

INSECTS OF MICRONESIA

Pseudoscorpionida

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Hitherto the fauna of Pseudoscorpionida, or Chelonethi, of Micronesia has been little known. In fact, only seven or eight species have been mentioned from this area. However, I received for study from Bernice P. Bishop Museum, from Chicago Natural History Museum, from the Pacific Science Board, and from the United States National Museum the rich collections of specimens upon which this report is based. The material contains 45 species and subspecies, of which 32 are new to science. The total number of species known from Micronesia has increased to 39. In addition, there are five subspecies and one doubtful species known from nymphs only.

Obviously the fauna is not poor. It contains approximately as many species as a continental area of the same size and geographical position. As to its composition, there is no essential distinction from a tropical continental fauna, for it contains all important families and subfamilies, thus indicating an autochthonous fauna. The only striking feature is the complete absence of the subfamily Cheliferinae, which is without doubt one of the youngest categories of this order.

The origin of this fauna is not uniform. Several species are derived from the Oriental Region (*Geogarypus javanus formosanus*, *Paratemnus philippinus*, *Haplochernes kraepelini*) or Australian (Melanesian) Region (*Xenolpium oceanicum*, *Paratemnus salomonis*, *Oratemnus samoanus*, *Allowithius australasiae*) or evidently descend from those relations. Seven genera and a relatively great number of species, namely 33, seem to be endemic. These are, indeed, rather closely related to forms occurring in the neighboring countries, especially to those of tropical eastern Asia (*Compsaditha gressitti*, *Tyrannochthonius chamorro*, *T. palauanus*, *T. dybasi*, *Geogarypus palauanus*, *Stenatemnus kraussi*, *S. procerus*, *Haplochernes insulanus*, *H. boninensis*, *Verruca-chernes oca* and *Sundochernes gressitti*). The seven endemic genera (*Parahya*, *Nesocheiridium*, *Teratochernes*, *Smeringochernes*, *Thapsinochernes*, *Nesidiochernes*, and *Meiochernes*), on the contrary, belong in greater part to the relationship of Australian forms and are probably elements of an older fauna. The

splitting of two of these (*Smeringochernes* and *Nesidiochernes*) into diverse species also seems to demonstrate origin from an older fauna. Likewise, another Melanesian species (*Xenolpium oceanicum*) in Micronesia splits into several different subspecies and is, therefore, an older inhabitant of Micronesian islands. Two of the endemic genera (*Parahya* and *Teratochernes*) are rather isolated and have no close relationship. Most of the forms of Oriental origin, however, seem to be more recent immigrants and are generally widely distributed in Micronesia without any tendency to splitting. One species only (*Lechytia sakagamii*) is related to South American forms.

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The following symbols indicate the museums in which specimens are stored: US (United States National Museum), BISHOP (Bernice P. Bishop Museum), CM (Chicago Natural History Museum), and MCZ (Museum of Comparative Zoölogy).

KEY TO MICRONESIAN PSEUDOSCORPIONIDA

1. The two pairs of fore legs with one, the two pairs of hind legs with two, tarsal joints (suborder Chthoniinea)..... 2
All legs with same number of tarsal joints..... 9
- 2(1). Stigmata oblique, with a separate stigmatic sclerite; basifemur of the fourth pair of legs but a little shorter than telofemur; carapace with bristles numerous; dorsal tactile setae of palpal hand basal (family Dithidae) 3
Stigmata transverse, without a separate stigmatic sclerite, but protected by a lateral prolongation of the sternite; basifemur of fourth pair of legs considerably shorter than telofemur; carapace with 16 bristles; dorsal tactile setae of palpal hand medial (family Chthoniidae)..... 5
- 3(2). Abdominal tergal bristles biseriate; tactile setae *st* and *sb* of movable finger of chela well separated from one another (*Ditha* Chamberlin)..... 4
Abdominal tergal bristles uniseriate; tactile setae *st* and *sb* of the movable finger of chela subcontiguous..... *Compsaditha gressitti*
- 4(3). Monosetose intercoxal tubercle present; carapace with 140 to 148 bristles *Ditha* (*Ditha*) *palauensis*
Monosetose intercoxal tubercle absent; carapace with bristles less abundant..... *Ditha* (*Paraditha*) *marcusensis*
- 5(2). Hand of pedipalps with two tactile setae dorsally; palpal fingers dentate (subfamily Chthoniinae) 6
Hand of pedipalps with four tactile setae dorsally; palpal fingers with a non-dentate lamina (subfamily Lechytinae)..... *Lechytia sakagamii*
- 6(5). Palpal hand ovate, not constricted distally (subgenus *Tyrannochthonius s. str.*) 7

Distributional List of Micronesian Pseudoscorpionida

| | MICRONESIAN ISLAND GROUPS | | | | | | | | | | Other Localities | | | |
|--|---------------------------|---------|------------|------------|-------|----------|-----------------|------|--------|--------|------------------|----------|---------|----------------------|
| | Bonin | Volcano | N. Mariana | S. Mariana | Palau | Caroline | | | | | | Marshall | Gilbert | |
| | | | | | | Yap | Caroline Atolls | Truk | Ponape | Kusaie | | | | |
| Suborder Chthoniinea | | | | | | | | | | | | | | |
| 1. <i>Ditha palauensis</i> * | | | | | × | | | | | | | | | Marcus I. |
| 2. <i>D. marcusensis</i> | | | | | | | | | | | | | | |
| 3. <i>Compsaditha gressitti</i> * | | | | | × | | | | × | | | | | |
| 4. <i>Tyrannochthonius chamorro</i> | | | | × | × | × | | | × | | | | | |
| 5. <i>T. palauanus</i> * | | | | | × | | | | | | | | | |
| 6. <i>T. dybasi</i> * | | | | | × | | | | | | | | | |
| 7. <i>T. ponapensis</i> * | | | | | | | | × | × | × | | | | |
| 8. <i>Lechytiya sakagami</i> | | | | | | | | × | | | × | | | Marcus I. |
| Suborder Neobisiinea | | | | | | | | | | | | | | |
| 9. <i>Ideobisium palauense</i> * | | | | | × | | | | | | | | | |
| 10. <i>Parahya pacifica</i> * | | | | | | × | | | | | | | | |
| 11. <i>Indolpium</i> sp. | | | | | | × | | | | | | | | |
| 12. <i>Xenolpium oceanicum palauense</i> * | | | | × | × | | | | | | | | | Okinawa |
| 13. <i>X. o. reductum</i> * | | | | | | | | | × | × | | | | |
| 14. <i>X. o. latum</i> * | | | | | | | | | | | × | × | | |
| 15. <i>Garypus ornatus</i> * | | | | | | | | | × | × | × | × | | |
| 16. <i>Geogarypus javanus formosanus</i> | | | | × | × | × | × | | × | × | × | × | | Formosa Marcus I. |
| 17. <i>G. micronesiensis</i> | | | | | | | | | | | | | | |
| 18. <i>G. palauanus</i> * | | | | | × | | | | | | | | | |
| Suborder Cheliferinea | | | | | | | | | | | | | | |
| 19. <i>Nesocheiridium stellatum</i> * | | | | × | | | | | | | | | | |
| 20. <i>Paratemnus philippinus</i> | × | | | × | × | | | | | | | | | Philippine Is. |
| 21. <i>P. salomonis</i> | | | | × | × | | | × | × | | | | | Solomon Is. |
| 22. <i>Oratemnus samoanus samoanus</i> | | | | × | × | | | | | | × | | | Samoa, Marquesas |
| 23. <i>O. s. whartoni</i> | | × | | × | × | × | | | | | × | | | Okinawa |
| 24. <i>Stenatemnus kraussi</i> * | | | | × | × | × | | | | | | | | |
| 25. <i>S. procerus</i> * | | | | × | × | × | | | | | | | | |
| 26. <i>Haplochernes kraepelini</i> | | | | × | × | | × | | | | | | | Java |
| 27. <i>H. insulanus</i> * | | | | × | × | × | | × | × | × | × | | | |
| 28. <i>H. boninensis</i> * | × | | | × | × | × | | × | × | × | × | | | |
| 29. <i>Teratochernes mirus</i> * | | | | × | × | | | × | × | | | | | |
| 30. <i>Verrucachernes oca</i> | | | | × | × | | | × | × | | × | | | |
| 31. <i>Smeringochernes yapensis</i> * | | | | | × | × | | | | | | | | |
| 32. <i>S. guamensis</i> * | | | | × | | | | | | × | | | | |
| 33. <i>S. carolinensis</i> * | | | | × | × | | | × | × | | | | | |
| 34. <i>Sundochernes gressitti</i> * | | | | × | × | | | × | × | | | | | |
| 35. <i>Thapsinochernes flavus flavus</i> * | | | | × | | | | | | | | | | |
| 36. <i>T. f. major</i> * | | | | × | × | | | | | | | | | |
| 37. <i>Nesidiochernes maculatus</i> * | | | | | | | | | | × | × | | | |
| 38. <i>N. carolinensis carolinensis</i> * | | | | | | | × | | × | | | | | |
| 39. <i>N. c. dybasi</i> * | | | | × | | | | | | | | | | |
| 40. <i>N. palauensis</i> * | | | | | × | | | | | | | | | |
| 41. <i>N. tumidimanus</i> * | | | | | | × | | | | | | | | |
| 42. <i>N. robustus</i> * | | | | × | | | | | | | | | | |
| 43. <i>N. insociabilis</i> * | | | | | | | | × | | | | | | |
| 44. <i>Meiochernes dybasi</i> * | | | | | | | | | × | | | | | |
| 45. <i>Allowithius australasiae</i> | | | | × | | | | | | | × | | | |

* Described as new.

| | | |
|---------|---|---|
| | Palpal hand bottle-shaped, constricted distally (subgenus <i>Lagynochthonius</i>) | 8 |
| 7(6). | Tergites 3 and 4 with four bristles; intercalar teeth of palpal fingers very small microdenticles..... Tyrannochthonius (Tyrannochthonius) chamorro | |
| | Tergites 3 and 4 with six bristles; intercalar teeth of palpal fingers half as long as primary teeth..... Tyrannochthonius (T.) palauanus | |
| 8(6). | Epistomal process very small, grain-shaped; palpal fingers 1.1 times longer than hand..... Tyrannochthonius (Lagynochthonius) dybasi | |
| | Epistomal process distinct, triangular and projecting; palpal fingers one-fifth to one-third longer than hand..... Tyrannochthonius (L.) ponapensis | |
| 9(1). | Legs with two tarsal joints (suborder Neobisiinea).....10 | |
| | Legs with one tarsal joint (suborder Cheliferinea).....19 | |
| 10(9). | Movable finger of chelicera distinctly denticulate medially, without a subapical lobe; blades of serrula interior well developed and not basally fused into a lamina (superfamily Neobisiidae).....11 | |
| | Movable finger of chelicera not denticulate medially, with a subapical lobe; blades of serrula interior fused basally into a lamina (superfamily Garypidae)12 | |
| 11(10). | Venom apparatus developed on fixed finger of pedipalps only; interfemoral articulation of fourth pair of legs vertically (family Neobisiidae)..... | |
| | Ideobisium palauense | |
| | Venom apparatus developed in both fixed and movable fingers of the pedipalps; interfemoral articulation of the fourth pair of legs oblique (family Hyidae) Parahya pacifica | |
| 12(10). | Pleural membrane smooth and equally striate; carapace ovate (family Olpiidae)13 | |
| | Pleural membrane granulate; carapace triangular (family Garypidae).....16 | |
| 13(12). | Telofemur of first pair of legs more or less longer than basifemur (<i>Xenolpium</i> Chamberlin)14 | |
| | Telofemur of first pair of legs distinctly shorter than basifemur.... Indolpium sp. | |
| 14(13). | Carapace with three pairs of discal bristles, with 18 bristles in all.....15 | |
| | Carapace with two pairs of discal bristles, with 16 bristles in all..... | |
| | Xenolpium oceanicum reductum | |
| 15(14). | Carapace 1.3 to 1.4 times longer than broad, the sclerotic part 1.2 times longer than broad with lateral borders nearly parallel..... | |
| | Xenolpium oceanicum palauense | |
| | Carapace 1.1 times longer than broad, the sclerotic part a little broader than long, distinctly convex laterally and somewhat dilated basally..... | |
| | Xenolpium oceanicum latum | |
| 16(12). | Maxillar shoulder of the coxa of the pedipalps developed; coxal area not dilated caudally; flagellum with one blade (subfamily Geogarypinae).....17 | |
| | Maxillar shoulder of the coxa of the pedipalps not developed; coxal area dilated caudally; flagellum with three to four blades (subfamily Garypinae) Garypus ornatus | |
| 17(16). | Chela regularly ovate (subgenus <i>Geogarypus s. str.</i>).....18 | |
| | Chela abruptly narrowed mediolaterally at the base of the fingers (<i>Indogarypus</i> n. subgenus)..... Geogarypus (Indogarypus) palauanus | |
| 18(17). | Carapace dark brown orally to the posterior eyes..... | |
| | Geogarypus (Geogarypus) javanus formosanus | |
| | Carapace nearly entirely whitish yellow with a small dark median spot between the eyes..... Geogarypus (G.) micronesiensis | |
| 19(9). | Interfemoral articulation of the first and second leg different from those of the third and fourth leg (superfamily Cheliferides).....20 | |

- Interfemoral articulation of first and second leg of same structure as those of third and fourth leg (superfamily Cheiridiides, family Cheiridiidae); fixed palpal finger granulately thickened at base....**Nesocheiridium stellatum**
- 20(19). Only one of palpal fingers with venom apparatus.....21
Both palpal fingers with venom apparatus; flagellum with four blades; sternites of male with areas of sense organs (family Cheliferidae, subfamily Withiinae).....**Allowithius australasiae**
- 21(20). Palpal fingers without accessory teeth; only the fixed finger with venom tooth (family Atemnidae).....22
Palpal fingers with accessory teeth; only movable finger with venom tooth (family Chernetidae)27
- 22(21). Carapace without transverse furrows; pedipalps stout.....23
Carapace with a submedian transverse furrow; pedipalps slender (*Stenatennus* Beier)26
- 23(22). Tactile seta *it* situated proximad of middle of fixed finger and nearly twice as far from finger top as distance between *ist* and *isb*; pedicel of palpal femur and tibia stout, not longer than broad (*Paratennus* Beier).....24
Tactile seta *it* situated somewhat distad of middle of fixed finger and scarcely wider from finger top than distance between *ist* and *isb*; pedicel of palpal tibia, at least, slender, longer than broad (*Oratennus* Beier).....25
- 24(23). Femur of palps coarsely granulate medially.....**Paratennus philippinus**
Femur of palps finely granulate medially.....**Paratennus salomonis**
- 25(23). Pedicel of femur of palps stout, not longer than broad.....
.....**Oratennus samoanus samoanus**
Pedicel of femur of palps slender, distinctly longer than broad.....
.....**Oratennus samoanus whartoni**
- 26(22). Pedipalps of male less slender, femur 3.2, tibia 3, times as long as broad**Stenatennus kraussi**
Pedipalps of male very slender, femur 4 to 4.4 times, tibia 3.7 to 4.4 times, as long as broad.....**Stenatennus procerus**
- 27(21). Tarsus of fourth pair of legs with a long tactile bristle; vestitural bristles not clavate28
Tarsus of fourth pair of legs without any tactile bristle; vestitural bristles clavate32
- 28(27). Tactile setae *ib*, *isb*, *ist*, and *it* of fixed finger form a cluster near base of finger, *it* almost opposite *ist* (*Haplochernes* Beier).....29
Tactile setae *ib*, *isb*, *ist*, and *it* separated, *it* clearly distad from *ist*.....31
- 29(28). Carapace very finely granulate or rugosely granulate, the subbasal transverse furrow shallow; tergites 6 to 9, at least, perfectly divided.....30
Carapace entirely smooth, the subbasal transverse furrow sharply incised; no one tergite perfectly divided.....**Haplochernes boninensis**
- 30(29). Femur of pedipalps 1.9 to 2.1 times as long as broad.....**Haplochernes insulanus**
Femur of pedipalps 2.3 to 2.5 times as long as broad.....**Haplochernes kraepelini**
- 31(28). Body length about 3 mm.; carapace smooth; palpal femur clavate.....
.....**Teratochernes mirus**
Body length about 1.5 mm.; carapace coarsely granulate; palpal femur abruptly pedicellate.....**Verrucachernes oca**
- 32(27). Vestitural bristles of pedipalps elongate and clavate; fingers with accessory teeth more or less reduced, occasionally absent; very small specimens (*Smeringochernes* n. genus).....33
Vestitural bristles of the pedipalps short and clavate; fingers with accessory teeth well developed medially and laterally; larger specimens.....35

- 33(32). Ultimate abdominal tergite without acute tactile bristles; movable palpal finger with an accessory tooth medially, at least; tactile seta *ist* of fixed finger distad from *est*; hand regularly ovate (subgenus *Smeringochernes s. str.*)34
 Ultimate abdominal tergite with acute tactile bristles; palpal fingers without accessory teeth laterally or medially; tactile seta *ist* of fixed finger opposite *est*; hand narrowed distally (*Gressittochernes* n. subgenus).....
**Smeringochernes (Gressittochernes) carolinensis**
- 34(33). Tactile seta *ist* of fixed finger about 1.5 times as far from *isb* as from *it*; movable finger with a single accessory tooth medially.....
**Smeringochernes (Smeringochernes) yapensis**
 Tactile seta *ist* of fixed finger about 3 times as far from *isb* as from *it*; both fixed and movable fingers each with two accessory teeth laterally and medially.....**Smeringochernes (S.) guamensis**
- 35(32). Movable finger of pedipalps with normal number of four tactile setae; vestitural bristles of hand normal; carapace not sexually dimorphic.....36
 Movable finger of pedipalps with only three tactile setae (*st* wanting); some vestitural bristles of hand elongate and forming a sort of collar at base of fingers; carapace sexually dimorphic, with the subbasal transverse furrow extraordinarily broad and coarsely granulate in male (*Meiochernes* n. genus).....**Meiochernes dybasi**
- 36(35). Tactile seta *est* of fixed finger close to *eb-esb*; carapace with about 50 to 70 vestitural bristles, the posterior margin not sharply limited and mostly angulate medially37
 Tactile seta *est* of fixed finger distant from *eb-esb*; carapace with 100 vestitural bristles, at least, the hind margin sharply limited and straight.....
**Sundochernes gressitti**
- 37(36). Vestitural bristles of pedipalps dentate but little clavate; whole integument pale yellowish; femur of hind legs slender (*Thapsinochernes* n. genus)38
 Vestitural bristles of pedipalps very strongly clavate; integument darker colored, partially at least; femur of hind legs stout (*Nesidiochernes* n. genus)39
- 38(37). Posterior border of carapace with eight, abdominal tergites with eight to 10, marginal bristles; palpal femur 0.53 to 0.59 mm. in length.....
**Thapsinochernes flavus flavus**
 Posterior border of carapace with 10, abdominal tergites with 12 to 14, marginal bristles; palpal femur 0.60 to 0.71 mm. in length.....
**Thapsinochernes flavus major**
- 39(37). Carapace with a paler colored area in mesozona between furrows; tactile seta *st* of movable finger nearer to *t* than to *sb*.....40
 Carapace uniformly reddish brown in pro- and mesozona; tactile seta *st* of movable finger nearer to *sb* than to *t*.....44
- 40(39). Pale area of mesozona of carapace nearly smooth or indistinctly granulate...41
 Pale area of mesozona of carapace distinctly and rather coarsely granulate43
- 41(40). Tactile seta *ist* of fixed finger more or less distad of *est*, *it* in or slightly distad of middle of finger.....42
 Tactile seta *ist* of fixed finger opposite *est*, *it* distinctly distad from middle of finger.....**Nesidiochernes maculatus**
- 42(41). Femur of pedipalps 0.40 to 0.41 mm. in length and 2.4 times as long as broad.....**Nesidiochernes carolinensis carolinensis**
 Femur of pedipalps 0.45 to 0.49 mm. in length and 2.6 to 2.7 times as long as broad.....**Nesidiochernes carolinensis dybasi**

- 43(40). Tactile seta *est* of fixed finger distad from *isb* and nearer to *ist*; fingers of male about as long as hand is broad.....**Nesidiochernes palauensis**
 Tactile seta *est* of fixed finger opposite *isb*; fingers of male distinctly shorter than hand is broad.....**Nesidiochernes tumidimanus**
- 44(39). Movable finger with tactile seta *st* shortened; tergites of female with 10 to 14 marginal bristles; fingers much shorter than hand without pedicel.....**Nesidiochernes robustus**
 Movable finger with tactile seta *st* wanting, only areola persistent, but also reduced; tergites of female with eight to 10 marginal bristles; fingers (of female) as long as hand without pedicel.....**Nesidiochernes insociabilis**

SUBORDER CHTHONIINEA

FAMILY DITHIDAE

1. *Ditha* (*Ditha*) *palauensis* Beier, n. sp. (fig. 1, *a*, *b*).

Carapace hardly longer than broad across eyes, densely and finely squamosely sculptured, the scales not hispid; disc with a distinct transverse furrow before posterior margin; anterior margin very finely denticulate, with epistomal emargination distinct; epistomal process serrate and acuminate, slightly exceeding anterior margin; disc with 140 to 148 stout but rather short bristles, anterior ones a little longer than posterior ones; anterior margin with 14, posterior margin with eight (male) to 10 (female), bristles. Anterior eyes small, but well developed and vaulted; posterior eyes reduced and flat, more than twice diameters caudad of anterior ones, vestigial especially in female.

Chaetotaxy of abdominal tergites (male) 10: $\frac{6}{10} : \frac{8}{10-12} : \frac{8}{12} : \frac{8}{10-12} : \frac{8-10}{10-12}$
 $\frac{8-10}{10-12} : \frac{8-10}{8-10} : \frac{8}{8} : \frac{6}{14} : \frac{8}{12-14} : \frac{12}{10-12} : \frac{10-12}{12} : \frac{12}{12} : \frac{12-14}{12} : \frac{12}{10}$
 10; tergites, therefore, clearly biseriata; the bristles of first row shorter and firmer than 10

those of posterior row. Last tergite with a pair of tactile bristles. Chelicera with 13 bristles, only *SB* and *IS* long. Fixed finger of chelicera with a strong median tooth, proximally with six minute denticles; movable finger with a subapical and median tooth, both small and nearly equal in size. Pedipalps a little longer than body. Palpal proportions: femur 4.7 times, hand 1.9 to 2 times, chela 4.7 to 4.8 times, as long as broad; fingers 1.5 times longer than hand. Fixed finger with about 62, movable fingers with approximately 55, closely contiguous and blunt marginal teeth. The group of tactile setae *sb*, *st*, and *t* of movable finger distad of median, *st* almost one third nearer to *sb* than to *t*. Coxa of first and second leg each with a row of six to seven simple coxal spines. Monosetose intercoxal tubercle present.

Egg parcel with 10 eggs.

Measurements (in millimeters). Body length (male) 1.3, (female) 1.4-1.6. Carapace, length (female) 0.55, breadth 0.53. Pedipalps: femur (female), length 0.63, breadth 0.135; tibia, length (female) 0.33; hand, length (male) 0.36, (female) 0.37, breadth (male) 0.18, (female) 0.20; fingers, length (male) 0.55, (female) 0.56.

PALAU. PELELIU: North central section, Aug. 5, 1945, Dybas, three males and nine females (type, CM); paratypes (BISHOP, CM), east coast, Aug. 1945, Jan. 1948, Dybas. KOROR: Nov. 1947; Limestone Ridge south of inlet, Jan. 1948, Dybas (US). BABELTHUAP: West of Ulimang, Dec. 1947,

Dybas; east Ngatpang and Iwang, Dec. 1952, Gressitt. ANGAUR: Feb. 1948, Dybas. ULEBSEHEL (Auluptagel): Dec. 1952, Gressitt.

DISTRIBUTION: Western Caroline Is. (33 specimens).

This species is closely related to *D. elegans* Chamberlin from Banda Island, Molucca Archipelago, but it differs in the following characters: The carapace is not hispid, the epistomal process is acuminate, the posterior eyes are more reduced and wider removed from the anterior ones, the carapacial and tergal

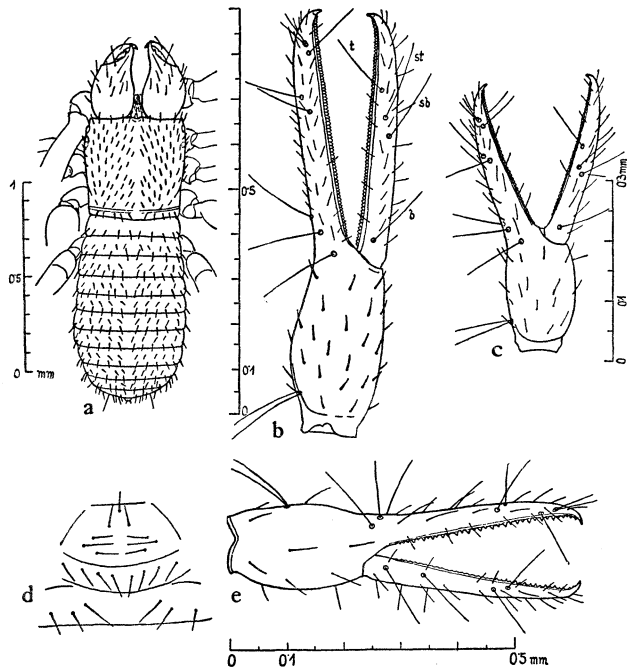


FIGURE 1.—a, b, *Ditha palauensis*, female: a, dorsal view; b, right chela, lateral view. c, *Compsaditha gressitti*, male, right chela, lateral view. d, e, *Tyrannochthonius palauanus*, female; d, genital area; e, right chela, lateral view.

bristles are less abundant, the number of cheliceral bristles smaller, the teeth of the movable finger of the pedipalps less abundant, the fingers of the palps relatively shorter, the body smaller. Its differences from *D. marcusensis* Morikawa are easily distinguishable by the greater size, the more abundant bristles of the carapace, the more reduced posterior eyes, having the palpal fingers longer and their teeth more numerous, having the tactile seta *st* farther removed from *sb*, and having the monosetose intercoxal tubercle present.

2. *Ditha* (*Paraditha*) *marcusensis* (Morikawa), n. comb.

Verrucaditha marcusensis Morikawa, 1952, Ehime Univ., Mem. II, 1 (3): 243, figs. 2, 5A.

DISTRIBUTION: Marcus Island (not represented in the studied material).

This species is clearly not a *Verrucaditha*, but belongs to the genus *Ditha*.

3. *Compsaditha gressitti* Beier, n. sp. (fig. 1, c).

Carapace a little longer than broad, smooth, but rough laterally before posterior angles; 50 carapacial bristles, 10 on anterior and six on posterior margin; anterior margin rather strongly denticulate, depressed medially and with an epistomal emargination; epistomal process broad and blunt, finely denticulate, not exceeding denticles of anterior margin. Four eyes, anterior ones rather well developed and vaulted, posterior ones much reduced and flat but large, separated from anterior eyes by scarcely one diameter. Abdominal tergites nearly smooth, each with six marginal bristles; the two lateral bristles approaching each other, median bristle remote and displaced to median line; no discal bristles present. Abdominal sternites in the greater part with 10 marginal bristles, penultimate bristle with a pair of long and strong tactile bristles. Chelicera with four accessory bristles. Flagellum consists of nine pennate blades. Hand of pedipalps stout, inconspicuously granulate medially, 1.6 times longer than broad; chela four times longer than broad. Fingers 1.56 times longer than hand, each with 44 to 45 marginal teeth, which are distally minute and narrow; median teeth of fixed finger distinctly inclined proximally and a little acuminate. Distribution of tactile setae typical for genus. Coxae of second and third legs each with three (exceptionally with four) coxal spines. Monosetose intercoxal tubercle present.

Measurements (in millimeters). Body, length (male) 0.8; palpal hand, length 0.18, breadth 0.115; fingers, length 0.29; whole chela, length 0.45.

PONAPE. Colonia, Jan. 6, 1953, Gressitt, one male (type, US 2247) and one tritonymph (paratype, BISHOP).

DISTRIBUTION: Caroline Is. (two specimens).

This species is very closely related to *C. pygmaea* Chamberlin from Luzon, Philippine Islands, but is distinguishable by the eyes being closer together, by the presence of only six tergal marginal bristles (*C. pygmaea* has nine to 12), and by having the palpal fingers relatively shorter.

FAMILY CHTHONIIDAE

4. *Tyrannochthonius* (*Tyrannochthonius*) *chamorro* Chamberlin.

Tyrannochthonius chamorro Chamberlin, 1947, B. P. Bishop Mus., Occ. Papers 18 (20) : 305-308, fig. 1, a-f.

DISTRIBUTION: Southern Mariana Is., Caroline Is. (Forty-five specimens.)

S. MARIANA IS. SAIPAN: As Mahetog area, Apr. 1945, Dybas, June 1951, R. Bohart. TINIAN: Beach cove south of Gurgan Pt., Mar.-Apr. 1945, Dybas. GUAM: Southeast of Asan, 180-240 m., Nov. 1947, Dybas; Ritidian Pt., May 1945, Dybas.

PALAU. BABELTHUAP: East Ngatpang, Dec. 1952, Gressitt. NGERGOI (Garakayo): Aug. 1945, Dybas. PELELIU: East coast, Jan.-Feb. 1948, Dybas; Mt. Amiangal, Dec. 1952, Gressitt. ANGAUR: Feb. 1948, Dybas.

YAP. YAP: Dugor, Aug. 1950, Goss; hill behind Yaptown, 50 m., Dec.

1952, Gressitt; north Yap I., July 1950, Goss. GAGIL: July 1950, Goss. RUMUNG: Aug. 1950, Goss.

TRUK. TON (Tol): Mt. Unibot, Dec. 1952, Jan. 1953, Gressitt.

In the males, which are smaller than the females (body 1 mm. in length), the abdominal tergites 1 to 6 or 7 have only four bristles. Rarely, the fourth tergite in the female has six bristles.

5. *Tyrannochthonius (Tyrannochthonius) palauanus* Beier, n. sp. (fig. 1, *d, e*).

Carapace 1.05 times as long as broad, broadest at eyes, distinctly narrowed toward base, transversely reticulate in hind corners; front border straight, with epistomal process acute triangular, inclined, and flanked by two strong bristles; disc of carapace with 16 striking long and robust bristles, of which four stand on front, and two on hind, border. All four eyes small but well developed, anterior pair with lens vaulted and scarcely more than one diameter removed from front margin; posterior eye has lens flat and is about twice the diameter removed from anterior eye. Anterior two abdominal tergites with only four, the following each with six, marginal bristles, these bristles also relatively long and strong; last tergite with two tactile bristles. Abdominal sternites each with eight to 10 bristles, the last sternite with only two tactile bristles. Palm of chelicera rasplike sculpturate and with five bristles; fixed finger with about eight marginal teeth, of which distal one is largest, the movable finger finely and equally denticulate, without a sclerotic spinneret hump. Pedipalps rather clumsy, shorter than body, femur a little longer than carapace. Hand short and rather broad, 1.6 times, the whole chela 4.2 times, as long as broad. Fingers 1.6 times longer than hand, fixed finger with 20 broadly triangular and well-spaced marginal teeth, their spaces each with a rather robust, broad, and blunt intercalary tooth, of which 14 altogether are present, because they are wanting between proximal four and distal two marginal teeth; movable finger in distal part from tactile seta *st* up to top with 10 a little reclinate and well-spaced marginal teeth, the spaces each with a secondary tooth which is robust and half as long; proximally of tactile seta *st* to base with an undulate lamina. Distribution of tactile setae as usual, *sb* of movable finger nearly twice as far from *st* as *b*. Coxae of second leg with six coxal spines. Intercostal tubercle absent. Genital area of female with an oral group of three, a symmetrically median cluster of three, and a caudal transverse row of eight, bristles.

Measurements (in millimeters). Body, length (female) 1.3; carapace, length 0.38, greatest breadth 0.40, breadth at base 0.32; palpal hand, length 0.24, breadth 0.15; fingers, length 0.38.

PALAU. BABELTHUAP: Wooded valley west of Ulimang, Dec. 1947, Dybas; Ngaremeskang, Dec. 1952, Gressitt; east Ngatpang, Dec. 1952, Gressitt (paratypes). ULEBSEHEL (Aurapushekaru): Sept. 1952, N. L. H. Krauss (type, US 2251); northwest Auluaptagel, Dec. 1952, Gressitt.

DISTRIBUTION: Western Caroline Is. (five female specimens).

This species is related to the Annamese species, *T. robustus* Beier and *T. perpusillus* Beier, since the palpal hand is stout as in both; but the carapace has only 16 bristles, the two anterior tergites have four, and the following have six bristles. The posterior pair of eyes is well developed, the palpal fingers are relatively shorter, the secondary teeth of both fingers are robust, and the vestitural bristles are long and strong. From *T. chamorro* Chamberlin, the new species is easily distinguished by the stouter palpal hand, by the palpal

fingers being relatively longer, by the occurrence of six bristles on the third and fourth abdominal tergite, by the chaetotaxy of the genital area of the female, and especially by the greater intercalary teeth of the palpal fingers, which are half as long as the marginal teeth (in *T. chamorro* they are always very small microdenticles).

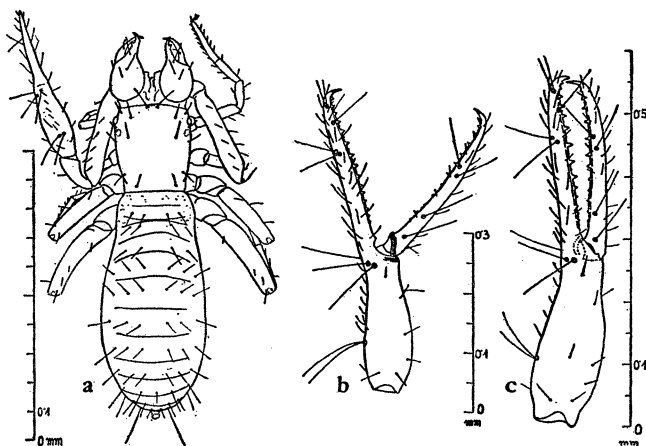


FIGURE 2.—*Tyrannochthonius dybasi*: a, dorsal view, female; b, right chela, male; c, right chela, female.

6. *Tyrannochthonius* (*Lagynochthonius*) *dybasi* Beier, n. sp. (fig. 2).

Light yellowish brown. Carapace a little longer than broad, weakly narrowed caudally, densely and very finely granulate, the posterior angles roughly granulate; 16 discal bristles, of approximately same length, four on anterior, and two on posterior, margin; anterior margin nearly straight, without any epistomal emargination; epistomal process very small, grain-shaped. Only anterior eyes well developed and vaulted, the posterior ones rudimentary, merely lighter spots. The four anterior abdominal tergites in male and three in female each with four, the following with six, marginal bristles; ultimate tergite with two tactile bristles. Palm of chelicera with four bristles; galeal seta stands in middle of movable finger, which is densely and finely denticulate medially; spinneret hump flat. Fixed finger of chelicera with an acute subapical tooth, proximally with a series of denticles which decrease in size caudally, distally longer than broad; hand narrowly bottle-shaped, in male 2.9 times and in female 2.7 times longer than broad; whole chela in male 6.4 times, in female 5.3 times, longer than broad. Fingers but 1.1 times (female) to 1.2 times (male) longer than hand, straight, fixed finger with 14 spaced and prominent marginal teeth, of which the two distal and the three basal ones are small; a very minute, grain-shaped intercalary denticle between the larger teeth in middle of finger. Movable finger with 12 prominent marginal teeth, the basal ones small and blunt. Distribution of tactile setae generally normal, *sb* of movable finger, however, very near to *b* and 2.5 times as far from *st* as from *b*. Coxa of second leg with a row of six to seven flat coxal spines, which are pennate distally. Intercostal tubercle wanting.

Measurements (in millimeters). Length of body (male and female) 0.95-1.07; carapace length 0.30, breadth 0.26. Pedipalps: femur, length (female) 0.39, breadth 0.063; tibia, length (female) 0.15; hand, length (male) 0.23, (female) 0.27, breadth (male) 0.08, (female) 0.10; fingers, length (male) 0.28, (female) 0.29.

PALAU. BABELTHUAP: East Ngatpang, 65 m., Dec. 7-8, 1952, Gressitt (allotype male, US). KOROR: Dec. 1947, Dybas, Dec. 1952, Gressitt (paratypes, CM, BISHOP). PELELIU: East coast, Aug. 1945 and Jan. 26, 1948, Dybas (type female, US 2250).

DISTRIBUTION: Western Caroline Is. (eight specimens).

This very small species is related to *T. (L.) annamensis* Beier from Annam, but is easily distinguished by the carapacial bristles being nearly equal in length, by the presence of a small epistomal process, by the reduced posterior eyes, by the chaetotaxy of the abdominal tergites (the anterior three or four respectively with four, the others with six, marginal bristles), and by the tactile seta *sb* of the movable finger being near *b*.

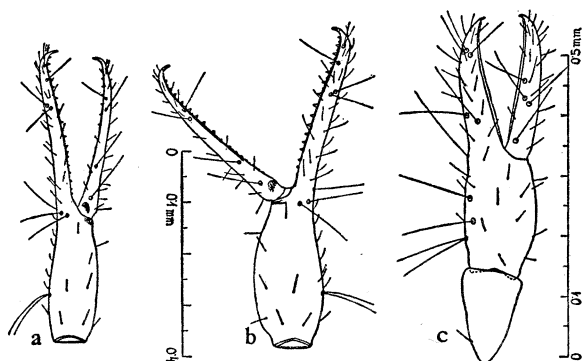


FIGURE 3.—a, b, *Tyrannochthonius ponapensis*: a, right chela, male; b, left chela, female. c, *Lechytiya sakagamii*, right chela, lateral view.

7. *Tyrannochthonius (Lagynochthonius) ponapensis* Beier, n. sp. (fig. 3, a, b).

Brownish yellow. Carapace as long as broad, rather strongly and roundly narrowed basally, nearly smooth, but rather coarsely granulate in posterior angles and with sparse granules below eyes; 16 long and very strong vestitural bristles, four on anterior, and two on posterior, border; anterior border slightly convex, with epistomal process triangular and projecting. Anterior eyes large and strongly vaulted, posterior ones reduced to large and well-limited paler spots. The four anterior tergites in male and three in female each with four, the following with six, marginal bristles; alternating bristles of posterior tergites elongate; ultimate tergite with two tactile bristles. Palm of chelicera with four bristles; galeal bristle somewhat proximad of middle of movable finger, which is densely and finely serrate-dentate medially; spinneret hump flat; fixed finger with subapical tooth acute but not very large, with a series of denticles proximally and toothless distally. Femur of pedipalps at least one-third longer than carapace; hand narrowly ovate, but weakly bottle-shaped, contracted distally, in male 2.6 times, in female 2.1 times, longer than broad; whole chela in male 6.2 times, in female 4.7 times, longer than broad. Fingers in male nearly one-third, in female one-fifth, longer than hand, fixed with 16 marginal teeth and with very minute, grain-shaped intercalar denticles distally; movable finger with seven to eight acute teeth distally and also with minute intercalar denticles, moreover with about 10 flat rudimentary teeth proximally. Tactile setae *est* and *it* of fixed finger subcontiguous and nearly touching another; *sb* of movable finger

a little more than twice as far from *st* as from *b*. Coxa of second leg with a row of six rather broad coxal spines.

Measurements (in millimeters). Length of body (male) 1, (female) 1.1; palpal hand, length (male) 0.24, (female) 0.28, breadth (male) 0.09, (female) 0.13; fingers, length (male) 0.32, (female) 0.34.

TRUK. TON (Tol): Mt. Unibot, 450 m., native forest, Jan. 1953, Gressitt.

PONAPE. Mt. Pairot, 300-540 m., Mar. 1948, H. S. Dybas (type female, US 2256); Mt. Temwetemwensekir, Jan. 1953, Gressitt, Mt. Temwetemwensekir summit, 450 m., Mar. 1948, Dybas (allotype male).

KUSAIE. Funaupes, Jan., Mutunlik, Feb., Mt. Matante, Feb., "Hill 541," 165 m., Apr., "Hill 1010," 300 m., all taken in 1953 by Clarke (paratypes, US, BISHOP).

DISTRIBUTION: Eastern Caroline Is. (31 specimens).

This species is closely related to *T. (L.) dybasi*, but differs in that the carapace is quadrangular and strongly narrowed basally, in the acute triangular and projecting epistomal process, in the longer and stouter carapacial bristles, in having the palpal fingers relatively longer, and in having the palpal hand broader in the female and the tactile setae *est* and *it* subcontiguous.

8. *Lechytia sakagamii* Morikawa (fig. 3, *c*).

Lechytia sakagamii Morikawa, 1952, Ehime Univ., Mem. II, 1 (3): 244, figs. 3, 5B.

DISTRIBUTION: Caroline Is., Marcus I., Marshall Is. (Nineteen specimens.)

CAROLINE ATOLLS. ULITHI: Potangeras I., Nov. 1947, Dybas.

MARCUS I. Holotype, not represented in this collection.

MARSHALL IS. ENIWETOK: Eniwetok I., Nov. 1944, Dybas; Japtan I., Nov. 1944, Dybas. TAKA: Lojiron I., Dec. 1951, Fosberg.

This species is closely related to *L. chthoniiformis* (Balzan) from South America (Paraguay and Argentina), from which *L. sakagamii* is distinguished by the slightly smaller body and by the fact that the tactile setae *sb* and *st* of the movable palpal finger do not touch each other. The measurements (in millimeters) are as follows: Body, length (female) 1; carapace, length 0.30, breadth across the eyes 0.30, at the base 0.25; palpal hand, length 0.20, breadth 0.12; fingers, length 0.24. The measurements of the palpal chela fully agree, therefore, with those of *L. chthoniiformis*.

SUBORDER NEOBISIINEA

FAMILY NEOBISIIDAE

9. *Ideobisium palauense* Beier, n. sp. (fig. 4, *a*).

Body pale brownish yellow, pedipalps somewhat darker, reddish yellow-brown. Carapace distinctly longer than broad, entirely eyeless; vestitural bristles, of which

four stand on anterior margin, rather fine and short; anterior margin weakly emarginate in middle; epistomal process broad and short, rounded and scarcely projecting. Abdominal tergites in greater part with eight marginal bristles, the penultimate and ultimate with only six; sublateral pair of tenth tergite and lateral and median pairs of eleventh tergite strongly elongate. Sternites with six marginal bristles, lateral pair of eleventh sternite elongate tactile bristles. Palm of chelicera with four bristles; movable finger with two rather small, acute subapical teeth; galea simple bristle-like; galeal seta not exceeding galea. Lobus of maxilla with two bristles. Pedipalps stout, smooth. Trochanter with a minute tubercle laterally. Femur abruptly pedicellate and somewhat humped laterobasally, much thickened medially proximad of middle, 2.5 times longer than broad; tibia 1.8 times longer than broad, with club nearly globular; hand 1.3 times, the whole chela with pedicel 2.7 times, without pedicel 2.4 times, longer than broad. Fingers nearly as long as hand with pedicel; distribution of tactile setae normal, the arolia very large. Articulation of all tarsi inconspicuous.

Measurements (in millimeters). Length of body (male) 1. Pedipalps: femur, length 0.24, breadth 0.95; tibia, length 0.22, breadth 0.12; hand, length 0.20, breadth 0.145; fingers, length 0.19.

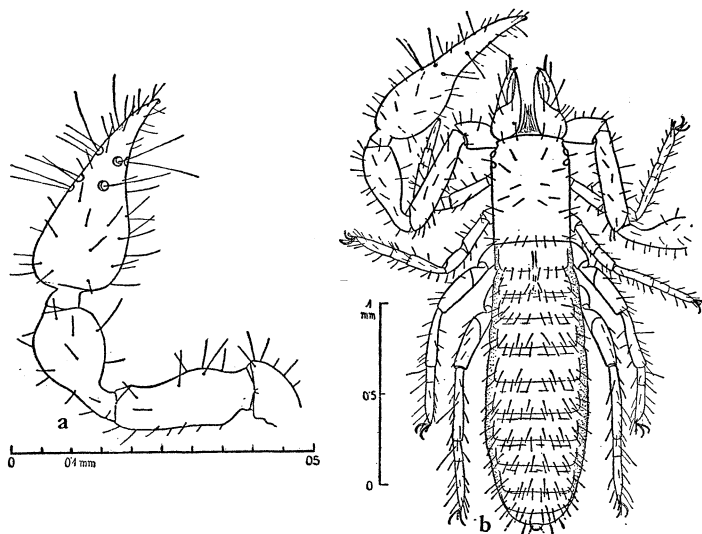


FIGURE 4.—a, *Ideobisium palauense*, left pedipalp, male; b, *Parahya pacifica*, dorsal view, female.

PALAU. BABELTHUAP: East Ngatpang, 65 m., Dec. 7, 1952, Gressitt (type male, US 2246).

DISTRIBUTION: Western Caroline Is. (one specimen).

Like *I. bipectinatum* Daday from New Guinea and the Bismark Archipelago, this new species has the eyes wanting; and it has the same measurements of the pedipalps. It differs in the palpal femur being laterobasally humped and abruptly pedicellate and having the movable finger of the chelicera with only two subapical teeth.

FAMILY HYIDAE

Genus *Parahya* Beier, new genus

Carapace much longer than broad, without an epistomal process; four eyes. Median and posterior abdominal tergites biseriate. Pleural membrane of abdomen hispidly granulate. Palm of chelicera with five bristles. Flagellum of six slender and acute, one-sided, fine, and short pennate blades. Galea slender, bristle-shaped. Both palpal fingers densely and bluntly dentate, with venomous apparatus. Tactile seta *ist* of fixed finger located near middle of finger and approaching cluster of *est-it-et*. Telofemur of the first leg somewhat shorter than basifemur. Interfemoral articulation of fourth leg distinctly oblique to longitudinal axis. Tarsus of fore legs distinctly divided, that of the two hind legs completely articulated. Subterminal bristle finely dentate. Arolia scarcely half as long as slender claws, with a pair of bristle-like appendages ventroterminally.

Genotype: *Parahya pacifica*, new species.

Micronesia.

The new genus belongs to the subfamily Hyinae, as the palpal hand lacks tactile setae dorsally and all the tarsi are distinctly two-segmented. The diagnosis of the subfamily will be, indeed, somewhat changed and extended, relative to the shape of the blades of the flagellum and of the subterminal bristle of the telotarsus, both characters of poor value. This genus is distinguished from *Hya* Chamberlin by the biseriate abdominal tergites, by the distal position of the tactile seta *ist* of the fixed palpal finger, by the dense dentation of both fingers of the pedipalps, by the subterminal seta of telotarsus being finely dentate, by the arolia bearing two bristle-like appendages, and by the blades of the flagellum being one-sided pennate.

10. *Parahya pacifica* Beier, n. sp. (figs. 4, *b*; 5).

Carapace and pedipalps intensively reddish brown, abdominal tergites pale yellowish brown. Carapace more than one-third longer than broad, without an epistomal process, the disc with 32 bristles, four on the anterior, and 10 on posterior, border. Four eyes, anterior ones with vaulted lens, posterior with flat lens. Chaetotaxy of abdominal tergites: 8: $\frac{4}{10}$: $\frac{4}{10}$: $\frac{8}{10}$: $\frac{8}{10}$: $\frac{8}{12}$: $\frac{8}{12}$: $\frac{8}{10}$: $\frac{8}{10}$: $\frac{6}{6}$: $\frac{2}{6}$. Chaetotaxy of abdominal sternites 4 to 11: $\frac{8}{14}$: $\frac{8}{12}$: $\frac{6}{12}$: $\frac{6}{12}$: $\frac{6}{12}$: $\frac{10}{10}$: $\frac{8}{10}$: 8. Dorsal and ventral pair of bristles

of anal conus rather strong. Palm of chelicera with five bristles, *IS* and *SB* very long. Fixed finger of chelicera with four blunt teeth, the two median the largest; movable finger with six smaller teeth in proximal half. Flagellum with six slender asymmetrically finely pennate blades. Pedipalps rather slender. Trochanter without tubercle posteriorly. Femur shortly pedicellate, 4.8 times, tibia 2.7 times, hand 1.7 times, chela with pedicel 4 times, without pedicel 3.7 times, as long as broad. Fingers nearly 0.5 longer than hand with pedicel, and also a little longer than femur, both densely and bluntly dentate, of same shape, teeth of movable finger somewhat smaller than those of fixed fingers. Tactile seta *ist* of fixed finger rather far distally, near cluster *est-it-et*. Legs slender, femur of fourth pair 3.8 times, tibia 5.5 times, longer than broad.

Measurements (in millimeters). Length of body (male) 2.1; carapace, length 0.58, breadth 0.42. Pedipalps: femur, length 0.64, breadth 0.134; tibia, length 0.54, breadth 0.20; hand, length 0.46, breadth 0.28; fingers, length 0.67. Fourth leg: femur, length 0.55, breadth 0.145; tibia, length 0.43, breadth 0.078; tarsal segments, length 0.11 and 0.30.

YAP. YAP: Sea beach, July 1, 1950, R. J. Goss (type male, US 2245).
DISTRIBUTION: Western Caroline Is. (one specimen).

FAMILY OLPHIIDAE

11. *Indolpium* sp.?

A single deutonymph from Ngeremeyaos (Ngiramaous) Island, Palau Islands (Nov. 1947, Dybas) is not determinable.

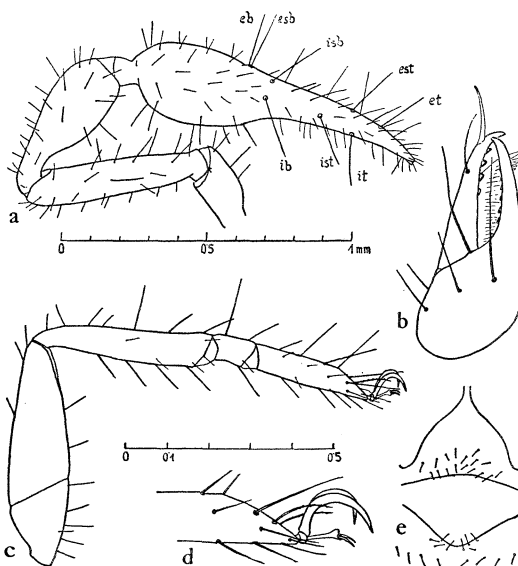


FIGURE 5.—*Parahya pacifica*, male: a, left pedipalp; b, left chelicera; c, hind leg; d, top of tarsus of hind leg; e, genital area.

Xenolpium oceanicum (With). (Figure 6, a.)

Olpium longiventer, Pocock, 1898, Ann. Mag. Nat. Hist. VII, 1: 323 (*nec*
Olpium longiventer L. Koch, 1886).

Garypinus oceanicus With, 1907, Linn. Soc. London, Jour. 30: 77, pl. 10,
figs. 40-47.—Kästner, 1927, Insects of Samoa 8 (1): 15.

Horus oceanicus, Chamberlin, 1930, Ann. Mag. Nat. Hist. X, 5: 600.

Xenolpium oceanicum, Beier, 1932, Das Tierreich 57: 202.—Chamberlin,
1934, B. P. Bishop Mus., Occ. Papers 10 (22): 5.—Beier, 1940, Zool.
Jahrb., Abt. Syst. 74 (3): 168, 169.

Integument, including that of pedipalps, completely smooth, hard mediodistally at base of fingers with several small but acute granules. Carapace one-fifth to one-third longer than broad, basal sixth or fifth, however, not sclerotized and whitish yellowish like the intersegmental membrane, remainder of scutum well sclerotized, reddish brown, this area abruptly, but generally not transversely, limited by the whitish base, without

transverse furrows, or such indicated only in male; disc with 16 to 18 bristles, of which four stand on oral border, two on posterior border, three laterally (inclusive of interocular bristle) and two to three pairs discally. Cucullus short, broadly and briefly longitudinally sulcate. Eyes very large and close together, anterior ones greater than posterior pair and two-thirds of their longer diameter removed from front margin. Anterior two abdominal tergites not, or very weakly, sclerotized, nearly always whitish yellow as is the intersegmental membrane, slightly brownish, the following normally sclerotized and reddish brown, the third, however, a little narrower than others. First tergite with two, second to fifth or sixth and, rarely, seventh and eighth, with four, the following (except ultimate tergite) with five to six rather robust marginal bristles. Male with caudal seven to eight, female with only five to six sternites, brownish sclerotized, posterior sternites darker than oral ones. All sternites, except those of genital segments, with six long marginal bristles. Palm of chelicera with five bristles. Galea of male nearly simple, of female with three clawlike terminal branches. Pedipalps shorter than body, hand mostly considerably darker than the other segments, often also the femur darkened in middle or only peduncle light. Femur relatively clumsy, that of male 2.5 to 2.7 times, of female 2.4 to 2.6 times, longer than broad, with two longer tactile bristles dorsally. Tibia of male 2.2 to 2.4 times, of female 2.1 to 2.3 times, longer than broad, pedicel with a somewhat longer bristle dorsally. Hand of male 1.7 to 1.8 times, of female 1.6 to 1.7 times, chela with pedicel in male 2.9 to 3 times, in female 2.8 to 2.9 times, without pedicel in male 2.7 times and in female 2.6 to 2.7 times, longer than broad. Fingers distinctly a little shorter than hand without pedicel, both with about 30 marginal teeth gradually flattened proximally. Tactile seta *ib* of fixed finger relatively far proximally and almost situated dorsally on hand; *ist* transposed laterally and located close to *esb*, as in other species of genus; *it* almost in middle of finger. Tactile seta *st* of movable finger medially beside *sb* and not more widely removed from latter than *sb* from *b*, so that these three trichobothries form a triangular group at base of finger, from which *t* is widely removed and is near middle of finger, whereas in the other species *st* is not so close to *sb* and mostly twice or three times wider distance from *t* than from *sb*. Legs, especially femur of fourth pair, stout, the patella of first pair about one-fourth to one-third longer than basifemur.

Measurements (in millimeters). Body, length (male) 1.3-1.7, (female) 1.8-2.2; carapace, length (male) 0.47 (sclerotic part 0.41-0.42), (female) 0.47-0.52 (respectively 0.40-0.46), breadth (male) 0.34-0.35, (female) 0.40-0.42. Pedipalps: femur (male), length 0.34-0.36, breadth 0.13-0.14; tibia, length 0.35-0.39, breadth 0.16; hand, length 0.36-0.39, breadth 0.21-0.22; fingers, length 0.28-0.30; femur (female), length 0.38-0.43, breadth 0.16-0.17; tibia, length 0.38-0.43, breadth 0.18-0.20; hand, length 0.41-0.46, breadth 0.24-0.27; fingers, length 0.34-0.37.

The smallest species of the genus, which was described from the Ellice Islands (Funafuti) and later reported from Samoa, is characterized above. The following subspecies may be distinguished:

***Xenolpium oceanicum oceanicum* (With).**

Carapace 1.2 times longer than broad, sclerotic part as long as broad, presumably with 18 bristles (three discal pairs); the whitish basal part about a fifth of the length of the carapace. The two anterior tergites not, or almost not, brownish. Palpal femur of female 2.5 times longer than broad.

Measurements (in millimeters). Length of body of female 2.1. Carapace, length 0.51, breadth 0.41. Pedipalps: femur, length 0.405, breadth 0.242; tibia, length 0.414, breadth 0.195; hand, length 0.437, breadth 0.242; fingers, length 0.345 (see With).

DISTRIBUTION: Ellice Is. (Funafuti), Samoa. Not represented in the collection from Micronesia.

12. *Xenolpium oceanicum palauense* Beier, n. subsp. (fig. 6, b).

Carapace 1.3 to 1.4 times, the sclerotic part 1.2 times, longer than broad, their lateral borders nearly parallel; three pairs of discal bristles, altogether, therefore, 18 vestitural bristles; discal bristle-pairs almost equal distances from each other; whitish basal part only one-seventh length of carapace; carapace of male with a broad and flat, but distinct, median transverse furrow. Chaetotaxy of abdominal tergites: (male) 2: 4: 4: 4: 4: 4: 4: 6: 6: 6; (female) 2: 4: 4: 4: 4: 4: 6: 6: 6: 6. The two anterior tergites but a little brownish. Femur of pedipalps in male 2.8 times, in female 2.5 to 2.6 times, longer than broad.

Measurements (in millimeters). Length of body (male) 1.6-1.7, (female) 1.7-2.2. Carapace, length (male) 0.47 (sclerotic part 0.41), (female) 0.52 (sclerotic part 0.45), breadth (male) 0.34, (female) 0.39. Pedipalps: femur (male), length 0.36, breadth 0.13; tibia, length 0.39, breadth 0.16; hand, length 0.39, breadth 0.22-0.23; fingers, length 0.30; femur (female), length 0.43, breadth 0.17; tibia, length 0.43, breadth 0.20; hand, length 0.46, breadth 0.27; fingers, length 0.37.

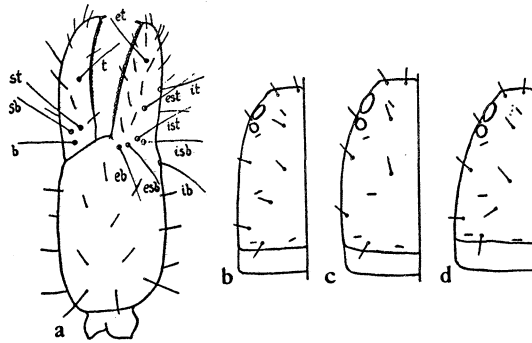


FIGURE 6.—a, *Xenolpium oceanicum*, left chela; b-d, carapace of lateral view of (b) subspecies *palauense*, (c) subspecies *reductum*, and (d) subspecies *latum*.

OKINAWA: June 7, 1945, A. B. Hardcastle.

S. MARIANA IS. SAIPAN: Sadog Talofofu, Talofofu area, Feb. 1945, Dybas; As Mahetog area, Apr. 1945, Dybas; Papago area, May 1945, Dybas; June 1951, R. M. Bohart. TINIAN: Ridge one mile north of Tinian Harbor, Apr.-May 1945, Dybas. GUAM: Fadang, May 1945, Dybas; 2 km. southeast of Asan, 180-240 m., Nov. 1947, Dybas.

PALAU. BABELTHUAP: Iwang and Ngatpang, Dec. 1952, Gressitt; Ulimang, Dec. 1947, Dybas. KOROR: Nov. 1947, Dybas, Dec. 1952, Gressitt. ULEBSEHEL (Auluptagel): Sept. 1952, N. L. H. Krauss (type, US 2263). PELELIU: East and west coasts, Aug. 1945 and Feb. 1948, Dybas (paratypes, BISHOP, US, CM).

DISTRIBUTION: Okinawa Is., southern Mariana Is., western Caroline Is. (Thirty-three specimens.)

13. *Xenolpium oceanicum reductum* Beier, n. subsp. (figs. 6, c; 7).

Carapace 1.3 times, the sclerotic part 1.2 times, longer than broad, a little convex laterally, with only two pairs of discal bristles (pair behind postmedian lyrifissure wanting; in only a single female occurs a small bristle asymmetrically), altogether, therefore, with only 16 vestitural bristles; carapace in both sexes without a transverse furrow; the whitish basal part only the ninth part of length of carapace. Chaetotaxy of abdominal tergites: (male) 2: 4: 4: 4: 4: 4: 4: 6: 6; (female) 2: 4: 4: 4: 4: 6: 6: 6: 6: 6. Anterior two tergites almost entirely whitish yellow. Femur of pedipalps in male 2.7 times, in female 2.4 times, longer than broad.

Measurements (in millimeters). Length of body (male) 1.3-1.5, (female) 1.8-2. Carapace, length (male) 0.47 (sclerotic part 0.42), (female) 0.50 (sclerotic part 0.46); breadth (male) 0.35, (female) 0.40. Pedipalps: femur (male), length 0.36, breadth 0.13; tibia, length 0.37, breadth 0.16; hand, length 0.36, breadth 0.21; fingers, length 0.28; femur (female), length 0.39, breadth 0.16; tibia, length 0.41, breadth 0.18; hand, length 0.43, breadth 0.26; fingers, length 0.35.

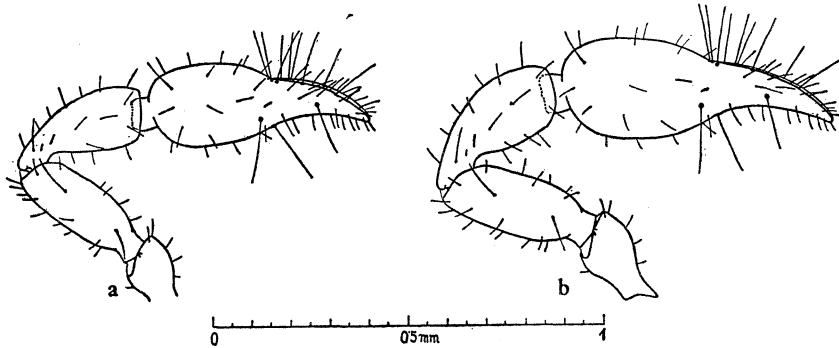


FIGURE 7.—*Xenolpium oceanicum reductum*: a, male pedipalp; b, female pedipalp.

PONAPE. Colonia, Jan. 1953, Gressitt (paratypes, BISHOP).

KUSAIE. Funaupes, Jan. 1953; Mutunlik, Jan. and Mar. 1953; Tafun-sak, Feb. 1953; Mt. Matante, Feb. 1953; "Hill 165," Mar. 23, 1953 (type, US 2252); "Hill 541," 165 m., Apr. 1953. All collected by J. F. G. Clarke (paratypes, BISHOP, US, CM).

DISTRIBUTION: Eastern Caroline Is. (53 specimens).

14. *Xenolpium oceanicum latum* Beier, n. subsp. (fig. 6, d).

Carapace 1.1 times longer than broad, the sclerotic part a little broader than long, distinctly convex laterally and somewhat widened basally; three pairs of discal bristles, altogether, therefore 18 vestitural bristles; median pair of discal bristles almost twice as far from oral pair as from caudal ones; whitish basal part about a sixth of length of carapace. Chaetotaxy of abdominal tergites: (female) 2: 4: 4: 4: 4: 6: 6: 6: 6: 5. The two anterior tergites distinctly brownish. Femur of pedipalps of female 2.4 times longer than broad.

Measurements (in millimeters). Length of body (female) 2. Carapace, length 0.47 (sclerotic part 0.40), breadth 0.42. Pedipalps: femur, length 0.375, breadth 0.16; tibia, length 0.38, breadth 0.18; hand, length 0.41, breadth 0.26; fingers, length 0.34.

MARSHALL IS. LAE: Lwejap I., Jan. 9, 1952, F. R. Fosberg (type female, US 2265). UJAE: Ebeju I., Mar. 1952, Fosberg. UTIRIK: Elluk I., Dec. 1951, Fosberg (paratypes, US, BISHOP).

DISTRIBUTION: Marshall Is. (three specimens).

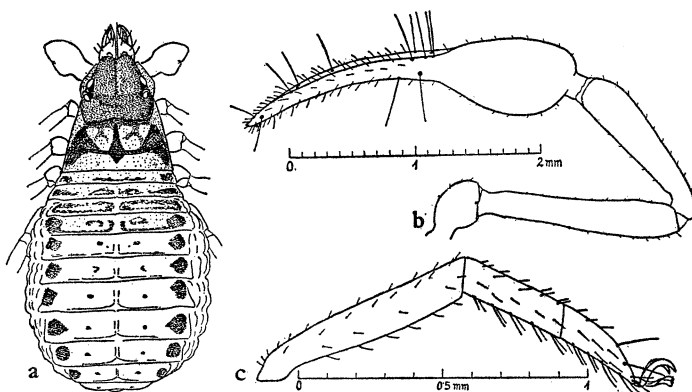


FIGURE 8.—*Garypus ornatus*, female: a, dorsal view; b, right pedipalp; c, tibia and tarsus of hind leg.

FAMILY GARYPIDAE

15. *Garypus ornatus* Beier, n. sp. (fig. 8).

General color pale brownish yellow, carapace brownish in oral half, with a large triangular brown lateral spot in caudal half and an arrow-shaped median spot, which is widened caudally; abdominal tergites each with a pair of large brown lateral spots and a pair of small submedian spots, which flow together to a narrow transverse band on first segment and which are enlarged on second to fourth segment; chela of pedipalps reddish brown. Integument of body dorsally densely and distinctly, that of pedipalps indistinctly, reticulate; nowhere is a true granulation perceptible. Vestitural bristles very short, fine, and inconspicuous, but on pedipalps a little longer. Carapace hardly longer than broad at base, gradually narrowed forward, with the two transverse furrows not very deep but distinct; cucullus with a deep and broad furrow along it, which extends up to posterior margin of eyes and is flattened caudally. Eyes large, the anterior ones shallowly vaulted and at least twice diameter from anterior margin; posterior ones on caudal side of high eye humps. Abdominal tergites divided, except first and eleventh. Palm of chelicera with five bristles, the two distal ones situated on fixed finger; movable finger with apical claw robust; galeal bristle not reaching top of galea. Galea with apical spinnerets bent. Pedipalps slender, much longer than body. Femur 5.3 times, tibia 4.3 times, hand 1.8 times, chela with pedicel 4.5 times, without pedicel 4.2 times, longer than broad. Fingers very long, a little longer than femur. Distribution of tactile setae as usual, *st* of movable finger at least twice as far from *sb* as from *t*. Tibia of fourth pair of legs six times, first tarsal joint 3.2 times, second tarsal joint 2.8 times, longer than broad, first joint 1.27 times longer than second, the last one with subapical bristle stout. Oral operculum of female genital area with 14 bristles.

Measurements (in millimeters). Length of body (female) 3.5. Carapace, length 1.2. Pedipalps: femur, length 1.60, breadth 0.30; tibia, length 1.35, breadth 0.31; hand, length 1.10, breadth 0.61; fingers, length 1.73.

MARSHALL IS. BIKINI: Bokonfuaaku I., Feb. 28, 1946, J. P. E. Morrison (holotype female, US).

DISTRIBUTION: Marshall Is. (one specimen).

This species is closely related to *G. longidigitatum* Hoff from the Murray Islands, from which the new species is distinguished by the spot pattern of the body, by the integument being not granulate but reticulate, by the palpal fingers being longer than the femur, and by the palpal tibia being more slender and the palpal measurements somewhat smaller. In *G. japonicus* Beier the new species is not comparable because of the distribution of the tactile setae of the movable palpal finger and the fact that the first tarsal joint of the fourth pair of legs is relatively much shorter.

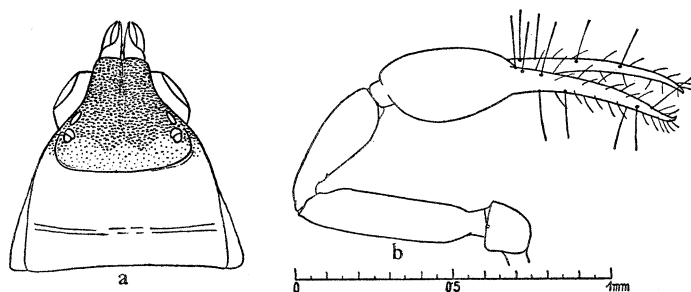


FIGURE 9.—*Geogarypus javanus formosanus*: a, carapace, female, from Kusaie; b, pedipalp, male, from Saipan.

16. *Geogarypus (Geogarypus) javanus formosanus* Beier (figs. 9-11; 12, e, f).

Geogarypus formosanus Beier, 1931, Mus. Berlin, Mitt. 17: 315, fig. 10; 1932, Das Tierreich 57: 232, fig. 260.

Body in greatest part yellowish white but oral part of carapace to hind margin of eyes brown, this spot more or less forked caudally. First abdominal tergite with three brown spots, median one often imperfectly divided; second tergite also with three spots, median one always incompletely divided; third tergite with lateral spots only; fourth to ninth tergites with two lateral and two submedian spots, posterior spots closer; tenth and eleventh tergites mostly brown; beginning at second segment, most tergites have a brown transverse stripe at fore margin connecting spots which is interrupted in median line and enlarged gradually on posterior tergites. Sternites 5 to 10 each having a submedian pair of transverse spots. Pedipalps brown, with hand mostly somewhat darker than the other joints, the fingers more reddish. Surface densely and, especially on darker parts, coarsely granulate. Carapace in male as long as broad on posterior border, a little shorter in female, with median transverse furrow shallow but distinct and subbasal furrow almost effaced; orally to cucullus strongly but not abruptly narrowed, the cucullus longitudinally sulcate to eyes. Anterior eyes flat, the posterior overvaulted by a kidney-shaped tubercle, which is greater in male than in female. Each half-tergite of abdomen with seven to eight very small, fine, and acute marginal bristles, which are a little longer and stouter on last segments. Sternal marginal bristles of same number as, but a little longer than, tergal bristles. Flagellum represented by a single blade. Serrula with 17

teeth, the two basal ones extended and asymmetrically widened terminally, the penultimate blade acute, but scarcely longer than others, the ultimate isolated, decurved, and acute. Galea simple. Pedipalps a little longer than body, very densely and rather coarsely granulate, with short, acute, and very fine vestitural bristles. Trochanter with a flat tubercle laterodistally. Relative measurements of pedipalps rather variable: femur 3.9-4.7 times, tibia 2.6-3.1 times, hand 1.8-2 times, chela with pedicel 3.6 to 4.3 times, without pedicel 3.4 to 4.1 times, longer than broad. The pedicel of the femur short, not abruptly removed medially. Mediobasal tubercle of tibia rather small but distinct. Hand more or less convex medially. Fingers longer than hand with pedicel and always more or less shorter than femur, with 27 to 37 marginal teeth, the fixed finger, moreover, with six

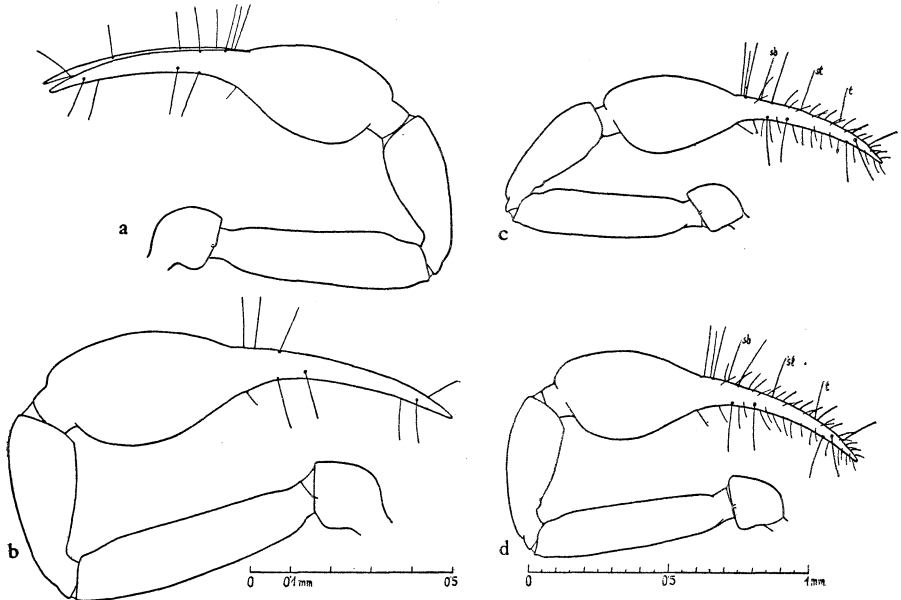


FIGURE 10.—*Geogarypus javanus formosanus*, pedipalps: a, male, from Koror; b, female, from Koror; c, male, from Ponape; d, female, from Ponape.

to nine secondary teeth. Distribution of tactile setae as usual, *st* of movable finger stands mostly in middle between *sb* and *t* or nearly so. First and second tarsal segment of hind legs almost equal in length.

Measurements (in millimeters). Length of body (male) 1.2-1.9, (female) 1.7-2. Carapace, length (male) 0.58-0.60, (female) 0.65-0.67; breadth (male) 0.60-0.65, (female) 0.68-0.73. Pedipalps: (male) femur, length 0.50-0.66, breadth 0.14-0.16; tibia, length 0.39-0.49, breadth 0.14-0.175; hand, length 0.40-0.50, breadth 0.21-0.28; fingers, length 0.45-0.58; femur (female), length 0.62-0.75, breadth 0.16-0.17; tibia, length 0.46-0.55, breadth 0.17-0.18; hand, length 0.51-0.57, breadth 0.28-0.32; fingers, length 0.52-0.65; fore leg: basifemur, length 0.29, telofemur, length 0.18, tibia, length 0.20, metatarsus, length 0.16, telotarsus, length 0.17; hind leg: femur, length 0.52, tibia, length 0.35, metatarsus, length 0.21, telotarsus, length 0.20.

DISTRIBUTION: Formosa, southern Mariana Is., Caroline Is., Marshall Is. (Sixty-eight specimens.)

S. MARIANA IS. SAIPAN: Achugau area, As Mahetog area, hills east of Garapan, Mar.-May 1945, Dybas, June 1951, R. M. Bohart. TINIAN: Marpo Valley, Oct. 1945, Dybas. GUAM: Oca Pt., Pati Pt., Fadang, Asan, 180-240 m., May, June 1945 and Oct. 1948, Dybas.

PALAU. BABELTHUAP: Ulimang, Dec. 1947, Dybas. KOROR: Dec. 1947, Dybas. PELELIU: East and northeast coasts, Aug. 1945, Jan. 1948, Dybas. ULEBSEHEL (Aurapushekaru): Jan. 1948, Dybas.

YAP. Yap: Ruul District, July-Aug. 1950, Goss.

CAROLINE ATOLLS. ULITHI: Potangeras I., Nov. 1947, Dybas.

PONAPE. Colonia, July 1950, Adams, Jan. 1953, Gressitt.

KUSAIE. Mutunlik, Lelu (Lele), Malem River, "Hill 541," Mar. 1953, Clarke.

MARSHALL IS. UTIRIK: Elluk, Dec. 1951, Fosberg. TAKA: Taka, Dec. 1951; Watwerok, Dec. 1951, Fosberg.

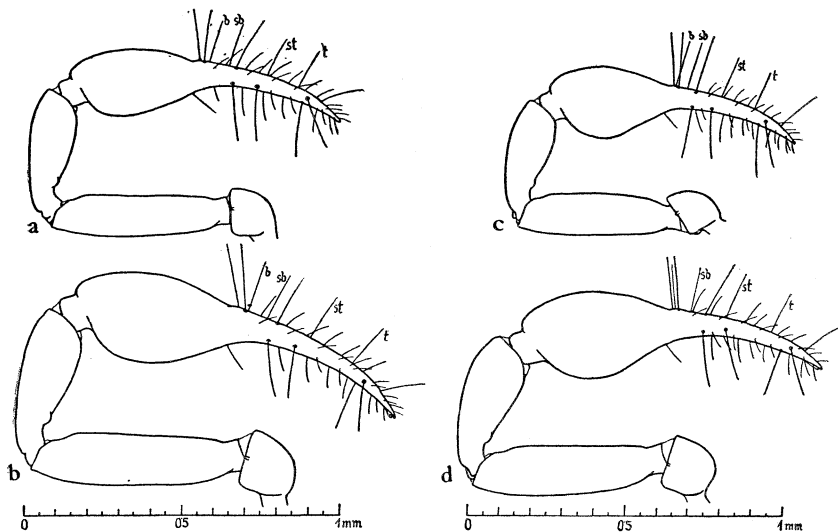


FIGURE 11.—*Geogarypus javanus formosanus*, pedipalps: a, male, from Kusaie; b, female, from Kusaie; c, male, from Marshall Islands; d, female, from Marshalls.

Geogarypus (*Geogarypus*) *javanus* (Tullgreen) is widely distributed in the Malayan subregion and in the neighboring countries, and it has some subspecies. *G. (G.) javanus javanus* lives in the Sunda Archipelago; *G. (G.) javanus formosanus*, in Formosa and in a great part of western Micronesia; and *G. (G.) longidigitatus* (Rainbow), in the southern Ellice Islands. The latter is probably a distinct species. *G. (G.) j. formosanus* seems inclined to develop populations (forms) of different body form in the several islands; but they are not designated as subspecies, for the distinguishing factors are limited

to slight differences in the measurements of pedipalps, particularly in the relative length of the fingers. The following are average measurements (in millimeters):

Mariana Islands (Saipan and Guam, fig. 9, *b*): Length of body (male) 1.5, (female) 2. Pedipalps: femur (male), length 0.60, breadth 0.14 (4.3 ×); tibia, length 0.45, breadth 0.15 (3 ×); hand, length 0.45, breadth 0.23 (1.9 ×, chela 4.2 respectively 4 ×); fingers, length 0.57; femur (female), length 0.75, breadth 0.16 (4.7 ×); tibia, length 0.50, breadth 0.17 (3 ×); hand, length 0.56, breadth 0.28 (2 ×, chela 4.1 respectively 4 ×); fingers, length 0.65. Fingers much longer than hand with pedicel and as long as femur without pedicel or a little longer, with 34 to 36 marginal and nine accessory teeth.

Palau (Koror): Length of body (male) 1.4, (female) 1.8. Pedipalps: femur (male), length 0.53, breadth 0.14 (3.8 ×); tibia, length 0.39, breadth 0.14 (2.8 ×); hand, length 0.43, breadth 0.23 (1.9 ×, chela 3.9 respectively 3.6 ×); fingers, length 0.50; femur (female), length 0.62-0.69, breadth 0.15-0.16 (4.2-4.3 ×); tibia, length 0.46-0.50, breadth 0.155-0.16 (2.9-3.1 ×); hand, length 0.50-0.54, breadth 0.28 (1.8-1.9 ×, chela 3.8-4 respectively 3.5-3.9 ×); fingers, length 0.56. Fingers as long as femur without pedicel and longer than hand, with 27 to 29 marginal and six to seven accessory teeth.

Ponape (fig. 10, *c, d*): Length of body (male) 1.9, (female) 2. Pedipalps: femur (male), length 0.66, breadth 0.16 (4.1 ×); tibia, length 0.49, breadth 0.175 (2.8 ×); hand, length 0.50, breadth 0.28 (1.8 ×, chela 3.8 respectively 3.6 ×); fingers, length 0.58; femur (female), length 0.72, breadth 0.16 (4.5 ×); tibia, length 0.55, breadth 0.18 (3 ×); hand, length 0.57, breadth 0.32 (1.8 ×, chela 3.7 respectively 3.5 ×); fingers, length 0.64. Fingers distinctly longer than hand with pedicel, but a little shorter than femur without pedicel, with 35 marginal and nine accessory teeth.

Kusaie (fig. 11, *a, b*): Length of body (male) 1.6, (female) 2. Pedipalps: femur (male), length 0.57, breadth 0.13 (4.4 ×); tibia, length 0.43, breadth 0.14 (3.1 ×); hand, length 0.43, breadth 0.21 (2 ×, chela 4.3 respectively 4.1 ×); fingers, length 0.51; femur (female), length 0.68, breadth 0.17 (4 ×); tibia, length 0.50, breadth 0.17 (2.9 ×); hand, length 0.53, breadth 0.28 (1.8 ×, chela 4 × respectively 3.8 ×); fingers, length 0.63. Fingers distinctly longer than hand with pedicel, as long as femur without pedicel, with 34 to 35 marginal and eight accessory teeth.

Marshall Islands (fig. 11, *c, d*): Length of body (male) 1.2, (female) 1.7. Pedipalps: femur (male), length 0.50, breadth 0.13 (3.9 ×); tibia, length 0.39, breadth 0.14 (2.8 ×); hand, length 0.40, breadth 0.23 (1.8 ×, chela 3.7 respectively 3.4 ×); fingers, length 0.45; femur (female), length 0.62-0.63, breadth 0.16 (3.9 ×); tibia, length 0.46, breadth 0.18 (2.6 ×); hand, length 0.50-0.51, breadth 0.28 (1.9 ×, chela 3.6 respectively 3.4 ×); fingers, length 0.52-0.58. Fingers scarcely or a little longer than hand, mostly shorter than femur without pedicel, with 32 to 37 marginal and seven to 10 accessory teeth.

17. *Geogarypus (Geogarypus) micronesiensis* Morikawa.

Geogarypus micronesiensis Morikawa, 1952, Ehime Univ., Mem. II, 1(3): 245, figs. 4, 5C.

DISTRIBUTION: Marcus I. Not represented in the studied material.

The species with the carapace partially whitish can be distinguished by the following key.

1. Smaller, body of female at most 2 mm. in length; serrula with 17 to 18 blades; fixed palpal finger with 10 accessory teeth at most..... 2
Greater, body more than 2 mm. in length; serrula with 19 blades; fixed palpal finger with 12 accessory teeth (Kelantan).....G. (G.) *elegans* (With)
- 2(1). Pedicel of palpal femur short but always distinct..... 3
Pedicel of palpal femur indistinct (Hawaii).....G. (G.) *personatus* (Simon)

- 3(2). Carapace dark brown in whole anterior part to posterior eyes..... 4
 Carapace almost entirely whitish yellow, with only a small dark median spot
 between eyes (Marcus I.).....**G. (G.) micronesiensis** Morikawa
- 4(3). Palpal fingers always more or less shorter than femur, with 37 marginal
 teeth at most; serrula with 17 blades (*G. javanus*)..... 5
 Palpal fingers as long as femur, each with 40 marginal teeth; serrula with
 18 blades (Ellice Is.).....**G. (G.) longidigitatus** (Rainbow)
- 5(4). Trochanter of palps with a flat tubercle laterodistally; palpal femur medially
 not sharply removed from pedicel..... 6
 Trochanter of palps without a tubercle laterodistally; palpal femur medially
 gradually removed from pedicel (Java).....**G. (G.) javanus javanus** (Tullgreen)
- 6(5). Palpal fingers each with 27 to 37 marginal teeth, fixed fingers with six to
 nine accessory teeth; tactile seta *st* of movable finger in or near middle
 between *sb* and *t* (Formosa, Micronesia).....**G. (G.) javanus formosanus** Beier
 Palpal fingers each with 20 marginal teeth, fixed fingers with six to seven
 accessory teeth; tactile seta *st* of movable finger considerably nearer to *sb*
 than to *t* (Malaya).....**G. (G.) javanus audyi** Beier

Subgenus **Indogarypus** Beier, new subgenus

The species *Geogarypus angulatus* Chamberlin, *G. indicus* (Beier), and *G. palauanus* new species, of which the two first ones have belonged until now to the subgenus *Geogarypus s. str.*, may be separable as a new subgenus according to the following characters: The posterior transverse furrow of carapace near the base, with the sides bent orally and flattened laterally; the vestitural bristles of the pedipalps short but relatively distinct, the medial ones slightly clavate; the pedipalps with several larger bristle-bearing granules besides the dense granulation. Chela more or less precipitously narrowed medially at the base of the fingers, never fluently turned into the fingers as in *Geogarypus s. str.* The legs are stouter than in *Geogarypus s. str.* and the tarsal joints are not so well limited; the femur of the fourth pair is steeply broadened basally. The species are distributed in the Indo-Australian area.

Type of subgenus: *Geogarypus indicus* (Beier).

18. **Geogarypus (Indogarypus) palauanus** Beier, n. sp. (fig. 12, *a-d*).

Carapace somewhat larger than long, dark brown and sharply granulate in oral half up to anterior transverse furrow, which is rather shallow; the brown and granulate area extends laterally as a stripe, which is narrowed posteriorly, up to posterior angles and includes a broad trapezoid basal field, which is pale yellowish brown and shallowly granulate; this field bears anteriorly behind submedian transverse furrow a scutiform median area, which is somewhat more roughly granulate; posterior transverse furrow close to posterior border, narrow, with sides bent orally and flattened laterally. Cucullus rather long, longitudinally sulcated anteriorly. Eyes normal. Palpal coxae only narrowly visible in dorsal aspect. Abdominal tergites chiefly pale yellowish brown, densely and shallowly granulate in pale parts and more roughly granulate in darker parts, with 10 short but relatively distinct marginal bristles. Each tergite with a brown spot laterally, which is extended medially along anterior border, especially long on second segment; first to third tergite, moreover, with a median spot, which is a longish stripe on the first segment, large triangular on the second, and small triangular on the third; fourth to ninth tergites each with a pair of submedian spots which are connected together along anterior margin by a paler brown transverse band, which is broadened triangularly caudad, especially on

posterior segment; from fifth to ninth tergites is the submedian spot also connected with the lateral one; tenth tergite entirely brown. Sternites each with a brown submedian spot. Galea of male simple bristle-shaped. Pedipalps very densely and roughly granulate, with several larger bristle-bearing granules, the bristles short but distinct, medial ones bent and a little clavate. Femur shortly pedicellate, 3.3 times (female) to 3.7 times (male), tibia 2.6 to 2.7 times, hand 1.6 to 1.7 times, chela with pedicel 3.4 to 3.6 times, without pedicel 3.2 times (female) to 3.4 times (male), longer than broad. Hand with a distinct swelling medially at base of fingers and, therefore, rather abruptly narrowed to fingers. Fingers longer than hand, but shorter than femur; fixed finger with 32 rather close marginal teeth, of which nine stand out of the row; movable ones with 28 rather close

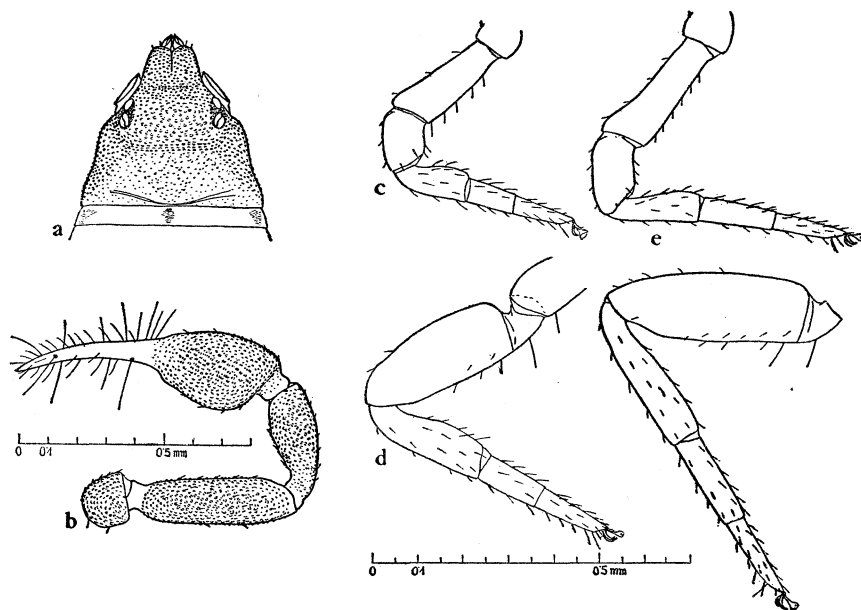


FIGURE 12.—a-d, *Geogarypus palauanus*, male: a, carapace; b, right pedipalp; c, fore leg; d, hind leg. e, f, *Geogarypus javanus formosanus*: e, fore leg; f, hind leg.

teeth, which are blunt and smaller proximally. Distribution of tactile setae as in *Geogarypus s. str.* Legs relatively stout, tarsal segments not sharply separate; femur of posterior legs abruptly pedicellate basally.

Measurements (in millimeters): Length of body (male and female) 1.5. Carapace, length 0.55, breadth basally 0.62. Pedipalps: femur (male), length 0.59, breadth 0.16; tibia, length 0.43, breadth 0.16; hand, length 0.47, breadth 0.27; fingers, length 0.52; femur (female), length 0.51, breadth 0.155; tibia, length 0.40, breadth 0.155; hand, length 0.41, breadth 0.25; fingers, length 0.47. Leg I: basifemur, length 0.29, telofemur, length 0.13, tibia, length 0.17, metatarsus, length 0.11, telotarsus, length 0.13; leg IV: femur, length 0.44, tibia, length 0.29, metatarsus, length 0.14, telotarsus, length 0.16.

PALAU. BABELTHUAP: Ulimang, Dec. 1947, Dybas (allotype). KOROR: Nov. 1947, Dybas (type male, US).

DISTRIBUTION: Western Caroline Is. (six specimens).

This new species differs from *G. (I.) angulatus* Chamberlin and from

G. indicus (Beier), both from India, in that the body is much smaller, the palpal hand is not so abruptly narrowed mediolaterally, and the palpal femur is more slender.

SUBORDER CHELIFERINEA

FAMILY CHEIRIDIIDAE

Genus *Nesocheiridium* Beier, new genus

Integument, especially dorsally, equally and rather sparsely but coarsely granulate, the granules connected to a network by radiating ledges. Vestitural bristles relatively long and stout, strongly arcuate. Carapace conically narrowed, with cucullus short, submedian transverse furrow deep and humeral angles perceptible. Eyes present. Over 10 abdominal tergites visible from above, the eleventh dislodged ventrally and fused with the ultimate sternite; the ventral anal pore large and circular. Pedipalps slender, femur plainly pedicellate. Movable palpal finger with two tactile setae in proximal half. Fixed finger with a granulate swelling basally, the tactile setae *ib* and *isb* dislocated distally near middle of finger. Posterior coxae slender, scarcely broadened distally. Femora of legs, indistinctly divided, appear as a unit. Tarsus about as long as tibia.

Genotype: *Nesocheiridium stellatum*, new species.

Mariana Islands.

The new genus belongs to the Cheiridiinae and is, within this, closely related to the genus *Cheiridium* Menge. Both genera have the following characters in common: Only 10 abdominal tergites are visible from above and the movable palpal finger has two tactile setae. The new genus is, however, distinguished from *Cheiridium* by the integument being roughly stellate, by the vestitural bristle, being considerably longer and stouter, by the cucullus being shorter, by the palpal femur being more abruptly pedicellate, by the tactile setae *ib* and *isb* being dislocated distally, and by the fixed palpal finger with a granulate swelling basally.

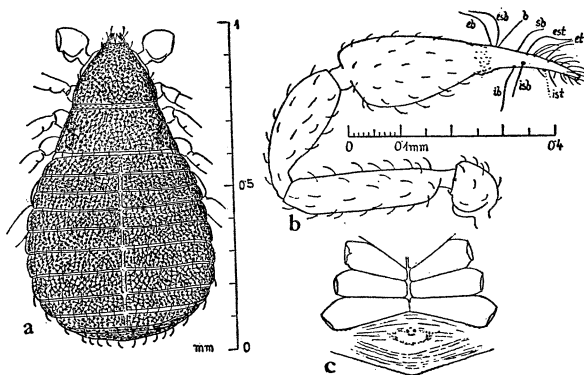


FIGURE 13.—*Nesocheiridium stellatum*, male: a, dorsal view; b, left pedipalp; c, genital area with coxae.

19. Nesocheiridium stellatum Beier, n. sp. (fig. 13).

Unicolorous, yellowish brown. Integument uniformly roughly granulate, the granules connected together by radiant ledges. Coxae and abdominal sternites also granulate, but the latter stellate only laterally. Carapace a little shorter than broad at posterior margin, conically narrowed forward, a little corded laterally in middle, with cucullus short and sulcate and humeral angles weak but perceptible; submedian transverse furrow deep and sharply incised, nearly straight. Eyes small but well developed. Only 10 abdominal tergites visible from above, each divided with the posterior margin smooth; each half tergite with five to seven rather long, stout, arcuate marginal bristles. Eleventh tergite dislodged ventrally, covered by tenth and fused with eleventh sternite. Ventral anal pore large, circular. Pedipalps longer than body, slender, densely and roughly granulate inclusive of hand; vestitural bristles rather long and stout, clavate. Trochanteral tubercle rounded. Femur abruptly pedicellate, 4.4 times, tibia 2.9 times, hand two times, chela with pedicel 3.6 times, without pedicel 3.4 times, longer than broad. Fingers a little shorter than hand without pedicel, fixed finger with a granulate swelling mediobasally. Fixed finger with seven tactile setae, *ib* and *isb* rather far distally from swelling, *est* and *et* approximate. Movable finger with two tactile setae in proximal half. Distal bristles of fingers long. Coxal area broadened caudally, posterior coxae nearly three times longer than broad, a little broadened distally, almost grown together. Femora of legs indistinctly divided.

Measurements (in millimeters). Length of body (male) 0.90. Carapace, length 0.32, breadth 0.37. Pedipalps: femur, length 0.335, breadth 0.075; tibia, length 0.265, breadth 0.092; hand, length 0.28, breadth 0.135; fingers, length 0.21.

S. MARIANA IS. SAIPAN: Pidos Kalahe, Mt. Magpi, summit, under rock, Mar. 1, 1945, H. S. Dybas (type male, CM).

DISTRIBUTION: Southern Mariana Is. (one specimen).

FAMILY ATEMNIDAE

20. Paratemnus philippinus Beier.

Paratemnus philippinus Beier, 1932, Zool. Jahrb., Abt. Syst. 62(5/6): 573, fig. 10; 1932, Das Tierreich 58: 43-44, fig. 52.

DISTRIBUTION: Philippine Is., Bonin Is. (Two specimens.)

BONIN IS. CHICHI JIMA: Mt. Mikatsuki, July 1949, A. R. Mead.

This species is very similar to *P. salomonis* Beier but has the femur of the pedipalps distinctly more coarsely granulate.

21. Paratemnus salomonis Beier (fig. 14).

Paratemnus salomonis Beier, 1935, Ann. Mag. Nat. Hist. X, 16: 639-640, fig. 2; 1940, Zool. Jahrb., Abt. Syst. 74(3): 167.

DISTRIBUTION: Solomon Is., southern Mariana Is., Caroline Is. (Sixty-two specimens.)

S. MARIANA IS. SAIPAN: As Mahetog area, May 1945, Dybas.

PALAU. BABELTHUAP: Gakip, July 1946, Townes; Ulimang and Ngerhelong, Dec. 1947, Dybas. KOROR: Nov.-Dec. 1947, Dybas. NGERGOI (Garakayo): Aug. 1945, E. Hagen. PELELIU: North central part, July 1945, Dybas.

TRUK. TONOAS (Natsu Shima): Dec. 1935, Y. Kondo.

PONAPE. Nanue, Aug. 1950, P. A. Adams; north Ponape, light trap, Jan. 1953, Gressitt.

Typical specimens of this species, which was described in the male sex only from the Solomon Islands (Rendova I., Boraboni I.), have measurements (in millimeters) as follows: Body, length (male) 3.3-3.5, (female) 3.7-4. Pedipalps: femur (male), length 0.70, breadth 0.33; tibia, length 0.70, breadth 0.39; hand, length 0.81, breadth 0.49; fingers, length 0.57; femur (female), length 0.71, breadth 0.33; tibia, length 0.71, breadth 0.38; hand, length 0.85, breadth 0.51; fingers, length 0.60. The chaetotaxy of the abdominal segments is vari-

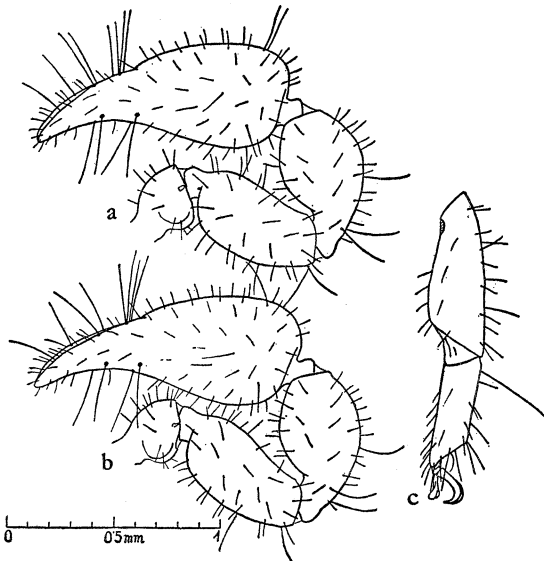


FIGURE 14.—*Paratemnus salomonis*: a, pedipalp, male; b, pedipalp, female; c, tibia and tarsus of fourth leg.

able and not always constant in both sides; the fundamental formula is about as follows: (male) 8: 2: 2: 2: 2, etc., female 10: 10: 2: 2: 2, etc.

$$\frac{8}{8} \quad \frac{2}{8} \quad \frac{2}{8} \quad \frac{2}{10} \quad \frac{2}{10}, \text{ etc.} \quad \frac{10}{8} \quad \frac{10}{10} \quad \frac{2}{10} \quad \frac{2}{10} \quad \frac{2}{10}, \text{ etc.}$$

They probably belong to the specimens from the Marshall Islands, which were mentioned as *P. insularis* Beier or *P. histrionicus* Chamberlin, and to *P. salomonis*.

22. *Oratemnus samoanus samoanus* Beier.

Oratemnus samoanus Beier, 1932, Zool. Jahrb., Abt. Syst. 62(5/6): 593, fig. 16; 1932, Das Tierreich 58: 61, fig. 75.—Chamberlin, 1934, B. P. Bishop Mus., Occ. Papers 10 (22): 8; 1939, B. P. Bishop Mus., Bull. 142: 212-215.—Beier, 1940, Zool. Jahrb., Abt. Syst. 74 (3): 168.

DISTRIBUTION: Samoa, Marquesas Is., Marshall Is. (Four specimens.)

MARSHALL IS. TAKA: Watwerok, Dec. 1951, Fosberg. POKAK: Kamome, July 1952, Fosberg.

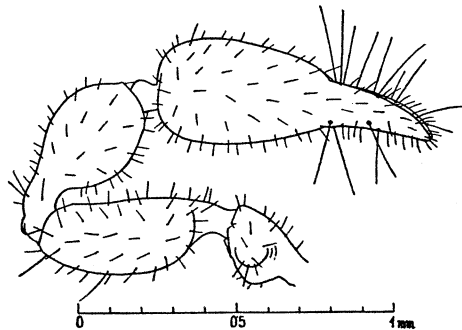


FIGURE 15.—*Oratemnus samoanus whartoni*, pedipalp of male.

23. *Oratemnus samoanus whartoni* Chamberlin (fig. 15).

Oratemnus whartoni Chamberlin, 1947, B. P. Bishop Mus., Occ. Papers 18 (20): 308-312, fig. 2, *a-e*.

DISTRIBUTION: Ryukyu Is., Volcano Is., southern Mariana Is., Caroline Is., Marshall Is. (One hundred seventy-eight specimens.)

RYUKYU IS. OKINAWA: Manna Gawa, Oct. 1945, F. N. Young.

VOLCANO IS. Iwo JIMA: Sept. 1945, H. S. Dybas.

S. MARIANA IS. SAIPAN: Garapan, Atchugau area, Laulau Bay area, As Mahetog area, Papago area, Mt. Tagpochau, and other localities, Nov. 1944-Aug. 1945, Dybas. TINIAN: Tinian Harbor, Gurgan Point, Lake Hagoi, and other localities, Mar.-Apr. 1945, Dybas. ROTA: Rota, June 1946, H. K. Townes. GUAM: Pt. Oca, Port Atayan, Asan, FEA Farm, May-June 1945, Apr. 1946, Nov. 1947, Dybas, Stuntz, Bohart, and Gressitt.

PALAU. BABELTHUAP: Airai, Jan. 1948, Dybas. KOROR: Sept. 1952, Krauss, Nov. 1947, Dybas.

YAP. YAP: Ruul District, Aug. 1952, R. J. Goss.

MARSHALL IS. ENIWETOK: Eniwetok, Nov. 1944, Dybas and S. A. Edgar; Japtan, Oct.-Nov. 1944, Dybas. POKAK: Sibylla, July 1952; Pokak, July 1952, F. R. Fosberg. TAKA: Lojiron, Dec. 1951, Fosberg. LIKIEP: Likiep, Dec. 1951, Fosberg. AILUK: Ailuk, Dec. 1951, Fosberg. WOTHO: Mar. 1952, Fosberg.

Oratemnus whartoni Chamberlin is only a subspecies of *O. samoanus* and differs from it slightly in the longer and more slender pedicel of the palpal femur, which is much more slender in the male than in the female, and in the number of bristles on the male operculum, which is generally smaller.

24. *Stenatemnus kraussi* Beier, n. sp. (fig. 16).

Carapace and abdominal tergites pale yellowish brown, pedipalps rather pale reddish brown, trochanter more yellowish. Carapace a little longer than broad, smooth, with a sharply incised transverse furrow near middle and with 54 bristles, of which two are on front, eight on posterior, border. Eye spots wanting. Abdominal tergites weakly sclerotized, divided, except the ultimate; chaetotaxy: (male) 10: 10: 10: 10: 8: 8: 8: $\frac{6}{6}$ $\frac{6}{6}$

8: 8: 8: 8; (female) 12: 14: 14: 8: 8: 8: 8: 8: 8: 8: 8: 8; discal bristles much $\frac{8}{8}$ $\frac{8}{6}$ $\frac{6}{6}$ $\frac{12}{12}$ $\frac{12}{12}$ $\frac{12}{12}$ $\frac{12}{12}$ $\frac{12}{12}$ $\frac{12}{12}$

longer than marginal bristles; penultimate tergite with four, ultimate with two, very long tactile bristles, ultimate and penultimate sternite similar. Palm of chelicera with

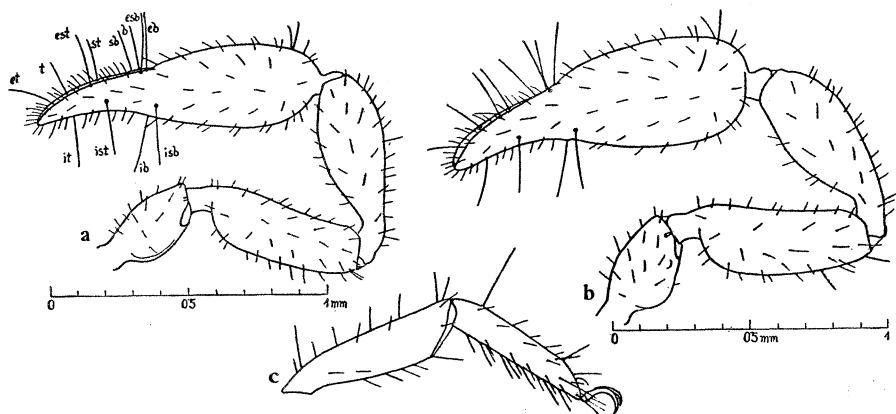


FIGURE 16.—*Stenatemnus kraussi*: a, pedipalp, male; b, pedipalp, female; c, tibia and tarsus, female.

four bristles. Flagellum with four blades, the distal one dentate asymmetrically, the penultimate with few very fine denticles. Serrula exterior with 23 blades. Galea of male nearly simple, bristle-like, of female with five short branches in distal third, the proximal one the longest, the two apical ones forming a terminal fork. Pedipalps especially in male relatively slender, femur medially densely and distinctly, tibia medially somewhat finer, hand mediodistally at base of fingers, indistinctly granulate; trochanter everywhere smooth, not granulate. Femur 3 (female) to 3.2 times (male), tibia 2.7 (female) to 3 times (male), hand 2 (female) to 2.3 times (male), chela with pedicel 3.1 (female) to 3.7 times (male), without pedicel 2.9 (female) to 3.5 times (male) longer than broad. Fingers only a little more than half as long as hand without pedicel, fixed ones with 31, movable ones with 38 marginal teeth. Distribution of tactile setae as usual in genus. Legs slender; femur of fourth pair 3.1 times, tibia 4 times, tarsus 5 times, longer than broad, the latter with a long tactile bristle near base. Claws slender.

Measurements (in millimeters): Length of body (male) 1.8, (female) 3. Pedipalps: femur (male), length 0.66, breadth 0.205; tibia, length 0.70, breadth 0.23; hand, length 0.69, breadth 0.30; fingers, length 0.48; femur (female), length 0.72, breadth 0.24, tibia, length 0.71, breadth 0.26; hand, length 0.78, breadth 0.39; fingers, length 0.49. Leg IV: femur, length 0.66, breadth 0.21; tibia, length 0.50, breadth 0.125; tarsus, length 0.40, breadth 0.08.

PALAU. ULEBSEHEL (Aurapushekaru): Sept. 1952, under bark, N. L. H. Krauss (type, US 2258). KOROR: Nov. 24 1947, H. S. Dybas (allotype male). BABELTHUAP: East Ngatpang, Dec. 1952, Gressitt (paratype, BISHOP).

DISTRIBUTION: Western Caroline Is. (three specimens).

The new species stands, with respect to the relative measurements of the pedipalps, between the closely related *S. fuchsi* (Tullgreen) from Sumatra and *S. annamensis* Beier from Annam. It differs from both in the palpal trochanter being smooth, the serrula exterior having 23 (instead of 24) teeth, and in the chaetotaxy. It differs from *S. fuchsi*, moreover, in the less slender palpal segments and in the palpal hand being indistinctly granulate mediolaterally; from *annamensis*, in the palpal segments being much more slender and the fingers relatively shorter.

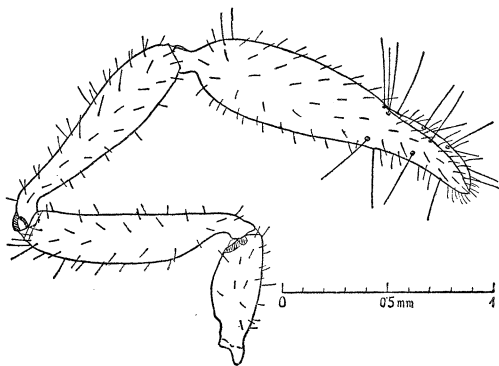


FIGURE 17.—*Stenatemnus procerus*, male, left pedipalp.

25. *Stenatemnus procerus* Beier, n. sp. (fig. 17).

Carapace about 1.2 times longer than broad, smooth, eyeless, intensively reddish brown before transverse furrow, which is situated near middle and is broad and sharply bordered, somewhat paler behind the furrow; posterior margin with six bristles. Chaetotaxy of the abdominal tergites: Male 8 (10): 8 (10): 8 (10): 6: 6: 6: 8: 8: 8: 8: 8;

female 10: 12: 12: 8: 8: 8: 8: 8: 8: 8: 8; the ultimate tergite with a pair of

$\frac{10}{10} \frac{10}{10} \frac{10}{10} \frac{10}{10} \frac{10}{10} \frac{10}{10}$

tactile bristles. Sternites in their greatest part with six premarginal and 10 marginal bristles, the tenth sternite with one, the eleventh with two, pairs of tactile bristles. Sternites 5 to 7 of male with a dense comb of long sense bristles on both sides at hind margin medially from first long marginal bristle. Palm of chelicera with four bristles. Galea slender, finely dentate apically in male. Pedipalps of male very slender, very densely and rather finely granulate medially on femur and tibia. Trochanter without tubercles posteriorly. Femur very thinly pedicellate, 4 to 4.4 times longer than broad; tibia extraordinarily slender, gradually clavate, 3.7 to 4.4 times, hand 2.6 to 2.9 times, chela with pedicel 4.1 to 4.3 times, without pedicel 3.8 to 3.9 times, longer than broad. Fingers scarcely more than half as long as hand with pedicel, the latter very narrow and long. Distribution of tactile setae normal. Female like that of *S. kraussi* and almost indistinguishable, except in lower number of vestitural bristles of abdominal tergites.

Measurements (in millimeters) femur (male), length 0.88-1.05, breadth 0.22-0.24; tibia, length 0.93-1.15, breadth 0.25-0.26; hand, length 0.89-1.04, breadth 0.35-0.37; fingers, length 0.57-0.58.

PALAU. BABELTHUAP: East Ngatpang, 65 m., Dec. 7-10, 1952, J. L. Gressitt (type male, US 2244, allotype female; paratypes, BISHOP, CM).

DISTRIBUTION: Western Caroline Is. (seven specimens).

The new species is characterized by the very elongate pedipalps of the male and is thereby similar to *S. fuchsi* (Tullgreen) from Sumatra and *S. extensus* Beier from Annam; it differs from both in the peculiar slender palpal femur, which is not broadened basally.

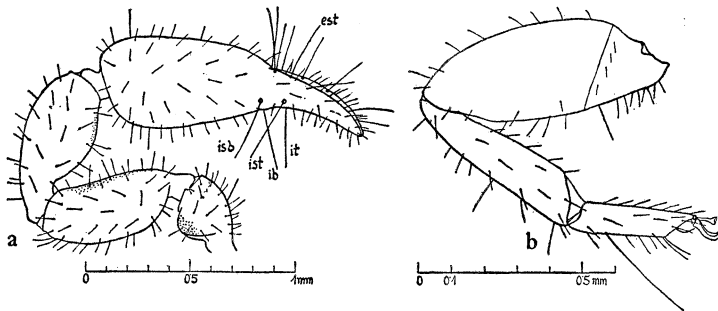


FIGURE 18.—*Haplochernes kraepelini*, female: a, left pedipalp; b, hind leg.

FAMILY CHERNETIDAE

26. *Haplochernes kraepelini* (Tullgreen). (Figure 18.)

Chelifer kraepelini Tullgreen, 1905, Mus. Hamburg, Mitt. 22: 40, fig. 2, a-d.—Ellingsen, 1910, Zool. Mus. Berlin, Mitt. 4 (2): 367.

Haplochernes kraepelini, Beier, 1932, Das Tierreich 58: 113, fig. 130.

Measurements (in millimeters). Pedipalps: femur (male), length 0.70, breadth 0.29; tibia, length 0.70, breadth 0.32; hand, length 0.83, breadth 0.41; fingers, length 0.60; femur, (female), length 0.73, breadth 0.30; tibia, length 0.74, breadth 0.33; hand, length 0.92, breadth 0.43; fingers, length 0.55. Leg IV: femur, length 0.75, breadth 0.29; tibia, length 0.59, breadth 0.15; tarsus, length 0.36, breadth 0.09.

DISTRIBUTION: Sunda Archipelago (Java), Caroline Is. (Nineteen specimens.)

PALAU. BABELTHUAP: Ulimang, Dec. 1947, Dybas. KOROR: Nov.-Dec. 1947, Jan. 1948, Dybas. PELELIU: Aug. 1945, Dybas.

CAROLINE ATOLLS. NUKUORO: Nukuoro, Aug. 1946, Townes.

The Caroline specimens agree very well with the typical specimens from Java, but the palpal hand seems to be somewhat narrower and the tibia and tarsus of the hind legs are slightly more slender.

27. *Haplochernes insulanus* Beier, n. sp. (figs. 19, 20).

Carapace very dark reddish brown to black brown, more or less clearer at the base, distinctly ovate, broadest near middle, very finely granulate, which is perceptible only when greatly enlarged microscopically; anterior transverse furrow very distinct and rather broad, strongly arched forward at sides; posterior furrow shallow or almost extinguished but always perceptible, triangularly enlarged caudally in middle. Eye spots indistinct. Anterior margin of carapace with four, posterior with six, bristles. Abdominal tergites dark yellowish brown, the anterior four or five and the tenth mostly incompletely divided, eleventh not divided, and others very narrowly divided; chaetotaxy: 2: 2: 2: 4: 4: 4: 4: 4: 6: T4T. Sternites brown, divided except last sternite, each $\overline{6 \ 6 \ 6 \ 6 \ 6 \ 6 \ 6 \ 6 \ 6 \ 6}$ with 10 to 12 marginal and two lateral and two medial bristles, the latter elongate on

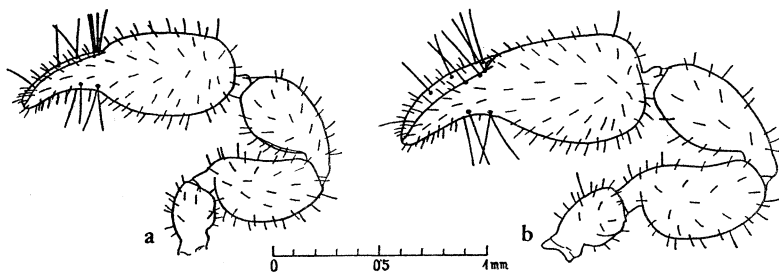


FIGURE 19.—*Haplochernes insulanus*: a, right pedipalp, male; b, right pedipalp, female.

tenth and eleventh sternites. Palm of chelicera with five bristles, *B* and *SB* dentate. Flagellum with three blades, the distal one dentate asymmetrically. Serrula exterior of male with 22, of female with 23 to 24, blades. Galea long, with six branches, which decrease in length distally, the two longest subbasal ones close together, the two medial ones one after another, and finally the short terminal fork; the galea is scarcely variable and almost the same in female and male, the branches in male only a little shorter. Pedipalps very dark reddish brown to black brown in adults, trochanter, pedicels and tops of femur and tibia, also the fingers, clearer reddish; pedipalps of nymphs pale yellowish brown, but chela blackish brown. Femur medially, and hand mediolaterally at base of fingers, distinctly granulate, tibia flat and indistinctly granulate medially. Ventral tubercle of trochanter flat, the dorsal one small. Femur of male 2 to 2.1 times, of female 1.9 to 2 times, tibia of male 1.9 to 2 times, of female 2 to 2.1 times, hand of male 1.7 to 1.8 times, of female 1.5 to 1.6 times, chela with pedicel 2.7 to 2.8 times in male, 2.5 to 2.6 times in female, without pedicel 2.6 to 2.7 times in male and 2.3 to 2.4 times longer than broad in female. Hand, especially in female, thicker than broad (1.2 times) and only 1.3 times longer than thick. Fingers considerably shorter than hand without pedicel and only about 1.2 times longer than their breadth, in female scarcely as long as hand is thick, each with about 45 marginal teeth; accessory teeth present only laterally, namely nine to 10 on both fingers. Movable finger with venomous tooth long. Tactile setae *ib*, *isb*, *ist*, and *it* by pairs united near base of fixed finger, *est* close to *eb* and *esb*; distal half of fixed finger bears, therefore, tactile seta *et* only; *ist* at most as far from *isb* as *st* from *sb*. Tactile seta *st* of movable finger halfway between *sb* and *t*. Legs stout, femur of fourth pair 2.7 times, tibia 3 times, tarsus 2.7 to 2.8 times (female) or 3 times (male) longer than broad; the tactile seta of latter stands at beginning of second third. Operculum of genital area of male with a paired proximal cluster of 10 to 11 long bristles each, like the whiskers of a seal, a median transverse row of six and an area of nine to 10 scattered and slender bristles caudally. Egg parcel small, regularly with four to six eggs only.

Measurements (in millimeters). Length of body (male) 2.4-2.8, (female) 3.2-3.7. Pedipalps: femur (male), length 0.55-0.62, breadth 0.27-0.29; tibia, length 0.56-0.62, breadth 0.29-0.31; hand, length 0.68-0.70, breadth 0.39-0.42; fingers, length 0.41-0.48; femur (female), length 0.62-0.72, breadth 0.32-0.38; tibia, length 0.66-0.76, breadth 0.32-0.39; hand, length 0.75-0.80, breadth 0.48-0.50; fingers, length 0.53-0.60. Leg IV: femur (male), length 0.57, breadth 0.23; tibia, length 0.44, breadth 0.13; tarsus, length 0.28, breadth 0.095; femur (female), length 0.70-0.72; tibia, length 0.48-0.52, breadth 0.15-0.17; tarsus, length 0.34, breadth 0.12.

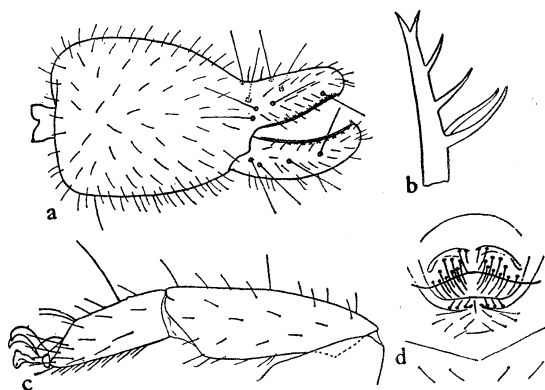


FIGURE 20.—*Haplochernes insulanus*: a, right chela, female, lateral view; b, galea; c, tibia and tarsus of hind leg, female; d, genital area, male.

S. MARIANA IS. SAIPAN: Papago area, Jan. 1945; Talofoto ridge, Jan. 1945; Halaihai-As Teo area, Feb. 1945; Mt. Tagpochau, 375 m., Feb. 1945; Tuturam, Laulau Bay, Jan. 1945; Hagman Point area, Apr. 1945; As Lito-I Fadang area, Dec. 1944, Dybas and Edgar. TINIAN: Mt. Lasso, Mar. 1945, Dybas; Marpo Valley, Apr. 1945, Dybas. GUAM: Fadang, May 1945, Dybas; Pt. Oca, June 1945, Dybas; Ritidian Pt., Oct. 1952, Krauss (paratypes, US, BISHOP, CM).

PALAU. BABELTHUAP: Ulimang, Dec. 1947, Dybas; Ngatpang and Ngaremeskang, Dec. 1952, Gressitt. KOROR: Nov. 1947, Jan.-Feb. 1948, Dybas, June 1953, Beardsley. NGIRAMAOUS: Nov. 1947, Dybas. NGERGOI (Garakayo): Aug. 1945, Dybas. PELELIU: Many localities on east, northeast, and north coasts and north central Peleliu, July-Aug. 1945, Jan. 1945, Dybas and Hagen.

YAP. YAP: Yaptown, Mt. Matade, Mar., Oct., Dec. 1952, Gressitt, Krauss.

TRUK. TON (Tol): Mt. Unibot, 300-390 m., Dec. 1952-Feb. 1953, J. L. Gressitt (type, US 2243, and paratypes).

PONAPE. Mt. Dolennankap, 510-570 m., Aug. 1946, H. K. Townes; Mt.

Temwetemwensekir, 150-300 m., Feb. 1948, Dybas, Jan. 1953, Gressitt; airfield, July 1950, Adams; Nanponmal, Jan. 1953, Gressitt.

KUSAIE. Malem River, 90 m., Mt. Matante, 90 m., Tafunsak, Mar. 1953, Clarke.

MARSHALL IS. ENIWETOK: Japtan, Nov. 1944, Dybas.

DISTRIBUTION: Micronesia (162 specimens).

This species is closely related to *H. warburgi* (Tullgreen) from Java; but it is larger, with the integument dark reddish brown and the pedipalps distinctly granulate medially. It is easily distinguished from *H. atrimanus* (Kästner) from Samoa by the smaller body, by the distinct anterior transverse furrow of the carapace, by the absence of accessory teeth medially on the palpal fingers, and by the less numerous branches of the galea and the legs, which are not so stout.

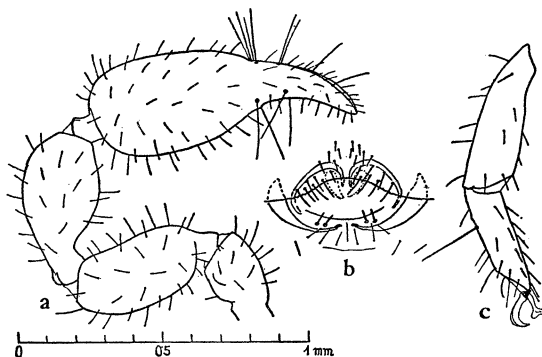


FIGURE 21.—*Haplochernes boninensis*, male: a, left pedipalp; b, genital area; c, tibia and tarsus of hind leg.

28. *Haplochernes boninensis* Beier, n. sp. (fig. 21).

Carapace reddish brown, clearer basally, longer than broad, distinctly ovate, broadest near middle, absolutely smooth and without any trace of granulation; both transverse furrows very distinct and sharply incised, of same breadth; posterior one situated halfway between anterior furrow and base, with caudal margin irregular; posterior margin with six bristles. Eye spots perceptible but indistinct. Abdominal tergites smooth, the first to the fourth and the tenth and eleventh not, the others very imperfectly, divided; chaetotaxy: 2: 2: 2: 2: 2: 4: 4: 6: 6: 8: T4T. Bristles rather long and strong, finely

$$\frac{8}{8} \frac{6}{6} \frac{6}{6} \frac{6}{6} \frac{6}{6} \frac{6}{6} \frac{8}{8} \frac{8}{8} \frac{10}{10} \frac{6}{6}$$

dentate distally. Only tenth sternite completely divided. Median sternites each with six marginal, two lateral, and two discal bristles. Discal bristles of tenth and eleventh sternites and lateral bristles of eleventh elongate. Third blade of flagellum distally with one or two denticles. Serrula exterior with 19 teeth. Galea with three pairs of branches or median branch unpaired and dorsobasal forked. Pedipalps stout, reddish brown, the hand darker, trochanter and ends of femur and tibia clearer reddish. Bristles of pedipalps longer than in *H. insulanus*. Femur finely granulate dorsally and mediobasally only, smooth mediobasally as is whole tibia; hand slightly granulate mediodistally at base of fingers. Femur 2.2 times, tibia two times, hand 1.9 times, chela with pedicel 2.8 times and without pedicel 2.6 times longer than broad. Fingers relatively a little longer than in *H. insulanus*, distinctly

curved; tactile seta *ist* of fixed finger a little farther removed from *isb* than in *H. insulanus*, as far from *isb* as *st* from *sb*. Legs somewhat more slender than in *H. insulanus*, femur of fourth pair 2.7 times, tibia 3.2 times, and tarsus 3.2 times, longer than broad, the tactile seta of latter situated rather widely proximad of middle of joint. Operculum of male genital area with border denticulate laterally and with a paired cluster each of 12 to 13 rather long bristles, which are, however, distinctly shorter than in *H. insulanus*; the median transverse row has only six bristles, the dispersed caudal group four.

Measurements (in millimeters). Length of body (male) 2.4. Pedipalps: femur, length 0.52, breadth 0.24; tibia, length 0.52, breadth 0.26; hand, length 0.65, breadth 0.35; fingers, length 0.43.

BONIN IS. CHICHI JIMA: July 1951, R. M. Bohart (type, US 2257).

DISTRIBUTION: Bonin Is. (one specimen, male).

This species is very closely related to *H. insulanus*; but it is smaller, with the carapace and palpal tibia absolutely smooth and the femur granulate only dorsally and mediobasally, smooth mediodistally. The posterior furrow of the carapace is sharply incised, the tergites at most incompletely divided, the eighth and ninth tergites with discal bristles, and the serrula with only 19 blades.

Genus *Teratochernes* Beier, new genus

Rather large and relatively slender. Carapace distinctly longer than broad, smooth, with both transverse furrows shallow and not sharply bordered, the hind one somewhat more deeply incised and situated a little nearer to posterior margin than to submedian furrow; eye spots easily perceptible, situated rather far orally. Abdominal tergites narrowly divided except first and last, entirely smooth and, therefore, brilliant like the carapace. Vestitural bristles relatively long, finely denticulate apically only, those of posterior segments elongate and acute. Ultimate and penultimate segments with long tactile bristles. Sternites smooth. Pleural membrane with short, partially connected ridges. Palm of chelicera with five bristles, *B* and *SB* acute, scarcely denticulate. Flagellum with three blades, two distal ones long and serrate one-sided. Pedipalps of male nearly twice as long as body, smooth laterally, finely leather-like granulate elsewhere, with bristles relatively long and thin, very finely denticulate apically at most. Tubercles of trochanter reduced. Femur gradually clavate, broadest subapically. Tibia of male long, particularly club-shaped, thickened ventrally. Hand of male extraordinarily long and narrow, with pedicel not sharply removed. Fingers scarcely gaping, with accessory teeth, the movable one with venomous apparatus. Tactile seta *ist* of fixed finger close to *ib* and *isb*, twice as far from *it* as from *isb*; *it* near top of finger, *est* in basal third a little distad of *ist*; *st* of the movable finger much closer to *sb* than to *t*. Coxae entirely smooth; hind coxae short. Legs very slender; tarsus of fourth pair with a subbasal sense dome and a long tactile bristle proximal of middle. Claws simple, slender. Subterminal bristle simple.

Genotype: *Teratochernes mirus*, new species.

Caroline Islands.

This new genus belongs to the Chernetini but stands quite isolated within the tribe, having no close affinity with any genus hitherto known. It resembles *Haplochernes* and *Thalassochernes* but differs from both in the particular shape of the pedipalps and the distribution of the tactile setae (*ist* far basally, *it* far distally, near *et*). It has a deceptive resemblance to the Atemnidae because of the chiefly smooth integument and the long vestitural bristles.

29. *Teratochernes mirus* Beier, n. sp. (figs. 22; 25, a).

Carapace about one-fourth longer than broad, dark reddish brown, somewhat paler basally, smooth, with numerous moderately long, but very finely denticulate bristles, of which six are on the posterior margin; transverse furrows distinct but not deep, not sharply bordered; posterior furrow, which lies somewhat closer to posterior margin than to submedian furrow, a little deeper. Eye spots small but distinct, far forward. Abdominal tergites dark brown, entirely smooth, narrowly divided except first and last; each half tergite with three marginal and one lateral border bristle; two lateral marginal bristles close together; all the bristles thin and finely dentate; bristles of ultimate and penultimate tergites very elongate and almost simple; ultimate tergite with a pair of lateral tactile bristles and two long discal bristles. Sternites with four to five marginal bristles, those of ultimate sternite elongate. Anal conus with a pair of microchaetae dorsally and ventrally. Palm of chelicera with five bristles, *B* and *SB* acute, scarcely denticulate. The two distal blades of flagellum long and one-sided serrate. Serrula exterior with 21 teeth. Galeal bristle reaches tip of galea. Galea in male with six rather long branches, of which

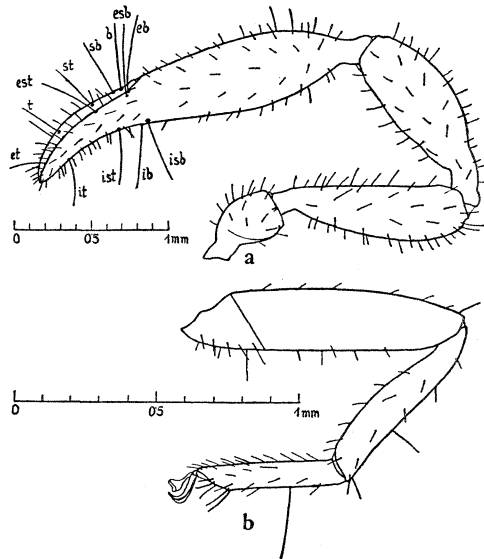


FIGURE 22.—*Teratochernes mirus*, male: a, right pedipalp; b, hind leg.

proximal one arises near middle. Pedipalps almost twice as long as body, smooth laterally, rather densely and finely leather-like granulate. Tubercles of trochanter flat. Femur gradually clavate, broadest subapically, 3.5 times longer than broad. Tibia three times longer than broad, with club relatively long and thickened ventrally. Hand very long and narrow, running into pedicel, 3.3 times, whole chela with pedicel 5 times, without pedicel 4.5 times, longer than broad. Fingers 1.7 times shorter than hand with pedicel, but subapically a little gaping, each with 65 to 67 small, blunt, and close marginal teeth; accessory teeth are present on fixed finger, laterally five, medially two, on movable finger laterally six to seven, medially one; medial accessory teeth subapical. Distribution of tactile setae as in diagnosis of genus. Legs slender, femur of fourth pair 4.5 times, tibia 5.2 times, tarsus 5.7 times, longer than broad, latter with long tactile bristle somewhat proximal of middle.

Measurements (in millimeters). Length of body (male) 2.8 to 3.3. Pedipalps: femur,

length 1.25, breadth 0.35; tibia, length 1.28, breadth 0.43; hand, length 1.55, breadth 0.47; fingers, length 0.91. Leg IV: femur, length 1.0, breadth 0.22; tibia, length 0.68, breadth 0.13; tarsus, length 0.52, breadth 0.09.

PONAPE. Mt. Nanalaud, 300-600 m., Mar. 18, 1948, H. S. Dybas (type, US; paratype, CM).

DISTRIBUTION: Eastern Caroline Is. (two specimens, males).

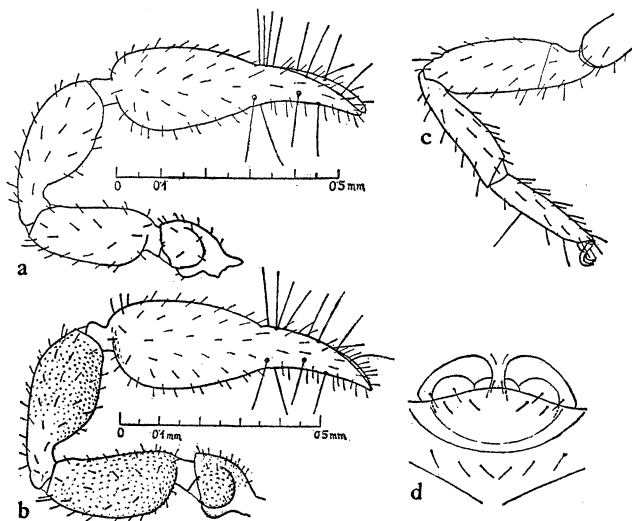


FIGURE 23.—*Verrucachernes oca*: a, left pedipalp, male; b, left pedipalp, female; c, fourth leg, male; d, genital area, male.

30. *Verrucachernes oca* Chamberlin (fig. 23).

Verrucachernes oca Chamberlin, 1947, B. P. Bishop Mus., Occ. Papers 18 (20) : 313-316, fig. 3, a-i.

Chaetotaxy of tergites rather variable; male usually has the following formula: $\frac{2: 2: 4: 4: 4: 4: 4: 4: 6: 6: T2T: 2m}{10 \quad 8 \quad 8 \quad 8 \quad 8 \quad 8 \quad 6 \quad 6 \quad 6 \quad 6 \quad 4}$; in the female are the extremes: $\frac{2: 4: 4: 6: 6: 6: 6: 6: 6: 6: T2T: 2m}{12 \quad 10 \quad 10 \quad 10 \quad 10 \quad 12 \quad 14 \quad 10 \quad 10 \quad 4}$ and $\frac{2: 4: 2: 4: 4: 6: 6: 6: 6: 6: T2T: 2m}{8 \quad 8 \quad 8 \quad 8 \quad 8 \quad 10 \quad 8 \quad 10 \quad 8 \quad 8}$

T2T: 2 m. Number of bristles of posterior margin of carapace fluctuates between eight and 10. Serrula exterior has 17 to 18 blades. Fixed palpal finger usually has 33 to 34, movable finger 35 to 38, marginal teeth. Accessory teeth present only medially, namely usually two on fixed finger and one on movable finger (fixed finger rarely has a single accessory tooth, movable rarely two). Egg parcel contains eight to 10 eggs.

Measurements (in millimeters). Body, length (male) 1.2-1.4, (female) 1.6-2. Pedipalps: femur (male), length 0.30-0.34, breadth 0.13-0.14; tibia, length 0.35-0.36, breadth 0.145-0.15; hand, length 0.37-0.38, breadth 0.18-0.19; fingers, length 0.27-0.30; femur (female), length 0.34-0.40, breadth 0.145-0.155; tibia, length 0.36-0.41, breadth 0.155-0.16; hand, length 0.37-0.45, breadth 0.21-0.225; fingers, length 0.30-0.32.

DISTRIBUTION: Micronesia (87 specimens).

S. MARIANA IS. SAIPAN: Halaihai-As Teo area, Jan. 1945, Dybas; As Mahetog area, Jan., Mar. 1945, Dybas; Sadog Talofogo, Talofogo area, Feb. 1945; Dybas. TINIAN: Northwest slope of Mt. Lasso, Mar. 1945, Dybas. GUAM: Pt. Oca and Agana, June 1945, Dybas.

PALAU. BABELTHUAP: Ulimang, Dec. 1947, Dybas; Ngatpang, Ngaremeskang, and Iwang, Dec. 1952, Gressitt. KOROR: Various localities, Nov. 1947, Jan. 1948, Dybas. NGERGOI (Garakayo): Aug. 1945, Dybas. PELELIU: East coast, Aug. 1945, Jan. 1948, and west coast, Feb. 1948, Dybas; Mt. Amiangal, Dec. 1952, Gressitt. ANGAUR: Feb. 1948, Dybas.

TRUK. TON (Tol): Mt. Unibot, 450 m., Jan. 1953, Gressitt.

PONAPE. Colonia, Jan. 1953, Gressitt, Clarke; Nanponmal, Jan. 1953, Gressitt; Mt. Kupuriso, 300-450 m., Mar. 1948, Dybas; Mt. Temwetemwensekir, 180 m., Jan. 1953, Gressitt; Nanpil, Nett District and Awakpah, Uh District, Mar. 1948, Dybas; Sokehs (Jokaj), Feb. 1948, Dybas; Peipalap, July 1950, P. A. Adams.

MARSHALL IS. ARNO: Ine, July 1950, La Rivers. UJAE: Bock, Feb. 1952, Fosberg; Ebeju, Mar. 1952, Fosberg, Oct. 1953, Beardsley.

This species, described from a single female from Guam, is widely distributed in Micronesia, as the new material shows. The specimens from Guam and from the Marshall Islands are generally noticeably smaller than those from the Caroline Islands. This is demonstrated in the following tabulation of the measurements of the pedipalps of the females:

| | GUAM AND MARSHALL ISLANDS | | PONAPE AND PALAU ISLANDS | |
|---------------|---------------------------|-------------|--------------------------|-------------|
| | length mm. | breadth mm. | length mm. | breadth mm. |
| femur | 0.328-0.35 | 0.146-0.15 | 0.38-0.40 | 0.155-0.165 |
| tibia | 0.364-0.37 | 0.153-0.16 | 0.39-0.41 | 0.155-0.17 |
| hand | 0.333-0.37 | 0.215-0.219 | 0.41-0.45 | 0.22 -0.225 |
| fingers | 0.295-0.32 | | 0.31-0.32 | |

I must note mention that my genus *Microchernes* (1951, Mus. Nat. Hist. Natur. Paris, Mém., new ser. A, 1:92) is identical and synonymous with *Verrucachernes* Chamberlin [1947, B. P. Bishop Mus., Occ. Papers 18 (20): 312]. *Verrucachernes* is, therefore, widely distributed in the Oriental Region. *V. oca* Chamberlin is very closely related to the two other species of the genus. It is distinguished from *V. orientalis* (Beier, 1951) from Cambodia by the smaller number of blades on the serrula exterior (17 to 18, respectively 20), by the presence of accessory teeth on the medial sides of the palpal fingers, by having the abdominal sternites not granulate but squamosely tessellate, and by the shape of the palpal hand and galea. It differs from *V. insularis* (Beier,

1953, Naturf. Gesell. Basel, Verh. 64: 81-88) from the Island of Sumba in the less clumsy palpal hand, in that the number of marginal teeth of the palpal fingers is somewhat less; in the number of accessory teeth being asymmetrical (2+1, respectively 2+2); in the tactile seta *ist* of the fixed finger being proximad of *est*; in the sternites being squamosely tessellate only, not granulate; and in the shape of the galea.

Genus *Smeringochernes* Beier, new genus

Carapace about as long as broad at posterior margin, not broadened caudally, very distinctly granulate everywhere, without eye spots, with anterior furrow mostly distinct, the posterior shallow, the latter nearer posterior margin than to submedian furrow. Abdominal tergites mostly divided except first and ultimate, granulate, with rather long and clavate bristles, which arise from small tubercles; ultimate tergite transverse, without or, rarely, with tactile bristles, the lateral bristles mostly only a little elongate and dentate. Sternites rather weakly sclerotized, almost smooth, with bristles acute or only finely dentate; ultimate sternite with one pair of tactile bristles. Anal conus with paired clavate bristles dorsally and ventrally. Pleural membrane densely, equally, and sharply rasplike granulate. Palm of chelicera with five bristles, *B* and *SB* strongly dentate. Flagellum with three blades. Galea resembling the antlers of an elk [moose] in shape. Pedipalps densely granulate or the hand almost smooth, with relatively long and distinctly clavate bristles medially, which arise from small tubercles. Tubercles of trochanter rounded. Femur abruptly pedicellate. Hand not depressed. Fingers not gaping, only movable fingers with venome apparatus; accessory teeth greatly reduced in number or, rarely, absent. Tactile setae *eb* and *esb* of fixed finger rather distant, *ist* mostly distad from *est* and closer to *it* than to *isb*, rarely opposite *est*; *st* of movable finger distinctly closer to *sb* than to *t*. Legs slender, tarsus of fourth pair without tactile bristle, but with a rather long pseudotactile bristle subterminally, the subbasal sense dome reduced. Claws simple.

Genotype: *Smeringochernes yapensis*, new species.

Micronesia.

This new genus is related to *Hebridochernes* Beier from the New Hebrides but differs from it by the tactile seta *ist* of the fixed palpal finger being mostly distad from *est* and closer to *it* than to *isb*, by the fingers not gaping, by the very reduced number of accessory teeth, by the pedipalps being without papillate tubercles medially, and by the fact that the hind corners of the abdominal tergites of the male are not elongate. From *Verrucachernes*, to which the new genus is not truly related but which is similar in form, it is easily distinguished by the absence of a tactile bristle on the tarsus of the fourth pair of legs, by the elongate medial bristles of the pedipalps, and by the distribution of the tactile setae of the fingers.

Subgenus *Smeringochernes* s. str.

Carapace with the submedian transverse furrow distinct. Abdominal tergites broadly divided. Ultimate tergite without tactile bristles. Palpal hand granulate. Palpal fingers with accessory teeth reduced in number. Tactile seta *ist* of fixed finger distad of *est*.

31. *Smeringochernes* (*Smeringochernes*) *yapensis* Beier, n. sp. (figs. 24; 25, c).

Carapace pale reddish brown, a little clearer basally, moderately densely and rather coarsely granulate; submedian transverse furrow more sharply incised than shallower posterior one, which is very close to posterior margin; both furrows transversely granulate, anterior one finer than posterior one; about 50 carapacial bristles, of which six are on posterior margin, all rather short and distinctly clavate. Eye spots completely wanting. Tergites almost as coarsely granulate as carapace, but a little more densely so; chaetotaxy: 8: 10: 10: $\frac{2}{8}$: $\frac{2}{8}$: $\frac{4}{8(10)}$: $\frac{4}{8(10)}$: $\frac{4}{6(8)}$: $\frac{4}{6}$: $\frac{4}{6}$: $\frac{4}{4}$;

lateral border bristle of eleventh segment elongate and strongly dentate, also bristles of

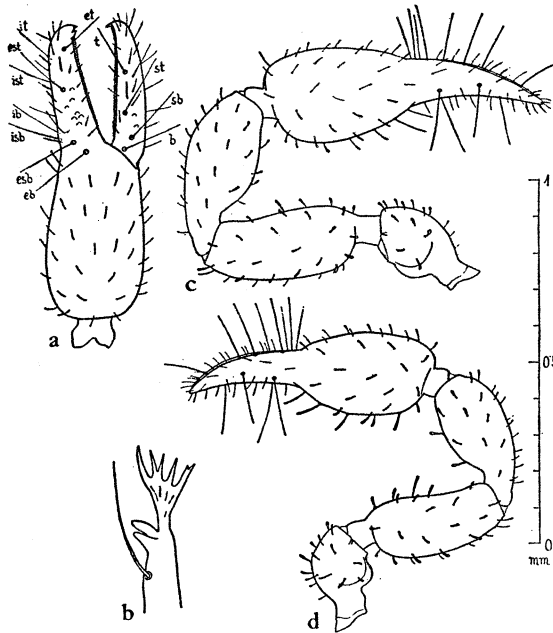


FIGURE 24.—*Smeringochernes yapensis*: a, chela, lateral view; b, galea; c, pedipalp, male; d, pedipalp, female.

posterior segments rather long. Most sternites with 12 marginal, two lateral, and two discal bristles, which are fine and acute; tenth sternite with six marginal, two lateral, and two discal bristles, lateral ones elongate and dentate; eleventh sternite with posterior border emarginate and with four fine marginal, two stout and dentate lateral, and two elongate discal, bristles. Third blade of flagellum densely feathered asymmetrically. Serrula exterior with 19 teeth. Galea similarly shaped in both sexes, broadened and flattened distally, with five teeth. Pedipalps dark reddish brown, densely and rather coarsely granulate, with bristles mostly clavate, medial bristles elongate and a little more clavate in females than in males. Femur abruptly pedicellate, 2.5 to 2.6 times, tibia 2.2 (female) to 2.4 times (male), hand 1.7-1.8 times, chela with pedicel 3.1 times, without pedicel 2.9 times, longer than broad. Fingers as long as hand without pedicel or almost as long, not gaping, fixed fingers with about 40, the movable with about 45, marginal teeth; accessory teeth wanting laterally;

medially the movable finger only with a single accessory tooth opposite tactile seta *t*; *ist* of fixed finger distad of *est* and about one and one-half times as far from *isb* as from *it*; *st* of movable finger one and one-half times as far from *t* as from *sb*. Legs slender. Femur of fourth pair 3.5 times, tibia 4 times, tarsus 5 times, longer than broad, the latter without tactile bristle but with a short pseudotactile bristle near end.

Measurements (in millimeters). Length of body (male and female) 1.3-1.7. Pedipalps: femur (male), length 0.49, breadth 0.19; tibia, length 0.46, breadth 0.195; hand, length 0.45, breadth 0.26; fingers, length 0.40; femur (female), length 0.42, breadth 0.17; tibia, length 0.38, breadth 0.175; hand, length 0.41, breadth 0.23; fingers, length 0.33. Leg IV: femur, length 0.44, breadth 0.125; tibia, length 0.33, breadth 0.08; tarsus, length 0.30, breadth 0.06.

YAP. YAP: Ruul District, Aug. 1950, R. J. Goss (type male, US 2261; allotype female, BISHOP 2554); Colonia, Aug. 1950, Goss.

CAROLINE ATOLLS. ULITHI: Potangeras, Nov. 1947, Dybas (CM),
DISTRIBUTION: Western Caroline Is. (seven specimens).

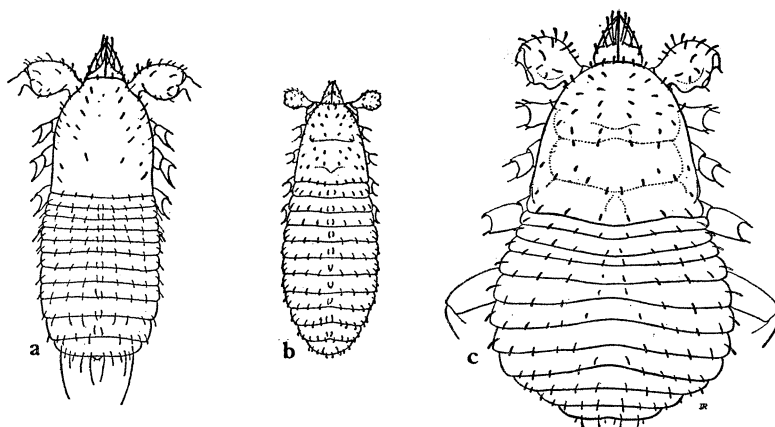


FIGURE 25.—Three new genera: a, *Teratochernes mirus*; b, *Thapsinochernes flavus flavus*; c, *Smeringochernes yapensis*. (Drawn by Dorothy Rainwater.)

32. *Smeringochernes* (*Smeringochernes*) *guamensis* Beier, n. sp. (fig. 26).

Body entirely pale whitish yellow, but pedipalps darker yellowish or reddish brown. Carapace a little longer than broad at base, moderately densely and roughly granulate, with median transverse furrow sharply incised and finely granulate; posterior furrow shallower and roughly granulate; disc with 44 (male) to 48 (female) distinctly clavate bristles, of which six are on posterior margin. Abdominal tergites broadly divided except ultimate tergite; the division, however, not very distinct because intercalary membrane is almost as roughly granulate as, and scarcely more densely granulate than, the rasplike granulate sclerites; chaetotaxy: (male) 8: 4: 4: 4: 4: 4: 4: 4: 4: 4; (fe-

male) 10: 10: 10: 4: 4: 4: 4: 4: 4: 4: 4; all bristles distinctly clavate, discal bristles

of ultimate and penultimate segment, particularly of eleventh, elongate. Sternal bristles simple and acute. Galea flattened and with rather long branches in both sexes, proximal branch arising near base. Pedipalps relatively stout, densely, roughly, and (particularly medially) sharply granulate; each bristle rather long, medial ones even very elongate and

rather strongly clavate, with larger granules. Femur in male 2.1 to 2.2 times, in female 2.4 times, tibia in both sexes 2 times, hand 1.6 times, chela with pedicel 2.8 times, without pedicel 2.6 times, longer than broad. Fingers distinctly a little shorter than hand without pedicel, relatively thick, not gaping, the fixed finger with about 26, movable finger with an average of 28, marginal teeth; both fingers have two accessory teeth laterally and medially. Movable finger with condylus large and swollen laterally. Distribution of tactile setae similar to that of *S. (S.) yapensis*, *ist* of fixed finger, however, closer to *it* and almost three times as far from *isb* as from *it* and, therefore, farther distad of *est*. Legs somewhat stouter than in *S. (S.) yapensis*.

Measurements (in millimeters). Length of body (male) 1.3, (female) 1.5. Pedipalps: femur (male), length 0.32-0.33, breadth 0.145-0.16; tibia, length 0.31-0.34, breadth 0.155-0.17; hand, length 0.33-0.34, breadth 0.20-0.21; fingers, length 0.25-0.275; femur (female), length 0.39, breadth 0.16; tibia, length 0.36, breadth 0.175; hand, length 0.38, breadth 0.23; fingers, length 0.28.

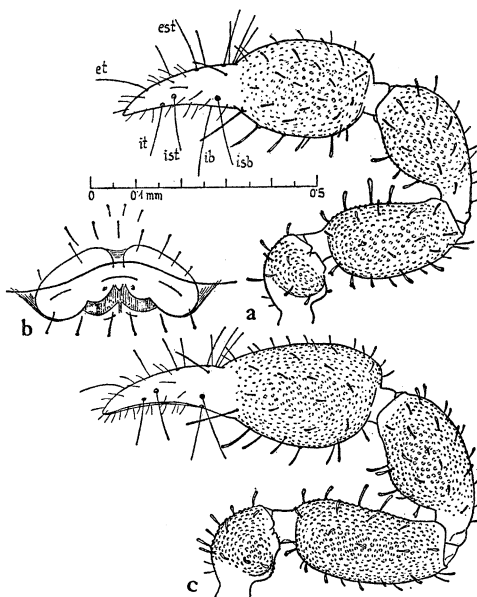


FIGURE 26.—*Smeringochernes guamensis*: a, left chela, male; b, genital area, male; c, left chela, female.

S. MARIANA IS. SAIPAN: Mt. Tagpochau, 375 m., Feb. 1945, Dybas. GUAM: Pt. Oca, May 1945, H. S. Dybas (type, CM; paratypes, BISHOP, CM, US 2255); Pilgo River, May 1945, G. E. Bohart and Gressitt; Asan, 180-240 m., Nov. 1947, Dybas.

KUSAIE. Yela cave, Apr. 1953, Clarke.

DISTRIBUTION: Southern Mariana Is., eastern Caroline Is. (Eight specimens.)

The new species differs from *S. yapensis* especially in the much smaller size, in the fewer bristles on the carapace, in the chaetotaxy of the abdominal tergites, in the stouter palpal femur of the male, in the relatively shorter palpal

fingers and their less abundant teeth, in the presence of two accessory teeth on both fingers laterally, and in the tactile seta *ist* being close to *it*.

Subgenus **Gressittochernes** Beier, new subgenus

Carapace with both transverse furrows shallow and indistinct. Abdominal tergites grow together medially. Ultimate tergite with tactile bristles laterally. Palpal hand not granulate. Palpal fingers with accessory teeth completely reduced. Tactile seta *ist* of fixed finger opposite *est*.

Type of subgenus: *Smeringochernes carolinensis*, new species.

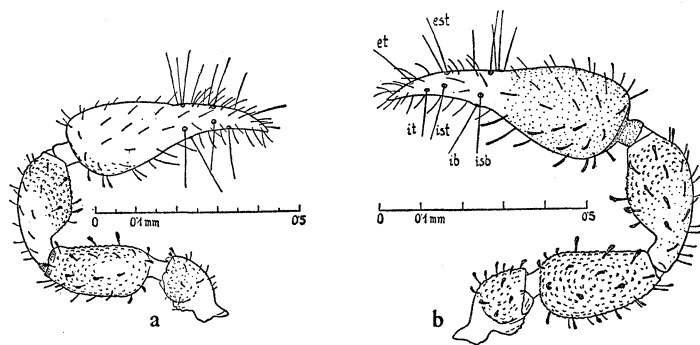


FIGURE 27.—*Smeringochernes carolinensis*: a, pedipalp, male; b, pedipalp, female.

33. *Smeringochernes* (*Gressittochernes*) *carolinensis* Beier, n. sp. (fig. 27).

Sclerites pale reddish-yellow brown, pedipalps somewhat darker. Carapace a little longer than broad at base, rather densely and roughly granulate, eyeless, with 48 to 50 dentate and clavate bristles, of which six are on anterior border and eight on posterior border; both transverse furrows shallow and indistinct, almost as roughly granulate as surrounding parts, anterior one very narrow; before posterior margin of carapace is a smooth, not deep, transverse area, which is narrowed laterally and does not reach lateral border. Abdominal tergites grow together medially, moderately densely and roughly granulate; granules transverse and squamosely elevated, but in median area flatter and granulose; posterior margin crenulate. Chaetotaxy: (male) 6: 6: 6: 2: 4: 4: 4: 4: 4:

$\frac{4}{2} \frac{4}{2}$; (female) 8: 10: 2: 4: 4: 4: 4: 4: 4: 4: 4: 4: $\frac{6}{6} \frac{4}{4} \frac{4}{4} \frac{4}{4} \frac{4}{4} \frac{4}{4}$

4: 4; all bristles stout, clavate and dentate, elongate on posterior segments. Ultimate tergite with lateral bristles elongate and acute, as in true tactile bristles. Pleural membrane coarsely and hispidly granulate. Sternites not divided, posterior ones flat and effaced squamosely granulate, chiefly with six marginal bristles, one lateral and one medial bristle-pair; ultimate sternite with 4 + 2 bristles, lateral couple elongate as in tactile bristles. Chelicera without accessory bristles. Galea feathered, proximal branch arising near the base. Pedipalps very coarsely granulate, their surfaces irregularly densely and finely granulate; coarse granulation wanting on proximal half of tibia and on whole hand; medial vestitural bristles stout, dentate, and clavate, lateral ones but finely dentate and acute; mediolateral bristles of hand very elongate. Femur rather strongly conically narrowed distally, 2.1 (female) to 2.4 times (male), tibia 2.2 times, hand 1.6 (female) to 1.8 times (male), chela with pedicel 2.9 (female) to three times

(male), without pedicel 2.7 (female) to 2.8 times (male) longer than broad. Fingers very little shorter than hand without pedicel, with marginal teeth small and close together; accessory teeth completely reduced on both fingers. Tactile seta *est* of fixed finger extraordinarily far distally, opposite *ist*, the latter approaching *it*; *st* of movable finger somewhat closer to *sb* than to *t*, the latter rather far proximally. Legs densely and finely granulate. Femur of fourth pair 3.3 times, tibia 3.2 times, and tarsus 4 times longer than broad, the latter without tactile bristle.

Measurements (in millimeters). Length of body (male) 1, (female) 1.4. Carapace, length 0.36. Pedipalps: femur (male), length 0.30, breadth 0.125; tibia, length 0.29, breadth 0.13; hand, length 0.32, breadth 0.175; fingers, length 0.24; femur (female), length 0.33, breadth 0.16; tibia, length 0.35, breadth 0.16; hand, length 0.36, breadth 0.215; fingers, length 0.31.

PALAU. BABELTHUAP: East Ngatpang, 65 m., Dec. 7, 1952, Gressitt (allotype male).

TRUK. TON (Tol): Mt. Unibot, Dec. 1952, Gressitt.

PONAPE. Southeast Nanponmal, Jan. 7, 1953, Gressitt (type female, US 2248).

DISTRIBUTION: Caroline Is. (three specimens).

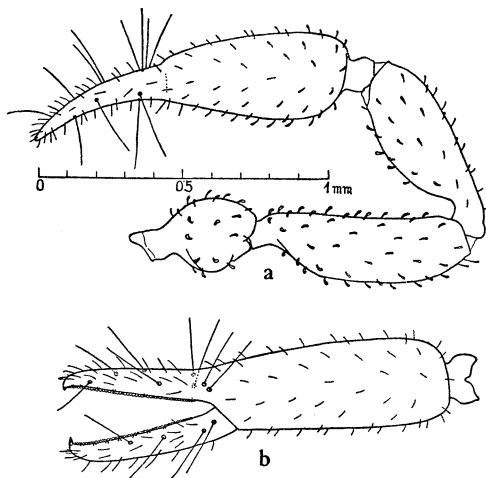


FIGURE 28.—*Sundochernes gressitti*, female: a, pedipalp, b, chela, lateral view.

34. *Sundochernes gressitti* Beier, n. sp. (fig. 28).

Carapace pale reddish-yellow brown, clearer medially and basally, about as long as broad at base, rather densely, equally, and sharply granulate; a little more than 100 short and very strongly clavate vestitural bristles, of which 14 are on posterior margin; both transverse furrows very narrow and not deep but distinctly granulate, anterior one sharply angulate forward medially, weakly arched laterally, posterior one straight and almost three times as far from anterior furrow as from posterior margin. Eye spots very indistinct. Abdominal tergites narrowly divided except first and ultimate ones, almost as granulate as carapace, but a little less densely so, with vestitural bristles short and very strongly clavate; ultimate tergite without tactile bristles; chaetotaxy: $\frac{6}{10} : \frac{6}{12} : \frac{6-8}{10-12}$

8-10: 8-10: 8-10: 8-10: 8-10: 6-10: 8-10: 6: 2 m.; every segment, therefore,
 $\frac{12-16}{14-16}$ $\frac{14-18}{16-18}$ $\frac{14-18}{14}$ $\frac{10-12}{6}$
 with discal, median, and lateral border bristles, the latter doubled on third segment. Sternites almost smooth, only ultimate sternite finely granulate; sternal bristles entirely fine and not clavate. Intersegmental membrane rather coarsely transversely granulate; pleural membrane very densely rasplike granulate. Palm of chelicera with five bristles, *B* only dentate. Flagellum with three blades, the distal one rather densely dentate one-sided. Serrula exterior with 17 teeth. Galea with five rather short branches distally. Pedipalps relatively slender, pale reddish-yellow brown, densely granulate, as is the hand, but a little finer than other segments, which are almost equally granulate everywhere, with strongly clavate bristles medially. Dorsal tubercle of trochanter large and rounded, ventral one flattened. Femur 3.5 times longer than broad, out of pedicel rather strongly broadened laterally. Tibia 2.8 times, hand 2.4 times, chela with pedicel 4 times, and without pedicel 3.7 times, longer than broad. Hand very slender, but broader than thick. Fingers slender, but much shorter than hand without pedicel, not gaping, fixed finger with 42, movable finger with 46, marginal teeth; fixed finger has laterally and medially three, movable finger laterally six and medially three, accessory teeth. Distribution of tactile setae generally typical for genus, but *ist* distinctly somewhat distad from *est*. Legs slender, tibia of fourth pair 4.1 times, tarsus 4.7 times, longer than broad, latter without tactile bristle. Genital area of female with about 10 dispersed small bristles and a transverse row of 12 bristles.

Measurements (in millimeters). Length of body (female) 2. Pedipalps: femur, length 0.77, breadth 0.22; tibia, length 0.70, breadth 0.25; hand, length 0.72, breadth 0.30; fingers, length 0.50. Leg IV: tibia, length 0.41, breadth 0.10; tarsus, length 0.33, breadth 0.07.

PALAU. BABELTHUAP: Ngaremeskang, 30 m., Dec. 1952, J. L. Gressitt (type, US 2262). NGERGOI (Garakayo): Aug. 1945, Dybas (paratype, CM).

DISTRIBUTION: Western Caroline Is. (two specimens, females).

Genus *Thapsinochernes* Beier, new genus

Integument weakly sclerotized, pale brownish yellow except pedipalps, which are reddish brown, densely but flatly granulate. Vestitural bristles dentate and weakly clavate. Carapace, in male at least, distinctly longer than broad, without eye spots; transverse furrows better impressed in female than in male, posterior one closer to posterior margin than to submedian furrow; posterior margin not sharply limited, gradually changed into intersegmental membrane. Abdominal tergites not well limited, divided, with posterior and lateral border bristles but without discal bristles. Ultimate tergite without tactile bristles. Posterior sternites weakly squamosely granulate. Pleural and intersegmental membrane finely wrinkled-granulate. Palm of chelicera with five bristles. Flagellum with three blades. Pedipalps stout. Trochanteral tubercle rounded. Femur not very abruptly pedicellate. Fingers almost straight, not gaping, with accessory teeth. Tactile seta *est* of movable finger closer to *t* than to *sb*. Legs not very stout, tarsus of fourth pair without fixed finger approaching *esb* and *eb*, proximad of *ist*; *it* more or less close to *ist*; *st* of tactile bristle, but with an elongate subterminal bristle.

Genotype: *Thapsinochernes flavus*, new species.

Western Micronesia.

The new genus is very closely related to *Nesidiochernes*, but differs from it in that the whole integument is weakly sclerotized and pale yellowish, in that the vestitural bristles are weakly clavate, the palpal femur less abruptly pedicellate, the palpal fingers almost straight, and the femur of the posterior legs much more slender.

35. *Thapsinochernes flavus flavus* Beier, n. sp. (figs. 25, b; 29).

Entire body and legs pale brownish yellow, carapace weakly brownish only orally, with a small and effaced brownish spot in metazona; abdominal tergites 2 and 4 to 10 each with a couple of indistinct brownish spots; pedipalps rather pale reddish brown, but hand darker. Integument weakly sclerotized, densely and rather shallowly granulate. Carapace, particularly in male, distinctly longer than broad, without eye spots, with granulation finer caudally than orally and somewhat effaced in middle of mesozona; transverse furrows more distinct and more sharply bordered in female than in male, especially submedian one, which is broad and deep in female, with very sharp margins,

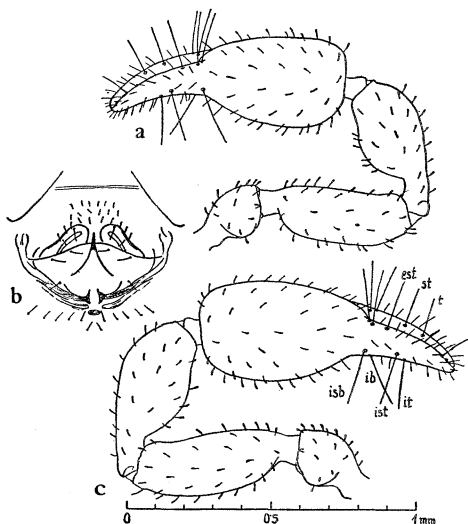


FIGURE 29.—*Thapsinochernes flavus flavus*: a, pedipalp, male; b, genital area, male; c, pedipalp, female.

much shallower in male but distinctly granulate; posterior transverse furrow closer to posterior margin than to submedian furrow, shallow in male and with granulation of same nature as in surrounding parts, distinctly broadened mediocaudally and caudalward broadened in female, finely granulate; disc of carapace with about 60 bristles, of which eight are on posterior margin; posterior margin not sharply limited, gradually changed into intersegmental membrane. Abdominal tergites weakly sclerotized, divided, not well limited. Chaetotaxy: (male) 10: 10: 8: 4: 4: 4: 4: 4: 4: 4: 4; (female) 2:

4: 4: 4: 4: 4: 4: 4: 4: 4: 4: 4; all bristles moderately clavate, those of posterior

segments somewhat elongate. Ultimate segment without tactile bristles. Intersegmental and pleural membrane wrinkled granulate, the granulation much finer than on tergites but slightly more distinct. Palm of chelicera with five bristles, *B* and *SB* finely denticulate. Galea simple awl-like in male, with short apical branches in female. Pedipalps shorter than body, densely but rather flatly granulate except for almost smooth coxa, with bristles dentate and relatively weakly clavate. Trochanteral tubercles rounded. Femur not very abruptly pedicellate, 2.8 to 2.9 times, tibia 2.2 to 2.3 times, hand 1.8 times, chela with pedicel 2.8 to 2.9 times, and without pedicel 2.6 to 2.7 times longer than broad. Fingers not gaping, much shorter than hand without pedicel, each with a little more than 30 marginal teeth;

fixed finger laterally with three to four, medially with three, movable laterally with four to five, medially with four, accessory teeth. Tactile seta *est* close to *eb* and *esb* and far proximad of *ist*; *it* very close to *ist*; *st* of movable finger closer to *t* than to *sb*. Legs moderately stout, femur of fourth pair 3.3 times, tibia 3.8 times, and tarsus four times, longer than broad. The latter without tactile bristle, but with an elongate subterminal bristle.

Measurements (in millimeters). Length of body (male and female) 2-2.1. Pedipalps: femur (male), length 0.53, breadth 0.18; tibia, length 0.50, breadth 0.225; hand, length 0.56, breadth 0.31; fingers, length 0.40; femur (female), length 0.59, breadth 0.21; tibia, length 0.57, breadth 0.25; hand, length 0.61, breadth 0.35; fingers, length 0.40. Leg IV: femur, length 0.51, breadth 0.16; tibia, length 0.38, breadth 0.10; tarsus, length 0.30, breadth 0.075.

S. MARIANA IS. GUAM: Southeast of Asan, 180-240 m., Nov. 1, 1947, H. S. Dybas (type male, US); Pt. Oca, June 3, 1945, Dybas (allotype female, CM).

DISTRIBUTION: Southern Mariana Is. (two specimens).

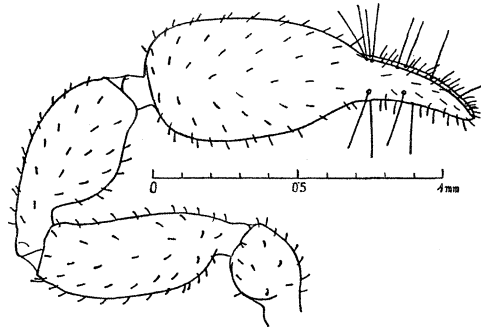


FIGURE 30.—*Thapsinochernes flavus major*, female, left pedipalp.

36. *Thapsinochernes flavus major* Beier, n. subsp. (fig. 30).

Agrees with nominate form in every essential character and in color, but body more robust. Vestitural bristles more abundant. Carapace with about 66 bristles, 10 of which stand on posterior margin; abdominal tergites in their greatest part with 12 to 14 marginal bristles (without lateral and medial border bristles), ultimate tergite with eight marginal bristles. Pedipalps as in nominate form, but vestitural bristles relatively somewhat shorter, femur a little broader; femur of female 2.6 times, tibia 2.1 to 2.2 times, hand 1.8 to 1.9 times, chela with pedicel 2.8 to 2.9 times, and without pedicel 2.6 to 2.7 times, longer than broad. Distribution of tactile setae as in nominate form, as are legs.

Measurements (in millimeters); the smaller specimen from Koror, the larger from Ngergoi. Length of body (female) 2.5-3.2. Pedipalps: femur, length 0.60-0.71, breadth 0.23-0.27; tibia, length 0.57-0.69, breadth 0.27-0.31; hand, length 0.68-0.82, breadth 0.37-0.42; fingers, length 0.41-0.46.

PALAU. KOROR: Limestone Ridge south of inlet, 135 m., Jan. 18, 1948, H. S. Dybas (type, US). NGERGOI (Garakayo): Aug. 1945, Dybas (paratypes, CM).

DISTRIBUTION: Western Caroline Is. (five specimens, females).

Genus *Nesidiochernes* Beier, new genus

Carapace about as long as broad at posterior margin, only prozona and lateral parts of the mesozona strongly sclerotized, reddish brown and granulate, disc of mesozona and of metazona mostly weakly sclerotized, yellowish brown and more or less smooth, in adults at least; rarely, whole carapace well sclerotized and granulate; metazona membranous at base, posterior margin pointed caudalward medially and not sharply limited. Both transverse furrows distinct, posterior one closer to base than to anterior furrow. Eye spots generally not very distinct. Abdominal tergites here and there strongly sclerotized and brownish, generally giving abdomen four longitudinal rows of brownish spots in adults. Ultimate tergite not, the others broadly, divided. Dorsal vestitural bristles strongly clavate, ventral ones fine and acute. Tergites without discal bristles, but with lateral and medial border bristles as well as marginal bristles. Palm of chelicera with five bristles. Flagellum with three blades. Pedipalps rather robust, densely granulate, mostly with very strongly clavate bristles. Femur abruptly pedicellate. Hand more or less broad, particularly in male, somewhat depressed. Fingers not gaping, with accessory teeth. Tactile seta *ist* of fixed finger opposite *est* or more distad, but always proximad of middle of finger; *it* distad of latter; *st* of movable finger mostly much closer to *t* than to *sb*, rarely otherwise. Legs stout, tarsus of fourth pair without tactile seta, but with a short, dentate pseudotactile bristle near end. Claws simple.

Genotype: *Nesidiochernes maculatus*, new species.

Micronesia.

The new genus is most closely related to the Australian genera *Conicochernes* Beier and *Calymmachernes* Beier, but it differs from both in the absence of a tactile seta of the tarsus of the fourth pair of legs and in the shape of the carapace. It differs from *Conicochernes*, moreover, in the shape of the palpal femur, and from *Calymmachernes* in that the palpal fingers are not gaping.

37. *Nesidiochernes maculatus* Beier, n. sp. (fig. 31).

Carapace about as long as broad at base, the sclerotic disc, however, somewhat longer, broadest in middle and distinctly narrowed basally; 28 short and very strongly clavate bristles, of which four are on oral, eight on posterior, border, only preocular bristle fine, oral border bristles not longer than others; prozona and lateral parts of mesozona dark reddish brown and distinctly granulate, the transverse-quadrangulate median disc of mesozona between transverse furrows pale brownish yellow and indistinctly granulate as in the metazona, almost smooth; metazona divided by a broader oral stripe, which is distinctly sclerotized, and by a narrow caudal one, which is membranous and whitish yellow; immediately behind posterior transverse furrow lies, in metazona, a small oblong-ovate spot, which is more coarsely granulate but not very sharply limited; both transverse furrows narrow and sharply incised, anterior one somewhat broader and deeper than posterior one, the latter about one-third closer to posterior margin than to anterior furrow, weakly convex medially; posterior margin not sharply limited and pointed caudalward medially. Eye spots large, but little paler, not sharply limited, almost smooth centrally. Tergites except eleventh broadly divided, not very densely granulate, spotted with brown because their sclerotic parts are reduced to irregularly shaped spots; each segment with four such larger brown spots, which are separated partially by pale areas around insertions of bristles; remaining parts of tergites colored almost as is intersegmental membrane, but brownish granulate. Whole abdomen, therefore, with four longitudinal rows of brown spots on whitish ground. First and third tergite, particularly in male, extremely weakly sclerotized; the whole eleventh tergite brown, with two large and well-limited pale areas around discal bristles, the posterior margin whitish; each

segment with eight, only third with 10, marginal bristles; on fourth segment two lateral and two medial border bristles, moreover, each of which is short and strongly clavate; discal bristles on only eleventh tergite, which has no tactile bristles. Intersegmental membrane finely and densely transverse-striate, pleural membrane granulate. Sternites smooth, better sclerotized in male than in female, which has only the three ultimate sternites brownish, with 10 fine and acute marginal and two medial bristles. Stigmatic guard sclerite narrowly ovate, contracted medially. Palm of chelicera with five bristles, *B* and *SB* dentate. Galea of male almost simple, those of female with six short branches distally. Flagellum with third blade serrate distally. Serrula exterior with 18 blades. Pedipalps scarcely as long as body, rather clumsy, reddish brown, densely granulate inclusive of hand, with mostly very strongly and asymmetrically clavate bristles, which are partially on little larger granules. Both tubercles of trochanter globular. Femur abruptly pedicellate, 2.5 (female) to 2.8 times (male) longer than broad. Tibia 2.1 (female) to 2.3 times (male) longer than broad, humpbacked laterodistally. Hand broadly ovate,

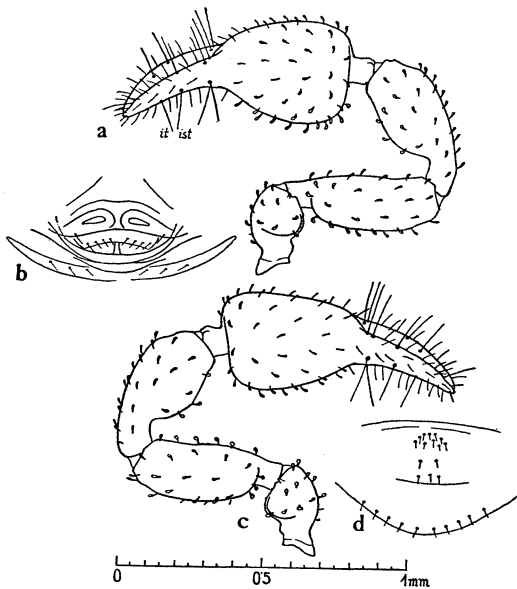


FIGURE 31.—*Nesidiochernes maculatus*: a, pedipalp, male; b, genital area, male; c, pedipalp, female; d, genital area, female.

somewhat depressed, 1.5 (male) to 1.6 times (female) longer than broad, their lateral border arched in male, almost straight in female; chela with pedicel 2.5 (male) to 2.7 times (female), without pedicel 2.2 (male) to 2.4 times (female) longer than broad. Fingers scarcely as long as hand without pedicel, not gaping, each with somewhat more than 40 marginal teeth; both fingers laterally with six, medially with three (some movable ones with only two) accessory teeth. Tactile setae conspicuously short, *est* proximad of middle of fixed finger and almost opposite *ist*, which is almost halfway between *isb* and *it*, the latter distad of middle of finger; *sb* of movable finger almost beside *b*, *st* about twice as far from *sb* as from *t*. Legs rather clumsy, with clavate bristles orally, femur of fourth pair 2.7 times, tibia 3.5 times, and tarsus 3.8 times, longer than broad, the latter without tactile bristle but with a short, apically dentate pseudotactile bristle subterminally. For genital area of male and female see figure 31, *b*, *d*; oral cluster of female with about 10 bristles.

Measurements (in millimeters). Length of body (male and female) 2; carapace length 0.70. Pedipalps: femur (male), length 0.52, breadth 0.18; tibia, length 0.51, breadth 0.22; hand, length 0.54, breadth 0.35; fingers, length 0.42; femur (female), length 0.50, breadth 0.20; tibia, length 0.49, breadth 0.23; hand, length 0.53, breadth 0.33; fingers, length 0.43.

KUSAIE. "Hill 541," Apr. 1953, Clarke. LELU: 100 m., Mar. 1953, J. F. G. Clarke (type male and female, US 2259).

MARSHALL IS. ARNO: Ine, June 1950, Usinger. TAKA: Taka, Dec. 1951, Fosberg (paratypes, US, BISHOP).

DISTRIBUTION: Eastern Caroline Is., Marshall Is. (Eight specimens.)

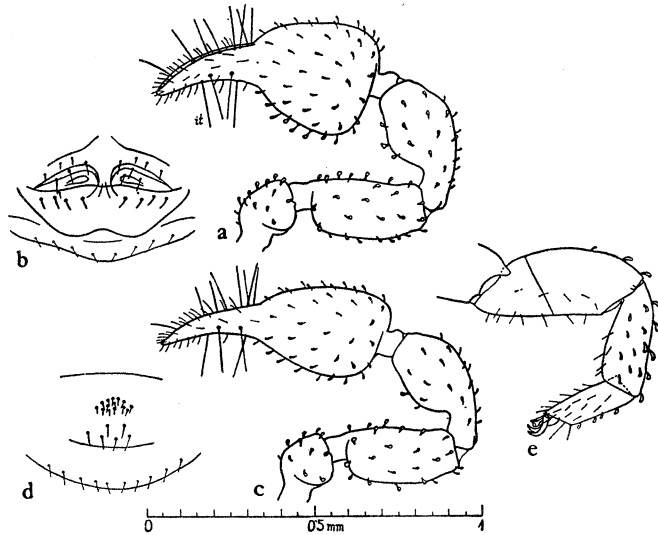


FIGURE 32.—*Nesidiochernes carolinensis carolinensis*: a, pedipalp, male; b, genital area, male; c, pedipalp, female; d, genital area, female; e, fourth leg.

38. *Nesidiochernes carolinensis carolinensis* Beier, n. sp. (fig. 32).

Very similar to genotype but much smaller. Carapace as in *N. maculatus*, brown in prozona only and at sides of mesozona, rather coarsely and densely granulate; transverse-quadrangulate median part of mesozona pale yellowish brown between transverse furrows and shallower granulate, but granulation distinct in contrast to *N. maculatus*; metazona brownish yellow, with granulation fine and distinct laterally, but almost obsolete toward middle, with a lanceolate, densely and finely granulate brown spot medially, which does not reach to posterior margin; the latter pointed caudalward medially and not well limited. The sclerotic part broadest in middle, very distinctly angustate caudally, with about 36 very strongly clavate bristles (four on oral, and eight on posterior, border), only preocular bristle fine. Both transverse furrows narrow but sharply incised, smooth, the anterior one convex orally, the posterior one almost twice as far from anterior furrow as from posterior margin. Eye spots large but not well limited. Abdominal tergites broadly divided, granulate, sclerites pale except for brown areas laterally and medially, so that abdomen shows four longitudinal rows of brown spots, which are, however, almost entirely reduced on first and third segment; eleventh tergite undivided, brown, granulate, with two circular pale submedian spots around discal bristles. Chaetotaxy: (male) 10: 10:

10: $\frac{2}{10}$: $\frac{4}{8}$: $\frac{4}{8}$: $\frac{4}{8}$, etc., (female) 12: 10: $\frac{2}{10}$: $\frac{2}{10}$: $\frac{6}{10}$: $\frac{6}{10}$: $\frac{6}{10}$, etc.; bristles very strongly

clavate. Sternites divided, only posterior ones well sclerotized, each with eight to 10 acute marginal and two lateral border bristles. Chelicerae as in *N. maculatus* but serrula exterior with only 17 blades. Pedipalps moderately densely granulate, similar to those in *N. maculatus* but hand of male much broader. Femur in both sexes 2.4 times, tibia two (male) to 2.2 times (female), hand 1.3 (male) to 1.6 times (female), chela with pedicel 2.2 (male) to 2.8 times (female), without pedicel 1.9 (male) to 2.4 times (female), longer than broad. Vestitural bristles very strongly clavate. Fingers distinctly shorter than hand without pedicel, as long as hand is broad in male, not gaping, each with little more than 30 marginal teeth; accessory teeth present on both fingers, laterally four to five, medially on fixed finger three, on movable finger two. Tactile seta *est* of fixed finger rather approaching *eb* and *esb*, *ist* rather far distad of *est* and distinctly closer to *it* than to *isb*; *st* of movable finger much closer to *t* than to *sb*. Legs stouter than in *N. maculatus*, femur of fourth pair 2.6 times, tibia 2.7 times, and tarsus 2.8 times, longer than broad, the latter without tactile bristle and with a short, dentate subterminal pseudotactile bristle only. For genital area of male and female see figure 32, *b*, *d*; oral cluster of female with about 14 bristles.

Measurements (in millimeters). Length of body (male) 1.7, (female) 1.8; carapace, length 0.63. Pedipalps: femur (male), length 0.41, breadth 0.17; tibia, length 0.40, breadth 0.20; hand, length 0.44, breadth 0.33; fingers, length 0.33; femur (female), length 0.40, breadth 0.17; tibia, length 0.39, breadth 0.18; hand, length 0.44, breadth 0.27; fingers, length 0.32.

CAROLINE ATOLLS. WOLEAI: Saliap, under bark, Sept. 20, 1952, N. L. H. Krauss (type male and allotype female, US 2260).

PONAPE. Mt. Temwetemwensekir, 150-300 m., Feb. 1948, Dybas; Nanpil, Nett District, Feb. 1948, Dybas; Nanue, Aug. 1950, Adams (paratypes, BISHOP, CM, MCZ).

DISTRIBUTION: Central and eastern Caroline Is. (eight specimens).

This species differs from *N. maculatus* in the much smaller body, in the broader palpal hand of the male, and in the distribution of the tactile setae *est*, *ist*, and *it* of the fixed finger.

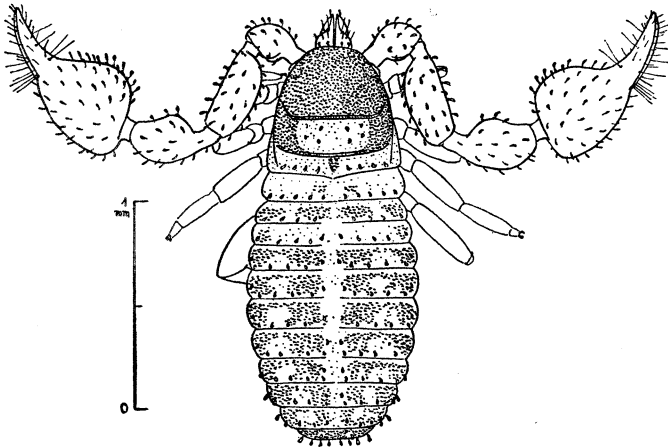


FIGURE 33.—*Nesidiochernes carolinensis dybasi*, male, dorsal view.

39. *Nesidiochernes carolinensis dybasi* Beier, n. subsp. (figs. 33, 34).

Very similar to nominate form in shape but much more robust. Carapace similarly colored and perceptibly granulate in pale areas; transverse furrows narrow as in nominate form but sharply incised, posterior one almost twice as far from anterior one as from base. Abdominal tergites maculate, as in nominate form; chaetotaxy as in that form. Vestitural bristles strongly clavate, those of pedipalps relatively somewhat longer and stouter than in nominate form, on coarse granules medially. Chelicera as in nominate

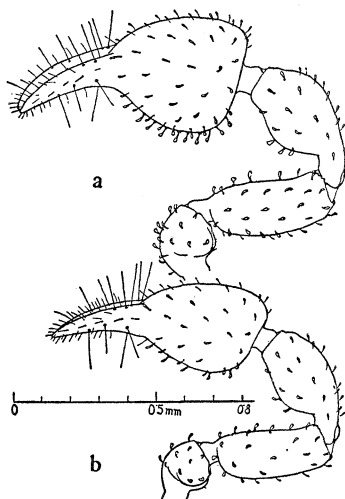


FIGURE 34.—*Nesidiochernes carolinensis dybasi*: a, pedipalp, male; b, pedipalp, female.

form; serrula also with 17 teeth; galea of female with six short terminal branches, of which four form a small crown. Pedipalps much stouter than in nominate form, the hand even more broadened in male, the other joints somewhat less compact. Femur 2.6 (male) to 2.7 times (female), tibia 2 (male) to 2.1 times (female), hand 1.3 (male) to 1.6 times (female), chela with pedicel 2.2 (male) to 2.6 times (female), without pedicel 2 (male) to 2.4 times (female) longer than broad; fingers distinctly shorter than hand without pedicel, in male as long as hand is broad. Distribution of the strikingly short tactile setae as in nominate form. Legs somewhat more slender than in nominate form; femur 2.6 times, tibia 3.1 times, and tarsus 3.3 times longer than broad.

Measurements (in millimeters). Length of body (male and female) 1.8; carapace, length 0.62. Pedipalps: femur (male), length 0.49, breadth 0.19; tibia, length 0.49, breadth 0.245; hand, length 0.52, breadth 0.40; fingers, length 0.41; femur (female), length 0.45, breadth 0.17; tibia, length 0.43, breadth 0.20; hand, length 0.48, breadth 0.31; fingers, length 0.35.

S. MARIANA IS. SAIPAN: Kalabera area, beating vegetation, Jan. 28, 1945, H. S. Dybas (type male, CM; paratype female, BISHOP); Papago area, Jan. 17, 1945, Dybas (allotype female).

DISTRIBUTION: S. Mariana Is. (six specimens).

40. *Nesidiochernes palauensis* Beier, n. sp. (fig. 35).

Very similar in size and color to *N. carolinensis* but somewhat more robust and more intensively colored, the integument distinctly more coarsely granulate. Carapace as long as broad at posterior margin, here broadest, somewhat corded off posterior transverse furrow; whole pro- and mesozona relatively coarsely, metazona finer and effaced, but distinctly granulate; disc with about 40 short, strongly clavate bristles, of which eight are on posterior margin; prozona entirely, mesozona laterally only, dark reddish brown, the latter with a transverse pale yellowish brown area medially, which extends from submedian to posterior transverse furrow; metazona pale brownish yellow, with a small triangular darker brown spot medially, which points out caudally; submedian transverse furrow very sharply incised, narrow, smooth, posterior one flatter and somewhat broader, granulate. Eye spots large but faintly paler, shallowly granulate and rather indistinct. Tergites completely divided, the ultimate, however, incised only on oral margin, densely and somewhat less coarsely granulate than carapace; each half tergite with two brown spots fusing along anterior margin, the spots almost entirely united in female,

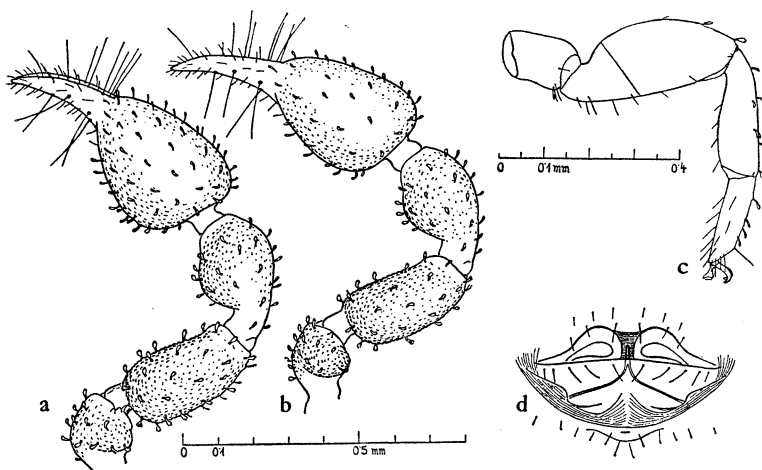


FIGURE 35.—*Nesidiochernes palauensis*: a, pedipalp, male; b, pedipalp, female; c, hind leg; d, genital area, male.

so that only male has four distinctly separate rows of spots. Chaetotaxy: 8: 8: 8: 4: 4: 4: 4: 4: 4: 4: 4: 4: 4; all bristles short and strongly clavate, scarcely elongate on $\frac{8}{8} \frac{8}{8} \frac{8}{8} \frac{8}{8} \frac{6(8)}{6} \frac{6}{6} \frac{4}{4}$

ultimate segment. Bristles of sternites simple to finely dentate. Ultimate sternite of female with few sense organs, dispersed through whole sclerite. Palm of chelicera with five bristles, *B* and *SB* dentate. Basal blade of flagellum broad, distal one pennate asymmetrically. Serrula exterior with 17 teeth. Galea slender conical in male, with five short apical teeth in female. Pedipalps stout, dark reddish brown, hand of male darker than other joints. Trochanter, femur, and tibia densely and rather coarsely granulate, with the short and, particularly medially, very strongly clavate bristles arising from larger granules. Femur 2.1 (male) to 2.3 times (female), tibia 1.8 times, hand 1.5 to 1.6 times, chela with pedicel 2.3 (male) to 2.6 times (female), without pedicel 2.1 to 2.4 times, longer than broad. Fingers relatively short, scarcely as long as hand is broad in male, a little longer in female; each with about 30 marginal teeth; both fingers laterally with three to four, medially fixed finger with three, movable finger with two, accessory teeth. Tactile seta *ist*

of fixed finger somewhat distad from *est* and closer to *it* than to *isb*. Legs stout, femur of fourth pair 2.5 times, tibia 3.1 times, tarsus 3.5 times, longer than broad.

Measurements (in millimeters). Length of body (male and female) 1.6-1.8. Pedipalps: femur (male), length 0.42, breadth 0.20, tibia, length 0.40, breadth 0.22; hand, length 0.46, breadth 0.31; fingers, length 0.30; femur (female), length 0.41, breadth 0.18; tibia, length 0.38, breadth 0.21; hand, length 0.46, breadth 0.29; fingers, length 0.32. Leg IV: femur, length 0.40, breadth 0.16; tibia, length 0.28, breadth 0.09; tarsus, length 0.21, breadth 0.06.

PALAU. BABELTHUAP: Ulimang, Dec. 1947, Dybas (US). KOROR: Nov. 1947, Jan. 1948, Dybas. NGERGOI (Garakayo): Aug. 1945, Dybas (type, CM). NGEREMEYAO (Ngiramaous): Nov. 1947, Dybas. PELELIU: Many localities on north, northeast, and east coasts, and in north central part, Aug. 1945, Jan. 1948, Dybas (CM, BISHOP). ANGAUR: Feb. 1948, Dybas.

DISTRIBUTION: Western Caroline Is. (48 specimens).

This species is closely related to *N. carolinensis* but is more robust; the whole mesozona of the carapace is coarsely granulate; the pedipalps are more coarsely granulate; the femur of the male is much stouter, as is the tibia in both sexes; the fingers are relatively shorter; the sexual dimorphism is not so conspicuous, since the hand is very broad even in the female; and the bristles are less numerous, particularly on the posterior abdominal tergites.

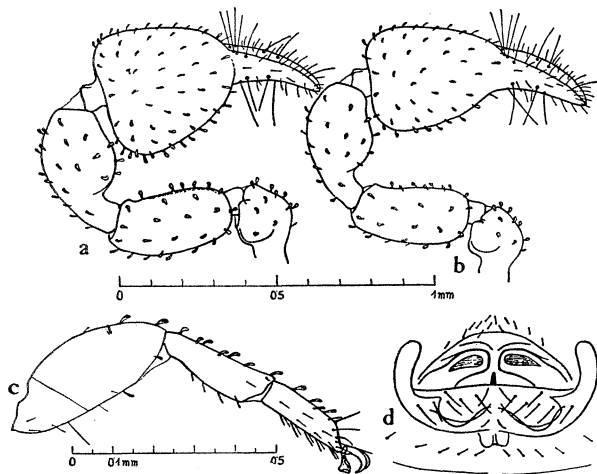


FIGURE 36.—*Nesidiochernes tumidimanus*: a, pedipalp, male; b, pedipalp, female; c, hind leg; d, genital area, male.

41. *Nesidiochernes tumidimanus* Beier, n. sp. (fig. 36).

Carapace somewhat shorter than broad at base, densely and coarsely granulate except in metazona, where granulation is shallow; prozona and sides of mesozona chocolate brown, former with a pair of somewhat paler median spots before transverse furrow; mesozona moderately but broadly clear throughout, this area, however, just as coarsely, but somewhat less densely, granulate than prozona, granulation here and there separated by almost

$\frac{4}{14}$ $\frac{4}{12}$ $\frac{4}{10}$ $\frac{4}{10}$ $\frac{4}{10}$ $\frac{6}{8}$; all bristles strongly clavate. Ultimate tergite without tactile

bristle. Tergites of female more sclerotized and darker brown than those of male, which are pale laterally; the three anterior tergites in male, the first one only in female, with sclerotization reduced; male with second, fourth and following segments each with a pair of darker spots, which are more indistinct in female. Sternites with bristles simple and acute, the median and lateral bristles of the three ultimate sternites elongate. Genital area of male with an oral cluster of 14 bristles, of which caudal ones are rather long, and with eight bristles on oral border of operculum. Distal bristle of flagellum pennate, one-sided. Serrula exterior with 19 teeth. Galea of male simple bristle-like, thickened basally, those of female with six short teeth distally. Pedipalps stout, particularly in male, very densely

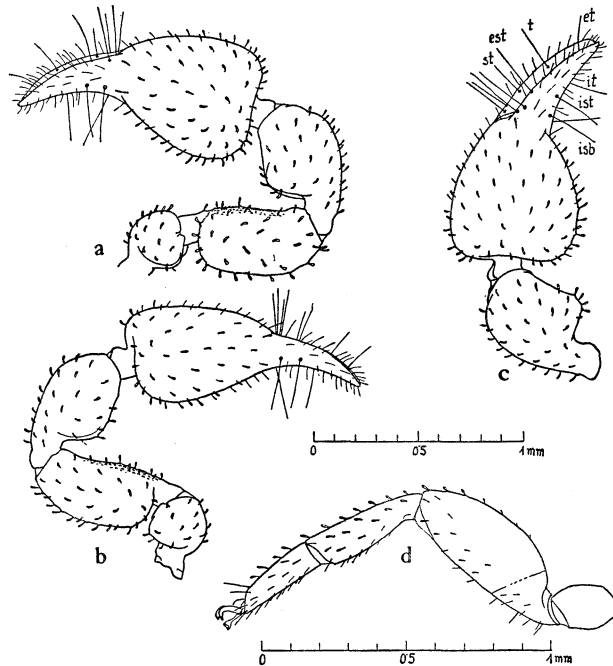


FIGURE 37.—*Nesidiochernes robustus*: a, pedipalp, male; b, pedipalp, female; c, chela, male; d, hind leg.

and rather finely granulate, but femur more coarsely granulate medially; bristles rather strongly clavate, particularly medially, setting on larger granules. Trochanter globular. Femur in both sexes 2.1 times, tibia 1.6 (male) to 1.8 times (female), hand 1.3 (male) to 1.7 times (female), chela with pedicel 2.1 (male) to 2.6 times (female), without pedicel 1.8 (male) to 2.3 times (female), longer than broad. Tibia of female with a flat, those of the male with a broadly conical and blunt, hump dorsally. Hand of male very strongly broadened. Fingers much shorter than hand, a little longer than hand is broad in female, a little shorter in male, each with about 45 marginal teeth; accessory teeth are present on fixed finger, seven laterally and two medially, on movable finger six laterally and one medially. Tactile seta *st* of movable finger closer to *sb* than to *t*. Legs stout, femur of fourth pair 2.7 times, tibia 3.6 times, tarsus 3.1 times, longer than broad, the latter without tactile bristle.

segments elongate; the medial border bristles of posterior segments placed discally. Ultimate tergites without tactile bristles. Pleural membrane very densely and finely subrugulose sculpturate. Sternites almost smooth, the ultimate with about 38 sense cups in caudal half. Anal conus with two pairs of relatively strong microchaetae. Genital area of female with a horse-shoe shaped group of 22 small bristles, posterior margin of genital sternite with 12 bristles. Medial abdominal sternites with 14 to 16 simple posterior border bristles, the ultimate with six; median bristle of both sides of latter slightly clavate. Palm of chelicera with five bristles, *B* and *SB* dentate. Galeal bristle not reaching tip of galea; the latter rather stout, with short apical teeth. Pedipalps very densely and rather coarsely granulate, with bristles, mostly arising from larger granules, relatively short, stout, and rather strongly clavate. Palpal coxa smooth. Femur of female 2.2 times, tibia 1.9 times, hand 1.4 times, chela with pedicel 2.3 times, without pedicel 2.2 times, longer than broad. Fingers as long as hand without pedicel; four accessory teeth present on both fingers laterally; fixed finger with three accessory teeth medially, movable finger with two. Tactile seta *est* of fixed finger rather close to *esb* and *eb* and shortened; *ist* distad from *est* and closer to *it* than to *isb*; *it* halfway between *isb* and top of finger; *st* of movable finger reduced to a vestige of areole, so that movable finger actually bears only three tactile setae. Legs stout, femur of fourth pair 2.5 times, tibia 3.2 times, tarsus 3.3 times, longer than broad, the latter without tactile bristle but with an elongate subterminal bristle, as is usual.

Measurements (in millimeters). Length of body (female) 2.4. Pedipalps: femur, length 0.56, breadth 0.25; tibia, length 0.54, breadth 0.28; hand, length 0.61, breadth 0.44; fingers, length 0.54. Leg IV: femur, length 0.55, breadth 0.22; tibia, length 0.39, breadth 0.12; tarsus, length 0.265, breadth 0.08.

TRUK. MOEN (Wena): Feb. 19, 1948, H. S. Dybas (type, US).

DISTRIBUTION: Central Caroline Is. (two specimens, females).

This species is closely related to *N. robustus* but is smaller, with the palpal fingers relatively longer, the tactile seta *st* of the movable finger reduced, the accessory teeth less numerous laterally, and the legs stouter and the tergal bristles less abundant.

Genus *Meiochernes* Beier, new genus

Carapace distinctly longer than broad, coarsely and roughly granulate, with eye spots rather indistinct; metazona paler at posterior border only; anterior transverse furrow sharply incised and equally shaped in both sexes; posterior transverse furrow narrow and sharply bordered in female, closer to posterior margin than to anterior furrow, but very broad, roughly granulate, and indistinctly bordered in male; posterior margin of carapace distinct, straight, finely denticulate. Abdominal tergites divided (except the ultimate), rasplike granulate, the granules similar to the teeth on skin of a shark. Vestitural bristles very strongly and almost globularly clavate. Discal bristles wanting; ultimate tergite without tactile bristles. Intersegmental and pleural membrane densely, sharply, and finely denticulate. Palm of chelicera with five bristles, *B* and *SB* almost simple. Flagellum with three blades. Pedipalps rather stout, densely granulate, coarsest on femur. Femur abruptly pedicellate. Hand with some long and weakly clavate bristles dorsally at base of fingers; the other vestitural bristles of pedipalps short and very strongly clavate. Fixed palpal finger with normal number of eight tactile setae, *est* very near *eb-esb*, *isb* distad from *ib*, *ist* distad from *est*, *it* almost in middle of finger; movable finger with only three tactile setae (*st* wanting). Movable finger with venom apparatus. Both fingers with accessory teeth few in number. Legs stout, tarsus of fourth pair without tactile bristle. Claws simple.

Genotype: *Meiochernes dybasi*, new species.

Eastern Micronesia.

This new genus differs from the closely related *Nesidiochernes* particularly in the absence of the tactile seta *st* of the movable palpal finger, which bears, therefore, only three tactile setae. Further differences are in the rasplike granulate integument; in the carapace being distinctly longer than broad and sexually dimorphic in the shape of the posterior transverse furrow, which is very broadened in the male; and in the palpal hand with a frill of elongate bristles distally.

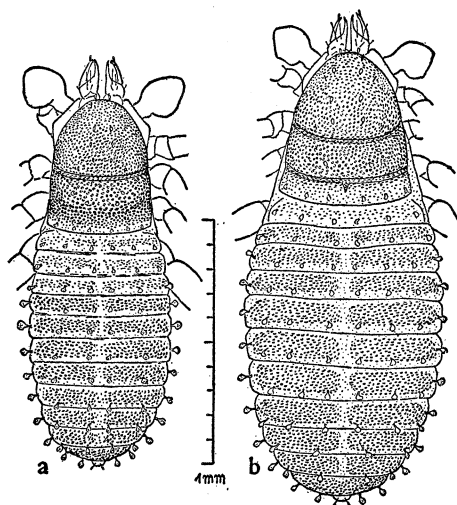


FIGURE 39.—*Meiochernes dybasi*: a, male, dorsal view; b, female, dorsal view.

44. *Meiochernes dybasi* Beier, n. sp. (figs. 39, 40).

Carapace one-eighth (female) or one-fourth (male) longer than broad, dark reddish brown in whole anterior part up to posterior transverse furrow in female or over it in male, coarsely and roughly, oralward gradually somewhat more finely granulate; metazona entirely (female) or only on posterior margin (male) pale yellowish brown and shallower but also distinctly granulate; submedian furrow narrow and sharply incised in both sexes, transversely granulate; posterior furrow narrow in female, distinctly closer to posterior margin than to submedian furrow, triangularly widened at middle, but very broadened and deepened in male, very densely rasplike granulate, with granules darker and smaller than those of the mesozona, the margins of the furrow flattened and indistinct; posterior margin of carapace with six strongly clavate bristles, the whole disc with 28 bristles, of which 16 are strongly clavate; posterior margin straight, finely denticulate, everywhere distinct. Eye spots large but rather indistinct and granulate. Abdominal tergites divided except the ultimate, brown, the three anterior ones in male and first only in female paler yellowish brown and weaker granulate than the others, which are densely and sharply rasplike granulate, the granules resembling the teeth of the skin of a shark. Each tergite of male with six, but the eleventh with four, strongly clavate marginal bristles of the same shape; discal bristles wanting also on eleventh segment, the lateral bristles but weakly moved oralward. Abdominal sternites divided except the ultimate, eighth and ninth distinctly granulate, with eight to 10 marginal bristles, the eleventh with four; lateral bristles of the four posterior sternites clavate, particularly those of ultimate

and penultimate segments. Anal conus with a dorsal and ventral pair of bristles. Palm of chelicera with five bristles, *B* and *SB* almost simple, *B* and *EB* short. Flagellum with three blades, the distal one pennate, one-sided. Serrula exterior with 17 teeth. Galea rather stout, simple in male, but with six short terminal teeth in female. Galeal bristle not reaching tip of galea. Pedipalps not longer than body, dark chocolate brown, fingers paler reddish brown; trochanter and femur coarsely, tibia somewhat finer, and hand distinctly finer granulate; bristles very strongly, almost globularly clavate. Trochanteral tubercles rounded. Femur 2 (male) to 2.2 times (female), tibia 2 (male) to 2.1 times (female), hand 1.5 (male) to 1.6 times (female), chela with pedicel 2.6 times, without pedicel 2.3 to 2.4 times, longer than broad. Hand broadly ovate, with three long, clavate bristles dorsally at base of fingers. Fingers shorter than hand without pedicel and but a little longer than hand is broad, not gaping, almost straight; fixed finger with about 25, movable finger with 28, marginal teeth, the fixed finger toothless basally; accessory teeth present, three on both fingers laterally; medially fixed finger bears three,

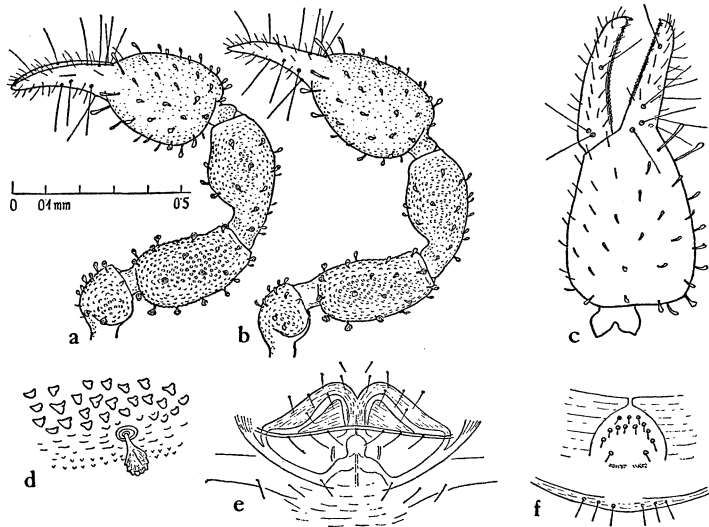


FIGURE 40.—*Meiochernes dybasi*: a, pedipalp, male; b, pedipalp, female; c, chela, lateral view; d, part of posterior border of an abdominal tergite with granulation and clavate bristle; e, genital area, male; f, genital area, female.

movable finger two, accessory teeth. Tactile seta *est* of fixed finger close to *esb* and scarcely more widely removed from the latter than *esb* from *eb*; *isb* somewhat distad from *ib*, *ist* more (male) or less (female) closer to *ib* than to *isb* and rather far distad from *est*; movable finger with only three tactile setae, because *st* is wanting. Legs rather stout, femur of fourth pair three times, tibia 3.4 times, tarsus 3.8 times, longer than broad, the latter without tactile bristles.

Measurements (in millimeters). Length of body (male) 1.5, (female) 1.8; carapace, length (male) 0.55, (female) 0.63, breadth (male) 0.43, (female) 0.55. Pedipalps: femur (male), length 0.39, breadth 0.19; tibia, length 0.40, breadth 0.20; hand, length 0.39, breadth 0.27; fingers, length 0.32; femur (female), length 0.40, breadth 0.18; tibia, length 0.39, breadth 0.18; hand, length 0.425, breadth 0.27; fingers, length 0.30.

PONAPE. Mt. Kupuriso, north slope, 300-450 m., Mar. 11, 1948, H. S. Dybas (type, US); Mt. Kupuriso, summit, 600 m., Mar. 1948, Dybas; Mt. Pairot, summit, 600 m., Mar. 1948, Dybas; Mt. Nanalaud, 300 m., Mar. 1948, Dybas; Mt. Dolennankap, 510-570 m., Aug. 1946, Townes; Mt. Temwetemwensekir, 180 m., Jan. 1953, Gressitt; Sankaku Yama, Sept. 1950, Adams; Nanpil, Nett District, Feb. 1948, Dybas (paratypes, BISHOP, MCZ, US, CM).

DISTRIBUTION: Eastern Caroline Is. (47 specimens).

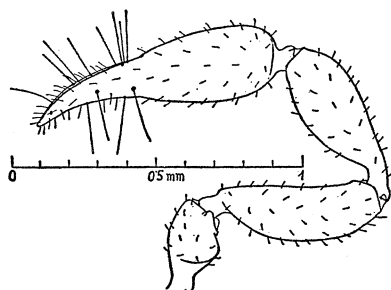


FIGURE 41.—*Allowithius australasiae*, male, right pedipalp.

FAMILY CHELIFERIDAE

45. *Allowithius australasiae* Beier (fig. 41).

Chelifer simoni Ellingson, 1910, Zool. Mus. Berlin, Mitt. 4 (2): 387 (part, Marshalls).

Allowithius australasiae Beier, 1932, Zool. Anzeiger 100: 54; 1932, Das Tierreich 58: 206, fig. 212.—Chamberlin, 1934, B. P. Bishop Mus., Occ. Papers 10 (22): 10.—Beier, 1940, Zool. Jahrb., Abt. Syst. 74 (3): 169.

Undescribed male can be characterized as follows: Sclerotic parts reddish brown, densely granulate. Carapace distinctly longer than broad, relatively narrow; both transverse furrows distinct and deep, granulate, posterior one closer to base than to anterior furrow. Eyes present. Chaetotaxy of abdominal tergites: 12: 10: 4: 6: 6: 6: 6:

8 10 10 10 10

6: 6: 6: 2 ; tactile bristles of ultimate tergite long; all vestitural bristles short and

pin-shaped, dentate, weakly thickened distally at most. Abdominal sternites 4 to 9 of male with transverse areas of sense bristles, this area narrowed laterally; the fourth segment with an average of 28 sense pins, the fifth with 58, the sixth and seventh with 76, the eighth with 57, and the ninth with 53; sense pins short, acute, and spike-like; rarely, tenth sternite bears two or three isolated sense pins. Palm of chelicera with five bristles. Pedipalps moderately slender, femur 3.3 times, tibia 2.8 times, chela with pedicel 3.5 to 3.7 times, and without pedicel 3.2 to 3.5 times, longer than broad. Fingers shorter than hand without pedicel, fixed finger with 29, movable finger with 30, marginal teeth, which have brown tips. Femur of fourth leg three times, tibia 4.4 times, and tarsus 5.5 times, longer than broad; tactile bristle of latter distinctly distad of middle.

Measurements (in millimeters). Length of body 2. Pedipalps: femur, length 0.61,

breadth 0.185; tibia, length 0.61, breadth 0.22; hand, length 0.53, breadth 0.25; fingers, length 0.42. Leg IV: femur, length 0.52, breadth 0.18; tibia, length 0.40, breadth 0.09; tarsus, length 0.33, breadth 0.06.

DISTRIBUTION: Micronesia (three specimens).

S. MARIANA IS. SAIPAN: Chalan Kanoa, Jan. 1945 and Mt. Tagpochau, 375 m., Feb. 1945, Dybas (CM, BISHOP).

MARSHALL IS. Not represented from here in the collections of the Pacific Science Board.

Hitherto only the female of this species has been known from the Marshall Islands.