

PSEUDOSCORPIONS FROM FLORIDA.
1. THE GENUS *ALDABRINUS*
(PSEUDOSCORPIONIDA: OLPIIDAE)¹

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ABSTRACT

An emended diagnosis of the genus *Aldabrinus* is given; the holotype of the type species, *Aldabrinus aldabrinus* Chamberlin, from the Aldabra Islands, is redescribed; and *Aldabrinus floridanus*, from Key Largo, is described as new.

The pseudoscorpion fauna of Florida is much richer, more diverse, and more interesting than the published literature would lead one to suppose. While nearly 30 species have been recorded from the state, an equal number or more await listing or description. From several sources, chiefly the Florida State Collection of Arthropods, I have accumulated a number of new and little known forms which deserve to be recognized. This, then, is the first in a series of papers dealing with the pseudoscorpions of Florida.

Inasmuch as the genus *Aldabrinus* Chamberlin (1930) has been known from only a single specimen from the Aldabra Islands in the Indian Ocean, it was with considerable surprise that 3 specimens pertaining to the genus were noted in 2 collections from Key Largo, Monroe County, Florida. Because of the unusual nature of this discovery, I have reexamined the type specimen of *Aldabrinus aldabrinus* Chamberlin and compared it directly with the new specimens. I also take this opportunity to redescribe the type of *A. aldabrinus* as the basis for a more complete diagnosis of the genus.

Family Olpiidae Chamberlin
Subfamily Garypininae Daday
Genus *Aldabrinus* Chamberlin

Aldabrinus Chamberlin, 1930, p. 589 and 597.

Diagnosis (emended): Diplosphyronid pseudoscorpions with the characteristics of the family Olpiidae, subfamily Garypininae, namely: tarsi of all legs divided; chelicera with inner margin of movable finger not dentate but having a single subapical lobe at distal end; plates of serrula interior fused basally to form a velum; laminal seta present; chela with venom apparatus well developed in both fingers; pleural membranes smoothly, longitudinally plicate; coxal area not widened posteriorly; arolia of pedal tarsi longer than claws and divided. And with the following particular characters: carapace

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with only anterior four-fifths or so strongly sclerotized, and with shallow, but distinct, transverse furrow; 4 well developed eyes; abdomen long and narrow; some tergites divided or nearly so; 2 discal setae on sternites 6-8 in addition to marginal setae; cheliceral hand with 4 long setae, laminal seta located much posterior to interior seta; flagellum of 4 setae, 1 or more denticulate distally; movable finger with tip slightly furcate; no lamina exterior present; palps heavy, especially chela, depth of hand equal to its length; movable chelal finger with 2 trichobothria, fixed finger with 7; femur with or without a fine trichobothrium on dorsum; leg I with telofemur much longer than basifemur, the joint between the 2 apparently immovable; leg IV with short tactile seta at middle of metatarsus; subterminal tarsal setae long, simple.

Remarks: *Aldabrinus* is closely related to *Paraldabrinus* Beier (1966) which is represented by a single species, *P. novaecaledoniae*, from New Caledonia in the Pacific Ocean. From that genus *Aldabrinus* is easily distinguished by the possession of 2 trichobothria on the movable chelal finger, rather than 1. It is also close to *Nelsoninus* Beier (1967) from New Zealand, from which it differs in the heavier palpal chela, presence of only 4 setae on the cheliceral hand, and shorter tactile seta on metatarsus IV.

Aldabrinus aldabrinus Chamberlin

Fig. 1-5

Aldabrinus aldabrinus Chamberlin, 1930, p. 597.

While the description by Chamberlin is adequate to define the species,

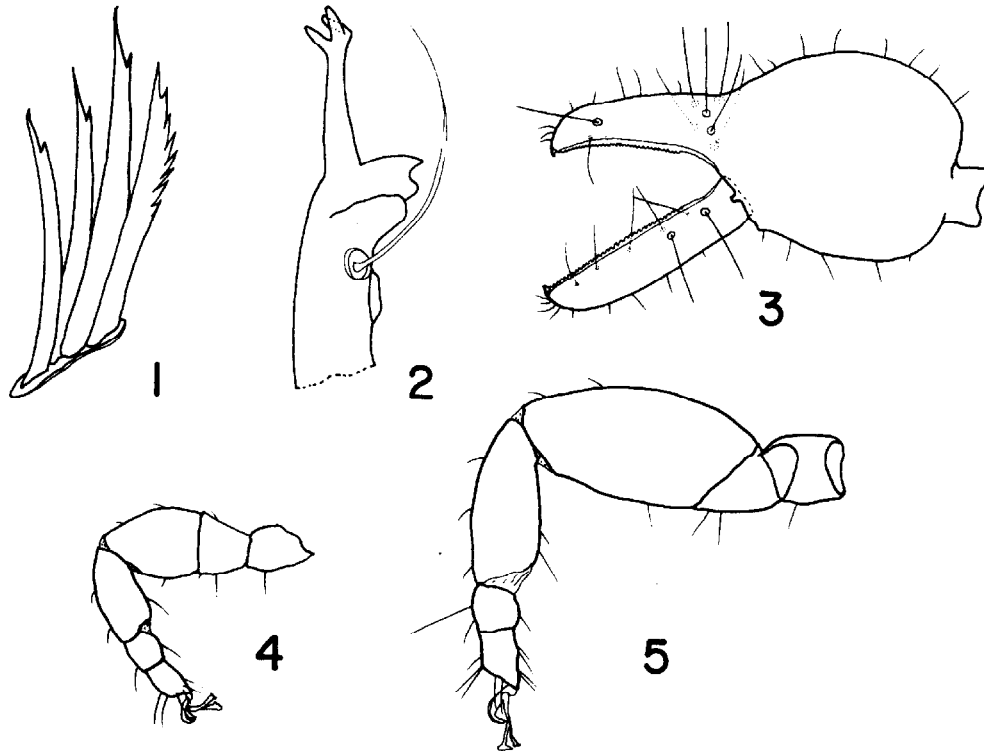


Fig. 1-5. *Aldabrinus aldabrinus* Chamberlin, holotype female. 1—Cheliceral flagellum. 2—End of movable finger of chelicera. 3—Lateral view of left chela. 4—Leg I. 5—Leg IV.

there are several additional features which deserve recognition. Therefore, the holotype female (JC 507.01001), from "Il Esprit, Aldabra Islands, December, 1908," borrowed from the British Museum (Natural History) is redescribed below. The specimen is somewhat damaged, especially the right chela which is crushed.

Description of female: Carapace longer than broad; anterior five-sixths heavily sclerotized and irregularly convex posteriorly; surface smooth and with a shallow but distinct transverse furrow 0.62 length of carapace from anterior margin; 4 weakly corneate eyes, anterior pair slightly larger than posterior; carapacial chaetotaxy 4-4-2-4-4-5 = 23. Coxal chaetotaxy 1-m-7-2:3(4)-1:4-2:2-1:3-1; the small seta (m) on medial edge of palpal coxa is sharply bent near base.

Abdomen very long. Some posterior tergites and sternites divided, but the sclerites are too thin and indistinct to permit an accurate determination; surfaces smooth; pleural membranes longitudinally smoothly striate. Tergal chaetotaxy 4:4:5:6:6:6:6:6:6:T2T2T2T:TT:2. Sternal chaetotaxy 8:(1)4(1):(2)4(2):5: $\frac{2}{5}$: $\frac{2}{5}$: $\frac{2}{6}$:6:T2T2T2T:T1TT1T:2.

Chelicera 0.38 as long as carapace. Hand with 4 setae, all very long; laminal seta much posterior of interior seta. Flagellum of 4 setae, distal 1 broad and serrate along margin, others subterminally denticulate (Fig. 1). Fixed finger with 1 or 2 small and 3 medium sized teeth; no lamina exterior present. Movable finger with tip furcate and with prominent lateral subapical lobe (Fig. 2); galea long, slender, with 3 small, curved, terminal rami; serrula exterior with 15 blades.

Palps rather heavy; surfaces smooth. Proportions of segments similar to those of *A. floridanus*, as shown in Fig. 10; trochanter 1.95, femur 2.4, tibia 2.0, and chela (without pedicel) more than 2.5 times as long as broad; depth of hand equal to length; movable finger 1.12 times as long as hand. Fingers of chela heavy and strongly curved toward internal side at tips. Dorsum of femur apparently without a trichobothrium (setae broken). Movable chelal finger with only 2 trichobothria and fixed finger with 7, as shown in Fig. 3; movable finger also with 5 spinelike setae regularly spaced along finger just internal to dental row, and fixed finger with 1 such seta on internal surface near distal end. Movable finger with row of 34 or 35 contiguous, retroconical teeth, all with cusps, and fixed finger with 34-36 similar teeth; each finger with a large terminal venedens, but venom ducts not apparent.

Legs short and robust; leg I with telofemur much longer than basifemur, the joint between the 2 apparently immovable (Fig. 4); Leg IV with femur 2.4 and tibia 2.4 times as long as deep, and telotarsus little longer than metatarsus (Fig. 5); metatarsus with a weak tactile seta at middle of outer margin. Subterminal tarsal setae long, simple. Arolia divided, twice as long as claws, which are heavy, strongly curved.

Male: Unknown.

Measurements (mm): Body length 3.55; abdominal breadth 0.96. Carapace length 0.66; greatest breadth 0.50. Chelicera 0.25 by 0.14. Palpal trochanter 0.33 by 0.17; femur 0.445 by 0.185; tibia 0.435 by 0.22; chela (without pedicel) 0.805 long (breadth indeterminable); hand (without pedicel) 0.41 by 0.41; movable finger 0.46 long. Leg I: basifemur 0.105 by 0.11; telofemur 0.18 by 0.125; tibia 0.17 by 0.095; metatarsus 0.075 by 0.06; telotarsus 0.08 by 0.06. Leg

IV: entire femur 0.48 long; basifemur 0.16 by 0.12; telofemur 0.43 by 0.20; tibia 0.30 by 0.125; metatarsus 0.09 by 0.08; telotarsus 0.11 by 0.075.

Aldabrinus floridanus, new species

Fig. 6-12

Material: Holotype female (WM 3100.01001) taken "beating vegetation in tropical hammock" on north Key Largo, Monroe County, Florida, 30 December 1966 (Camilla B. Weems). Paratype male and female also from Key Largo, 7 December 1966 (R. E. Woodruff). The types are in the Florida State Collection of Arthropods, Gainesville.

Diagnosis: Quite similar to *Aldabrinus aldabrinus*, but generally slightly smaller and palpal chela considerably smaller; carapace with only 18-20 vestitural setae; basal teeth of both chelal fingers without cusps; and palpal femur with small, but definite, trichobothrium near center of dorsum.

Description of female: (Figures are given for holotype, sometimes followed in parentheses by those for paratype.) Carapace and palps dark, smoky brown, other sclerotized parts light brown. Carapace distinctly longer than broad; anterior four-fifths heavily sclerotized and irregularly convex posteriorly; surface smooth and with a shallow, but distinct, transverse furrow 0.63 length of carapace from anterior margin; 4 well developed eyes, anterior pair slightly larger than posterior; carapacial chaetotaxy 4-2-2-4-4-2 = 18 (paratype with additional setae near posterior end, and a total of 20). Coxal chaetotaxy 1-m-6-2:4-1:4-1:2-1:2-1; the small seta (m) on medial edge of palpal coxa is sharply bent near base.

Abdomen very long, abruptly broader and higher than carapace (Fig. 6). Tergite 1 divided, 2-4 entire, and 5-9 partly divided; sternites 5-9 divided; surfaces smooth; pleural membranes smoothly, longitudinally striate. Tergal chaetotaxy 3:4:4:4:4:4:5:6:6:T2T2T2T:TT:2 (paratype with 6:4:5:4:4:4:-). Sternal chaetotaxy 8:(2)5(2):(2)2(2):4: $\frac{2}{4}$: $\frac{2}{4}$: $\frac{2}{4}$:6:T2T2T2T:T1TT1T:2, as shown in Fig. 7 (paratype with 6, rather than 4, marginal setae on sternites 5-8). Internal genitalia with 1 large, median and 2 small, lateral cribriform plates (Fig. 8).

Chelicera about one-third as long as carapace; hand with 4 setae, all very long, laminal seta much posterior to interior seta; flagellum of 4 setae, all more or less denticulate distally, the second one longest (Fig. 9). Fixed finger without a lamina exterior; internal margin with 2 small and 3 or 4 medium sized teeth. Movable finger with tip furcate and with prominent lateral subapical lobe and one small rounded denticle (Fig. 10); galea long, slender, with 3 small, curved, terminal rami; serrula exterior with about 15 blades.

Palps rather heavy; surfaces smooth. Proportions of segments shown in Fig. 11; trochanter 1.8(1.65); femur 2.35(2.6); tibia 1.95(1.95) and chela (without pedicel) 2.25(2.05) times as long as broad; hand (without pedicel) 1.0(1.0) times as long as deep; movable finger 1.03(1.08) times as long as hand. Fingers of chela heavy and strongly curved toward internal side at tips. Dorsum of femur with a fine trichobothrium near the middle. Movable chelal finger with only 2 trichobothria and fixed finger with 7, as shown in Fig. 12; movable finger also with 5 spinelike setae regularly spaced along finger just internal to dental row, and fixed finger with 1 such seta on internal surface near distal end. Movable finger with 32 (35) contiguous, retroconical teeth and

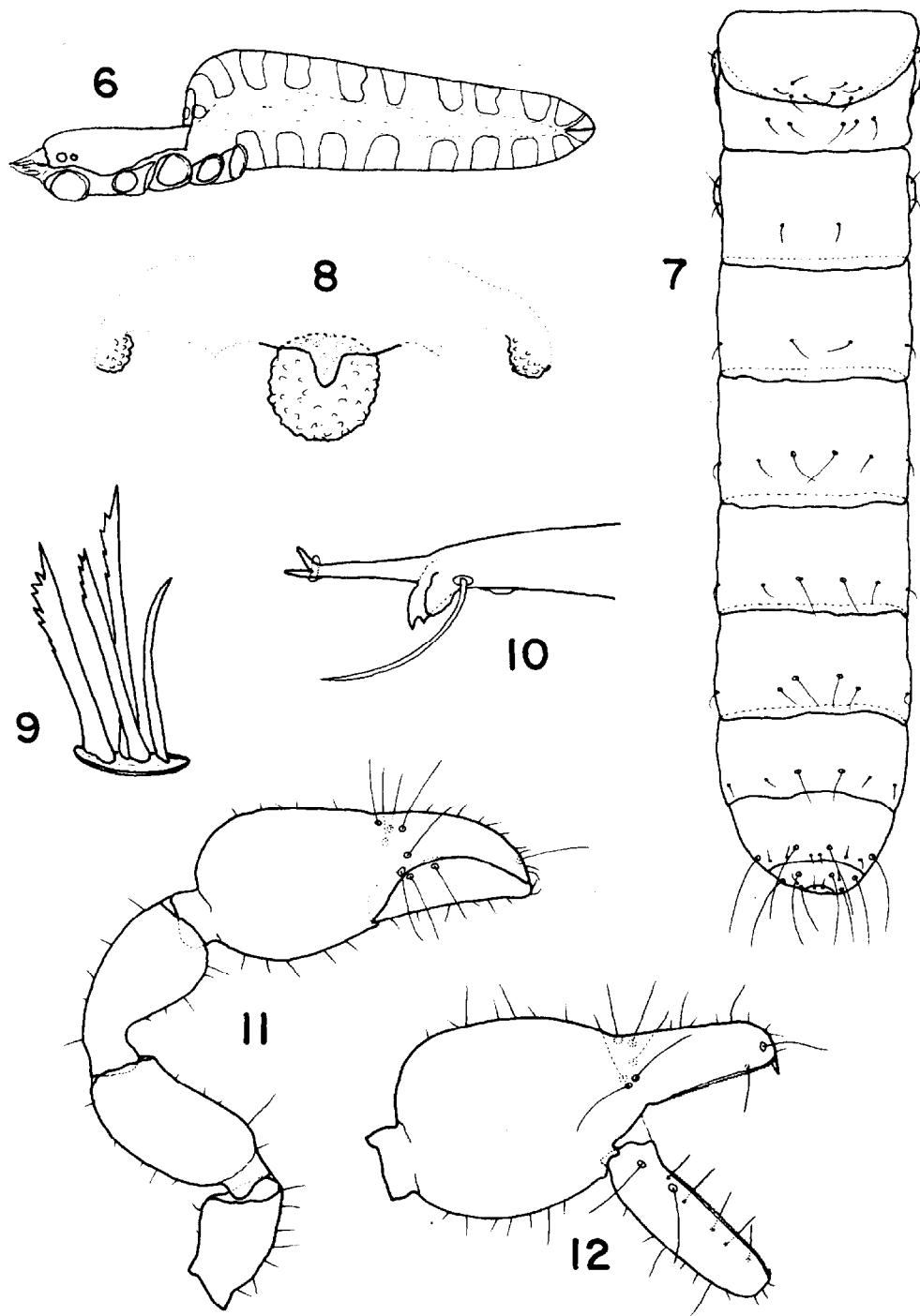


Fig. 6-12. *Aldabrinus floridanus*, new species. 6—Lateral view of body. 7—Ventral view of abdomen of holotype female. 8—Cribriform plates of paratype female. 9—Cheliceral flagellum. 10—End of movable finger of chelicera. 11—Dorsal view of left palp of holotype female. 12—Lateral view of right chela of holotype female.

fixed finger with 30 (33) similar teeth; basal 6-8 teeth on movable finger and basal 5-6 teeth on fixed finger rounded, lacking cusps; each finger with a large, terminal venedens, but venom ducts not apparent because of density and curvature of fingers.

Legs short and robust; leg I with telofemur much longer than basifemur, the joint between the 2 apparently immovable; leg IV with femur 2.4(2.6) and tibia 2.35(2.35) times as long as deep, and telotarsus little longer than metatarsus; metatarsus with weak tactile seta at middle of outer margin. Subterminal tarsal setae long, simple. Arolia divided, twice as long as claws, which are heavy, strongly curved.

Male: Essentially like female but slightly smaller and less robust, and darker in color. Palpal trochanter 1.75, femur 2.7, tibia 2.2 and chela (without pedicel) 2.3 times as long as broad; hand (without pedicel) 1.1 times as long as deep; movable finger 1.02 times as long as hand. Carapace with 18 vestitural setae, including 3 at anterior and 2 at posterior margin. Cheliceral hand with 4 setae; flagellum of 4 setae, all denticulate subterminally except basal short 1. Chaetotaxy of anterior sternites 8:[2-2]:(1)6(2):(2)1(2):4: $\frac{2}{4}$: $\frac{2}{4}$: $\frac{2}{4}$ -(others broken); pattern of setae on genital opercula identical to that in female but with addition of 2 pair of small setae on anterior face of posterior operculum. Internal genitalia not studied in detail, but without any obviously unusual features.

Measurements (mm): First figures given are for the holotype female, followed by those of the male paratype in parentheses, then by those of the female paratype. Body length 3.07(?)?; abdominal breadth 0.89(?)?. Carapace length 0.59(0.58)0.635, greatest breadth 0.41(0.43)0.445. Chelicera 0.20(0.20)0.22 long. Palpal trochanter 0.28(0.265)0.30 by 0.155(0.15)0.18; femur 0.40(0.435)0.49 by 0.17 (0.16)0.19; tibia 0.36(0.41)0.43 by 0.185(0.185)0.22; chela (without pedicel) 0.65(0.615)0.68 by 0.29(0.265)0.33; hand 0.33(0.325)0.34 by 0.33(0.30)0.35; movable finger 0.34(0.325)0.385 long. Leg I of holotype; basifemur 0.095 by 0.095; telofemur 0.16 by 0.11; tibia 0.155 by 0.08; metatarsus 0.065 by 0.06; telotarsus 0.095 by 0.055. Leg IV of holotype: entire femur 0.435 long; basifemur 0.15 by 0.095; telofemur 0.385 by 0.18; tibia 0.26 by 0.11; metatarsus 0.08 by 0.075; telotarsus 0.105 by 0.065.

Etymology: The species is named *floridanus* for the state of Florida, where it lives.

Remarks: The occurrence of representatives of *Aldabrinus* in America as well as the Malagasy Region suggests the possibility that this genus, like *Solinus*, is presently circumtropical in distribution, though, alternatively, the 2 species may only be isolated remnants of a former widespread distribution. A further possibility is, as Dr. H. V. Weems, Jr. has pointed out (in litt.), that *Aldabrinus floridanus* is an exotic introduction from some other part of the world, brought in either in ships' ballast or with plant material. Much further collection and study will be necessary before this problem can be solved.

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NOTES AND ABSTRACTS: NEW FEATURES
IN THE FLORIDA ENTOMOLOGIST

Beginning with this issue, *The Florida Entomologist* will publish short notes, notices, and abstracts. These items will appear in scattered spaces throughout and at the end of each issue. We are soliciting notes which present in 250-400 words, new records, ideas, observations, etc. of an entomological nature. We will also publish preview abstracts of work that is being completed but is not yet ready for publication in its completed form (*abstracts*). In addition, 2 other classes of information will be published as space permits: the editor will select republished abstracts of articles of potential interest to society members, that appear in journals that are less apt to be checked by entomologists (*republished abstracts*). The editor will write abstracts for articles of interest that are not already abstracted (*notices*). The classification of each item will be indicated.

Dr. James E. Lloyd (Department of Entomology, University of Florida, Gainesville) will edit these items. Please note examples on p. 22, 32, 38, 46, 90, and 96.