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# The Genera and Species of the Hyidae

A Family of the Arachnid  
Order Chelonethida

BY

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THE GENERA AND SPECIES OF THE HYIDAE,  
A FAMILY OF THE ARACHNID ORDER CHELONETHIDA

JOSEPH C. CHAMBERLIN<sup>1</sup>



This is the second contribution toward a revision of the generic classification of the Chelonethida. The nature and scope of this proposed work has been discussed in the first paper of the series dealing with the Tridenchthoniidae (J. C. and R. V. Chamberlin, Utah Univ. Bul. Biol. Ser., V, Vol. 9, no. 2, 67 pp. 1945).<sup>2</sup>

Family HYIDAE Chamberlin

1930. *Hyidae* Chamberlin, Ann. and Mag. Nat. Hist., Ser. 10, 5:41.  
1931. *Hyidae* Chamberlin, Stan Univ., Publ., Univ. Ser. Biol. Sci. 7(1):219, illus.  
1932. *Hyinae* Beier, Das Tierreich 57:166.  
1932. *Hyinae* Beier, Handb. der Zool., Willy Kükenthal 3(2):183.  
1937. *Hyinae* Roewer, Bronns Klass. u. Ord. des Tierreichs, 5 Bd., IV Abt., 6 Buch, 2 Lief., p. 254.

TYPE GENUS.—*Hya* Chamberlin

DIAGNOSIS (emended).—Neobisioid chelonethids most closely related to the Ideoroncidae.

Chela in all known species with the usual 12 tactile setae in the adult (fig. 16); 10 in the tritonymph (fig. 2).

Venom apparatus well developed in both fixed and movable fingers of chela; ducts of elongate type (figs. 2, 16).

Interfemoral articulation of legs IV a subvertical symphysis, the basifemur shorter than the telofemur, but elongate and not trochantinlike (figs. 14, 28).

Median maxillary lyrifissure an open U-shaped structure (figs. 7, 29).

Pleural membrane of abdomen granulate or granulostriate as in the Neobisiidae (fig. 13, 15).

Chelicera lacking the lamina exterior as well as the laminal seta. In species thus far known, 2 accessory setae occur on the palm of the chelicera (figs. 10, 26). Serrula interior with teeth well developed and not basally fused into a lamina. Flagellum variable, with 3-7 blades. Galea a simple unbranched styletlike organ in species thus far known.

Eleventh tergite and sternite more or less completely fused into a single circumanal sclerite which, however, is not strongly sclerotic. Anal operculum (reduced 12th tergite and sternite) with both dorsal and sternal elements bisetose.

<sup>1</sup>U. S. Department of Agriculture, Agricultural Research Administration, Bureau of Entomology and Plant Quarantine, Forest Grove, Oregon.

<sup>2</sup>Publication of the bulletin is financed by the University of Utah Research Committee.

Legs of usual diplosphyronid facies, although the intertarsal articulation of legs I and II is only weakly developed in the type genus and may be tending toward obsolescence, while in *Leucohya* it is completely absent, leaving a typical miotarsus as in the Heterosphyronida; tarsi III and IV normal and two-segmented. Subterminal tarsal seta variable, either dentate or acute.

**METAMORPHOSIS.**—No comparative data currently available. The genus *Leucohya* is known from the tritonymph of the type species, but since the adult is unknown no comparison is possible. It is almost certain, however, that the complete complement of tactile setae of the chela will be found in the adult. Immature stages are not as yet available for other species of the family.

**GEOGRAPHICAL RANGE.**—The range of the three known species is entirely tropical and subtropical. One genus (1 species) is from Mexico; the other genus (2 species) is from Malaysia (Philippines, 1 species; Java and Sumatra, 1 species).

It is extremely improbable that the geographical range of the family is actually as restricted as these records might imply, and it is believed that when the tropics, especially, are thoroughly explored other species and genera will be brought to light.

**BIOLOGY.**—Nothing is known of the biology of any species in this group. Nor are habitat records available with the one exception, *Leucohya heteropoda* sp. n., which is presently known from a single tritonymph taken in the "Gruta del Palmita" at Bustamante, Nuevo Leon, Mexico. This is undoubtedly a true cave species.

**HISTORY OF THE FAMILY.**—The history of the family is short. It was first proposed by Chamberlin in 1930 (loc. cit.) on the basis of the type species *Hya heterodonta* Chamberlin. In 1932 Beier (Das Tierreich, loc. cit.) treated the group as a subfamily of the Ideoroncidae without, however, introducing new data or advancing reasons for the reduction in rank. He also transferred *Ideobisium minutum* Tullgren to the genus *Hya* at this time. Roewer in 1937 (loc. cit.) followed Beier in considering the group of subfamily rank.

With the addition of *Leucohya* to the group it is, more than ever, regarded as certain that it should maintain full family status. The morphological criteria employed for its separation from the Ideoroncidae are completely parallel, for example, to those which distinguish the Neobisidae and the Syarinidae.

The monotypic genus *Leucohya* herein described is anomalous in being distinctly heterotarsate (fore tarsi single-segmented, hind tarsi two-segmented). This has heretofore been considered as a completely diagnostic character of the Heterosphyronida (Chthonioidea), but in spite of this *Leucohya* cannot be referred to that suborder, being in all other respects a typical representative of the Diplosphyronida. *Leucohya* therefore holds the same exceptional position with reference to the Chthonioidea that *Synsphyronus* bears to the Fealloidea. (See J. C. Chamberlin, Ent. Soc. Amer. Ann. 36: (3): 486-488. 1943).

The two genera and subfamilies currently recognized differ remarkably, even aside from the tarsal structure. They may be separated by means of the following key.

## KEY TO THE HYIDAE

Flagellum of 3 small but typical blades; subterminal setae of tarsus denticulate (fig. 1); dorsum of hand of chela with 1 or more tactile setae (fig. 5); tarsus of legs I and II fused into a miotarsus (figs. 11, 12); legs III and IV two-segmented as is normal (fig. 14). (subfamily *Leucohyinae* nov.) .....1. *Leucohya* gen. nov.

Flagellum of about 7, terminally spatulate and incised blades (fig. 25); subterminal setae of tarsus acuminate; dorsum of hand of chela lacking tactile setae (fig. 15); all tarsi more or less clearly two-segmented (fig. 15) (subfamily *Hyinae*) .....2. *Hya* Chamberlin

## 1. Subfamily LEUCOHYINAE nov.

TYPE GENUS.—*Leucohya* gen. nov.

DIAGNOSIS.—Hyidae with single-segmented fore tarsi and two-segmented hind tarsi (heterotarsate as in the chthoniids) (figs 11, 12, 14); subterminal setae denticulate (fig. 1); flagellum with 3 small and apparently acuminate blades; posterior maxillary lyriform organ a single, nearly closed dyrifissure (fig. 8).

REMARKS.—Includes, at present, only the monotypic genus *Leucohya* which is unique in many characteristics. Although the type species is based upon a single tritonymph the characteristics which define it are so pronounced that, even if the fusion of the tarsal segments of the forelegs to form a typical miotarsus should prove to be merely a specific or even a teratological characteristic, there would still be ample justification for its generic and subfamily separation from *Hya*, the only other genus at present referable to the family.

The heterotarsate character of the legs would, of itself, throw this species into the Chthonioidea, but this disposition is denied by the possession of numerous other characteristics which clearly indicate its diplosphyronid and hyd affinities. Thus the presence of the typical venom apparatus which occurs in both fingers of the chela (fig 2), the structure of the coxal area in general and of the maxillae in particular (fig. 6), the presence of typical U-shaped median and posterior maxillary dyrifissures (figs. 7, 8) such as characterize the Neobisioidea only, and the granulate nature of the pleural membrane (fig. 13) all agree in verifying the present disposition of this unique species.

1. Genus LEUCOHYA<sup>2</sup> nov.

ORTHOTYPE.—*Leucohya heteropoda* sp. nov.

DIAGNOSIS.—With the characters of the subfamily and its only included species. The chaetotaxy and dentition of the chela (fig. 2), the form and general chaetotaxy of the carapace (fig. 9), the structure of the chelicera with special reference to the chaetotaxy (fig. 10), the character of the arolium and subterminal seta (fig. 1), and the disposition of the pseudotactile setae of legs III and IV (fig. 14) will serve to define the genus.

<sup>2</sup>Greek, *leucos*, white or pallid, plus *Hya*.

1. LEUCOHYA HETEROPODA<sup>3</sup> n. sp.

**TYPE MATERIAL.**—Holotype probably a tritonymph (JC-1636.01001). Mexico: Nuevo Leon. "Gruta del Palmito, Bustamante. 15-IX-1942." Coll. C. Bolivar. Type and only known example returned to F. Bonet (Department of Zoology, Escuela Nacional de Ciencias Biologicas, Mexico, D. F.).

**DIAGNOSIS.**—A relatively large, blind, pallid, and slender (blothroid) cave-inhabiting species. All sclerotic parts smooth and polished. Carapace (fig. 9) much longer than broad (1.5 times) with nearly parallel sides. Completely eyeless; sparsely clothed with slender, acuminate setae; chaetotaxy 6-7 (41); epistomal process nearly vestigial, rounded (fig. 9, insert).

Tergites entire; vestitural setae slender and acuminate, chaetotaxy (segments 1-10), 7:8:9:10:10:8:11:10:9:8. Sternites entire, with acuminate setae of rather variable length; partially biseriate; chaetotaxy (segments 2-10)  $\frac{4}{3} : \frac{1}{7} : 11:10 : \frac{0-2}{12} : 13:12:11:10$ ; anal operculum (reduced 12th tergite and sternite well developed and with each half bisetose; spiracular guard sclerites with 2-3 dwarf setae each. Marginal setae of terminal abdominal segments slightly more elongate than usual, but no clearly differentiated pseudotactile setae seem to occur.

Chelicerae as illustrated (fig. 10), with a slender unbranched galea, with 2 accessory setae, flagellum reduced and comprising 3 broad and apparently acuminate blades of nearly equal length, serrula exterior and interior both serrulate throughout, lamina exterior absent.

Palps attenuate, as illustrated (fig. 5); femur 1.1 times as long as the tibia and 6 times as long as broad; tibia 4.7 times as long as broad; chela (including pedicel) 1.9 times as long as the femur, twice as long as the tibia and 5.6 times as long as broad; fingers much longer than the femur (1.2 times) and 1.8 times as long as the hand, which is twice as long as broad.

Chela (chaetotaxy, dentition, and venom apparatus) as illustrated (figs. 2, 3); fixed finger with 118, movable finger with 115 contiguous, truncate or retrotruncate teeth, which are equally developed on both fingers from base to tip except for the basal 25 or 26 teeth of the movable finger, which are more or less fused and elongated to form a characteristic although not markedly conspicuous crest (figs. 2, 4); actual venedens of both fingers relatively small; tip of entire finger characteristically curved or "hooked" (figs. 2, 3).

## EXPLANATION OF PLATE I

*Leucohya heteropoda* gen. et sp. nov. (1) Ventral aspect of praetarsus and associated structures of left second leg. Note dentate subterminal setae. (2) Interior-lateral aspect of left chela. (3) Tip of movable finger of left chela showing dentition, venom duct, etc. (4) Exterior-lateral aspect of dental crest at base of movable finger of left chela. (5) Dorsal aspect of right pedipalp. (6) Ventral aspect of left coxae and maxilla. (7) Median maxillary lyrifissure. (8) Posterior maxillary lyrifissure. (9) Carapace and detail of epistomal area. (10) Dorsolateral aspect of right chelicera. (11) Lateral aspect of leg I, showing typical miotarsus. (12) Miotarsus of leg I. (13) Pleural membrane of abdomen showing character of "granulation." (14) Leg IV showing development of metatarsus. (All figures from unique holotype. Tritonymph.)

<sup>3</sup>Greek, *heteros*, different; *pous*, foot. Reference is to the unequal tarsal segmentation.

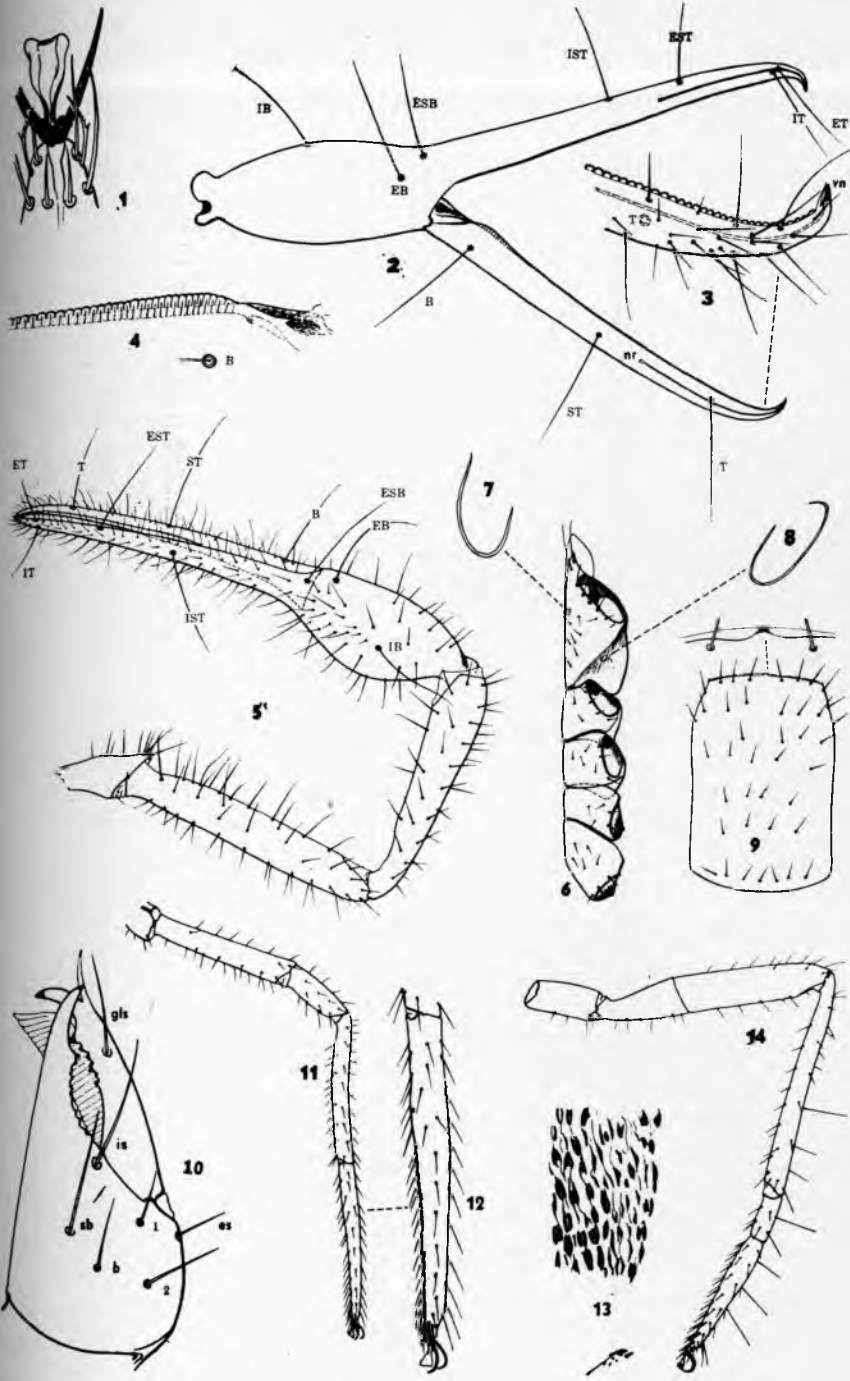


PLATE 1

*Leucohya heteropoda* sp. n.

Legs as illustrated, unusually attenuate; structurally remarkable because legs I and II possess a single-segmented tarsus while the tarsi of legs III and IV are typically two-segmented (figs. 11, 12, 14). Subterminal setae with a median tooth and several minute, subterminal, unilateral denticulations (fig. 1).

Pedal proportions: Leg I, basifemur slightly but distinctly more than twice as long as telofemur; miotarsus distinctly but not greatly longer than the tibia; leg IV, "miofemur" subequal to or slightly longer than the tibia, leg IV, "miofemur" subequal to or slightly longer than the tibia, 5.9 times as long as deep; tibia 11 times as long as deep; telotarsus 2.8 times as long as the metatarsus.

MEASUREMENTS (in mm.).—Total length 3.76. Carapace 1.21 x .81. Palps: trochanter indet. x .253; femur, 1.476 x .246; tibia 1.345 x .284; chela (incl. pedicel) 2.755 x .492 broad and .469 deep; hand (incl. pedicel) 1.000 long; and fingers 1.788 long. Leg I: basifemur .804 x .153; telofemur .389 x .141; tibia .804 x .098; miotarsus .869 x .103. Leg IV: "miofemur" 1.271 x .216; tibia 1.230 x .115; metatarsus .262 x .102; telotarsus .745 x .113.

REMARKS.—The general appearance of this remarkable species is superficially quite similar to certain species of the subgenus *Blothrus* of the genus *Neobisum* which are typical inhabitants of many of the caves of Europe. Its facies (attenuation of appendages, pallid coloration, and blindness) is entirely typical of permanent cave-inhabiting species.

The exact stage of development of the specimen upon which this species is based is possibly uncertain. The chaetotaxy is that of a typical tritonymph, but in some respects the genital area suggests that the specimen might be a female, although no cribriform plates or other structures truly typical of maturity can be observed. In any event, the species is so sharply distinctive that, regardless of the stage of the holotype and only known specimen, its recognition should be certain.

## 2. SUBFAMILY HYINAE BEIER

1932. *Hyinae* Beier, Das Tierreich 57:166. (First nomenclatorial use of the subfamily term).

OTHER REFERENCES.—Identical to those listed under the family heading.

TYPE GENUS.—*Hya* Chamberlin.

DIAGNOSIS.—Hyidae with all tarsi more or less clearly two-segmented (homotarsate), subterminal seta acute, flagellum with 6 or 7 slenderly clavate and distally deeply incised blades (fig. 25), posterior maxillary lyriform organ a multiple series of 3 interlocking U-shaped fissures (fig. 29).

REMARKS.—Includes, at present, only the type genus *Hya*. The two included species are from the Malaysian region.

The nomenclatorial use of the subfamily term *Hyinae* was introduced by Beier in 1930 (loc. cit.). He employed it, however, as equivalent to the family *Hyidae* as here recognized and not in the present restricted sense.

2. Genus HYA<sup>4</sup> J. C. Chamberlin

1930. *Hya* J. C. Chamberlin, Ann. and Mag. Nat. Hist., Ser. 10, 5:41-42, illus.  
 1930. *Hya* Chamberlin, Chamberlin, Stan. Univ., Publ. Univ. Ser. Biol. Sci. 7(1): 220, illus.  
 1932. *Hya* Chamberlin, Beier, Das Tierreich 57:166-167, illus.  
 1937. *Hya* Chamberlin, Roewer, Bronns Klass. u. Ord. des Tierreichs, 5 Bd., IV Abt., 6 Buch, 2 Lief., p. 255 (listed).

ORTHOTYPE.—*Hya heterodonta* J. C. Chamberlin

DIAGNOSIS (emended).—With the characters of the subfamily. The chaetotaxy and dentition of the chela (fig. 16); the general structure and chaetotaxy of the carapace (fig. 15) and chelicera (fig. 26); the acute sub-terminal seta; the short, undivided arolia and the character of the pseuotactile setae of the fourth legs (fig. 28) will serve to define the genus.

REMARKS.—The two closely related species, at present assigned to this genus, may be separated by means of the following key.

## KEY TO THE GENUS HYA

- Movable finger of chela completely lacking teeth, these being replaced by a simple, undivided lamella; setae EB and ESB of chela contiguous; dorsal contour of tip of fixed finger, as viewed from a lateral aspect, smoothly rounded; from Java and Sumatra .....2. *minuta* (Tullgren)
- Movable finger of chela with 12-15 very low, broad, contiguous teeth which are almost obsolete, but definitely not fused into a lamella (fig. 16); seta EB and ESB separated by about one areolar diameter—not contiguous; dorsal contour of tip of fixed finger, as viewed from lateral aspect, abruptly depressed opposite insertion of seta IT (figs. 16, 22); from the Philippines.....1. *heterodonta* Chamberlin

1. HYA HETERODONTA<sup>5</sup> J. C. Chamberlin

1930. *Hya heterodonta* J. C. Chamberlin, Ann. and Mag. Nat. Hist., Ser. 10, 5:42, figs. 2KK (marginal teeth of chela) and 3E (fingers of chela).  
 1931. *Hya heterodonta* Chamberlin, Chamberlin, Stan. Univ., Publ., Univ. Ser. Biol. Sci. 7(1):71, 142, and 219; figs. 9F (p. 50) (carapace); 13Q (p. 66) (chelicera); 15I (p. 70) (flagellum); 17K and P (p. 77) (female and male galea); 19F (p. 84) (coxal area); 28F (p. 120) (palp); 33H and J (p. 136) (articulation of movable finger of chela and tip of fixed finger of chela); 36D and E (p. 140) (chela and sensory spots of movable finger); 43N (p. 162) (leg IV); 58 (p. 219) (entire animal, dorsal and ventral).  
 1932. *Hya heterodonta* Chamberlin, Beier, Das Tierreich 57:167.  
 1937. *Hya heterodonta* Chamberlin, Roewer, Bronns Klass. u. Ord. des Tierreichs, 5 Bd., IV Abt., 6 Buch, 2 Lief., p. 255 (listed); Abb. 30 h. (p. 55) (marginal teeth of chela); Abb. 70 f. (p. 95) (flagellum).

DIAGNOSIS (emended).—A small, free living species. All sclerotic parts smooth and polished. Carapace (fig. 15) subquadrate, the sclerotic disc itself no longer than broad. With 4 equally developed eyes which are slightly less than an ocular diameter apart; epistomal process completely lacking, the anterior carapacial margin smooth and gently and evenly rounded; vestitural setae of carapace slender and acuminate; chaetotaxy 4-2 or 3 (16 or 17).

<sup>4</sup>An anglicized form of a feminine, Russian proper name (Clara Hya Chamberlin).

<sup>5</sup>Greek, *heteros*, other or different + *odous*, tooth. Reference to unequal dentition of chela.

Figure 15—*Hya heterodonta* J. C. Chamberlin. Male. Left side ventral, right side dorsal.

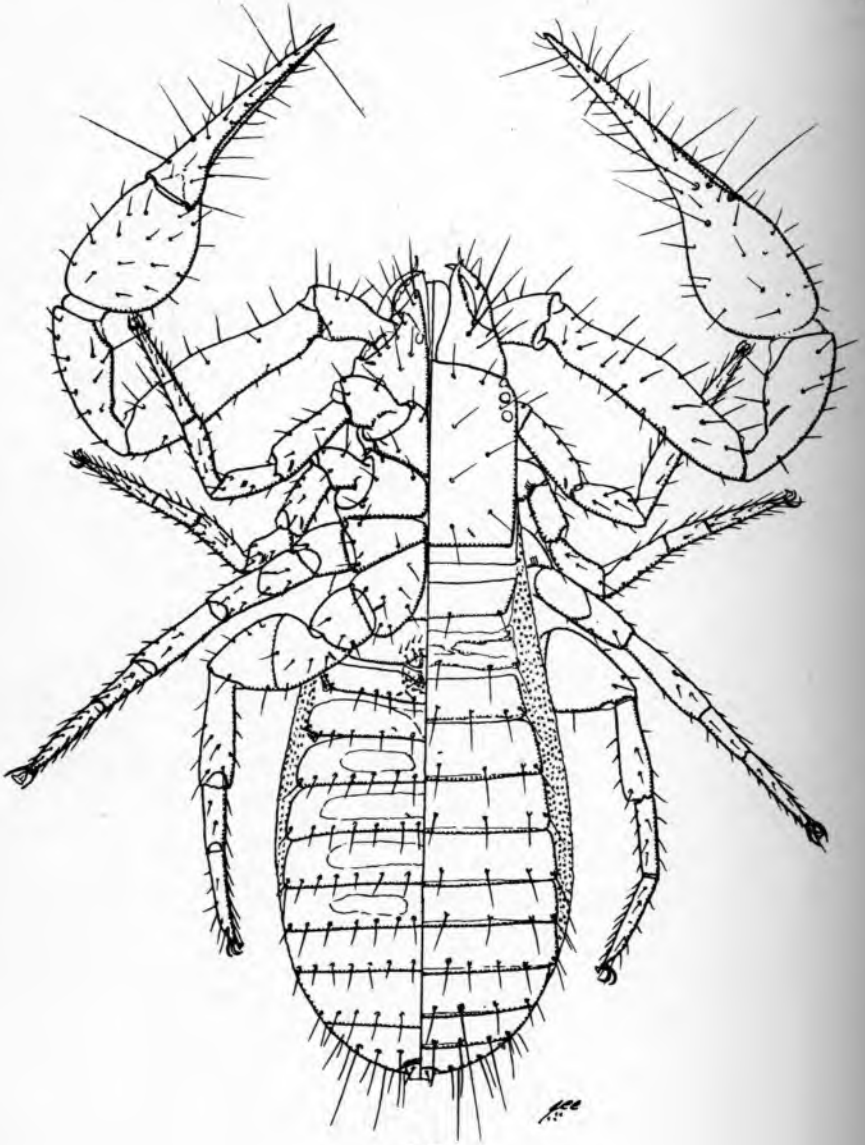
**15**

PLATE 2

*Hya heterodonta* J. C. Chamberlin

Tergites entire; tergite 2 weakly sclerotic, the scutum irregularly semi-membranous in both sexes; tergal chaetotaxy somewhat variable, slightly differentiated sexually, the marginal setae more numerous on the median segments of the female than of the male. Tergal chaetotaxy of male (2 specimens studied) (segments 1-12), 4: 6: 6-8: 7-8: 8: 8-9: 8: 8-9: 8-9: 9-10: 8: 5 or 6: 2; of female (2 specimens) (1-12), 4: 6: 8: 8: 9-10: 9-10: 10-11: 10: 9: 9: 5: 2. Sternites show marked sexual differentiation; normally but lightly sclerotic in female; in male with more or less clearly defined discal areas or patches of lighter sclerotization anterior of marginal setae on segments 5-8 inclusive (fig. 15). These lighter areas tend to be divided on segments 5 and 8, but are entire and regular in form on segments 6 and 7. Sternal chaetotaxy not markedly different sexually, marginal setae somewhat variable in number; chaetotaxal formula (both sexes; sternites 4-12) as follows: 8-10: 11-15-13-16: 13-16: 12-16: 11-15: 10-12: 4 or 5: 2. Tergites 9, 10, and 11 apparently with a submedian pair of pseudotactile setae; sternites 10 and 11 each, apparently, with a sublateral pair of pseudotactile setae. Anterior spiracular guard sclerite with 2, posterior with 3 dwarf setae.

Genital area and associated structures of male as illustrated (figs. 18, 19). Genital operculum of female with an irregular, medium, cluster of 9 setae and 1 or 2 lyrifissures; cribriform plates of female not apparent in available material (figs. 23, 24).

Chelicerae as illustrated (fig. 26); with 2 accessory setae between setae *b* and *es*; galea a simple stylet in both sexes, but more slender and acuminate in the male than in the female (figs. 20, 21); lamina exterior absent; flagellum as illustrated (fig. 25).

Palps moderately slender, but with chela robust (fig. 15); with moderate sexual differentiation in the femoral and tibial proportions, those of the female being relatively more robust. Proportions (both sexes unless otherwise noted): Trochanter 2.2-2.4 times as long as broad; femur 3.6-3.8 times as long as broad in female and 4.1-4.2 times as long as broad in male; tibia 2.4-2.6 times as long as broad in female and 2.7 times as long as broad in male; chela 3.3 times as long as broad; fingers subequal to or slightly shorter than the femur and 1.3-1.5 times as long as the hand without pedicel; hand 1.3 to 1.4 times as long as broad.

Chela (chaetotaxy, dentition, and venom apparatus) as illustrated (fig. 16); marginal teeth of movable finger nearly obsolete although 12-15, low and very broad, contiguous teeth can be distinguished distally; fixed finger with 17-18 acute, spaced, marginal teeth which tend to become smaller and more closely spaced caudally; with from 1-3 small, rounded, and nearly con-

#### EXPLANATION OF PLATE III

*Hya heterodonta* J. C. Chamberlin. (16) Chela, interior aspect of left chela. (17) Sensory seta from interior face of movable finger of chela. (18) Genital operculum of male showing chaetotaxy. (Holotype). (19) Sketch of interior genital structure of male. Genital sacs not definitely visible in available material. (Holotype). (20) Male galea. (21) Female galea. (22) Tip of fixed finger of chela showing depression in profile opposite seta IT and the character of the dentition. (23) Female genital operculum showing chaetotaxy and sketch of superimposed seminal receptacles. (Allotype). (24) Female genital operculum showing chaetotaxy (paratype). (25) Flagellum. (26) Chelicera. (27) Base of movable finger of chela showing internal structure of articular apodeme. (28) Leg IV. (29) Coxal area and details of median and posterior maxillary lyrifissures.

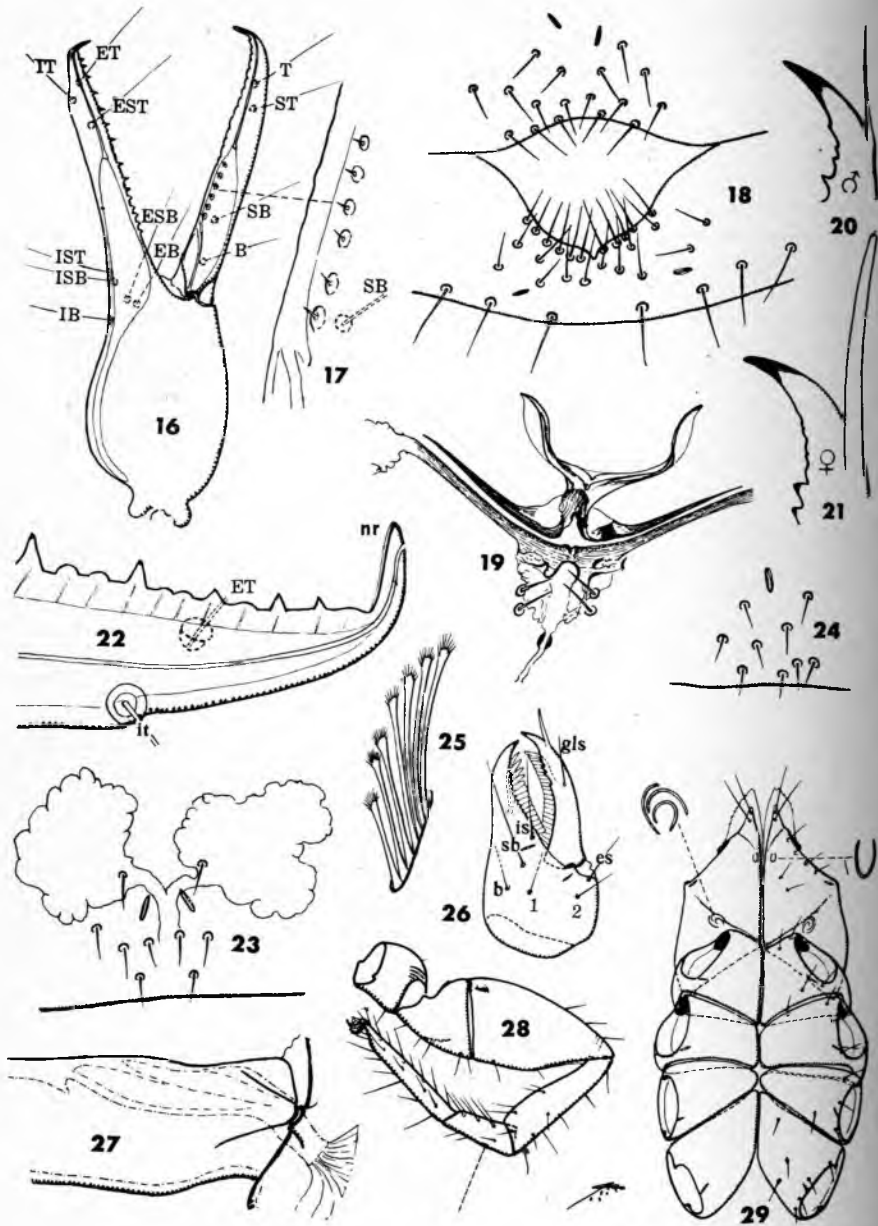


PLATE 3

*Hya heterodonta* Chamberlin

tiguous teeth occurring in the intervals between the 3 to 7-9 larger, acute teeth (fig. 22). The movable finger with a series of about 6 small, sensory (?) setae occurring interiorly between the nodus ramosus and seta SB (fig. 17).

Legs of normal facies, except that the articulation between the telotarsus and metatarsus of legs I and II is very weakly developed and apparently tending toward obsolescence in some individuals. Subterminal tarsal seta acuminate.

Pedal proportions: Leg I; basifemur 1.5 times as long as telofemur; tarsus plus metatarsus 1.5-1.6 times as long as tibia. Leg IV; "miofemur" 1.5-1.6 times as long as tibia and 2.6-2.7 times as long as deep; tibia 3.4-3.6 times as long as deep; telotarsus 1.6-1.7 times as long as metatarsus.

MEASUREMENTS. (in mm.).—Male (holotype, JC-550.04003). Total length (KOH cleared) 1.28. Carapace (KOH cleared) .36 long (sclerotic part); ocular breadth .31. Palps: trochanter, .239 x .108; femur, .497 x .118; tibia, .344 x .128; chela, .754 (with pedicel, .787) x .230 broad and .218 deep; hand, .307 long, fingers, .443 long. Leg I: basifemur, .238 x .074; telofemur, .161 x .066; tibia, .180 x .049; metatarsus, .105 x .044; telotarsus, .179 x .030. Leg IV: "miofemur," .443 x .169; tibia, .285 x .080; metatarsus, .167 x .056; telotarsus, .271 x .038.

Male (paratype, JC-550.04001). Total length (KOH cleared) 1.16. Carapace (KOH cleared), .34 long (sclerotic part); ocular breadth .30; posterior breadth .34. Palps: trochanter, .230 x .100; femur, .476 x .117; tibia, .341 x .126; chela .730 (with pedicel, .770) x .225; hand, .287 long; fingers, .443 long. Leg I: basifemur, .233 x .072; telofemur, .153 x .066; tibia, .169 x .048; metatarsus, .098 x .041; telotarsus, .177 x .030. Leg IV: "miofemur," .426 x .164; tibia, .262 x .077; metatarsus, .151 x .053; telotarsus, .254 x .034.

Female (allotype, JC-550.04002). Total length (KOH cleared) 1.43. Carapace indet. Palps: trochanter, .246 x .110; femur, .484 x .130; tibia, .335 x .130; chela, .761 (with pedicel, .795) x .244 broad and .249 deep; hand, .328 long; fingers, .435 long. Leg I: basifemur, .230 x .075; telofemur, .156 x .066; tibia, .180 x .049; metatarsus, .098 x .043; telotarsus .164 x .033. Leg IV: "miofemur," .421 x .156; tibia, .279 x .079; metatarsus, .156 x .059; telotarsus, .254 x .038.

Female (paratype, JC-550.04004). Total length 1.53 (KOH cleared). Carapace (KOH cleared), .34 long (sclerotic portion); ocular breadth .31; posterior breadth .34. Palps: trochanter, .246 x .102; femur, .448 x .125; tibia, .312 x .131; chela, .771 (with pedicel, .804) x .235; hand, .320 long; fingers, .448 long. Leg I: basifemur, .230 x .072; telofemur, .148 x .066; tibia, .174 x .049; metatarsus, .098 x .039; telotarsus, .167 x .033. Leg IV: "miofemur," .421 x .159; tibia, .266 x .077; metatarsus, .153 x .057; telotarsus, .254 x .038.

REMARKS.—The redescription here given is based upon a restudy of the type material from Mt. Makiling, Philippine Islands (JC-550.04001-8). In addition to being more complete, this account corrects a few inadvertant errors made in the original description. These involve particularly the chaetotaxy of carapace and tergites as well as certain palpal proportions

2. HYA MINUTA<sup>s</sup> (Tullgren)

1905. *Ideobisium minutum* Tullgren, *Mitteil. aus dem Naturhist. Museum Hamburg.* 22:44-45, figs. 4a (palp); 4b (flagellum); 4c (tip of chelicera showing galea). Type: 1 female (?). From Depok, Buitenzorg, Java.
1930. *Ideobisium minutum* Tullgren, Beier, *Zool. Anz.* 91:288. (Records material from Batavia, Java, (male and female), and from Padang, Sumatra (one male). Additional descriptive matter and measurements also given).
1932. *Hya minuta* (Tullgren), Beier, *Das Tierreich* 57:167; figs. 197 (chela) and 198 (palp). (Redescription).
1937. *Hya minuta* (Tullgren), Roewer, *Bronns Klass. u. Ord. des Tierreichs* 5 Bd., IV Abt., 6 Buch, 2 Lief., p. 255; Abb. 212 (chela). (Listed).

REMARKS.—This species is close to *H. heterodonta* in general facies, chaetotaxy, size and proportions, but seems sufficiently distinct. Beier's account is probably based upon the material recorded by him in 1930, although he may also have had access to Tullgren's type.

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<sup>s</sup>Latin, *minutus*, small or minute.