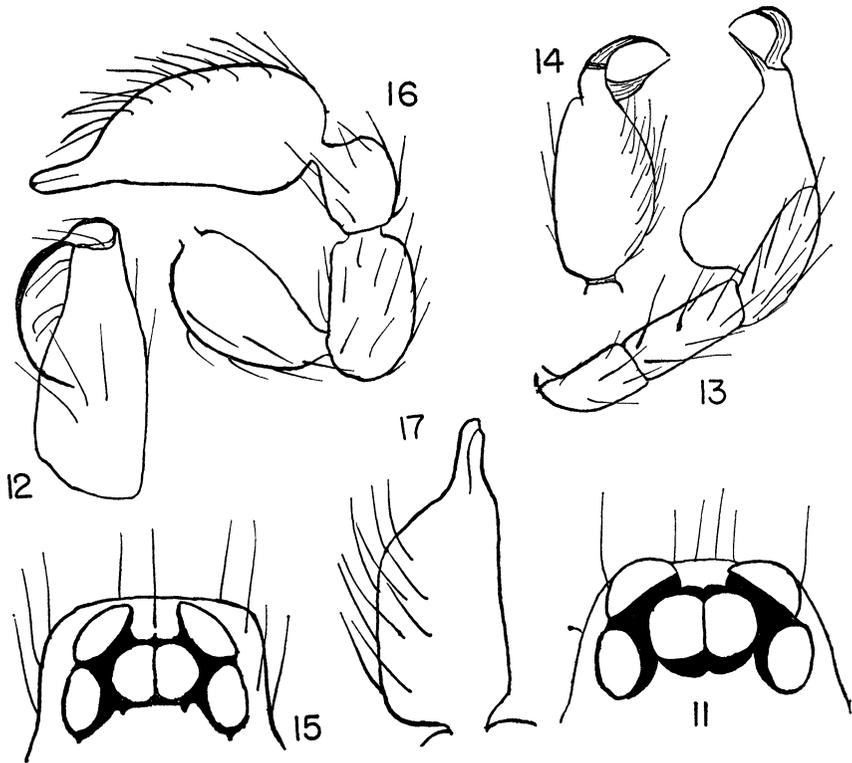
*Holotype.* The male holotype is from Puerto Rico, W. I., El Yunque Biological Station, 2100 ft. elevation, January 25, 1964. The name of the species is an arbitrary combination of letters.

*Description.* Total length 1.7 mm exclusive of the extended spinnerets; including the spinnerets, total length is 1.82 mm. Carapace 0.81 mm long; 0.62 mm wide opposite second coxae where it is

widest; nearly 0.4 mm tall; slightly arched along median region from just behind PME to beginning of steep posterior declivity nearly opposite third coxae; surface smooth with few dark hairs; with no median fovea or groove. Eyes: six as usual in the genus; viewed from above, posterior row recurved and only a little wider than anterior row; occupies nearly five-sixths of width of carapace at that level. Ratio of eyes ALE : PME : PLE = 10 : 8.5 : 9. ALE separated from one another by nearly three-fifths of their long axis; separated from PME by a little less than one-fifth of their long axis and contiguous to PLE at one point. PME contiguous to one another for a quarter of their circumference and separated from PLE by nearly one-fourth of their long axis. Height of clypeus nearly equal to one-tenth of the long axis of ALE. With considerable black pigment surrounding eyes (Fig. 11). Chelicerae: well developed; basal segment about 0.35 mm long; parallel; vertical; with a long, slender fang seen in no other species during this study (Fig. 12); when at rest the two fangs are, apparently, crossed. Maxillae: slightly convergent; membranous distal ends slightly turned outward; about twice as long as lip. Lip: about as wide at base as long. Sternum: convex; nearly as wide as long; surface smooth; bluntly terminated between bases of fourth coxae which are separated by slightly more than their width. Legs: 4213 in order of length; only slight difference in lengths of first and second legs; these legs with only occasional spines; third and fourth legs with numerous spines, especially on the tibiae and metatarsi; palp with very slender spines on femur, patella and tibia. Palp: all segments except tarsus of moderate length and with no dilation; tarsus with dilated bulb and distinctive embolus and conductor (Figs. 13-14). Abdomen: ovoid; with no clearly recognizable ventral scuta in holotype or paratypes; other features as usual in the genus. Color in alcohol: carapace light yellow; legs yellowish above, lighter below; sternum light yellowish; abdomen nearly white with a pair of small, irregular, subsurface, brownish dots just anterior to base of spinnerets on the venter. Two paratypes have light greenish abdomens.

*Diagnosis.* This species appears to be most closely related to *Oonops castellus* from St. Thomas, U. S. Virgin Islands, and *Oonops validus* Bryant from the Dominican Republic.

*Records.* Four paratype males were collected at the El Yunque Biological Station with the holotype. Two males were taken from leaf litter among coffee trees in the vicinity of Mayaguez, on January 21, 1964. The female is unknown.



Figures 11-14. *Oonops ebenecus* sp. nov. Fig. 11. Eyes of holotype from above. Fig. 12. Left chelicera from below. Fig. 13. Right palp of holotype; prolateral view. Fig. 14. Right palpal tarsus; nearly ventral view. Figures 15-17. *Oonops obtucus* sp. nov. Fig. 15. Eyes of holotype from above. Fig. 16. Left palp of holotype; retrolateral view. Fig. 17. Left palpal tarsus of holotype; prolateral view.

***Oonops oblucus* sp. nov.**

Figures 15-17

*Holotype.* The male holotype is from Hope Gardens, St. Andrew Parish, Jamaica, W. I., November 27, 1963. The name of the species is an arbitrary combination of letters.

*Description.* Total length nearly 1.47 mm. Carapace nearly 0.72 mm long; nearly 0.55 mm wide opposite second coxae where it is widest; nearly 0.22 mm tall; gently arched from behind PME to beginning of posterior declivity nearly opposite interval between second and third coxae; with no definite median thoracic groove or pit observed. Eyes: six as usual in two rows (Fig. 15); posterior row only a little wider than anterior row and definitely recurved; occupies nearly eleven-fourteenths of width of carapace at that level. Ratio of eyes ALE : PME : PLE = nearly 7 : 6.5 : 6.5 (long axes used for measurements). ALE separated from one another by nearly five-sevenths of their long axes; separated from PME and PLE only by broad lines. PME contiguous to one another for nearly one-third of their circumference and separated from PLE only by a broad line. Clypeus obscure but height apparently less than the radius of ALE. Chelicerae, maxillae and lip: with poor exposure but apparently typical of the genus and without special modifications observed. Sternum: moderately convex; widest between second coxae where it is nearly four-fifths as wide as long; posterior end broadly rounded between bases of fourth coxae which are separated by a little more than their width. Legs: probably 4123 in order of length but first legs are missing; probably with few slender spines but spiniform bristles are numerous and confusing. Palp: simple (Figs. 16-17) but unlike any other seen during this study of the genus *Oonops*; femur, patella and tibia unusually short and broad. Abdomen: quite typical of males of the genus and without special modifications; with no distinguishable ventral or epigastric scutum. Color in alcohol: carapace and sternum a light yellowish-brown; with a moderate amount of black pigment in ocular area; legs and mouth parts yellowish with some variation; abdomen with an unusual color pattern; dorsal and dorsolateral regions purplish with three pairs of irregular whitish spots in anterior dorsal two-thirds and with three small, whitish, irregularly placed spots in posterior third of the dorsum; the spinnerets and ventrolateral regions are nearly white.

*Diagnosis.* The genetical relationships of this species are difficult to determine but the species seems to be most closely related to *Oonops reticulatus* Petrunkevitch as this species is now under-

stood. The palpal tarsus differs from that of *O. reticulatus* Pet. but the other palpal segments are very similar and the color pattern of the abdomen is somewhat similar also.

*Records.* No male paratypes have yet appeared in my collections and the female is unknown.

*Oonops reticulatus* Petrunkevitch

*Oonops reticulatus* Petrunkevitch, 1925: 98; Roewer, 1942: 278; Bonnet, 1958: 3192; Chickering, 1951: 228; 1971: 489, figs. 1-2.

*Oonopoides bryantae*, Chickering, 1951: 224, figs. 12-13.

One female, which may be somewhat immature, from Puerto Rico, W. I., 5 km. from Mayaguez on Route 106, January 30, 1964 is, with some uncertainty, referred to this species. A male and several females taken on the University campus in St. Augustine, Trinidad, W. I., April, 1964 are, with reasonable certainty, referred to this species. These specimens should have been reported in Part 1 of this series on the genus *Oonops* but they were misplaced and overlooked at that time.

*Oonops figuratus* Simon

*Oonops figuratus* Simon, 1891: 564, fig. 9. The female holotype from St. Vincent, B. W. I. is in the British Museum (Natural History), examined. Simon, 1893, 444-445; 1893: 292, 294; Petrunkevitch, 1911: 127; Roewer, 1942: 278; Bonnet, 1958: 3190.

I failed to collect members of this species during my visit to St. Vincent, B. W. I. in 1966 and, apparently, the species has not been reported since the original description was published.

*Oonops globimanus* Simon

Figures 18-21

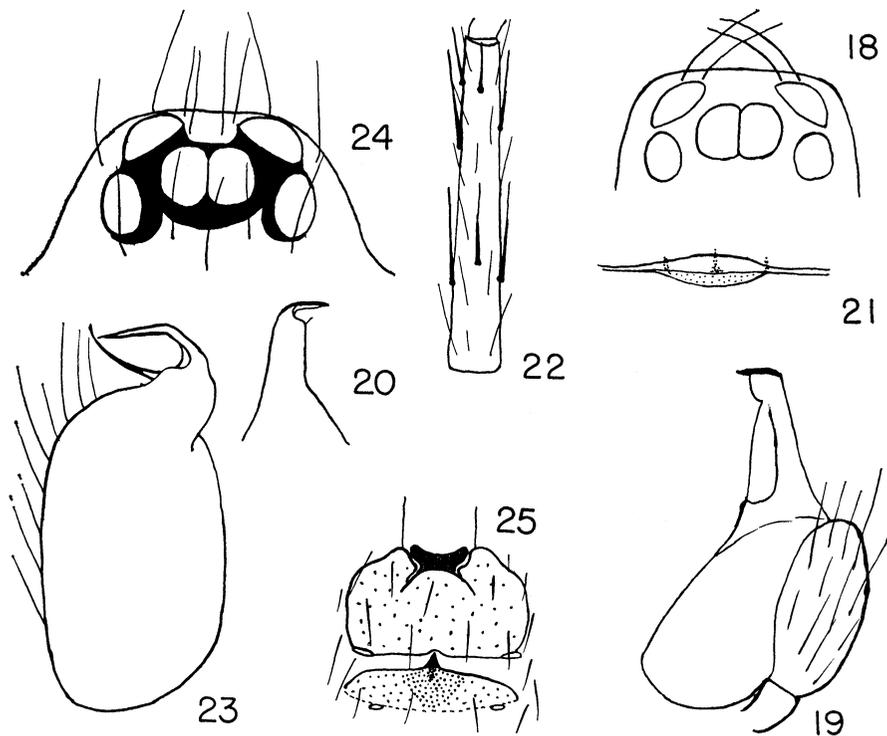
*Oonops globimanus* Simon, 1891: 563, fig. 7. Male and female types from the Island of St. Vincent, B. W. I. are in the British Museum (Natural History), examined. Petrunkevitch, 1911, 128; Simon, 1893: 445; 1893: 294; Roewer, 1942: 278; Bonnet, 1958: 3190.

The male on loan from the British Museum (Natural History) has almost no pigment in the ocular area and the boundaries of the eyes are very difficult to discern (Fig. 18). All legs appear to bear spines, especially the third and fourth. The palpal tarsus of the male appears quite different from Simon's Figure 7. This organ appears to be obscurely distinctive (Figs. 19-20). The epigynal area is also obscurely distinctive (Fig. 21). One male from St. Vincent, B. W. I., October, 1966 is tentatively referred to this species.

*Oonops pallidulus* (Chickering)

*Oonopinus pallidulus* Chickering, 1951: 222, figs. 10-11. The female holotype from Barro Colorado Island, Panama Canal Zone is in the Museum of Comparative Zoology, Harvard University.

*Oonops pallidulus*.—Chickering, 1971: 496, figs. 12-13.



Figures 18-21. *Oonops globimanus* Simon. Fig. 18. Eyes of male from above. Fig. 19. Right palpal tarsus of male; prolateral view. Fig. 20. Distal end of left palpal tarsus; nearly dorsal view. Fig. 21. Epigynal area of female from below. Figures 22-23. *Oonops validus* Bryant. Fig. 22. Right first metatarsus; dorsal view. Fig. 23. Left palpal tarsus of holotype from below. Figures 24-25. *Oonops viridans* Bryant. Fig. 24. Eyes from above. Fig. 25. Epigynal area and articulation of abdomen and pedicel.

Several females, taken in several different localities in Jamaica, W. I. in 1957, 1963 and 1964 are with some uncertainty placed in this species. Males taken at the same time as these females and in the same localities have proven to be very problematical. In some respects they closely resemble *Oonops balanus* Chickering; in some other respects they come close to the missing males of *Oonops pallidulus* (Chickering). Because of this uncertainty they are left unplaced to species awaiting further study by some student of the genus.

#### *Oonops pulicarius* Simon

*Oonops pulicarius* Simon, 1891: 564, fig. 8. Male and female types from the Island of St. Vincent, B. W. I. are in the British Museum (Natural History), examined. Simon, 1893: 445; 1893: 294; Petrunkevitch, 1911: 128; Roewer, 1942: 278; Bonnet, 1958: 3192.

This species, apparently, has not been collected since the types were taken on St. Vincent a few years prior to 1891. I did not collect the species during my visit to this island in 1966. The distinguishing features are difficult to discern clearly but, apparently, the species is not closely related to any with which I have become familiar during this study.

#### *Oonops validus* Bryant

##### Figures 22-23

*Oonops validus* Bryant, 1948: 341, fig. 3. The male holotype from the Dominican Republic is in the Museum of Comparative Zoology, Harvard University, examined.

In addition to the conspicuous paired ventral spines on the first and second tibiae mentioned in the original description, the first and second metatarsi also have two pairs of ventral spines. The third and fourth legs also have spines but not the conspicuous ones borne by the first and second.

Apparently, Miss Bryant confused the two separate terminations of the palpal tarsus and thought that there was only one curled tube. I believe there are two terminations, the embolus and conductor, as I have tried to show in Figure 23.

#### *Oonops viridans* Bryant

##### Figures 24-25

*Oonops viridans* Bryant, 1942: 1, fig. 1. The holotype female from El Yunque, Puerto Rico is in the Museum of Comparative Zoology, examined.

The holotype was collected in 1930 by Dr. P. J. Darlington, Jr. I have several females which, until recently, have been regarded as representing a new species. Several important features of the holotype are difficult to discern but after careful comparison I have de-

cided to regard my specimens as probably belonging to *Oonops viridans* Bryant. Final decision on this matter must await more careful collecting and further detailed study. Figure 24 represents the eye group of the female from above; Figure 25 represents the epigynal area. Both of these figures were drawn from the female which had been selected as the holotype of a new species.

*Records.* Seven females were collected as follows in January, 1964 all in the vicinity of Mayaguez, Puerto Rico: University campus from hay and weed debris; leaf and weed debris among coffee trees near the campus; University farm north of the campus also from hay and weed debris. The male is unknown.

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