CLASSIFICATION OF THE ENICOCEPHALIDAE[1]

(Hemiptera, Reduvioidea)

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The family Enicocephalidae is one of the smaller families of Hemiptera with only 72 described species. However many more species await description in the various museums of the world for I have personally studied over 100 and still others remain to be discovered because of the obscure habits and biological peculiarities of these interesting insects.

BIOLOGY

A few species are attracted to lights but most enicocephalids are seen only during their mating flights at which time they gather in tremendous numbers and hover in swarms like chironomids. The day after such a flight, consisting of hundreds of thousands of individuals, I have searched the surrounding countryside in southern Mexico with so little success that less than a dozen specimens were turned up. In several months of intensive collecting on Guam by O. H. Swezey and myself only one specimen was found and only a single specimen has turned up in all the years of intensive collecting in the Hawaiian Islands. On the other hand I was able to collect a dozen nymphs and adults of *Oncylocotis bakeri* (Bergroth) in two days of collecting in rotten logs in the forest at Mt. Maquiling on Luzon and over 50 specimens of *Systelloderes angustatus* (Champion) were collected by H. E. Hinton and myself in association with a variety of *Formica rufibarbis* Fabr. beneath the bark of fallen pine trees at 9000 feet elevation near Real de Arriba, Temascaltepec, Mexico. It should also be noted that the swarms of *Systelloderes* at Real de Arriba were predominantly males (as are the swarms of Chironomids and mosquitoes which they resemble so closely, Knab, 1906) and I have found two distinct species within a single swarm. (See Esaki, 1935, for further evidence).

[1]This manuscript was prepared in 1941 but was not submitted for publication until February 22, 1944. On April 3, 1945, E. G. Linsley called my attention to a notice of publication of a monograph on the Enicocephalidae by Jeannel. R. I. Sailer kindly traced this reference as follows: "R. Jeannel, Les Henicocephalides, monographie d'un groupe d'Hemipteres hematophages (Ann. Soc. ent. Fr. 110, 1941, p. 283–368, 43 fig.) (paru le 20 mars 1942)" and stated in a letter dated April 17, 1945, "No numbers of the Annales de la Societe Entomologique de France have been received in this country since 1940, except the last three or four of 1943 and the first number of 1944."

Under the circumstances I requested that my manuscript be held in abeyance until I could obtain a copy or bibliofilm of Jeannel's monograph. Unfortunately my manuscript was already in press at that time. The editors of the Annals of the Entomological Society of America have been kind enough to hold the type in galleys for six months but all efforts to obtain a copy of Jeannel's publication during this time have failed. Hence, I have authorized publication of my work.

R. L. U., September 10, 1945.

HISTORY

During the last of the 19th century each investigator who encountered one of these unique bugs was so struck with its peculiarities that he proposed a new genus for it within the great family Reduviidae. Thus the genera *Enicocephalus, Systelloderes, Henschiella, Oncylocotis, Stenopirates, Dicephalus, Hymenocoris, Hymenodectes* and *Sphigmocephalus* were proposed, in most cases without reference to one another, in the family Reduviidae even though Stål had erected the family Enicocephalidae in 1860. In 1889 Dr. Bergroth took up the study of these bugs, publishing 18 papers on the group and describing nearly one-third of the species. Dr. Bergroth was a keen critic in this as in other groups and his early papers were largely devoted to bringing together the scattered elements which comprised the family Enicocephalidae at that time. In so doing, he synonymized all of the above genera under *Enicocephalus*. In this he was certainly mistaken as he fully realized in later years. His long promised monograph (1893) never appeared, however, and the family thus remained without even a skeleton classification at the time of Bergroth's death in 1925.

In 1932 I assembled the literature and the six species of Enicocephalidae available to me at the time and gave a preliminary key to genera and division into subfamilies. I have now seen the type of *Gamostolus* (described below) and enough additional material to propose an entirely new classification of the family. The subfamily Aenictophechinae proves to be untenable. Most of the previously described genera, contrary to Bergroth, are valid because their types accidentally fall into separate natural groups. The emended names *Henicocephalus* Agassiz (1846) and *Systelloderus* Stål (1865) have been suppressed in favor of the original orthography.

MORPHOLOGY

The wing venation has been studied and correlated as nearly as possible with studies of the tracheation of reduviid wings. However, this phase of the work will never be entirely satisfactory until studies are made of the tracheation of enicocephalids, themselves, a study which requires fresh material of nymphs and of recently molted adults. Great stress has been laid upon wing venation in the present classification, even though occasional specimens exhibit various spurious veins. Despite these sporadic anomalies in one or both wings of certain specimens, the basic pattern (FIG. 1) is absolutely constant within the family, all generic types being derivable by reduction from the basic type seen in *Enicocephalus* or *Oncylocotis* or even more completely with submarginal apical vein in *Ceratotrachelus*.

ACKNOWLEDGEMENTS

As on previous occasions, I am greatly indebted to Mr. W. E. China for his unfailing interest and cooperation. Mr. China checked all of the enicocephalid types in the British Museum (Natural History), placed them according to my key, and sent all of the unidentified material in this group from the British Museum for me to study. I am likewise indebted to the authorities of the United States National

Museum, the Museum of Comparative Zoology, and the American Museum of Natural History for the opportunity to study their collections in 1937. Dr. C. J. Drake kindly showed me types of the *Systelloderes* described by Drake and Harris and later sent valuable material including type material which he borrowed on his trip to Buenos Aires. Finally Dr. O. Lundblad of the Naturhistoriska Riksmuseum in Stockholm kindly loaned type material of Stål's *Oncylocotis nasutus*, thus making possible the positive identification of this important genotype.

TAXONOMY

Family **Enicocephalidae**

Antennae four-segmented. Rostrum four-segmented, the first segment very short and often obscured by the labrum. Head long, subcylindrical, and usually distinctly bilobed. Eyes and ocelli distinct.

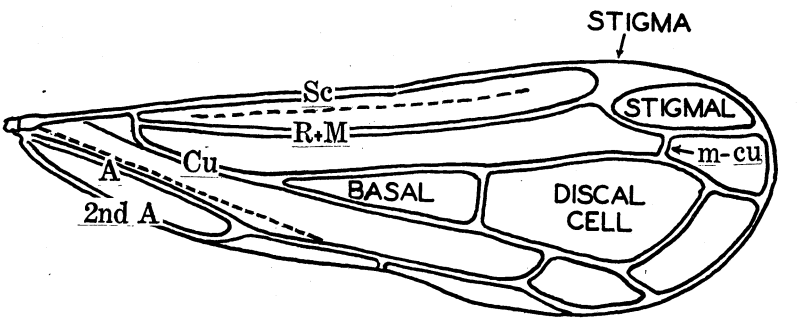

FIG. 1. Diagram of basic hemelytral venation in the Enicocephalidae.

Pronotum broadest at base, narrowed apically and usually divided by two transverse impressions into three lobes. Front wings entirely membranous, with a constant basic venational pattern (figure 1), all variations of which may be derived by reduction from the venation of the type genus *Enicocephalus* or of *Hymenocoris*. Prosternum without a trace of a stridulatory sulcus. Venation of hind wings simple, the wing cell without a hamus. Metathorax without visible scent gland orifices. Third visible abdominal tergite with a scent gland opening near the middle. Coxal cavities usually open behind. Front legs always raptorial, more or less incrassate, the tibiae usually dilated apically and variously produced at inner sides and angles with plate-like projections and spurs, bristles or tubercles. Front tarsi one or two-segmented and bearing one or two claws. Middle and hind tarsi two-segmented, the basal segments very short, apical segments bearing one or two claws. External genitalia relatively simple, the ninth abdominal segment capsule-like in the male, open and variously sclerotized ventrally and laterally behind. Ninth segment in the female subtriangular or rounded behind, sometimes appearing as a dorsal pygidial plate, with a simple round oval opening dorsally or apically. Eighth ventral segment entire.

Sexual dimorphism apparent in some species, the females usually stouter with more strongly incrassate front legs, narrower pronotum, and shorter wings.

Nymphs somewhat similar to the adults except for the usual absence of wings and ocelli. Hind lobe of pronotum reduced, narrower than middle lobe. A single scent gland opening distinct near the base of third visible abdominal tergite.

Type genus: *Enicocephalus* Westwood (1837 : 22).

The family Enicocephalidae is evidently an ancient group because it occurs on all continents and on all of the principal island groups of the world and because the two principal genera, *Systelloderes* and *Oncylocotis* occur generally throughout the world. Fossil species of doubtful position have been described from Burmese Amber (Miocene) and from Gum animé.

By far the largest and most widely distributed genus is *Oncylocotis* Stål. Moreover, this genus exhibits the basic venational pattern from which all the other types may be derived by reduction. Hence this has been taken as the generalized type. Basic or generalized characters other than venation appear to be open fore coxal cavities, distinctly bilobed head and trilobed pronotum, front legs as in *Oncylocotis*, and one-segmented fore tarsi and two-segmented hind tarsi, all of which bear two claws. Generic characters are largely those involving modifications of the above, whereas specific characters involve size, shape of head, pronotum and femora, pubescence, and color. Sexual dimorphism is very striking in some groups, the front legs and pronotum being more strongly incrassate in the females (see Bergroth, 1905 : 378).

In the following pages a key is given to all the genera of Enicocephalidae of the world; each genus available to me is redescribed according to a uniform plan; a list of all of the described species known to belong in each genus is given, together with the world distribution as determined both from described and undescribed species before me; the type specimens of *Gamostolus subantarcticus* (Berg) and *Oncylocotis nasutus* Stål are redescribed; a remarkable new genus is described from Malaya; and two new genera are proposed for Oriental and African species and one new genus is proposed for Central American types studied by Mr. China in the British Museum. No specimens have been available of the following four monotypic genera: *Aenictopechys* Breddin (1905) (type *necopinatus* Breddin, 1905, Sumatra, Java; *Aerorchestes* Bergroth (1927) (type *alluaudi* Jeannel, 1919, Africa); *Henschiella* Horvath (1888) (type *pellucida* Horvath, 1888, Europe); and *Cocles* Bergroth (1905) (type *contemplator* Bergroth, 1905, Madagascar).

KEY TO THE GENERA OF ENICOCEPHALIDAE

1. Discal cell open apically 2
   Discal cell closed apically 6
2. Basal cell absent 3
   Basal cell present 4
3. Head scarcely longer than broad, without a distinct transverse impression behind the eyes. Front tibiae strongly produced and tuberculate at inner apices ..... **Aenictopechys** Breddin
   Head much longer than broad, divided into two lobes by a distinct transverse impression behind the eyes. Front tibiae angulate and bearing several spines at inner apices ..... **Systelloderes** Blanchard

4. Fore coxal cavities closed behind. Middle and hind tarsi one-segmented, **Aerorchestes** Bergroth
   Fore coxal cavities open behind. Middle and hind tarsi with more than one segment 5
5. Anterior tarsi with two claws . . . . . **Henschiella** Horvath
   Anterior tarsi with a single claw . . . . . **Chinella,** n. gen.
6. Basal cell absent . . . . . **Nesenicocephalus** Usinger
   Basal cell present 7
7. Eyes greatly enlarged, occupying almost the entire head . . . . . **Cocles** Bergroth
   Eyes smaller, sometimes contiguous beneath but never closely approximated above 8
8. Pronotum with prominent paired tubercles dorsally at least on front lobe and often on middle lobe as well. Cephalic constriction located between the eyes near their hind margins 9
   Pronotum without distinct dorsal tubercles. Cephalic constriction located behind the eyes 10
9. Third antennal segment much longer than second, nearly or quite as long as the remaining segments combined. Body clothed with a fine, subappressed pubescence. Anterior tarsi with only one well developed claw, **Pseudenicocephalus,** n. gen.
   Third antennal segment subequal to or shorter than second, much shorter than the remaining segments combined. Body clothed with short, scale-like hairs. Anterior tarsi with two well developed claws, **Ceratotrachelus,** n. gen.
10. Pronotum without trace of a transverse constriction anteriorly. Front trochanters each produced as a strong curved spine beneath base of femur, **Megenicocephalus,** n. gen.
    Pronotum more or less distinctly constricted anteriorly. Front trochanters not as above 11
11. Anterior tarsi with one claw . . . . . **Enicocephalus** Westwood
    Anterior tarsi with two claws 12
12. Anterior tibiae strongly produced and bearing two broad, trispinose lobes at inner apices. Posterior transverse constriction of pronotum obsolete, **Gamostolus** Bergroth
    Anterior tibiae only moderately produced and bearing a group of simple spines at inner apices. Posterior pronotal constriction distinct 13
13. Pronotum with a deep median longitudinal impression, especially on middle lobe, terminating posteriorly as an inverted Y. The lateral lobes thus separated, each with a more or less distinct tripartite glabrous impression, **Oncylocotis** Stål
    Pronotum with only a simple, ill-defined median longitudinal impression on middle lobe. The lateral lobes thus formed, with at most a simple fovea . . 14
14. Stigmal cell about as long as discal cell, extending beyond apex of stigma. Pronotum rather evenly convex above . . . . . **Stenopirates** Walker
    Stigmal cell less than one-third the length of discal cell, not extending beyond apex of stigma. Pronotum subdepressed above, the posterior lobe subflattened at middle . . . . . **Hymenocoris** Uhler

Genus **Gamostolus** Bergroth (1927: 683)

Elongate, relatively robust, with a vestiture of rather sparse, fine hairs. Head, abdomen, and appendages shining, the thorax and hemelytra dull.

Head a little more than half as broad across eyes as long; eyes relatively small, subglobular as seen from above; hind lobe much broader than long, about as wide as front lobe across eyes, rounded at sides, depressed between the slightly elevated, conspicuous ocelli. First antennal segment shortest, second and third longest, subequal, fourth a little shorter than the preceding two.

Pronotum feebly developed, subflattened or even slightly depressed above, the anterior transverse impression only feebly developed and the

posterior impression obsolete. Humeral angles abbreviated so that the hemelytral articulations are completely exposed. Hind margin slightly sinuous.

Scutellum broadly exposed, smooth, subtriangular. Hemelytra large, the subcostal and claval sutures conspicuous, white. Costal margins bent at a small fracture a little beyond middle. Venation as in *Enicocephalus* with both basal and discal cells closed but with discal cell confluent with stigmal cell for one-third of its length rather than being connected by a cross vein, m-cu.

Front coxal cavities open behind. Front legs enormously incrassate, the tibiae strongly produced at inner apices and bearing two plate-like projections, the apical one with three spines, and the inner one with one spine and two broad plates. Front tarsi each with a large inner and a smaller outer claw.

Genotype: Enicocephalus subantarcticus Berg (1884 : 115).

Distribution: Tierra del Fuego and possibly New Zealand though I have not seen the second species, *Gamostolus tonnoiri* Bergroth (1927 : 684). Mr. Tonnoir wrote in 1938 that he no longer had specimens in his possession and that there were none in the collection of the Canterbury Museum, Christ Church, New Zealand. Mr. Tonnoir's specimens went to J. G. Meyers in 1924 and thence apparently to Bergroth. They are probably in the collection of the Helsingfors Zoological Museum at the present time. Bergroth did not describe the venation of *tonnoiri* but it seems unlikely, on the basis of other characters, that the New Zealand species and the Fuegian species are congeneric.

Gamostolus differs from all other enicocephalids in its unique processes of the front tibiae. The reduced posterior transverse pronotal impression will distinguish it from all genera but *Aenictopechys* Breddin and the venation differs from typical *Enicocephalus* in that the discal cell is confluent with the stigmal cell for a part of its length.

I am able to add a redescription of *subantarcticus* based upon Berg's holotype and an additional specimen kindly loaned to me for study by Dr. C. J. Drake, who borrowed them on his recent trip to Buenos Aires.

Gamostolus subantarcticus Berg (1884: 115)

Very broad, subflattened above and clothed, sparsely on body and more densely on appendages with long, erect hairs. Surface, except of head and appendages dull, not shining.

Head broad, slightly more than half as broad across eyes as long, 28 : : 52; eyes located posteriorly on front lobes, relatively small, a little more than one-third the width of interocular space, 6 : : 16; transverse impression distinct, rather broad, the anterior lobe convex between eyes, depressed and slightly narrowed either side of elevated, parallel-sided clypeus between short antenniferous tubercles and then flaring at apex. Rostrum very broad, directed forward in type specimen, the first segment even wider at apex than anterior margin of head, 17 : : 16, the remaining segments gradually narrowing to subacute apex, proportion of segments one to four as 7 : 7 : 17 : 8. Labrum as broad as apex of clypeus, reaching to apex of second rostral segment. Hind lobe of head two-thirds as long as front lobe, subdepressed at middle, narrowed anteriorly but nearly as wide as anterior lobe (across eyes) at basal

third, 27 : : 28; ocelli located anteriorly on disk and only moderately elevated, directed slightly outward. Antennae shorter than head and pronotum together, 84 : : 95; proportion of segments one to four as 12 : 25 : 25 : 22. Under surface of head without deep transverse

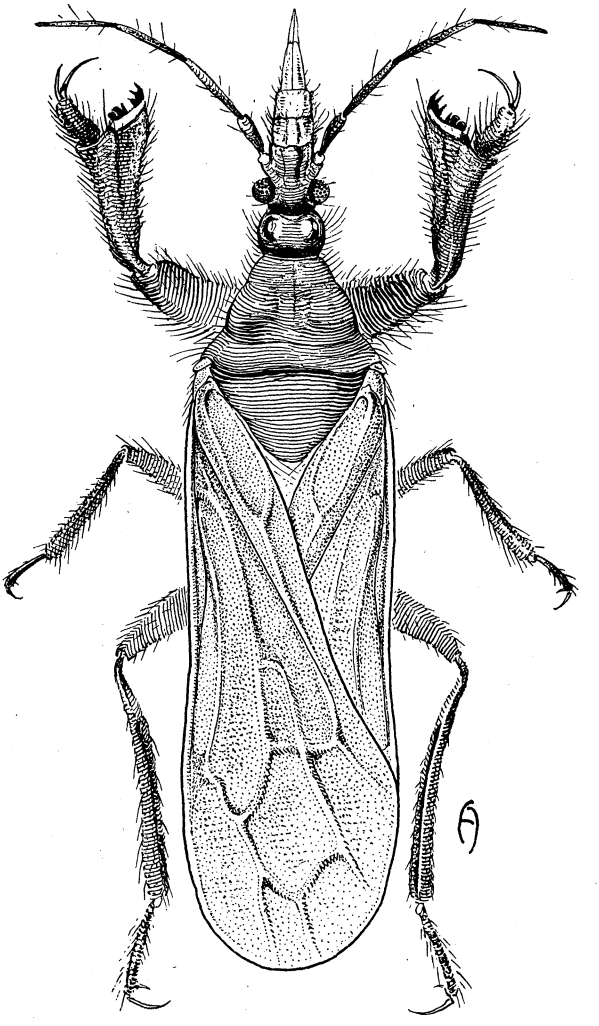

FIG. 2. *Gamostolus subantarcticus* Berg. Type. Tierra del Fuego.

impression but relatively strongly convex in region of posterior lobe; interocular space half again as wide as an eye, 12 : : 8.

Pronotum about one-sixth shorter than head on median line, 44 : : 52; transverse, being almost half again as broad as long, 68 : : 44; broadest across humeri, then abruptly concave at ill-defined posterior transverse

impression, then concavely and continuously arcuate to anterior margin, the lateral margins distinctly, though not sharply, carinate anteriorly, actually lamellate and overlapping the small pleura in region of coxal cavities and scarcely carinate (almost continuous with concave pleura) at level of humeri; front margin slightly and roundly emarginate; hind margin subrectilinear or feebly arcuate in front of scutellum, more rounded laterally; disk comparatively subflattened, with a transverse or slightly oblique impression on either side at apical third as the only line of demarcation of anterior lobe, the anterior lobe feebly convex in front of this to front margin; posterior impression consisting of a broad depressed area just in front of each humeral angle extending from side margin to hind margin near middle; intermediate lobe by far the largest, feebly convex with a broad, subdepressed area at middle, the middle of this lobe extending subtriangularly back nearly to hind margin of pronotum. Scutellum transverse, 46 : : 32, triangular.

Hemelytra long, exceeding tip of abdomen and broad, at rest, broadest near base, narrowest near middle and moderately dilated apically. Veins distinctly elevated and rather broad, the venation typical of *Enicocephalus* except as noted in the generic description. Costal margin prominent and rounded and depressed due to deflected area immediately mesad to it. Stigma deflected downward, concolorus and ill-defined. Prosternum rather evenly arcuate, depressed posteriorly and then abruptly flaring at coxal cavities. The rest of under surface obscured. Front femora half as thick at about basal fourth as long, 14 : : 29, tapering apically and subflattened on inner face. Tibia about three times as long as greatest (apical) width, as long as femur on basal third, deeply concave on inner face. Front tarsus inserted in a concavity at apical ventral third, one-segmented and not reaching to produced tibial angle, bearing two claws, the upper one being as long as tarsal segment. Middle and hind tarsi two-segmented, the first segment very small, bearing two claws.

Color dark brown (nearly black) on pronotum and scutellum, shining dark brown on head and front legs with rostrum and joints of legs paler brown. Antennae and middle and hind legs paler brown. Hemelytra dark brown at base, lighter brown on veins and over most of apical half, almost white near apex of scutellum, on claws and on adjacent portions of corium. Thoracic sterna black. Abdominal venter mottled brownish.

Size: length 7.15 mm.; width 1.85 mm.

Holotype: Argentina. T. del Fuego.

Genus **Megenicocephalus** Usinger, new genus

Very large, robust and clothed with very short, erect hairs. Surface minutely granular.

Head one-third as broad as long, widened anteriorly at antenniferous tubercles which reach almost to apex of clypeus. Eyes very small, one-fourth as broad as interocular space as seen from above. Hind lobe a little over half as long as front lobe, suboval, the sides moderately rounded and the ocelli distinct but scarcely elevated. Antennae

relatively stout, the first segment shortest, third half again as long as first, fourth one-third longer than third, and second longest of all.

Pronotum without trace of anterior transverse impression, with a deep fovea on either side in front of middle, the posterior transverse impression very deep and distinct but not quite reaching lateral margins. A fine longitudinal impression along middle of anterior lobe. Hind margin roundly concave at middle.

Scutellum subtriangular, blunt at apex, the disk elevated with a shallow depression on apical half.

Hemelytra relatively small, leaving the abdomen broadly exposed laterally and posteriorly. Costal margins bent a little in front of middle. Venation as in *Gamostolus* with the discal cell briefly confluent with stigmal cell. Basal cell present and discal cell closed.

Front coxal cavities open behind. Front trochanters each produced downward as a lamellar tubercle and produced forward beneath the base of femur as a stout, curved spine. Front femora incrassate, curved downward apically, tibiae scarcely dilated apically, with a row of short, stout spines along inner edge. Front tarsi one-segmented with two short, stout, equal claws.

Genotype: Megenicocephalus chinai Usinger, n. sp.

Distribution: Malaya.

This is the largest enicocephalid known. It differs from all others in the absence of an anterior pronotal constriction or suture and in the form of the front trochanters.

Megenicocephalus chinai Usinger, new species

Very large, robust, with minutely granular surface, short, erect, pale pubescence, reddish body color and black hemelytra.

Head slightly longer than pronotum on median line, 70 : : 60; feebly bent downward apically, divided by a distinct transverse impression located just behind the posterior margins of eyes; front lobe half again as long as hind lobe and hind lobe three times as long as constricted neck region; front lobe flaring anteriorly at antenniferous tubercles which extend outward almost as far as the eyes, 12 : : 13, and forward almost to apex of clypeus; clypeus moderately swollen anteriorly and bounded on either side by short, depressed, subtriangular mandibular lobes and larger, swollen maxillary lobes, limited posteriorly by pale lines that converge posteriorly at about the middle of front lobe of head; frons apparently limited by pair of brown lines converging posteriorly at the main cephalic constriction behind the eyes. Eyes relatively small, one-fourth as wide as interocular space above and over half as wide below. Hind lobe scarcely longer than broad, 24 : : 23, suboval, the ocelli widely separated and feebly elevated. Rostrum relatively short, equal in length to front lobe of head; proportion of segments one to four 9 : 9 : 10 : 8; the basal segment broadest, the next two successively narrower and the apical segment very narrow, pointed at apex, proportional widths 10 : 8 : 7 : 3. Antennae slightly less than twice as long as head, 120 : : 70; the segments relatively thick, and cylindrical; proportion of segments one to four 17 : 42 : 26 : 35.

Pronotum slightly more than one-third broader than long, 84 : 60, convex above; with only one deep transverse impression located well

behind middle, its ends bent forward and not reaching margins laterally; a fine longitudinal impression on front lobe at middle; the large front lobe without trace of an anterior transverse impression, with an ill-defined depressed area just behind front margin at middle and with a deep fovea on either side near middle of the large anterior lobe. Hind margin deeply, roundly concave and broadly rounded laterally at humeri.

Scutellum distinctly elevated, subflattened above with posterior disk feebly depressed, triangular in outline and blunt at apex.

Hemelytra reaching to posterior fourth of sixth visible abdominal segment. Venation as in *Enicocephalus* except that the discal cell is confluent with stigmal cell for one-sixth of its length and the apical cells of the wing are closed by a distinct submarginal vein.

Abdomen with relatively thick, rounded lateral edges, abruptly depressed sublaterally beneath, and abruptly, roundly convex along middle of venter. Genitalia crushed so that details are obscured.

Front legs enormously developed, the femora one-third as thick as long, feebly bent downward apically, subflattened or a little concave and clothed with long, fine hairs beneath and very convex above. Trochanters nearly half as long, over all, as femora, 30 : : 70; the femur inserted laterally on trochanter and the trochanter produced downward as a prominent tubercle and forward on inner side of femur as a long, downward curved spine. Tibiae about as long as femora but more slender and nearly cylindrical, with one row of ten stout, short spines and another row of much smaller, poorly defined spines bounding a feebly depressed trough along ventral face. Inner surface likewise troughed apically and terminating in the usual thin lamella, though in this case the lamella is remarkably narrowed because of the non-dilated apex of the tibia. .Front tarsus stout, apparently one-segmented, with two short, stout, equal claws. Middle and hind legs relatively less robust, the tarsi with a very short basal and long apical segment and the two claws equally developed.

Color uniformly pale reddish with white long hairs and a golden brown short pubescence, pale joints between segments of appendages, dark brown eyes, claws, trochanteral tubercles and spines, and spines of front tibiae, and black hemelytra at least beyond outer basal third.

Size: Length 16 mm., width (pronotum) 4 mm., (abdomen) 5 mm.

Holotype: "Cameron's Highlands," Parit Fall, Pahang, Federated Malay States, 4500 feet, at light, May 25, 1931, H. M. Pendlebury. This unique specimen was sent to the British Museum (Natural History) through the kindness of Mr. Pendlebury who has done so much to further our knowledge of Malay Hemiptera. Mr. W. E. China immediately realized that the specimen represented a new genus and species and generously forwarded it to me for description. I take great pleasure in dedicating this most remarkable of all enicocephalids to Mr. W. E. China.

M. chinai is not closely related to any known species although it shares with the subantarctic *Gamostolus* the unique feature of confluent discal and stigmal cells and has a submarginal vein closing the apical cell as in *Ceratotrachelus*.

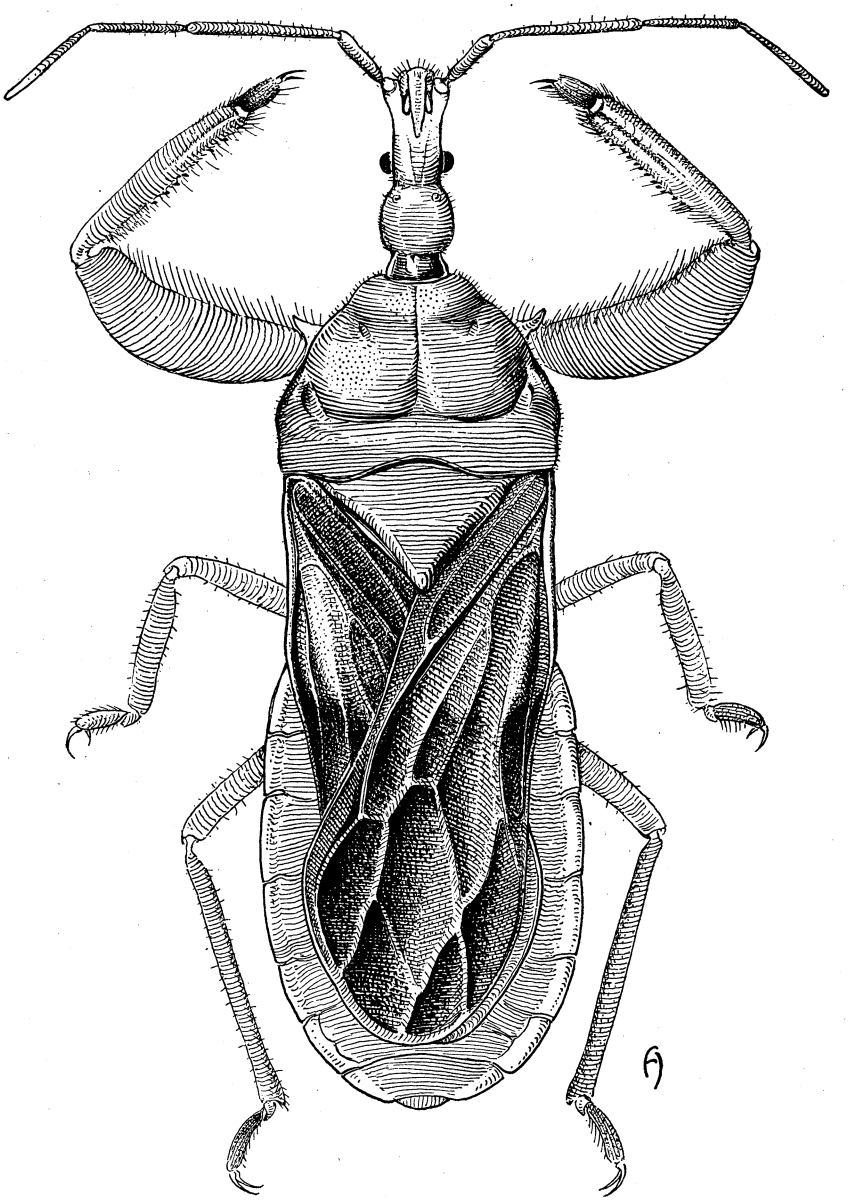

FIG. 3. *Megenicocephalus chinai*, new genus and species. Type. Pahang, Federated Malay States.

Genus **Oncylocotis** Stål (1855: 44)

Moderately large and robust with stout legs. More or less polished and rather densely clothed with long erect hairs. Eyes of moderate size. Posterior lobe of head distinctly transverse, strongly constricted anteriorly and posteriorly, very evenly rounded, subglobose, the ocelli far apart, but little prominent, scarcely elevated above disk, with a very finely impressed longitudinal line along middle of upper surface, sometimes obsolescent. Antennae with first segment shortest, second longest, third and fourth subequal.

Pronotum divided into three distinct lobes by transverse constrictions, the anterior margin scarcely emarginate, posterior margin shallowly, subangulately emarginate. Middle lobe with a deep longitudinal sulcus at center which terminates before posterior constriction in a short, sub-transverse depression, thus forming an inverted "Y." Lateral disks of middle lobe each with a distinct, tripartite impression.

Anterior coxal cavities open behind. Front femora quite strongly incrassate, one-third or more as broad as long, even in the males. Front tarsi with two strong claws.

Discal cell closed, very long and slender, almost twice as long as basal cell.

Genotype: Oncylocotis nasutus Stål (1855 : 44).

Distribution: Ethiopian, Oriental, Australian and Neotropical Realms.

Oncylocotis nasutus Stål (1855 : 44)

Elongate, densely clothed with fine, curved hairs on body and on veins of hemelytra.

Head longer (excluding constricted neck region) than broad across eyes, 56 : : 31, strongly constricted just behind the eyes. Anterior lobe relatively slender with strongly protruding eyes, which are nearly as wide as interocular space, 10 : : 11. Posterior lobe semiglobose, slightly wider than long, 22 : : 19, the ocelli relatively large, located anterolaterally on distinct elevations. Antennae inserted in front of middle of anteocular region, the first segment strongly surpassing apex of head; longer than head and pronotum together, 114 : : 108; even the last two segments rather stout; proportion of segments 9 : 42 : 32 : 31. Rostrum relatively slender, but little wider at middle of third segment than thickness of second antennal segment, 5 : : 4; proportion of segments 5 : 8 : 26 : 9.

Pronotum shorter than head (excluding neck region), 52 : : 56; wider across humeri than long, 60 : : 52; strongly constricted at anterior fourth and behind the middle, the lobes progressively widening posteriorly in the following proportion, 25 : 40 : 60. Disk glabrous in the transverse impressions, in the inverted T-shaped impression at middle of intermediate lobe, and in the tripartite lateral impressions on posterior half of intermediate lobe. Front margin straight, hind margin slightly concave at middle. Anterior lobe produced as a rounded carina on either side ventro-laterally in front of flaring anterior acetabula.

Scutellum moderately elevated, the sides straight, converging to just before broad, rounded apex.

Hemelytra reaching apex of abdomen, the veins densely clothed with long, curved hairs. Thickening of costal margin extending around apical margin. Discal cell closed. Basal cell present.

Under surface with shorter, less strongly curved hairs. Front femora moderately incrassate, one-fourth as thick at middle as long, straight on ventral side and convex dorsally. Front tibiae a little shorter than femora, 56 : : 66, one-fourth as wide apically as long, with several stiff spines at inner apex and the usual fine apical comb on inner face. Front tarsi one-segmented with two stout claws. Middle and hind legs much less incrassate, the tibiae not apically dilated, tarsi two-segmented with the basal segment very short.

Color pale, ochraceous to testaceous, the eyes brown, the head light brown above except anteriorly and on neck region. Ocelli surrounded with reddish brown and tinged with ferruginous laterally in front of eyes, at base of first antennal segment, more or less on second segment and at base of third segment. Middle veins of hemelytra very faintly embrowned. Claws fulvous.

Size: Male, length 8 mm., width (pronotum) 1.5 mm.

Described in detail from one of a series of thirteen specimens from N. W. Pretoria District, Transvaal, South Africa, Jan. 28, 1928, J. C. Faure, loaned to me from the collection of the British Museum (Natural History) by Mr. W. E. China. This plesiotype was compared by me in 1939 with a specimen labelled "Caffraria, J. Wahlb., No. 71. Typus" which was loaned from the Naturhistoriska Riksmuseum in Stockholm by Dr. O. Lundblad. The type specimen lacked its fourth antennal segments and was slightly smaller but otherwise agreed perfectly with the specimen described above.

Oncylocotis is characterized by its robust form, strongly incrassate front legs with two claws, closed discal cell, inverted "Y"-shaped and tripartite depressions of middle lobe of pronotum, and dense long pilosity. It is possible that this large genus may be further broken up when our knowledge is more advanced. Bergroth (1914) referred to a group of large, polished species from the East Indies but I find every intergrade between species of this type and the more typical densely pilose African forms. Kirby's *Dicephalus telescopicus* (1891) would belong with the large shiny species but is further characterized by prominent, downward directed tubercles ventrally on prothorax. However, these tubercles are more or less developed on other more typically hairy and robust species so I have relegated *Dicephalus* to synonymy. *Sphigmocephalus* Enderlein (1904) is a straight synonym of *Oncylocotis*, its type, *curculio* Enderlein (1892), being a synonym of *basalis* Westwood (1837) (fide Bergroth, 1906). Another possible synonym of *Oncylocotis* is *Phthirocoris antarcticus* Enderlein (1904) from Crozet Island. Bergroth states that Enderlein's type is a nymph so its systematic position will be difficult to determine.

Species of **Oncylocotis**

1. **Oncylocotis aerius** (Bergroth) 1912 : 344. New South Wales.*
2. **Oncylocotis aeronauta** (Bergroth) 1906 : 324. Laoet, Java.*
3. **Oncylocotis annulipes** (Champion) 1898 : 160, Tab. X, fig. 3. Panama.*†
4. **Oncylocotis anthocoroides** (Walker) 1873 : 139. Sierra Leone.†
5. **Oncylocotis bakeri** (Bergroth) 1918 : 115. Luzon, P. I.‡

6. **Oncylocotis basalis** (Westwood) 1837 : 23. Africa, India, Burma, Java.‡
   (=*curculio* Karsch, 1892 : 485, fide Bergroth, 1906 : 63; and *ostentus* Distant, 1903 : 52, see Bergroth).
7. **Oncylocotis bellicus** (Distant) 1910 : 168. Ceylon.†
8. **Oncylocotis concolor** (Champion) 1898 : 160. Tab. X, fig. 1. Guatemala, Panama.†
9. **Oncylocotis cooki** (Bergroth) 1916 : 232. Liberia.§
10. **Oncylocotis dubius** (Jeannel), 1919 : 146, pl. 5, fig. 2, Africa.*
11. **Oncylocotis fragrans** (Bergroth) 1906 : 324. Celebes.*
12. **Oncylocotis fungicola** (Kirkaldy) 1908 : 367. Fiji.§
    (=*corticicola* Kirkaldy, 1908 : 367, fig. 1, new synonymy§).
13. **Oncylocotis limbatipennis** (Distant) 1911 : 196. Ceylon.†
14. **Oncylocotis lombocensis** (Breddin) 1899 : 175, fig. 7. Lombock.*
15. **Oncylocotis macgilivryi** (Bergroth) 1915 : 116. Java.*
16. **Oncylocotis majusculus** (Distant) 1902 : 175. Ceylon.†
17. **Oncylocotis maeandriger** (Breddin) 1905 : 142. Java.*
18. **Oncylocotis mellinus** (Distant) 1910 : 168. India.†
19. **Oncylocotis nasutus** (Stål) 1855 : 44. Natal, Africa.§
20. **Oncylocotis rhyparus** (Stål) 1860 : 82. Brazil.*
21. **Oncylocotis robustus** (Distant) 1903 : 195. Ceylon, Burma.†
22. **Oncylocotis soriculus** (Breddin) 1905 : 143. Java.*
23. **Oncylocotis spurculus** (Stål) 1860 : 81. Brazil.*
24. **Oncylocotis telescopicus** (Kirby) 1891 : 117, pl. IV, fig. 14, Ceylon.‡
25. **Oncylocotis wallacei** (Distant) 1902 : 174. New Guinea.†

*Status determined from descriptions by R. L. Usinger.
†Status determined from types by W. E. China.
‡Status determined from identified specimens by R. L. Usinger.
§Status determined from examination of the types by R. L. Usinger.

Genus **Enicocephalus** Westwood (1837: 22)

Short, broad, and densely clothed with fine, moderately long hairs. Surface shining.

Head broad, one-half as broad as long, the eyes small, globular as seen from above and laterally placed. Posterior lobe subglobose, a little wider than long with an obscure longitudinal impression at center and scarcely prominent, bead-like ocelli. Antennae with first segment shortest, second next, third longest, and fourth a little shorter than third.

Pronotum with very deep transverse impressions and a longitudinal impression at least anteriorly on middle lobe, this lobe with an obsolescent fovea on either side. Posterior margin deeply, angulately emarginate.

Scutellum moderately elevated with a blunt, broadly rounded apex.

Hemelytra with veins prominent, elevated, with a row of hairs along either side of veins. Basal cell present. Discal cell closed. Anterior coxal cavities open behind.

Front legs scarcely incrassate, the front femora almost linear. Anterior tarsi with one claw.

Genotype: Enicocephalus flavicollis Westwood (1837 : 23, pl. 2, fig. 1).

Distribution: St. Vincent, Santo Domingo, Porto Rico, Haiti, and Cuba in the West Indies.

Distinguished by the broad head with small eyes and strongly transverse posterior lobe, angulately emarginate posterior pronotal margin, typical venation, fine and dense pilosity, and slender front legs with only a single claw on each tarsus.

Species of **Enicocephalus**

1. **Enicocephalus cubanus** Bruner, 1924 : 54. fig. Cuba.‡
2. **Enicocephalus dominicus** Bruner, 1924 : 39. Dominica.*
3. **Enicocephalus flavicollis** Westwood, 1837 : 23, pl. 2, fig. 8. St. Vincent.*
4. **Enicocephalus semirufus** Barber, 1939 : 382, fig. 29. Puerto Rico.§

*Status determined from descriptions by R. L. Usinger.
‡Status determined from identified specimens by R. L. Usinger.
§Status determined from examination of the types by R. L. Usinger.

Genus **Nesenicocephalus** Usinger (1939: 268)

Very small, slender species with a highly polished body surface sparsely clothed with fine, erect hairs. Head shaped much as in the genus *Systelloderes*, the posterior lobe subquadrate, being a little broader posteriorly than in front. Ocelli very prominent, located at anterior margin of posterior lobe near constriction. Antennae shorter than head and pronotum together, the first segment shortest, the following three subequal.

Pronotum unarmed, simple, the anterior and posterior constrictions very prominent, delimiting three posteriorly progressively widening lobes, without a longitudinal suture at middle; shallowly but distinctly angulately emarginate on posterior margin. Scutellum broad at base but abruptly narrowed just behind this to form a broad, rounded posterior projection.

Hemelytra, when folded at rest, narrow at middle, dilated and rounded posteriorly; thickened costal margins transversely rugose; venation characteristic of the genus and differing from all other enicocephalids known to me in the closed discal cell with basal cell wanting.

Anterior coxal cavities open behind. Front femora scarcely incrassate, front tibiae only feebly dilated apically, their greatest width less than greatest width of femora. Anterior tarsi one-segmented and bearing two very fine claws. A few very long hairs at apex of abdomen beneath. Color fuscous or ferruginous to black with lateral margins of hemelytra tinged with reddish and bases of hemelytra sometimes white.

Genotype: Nesenicocephalus hawaiiensis Usinger, 1939 : 268 (fig. 1).

Distribution: Hawaiian and Philippine Islands.

Distinguished by its small size, polished body surface, broad apical portion of scutellum and closed discal cell with basal discal cell wanting.

Species of **Nesenicocephalus**

1. **Nesenicocephalus hawaiiensis** Usinger, 1939 : 268, fig. 1, Maui, T. H.§
2. **Nesenicocephalus philippinesis** Usinger, 1939 : 269, Mindanao, P. I.§

§Status determined from examination of the types by R. L. Usinger.

Genus **Stenopirates** Walker (1873: 139)

Elongate, slender, the surface more or less polished and moderately, rather finely pilose. Legs slender.

Posterior lobe of head subglobose, often a little transverse, ocelli conspicuous, a little elevated, bead-like. Antennae with first segment shortest, second longest, third and fourth subequal or third more or less distinctly longer than fourth.

Pronotum simple, moderately convex, rather regularly converging from base to apex; transverse impressions linear, distinct; middle lobe with a longitudinal sulcus very poorly indicated, often obsolete, with a simple fovea on either side of disk; anterior pronotal margin scarcely or not at all emarginate, posterior margin shallowly, rather roundly emarginate, the humeral angles broadly rounded.

Front femora feebly incrassate, more slender than posterior lobe of head. Front tarsi with two claws. Anterior coxal cavities open behind.

Discal cell and basal cell closed.

Genotype: Stenopirates collaris Walker (1873 : 139).

Distribution: Oriental Region, Japan.

Characterized by its slender form, sparse pilosity, subglobose head, simple pronotum, scarcely incrassate slender legs, and closed discal cell.

Species of **Stenopirates**

1. **Stenopirates chipon** (Esaki), 1935 : 24, pl. 5, fig. 2. Formosa.*
2. **Stenopirates collaris** Walker, 1873 : 139. India, Burma, Java, Formosa.† ‡
   (Figures in Distant, 1903, fig. 138; Esaki, 1932, fig. p. 1650).
   (=**sanguinipes** Breddin, 1905 : 144, fide Bergroth, 1905a).
3. **Stenopirates yami** (Esaki), 1935 : 21, pl. 5, fig. 1. Botel Tobago.*

*Status determined from descriptions by R. L. Usinger.
†Status determined from types by W. E. China.
‡Status determined from identified specimens by R. L. Usinger.

Genus **Pseudenicocephalus** Usinger, new genus

Elóngate, slender, with sides subparallel behind middle of pronotum. Surface, excepting the neck and wing membranes, densely clothed with fine, pale, decumbent or closely appressed hairs. Legs long and slender.

Postocular constriction of head indicated by a deep cuneiform impression on vertex. Hind lobe of head very strongly constricted posteriorly and feebly lamellately expanded on either side above neck, with a distinctly impressed longitudinal line at center of disk. Ocelli on moderate elevations, anteriorly located and closely approximating median line. First antennal segment shortest, second three times as long as first, third longest, almost twice as long as second, fourth half as long as second.

Disk of pronotum with transverse constrictions all but obscured by various processes, with a fine longitudinal impressed line at middle, lateral margins strongly narrowed anteriorly, abruptly flaring outward at posterior lobe, then briefly subparallel or posteriorly convergent to broadly rounded postero-lateral angles. Posterior margin very deeply angulately emarginate, the apex of the notch reaching more than half the distance to intermediate lobe. Anterior lobe with a very prominent blunt spine on either side directed slightly anteriorly and laterally. Intermediate lobe with two tubercles on either side. Posterior lobe with a rounded, posteriorly divergent carina on either side, extending almost to postero-lateral margin.

Scutellum very broadly exposed, impressed with a fine longitudinal line and not produced posteriorly.

Anterior coxal cavities open behind. Front femora five times as long as broad. Front tarsi with two claws, the outer one very much reduced.

Hemelytra with veins strongly elevated. Membrane finely reticulate. Discal cell closed, long and slender.

Genotype: Henicocephalus lewisi Distant.

Distribution: Japan, India, and Africa.

Readily recognized by the narrow, elongate form with slender legs, closed discal cell, dense decumbent vestiture, very long third antennal segment, angulately emarginate posterior border of pronotum, and pronotal armature.

Species of **Pseudenicocephalus**

1. **Pseudenicocephalus kenyensis** (Jeannel) 1919 : 148, pl. 5, fig. 4. Kenya.‡
2. **Pseudenicocephalus lewisi** (Distant) 1903 : 53. Japan.‡† Figured in Esaki, 1929 : 149, fig. 2 and 1932 : 1650).

*Status determined from descriptions by R. L. Usinger.
†Status determined from types by W. E. China.
‡Status determined from identified specimens by R. L. Usinger.

Genus **Chinella** Usinger, new genus

Elongate, covered with a fairly dense vestiture of brownish hairs, the surface a little roughened and dull to somewhat polished.

Head very short and broad, as long as pronotum, and only one and one-half times as long as broad, the posterior lobe almost twice as broad as long, distinctly sulcate down the middle, the ocelli distinct.

Pronotum transverse, with a suture shaped like an inverted Y on middle lobe where also there is a submarginal longitudinal depression on either side. Posterior margin deeply angulately emarginate.

Front femora only moderately incrassate, about 4 times as long as broad. Front tarsi with but a single claw.

Anterior coxal cavities open behind.

Scutellum roundly, transversely dilated at apex.

Venation differing from *Enicocephalus*. The discal cell is open and the basal cell is present. Veins moderately elevated.

Antennae with first segment shortest, last three subequal.

Type: Henicocephalus emarginatus Champion, 1898 : 161, Tab. X, fig. 4.

Distribution: Guatemala.

Closely allied to typical *Enicocephalus* but with discal cell open. It differs from *Oncylocotis* and its allies in its one-clawed anterior tarsi, more robust form, narrowed and roundly carinate scutellar apex, and open discal cell.

I take great pleasure in dedicating this genus to Mr. W. E. China who studied the types and pointed out the generic peculiarities mentioned above.

Species of **Chinella**

1. **Chinella emarginatus** (Champion) 1898 : 161, Tab. X, fig. 4. Guatemala.†
2. **Chinella pilosus** (Champion) 1898 : 160, Tab. X, fig. 3. Guatemala.†

†Status determined from types by W. E. China.

Genus **Ceratotrachelus** Usinger, new genus

Elongate, parallel-sided species with a short, scale-like or very finely hair-like pubescence which imparts a granular appearance to the rather dull surface.

Head at least a little longer than pronotum, sharply constricted at level of posterior margins of eyes, the anterior lobe with a more or less prominent anterior projection. Antenniferous tubercles bluntly produced anterolaterally, posterior lobe a little transverse, subglobose, the ocelli located at sides of distinct, rounded elevation and thus only visible laterally. Antennae with first segment shortest, the second a little longer than third and fourth.

Pronotum subflattened above with various blunt spines or processes on anterior lobe and rounded elevations on either side. Transverse constrictions distinct. Posterior lobe quite large, its sides subparallel, widest anteriorly, the postero-lateral angles rounded and posterior margin deeply, angulately emarginate.

Front femora only moderately incrassate, approximately 4 times as long as broad, the front tarsi bearing two claws of which the outer one may be somewhat reduced. Anterior coxal cavities open behind.

Wing venation typical of *Enicocephalus* with the discal cell closed and basal cell present, but the discal cell confluent with stigmal cell. Veins very prominent, elevated.

Genotype: Henicocephalus cornifrons Bergroth.

Distribution: Africa.

Distinguished from other genera by the tubercles on the pronotum, the laterally directed ocelli, the peculiar vestiture, and the emarginate posterior margin of pronotum.

Species of **Ceratotrachelus**

1. **Ceratotrachelus cornifrons** (Bergroth) 1905 : 385. Belgian Congo.‡
2. **Ceratotrachelus tuberculatus** (Bergroth) 1905 : 377. Africa. (Figured in Jeannel, 1919, pl. 5, fig. 3.)*
3. **Ceratotrachelus tuberculicollis** (Bergroth), 1914 : 457. Nigeria, Africa.*

*Status determined from descriptions by R. L. Usinger.
‡Status determined from identified specimens by R. L. Usinger.

Genus **Hymenocoris** Uhler (1892: 181)

Very long and slender and clothed with more or less scattered long pale hairs. Surface in great part smooth and shining with the anterior lobe of the head and basal and apical lobes of pronotum more roughened.

Head long and slender, the posterior lobe broad, strongly elevated, the ocelli on distinct, divergent elevations; very strongly constricted behind, the width at constriction being about half that of posterior lobe of head. Antennae very long, proportion of segments one to four as 7 : 28 : 25 : 20.

Pronotum very simply formed, the disk scarcely convex except on intermediate lobe, transverse constrictions only moderately strongly impressed, with a very fine longitudinal impression appearing simply as a line on intermediate lobe. Posterior margin straight, not at all emarginate as in other genera.

Disk of scutellum feebly elevated, broad, smooth and subflattened except for short, abruptly narrowed, roundly carinate apex.

Anterior coxal cavities open behind.

Legs very long and slender, front tarsi including claws longer than one-half length of tibiae, the tarsi with two claws.

Wing venation typical of *Enicocephalus* except for the very much shortened stigmal cell. M_2 in my figure (1932) is not typical and should be deleted. Discal cell closed. Basal cell prominent.

Genotype: Hymenocoris formicina Uhler, 1892 : 182. (Figured in Usinger, 1932, fig. 3).

Distribution: California.

I know of no other species which can be referred to this genus. It may be readily recognized by its distinctly diverging, elevated ocelli, short stigmal cell which does not reach beyond stigma, and simple pronotum.

Genus **Systelloderes** Blanchard (1852: 224)

Rather small, fragile insects with a more or less smooth and polished surface and pale coloration. Almost naked or moderately clothed with pale hairs.

Posterior lobe of head either long with sides subparallel, subglobose, or subquadrate, the ocelli but little prominent. Antennae with first segment shortest, second, third, and fourth subequal.

Pronotum rather regularly narrowed from base to apex, transverse impressions distinct, the posterior one sinuate; often with a rather prominent longitudinal impression at least on anterior portion of middle lobe. Sometimes with an obsolescent fovea on middle of disk on either side of middle of intermediate lobe. Anterior and posterior margins usually shallowly, distinctly emarginate. Scutellum rather flattened, carinate apically.

Hemelytra very delicate, the veins not strongly elevated, inconspicuous. Discal cell open and basal cell wanting.

Anterior coxal cavities open behind. Front legs rather strongly incrassate and front tarsi with two unequal claws.

Genotype: Systelloderes moschatus Blanchard, 1852 : 224, pl. 2, fig. 14.

Distribution: Ethiopian, Oriental, Australian, Neotropical and Nearctic Realms.

Easily recognized by the open discal cell, testaceous to fulvous coloration, more or less shining surface with only a moderate vestiture of pale hairs, and small size. The genus *Hymenodectes* Uhler, 1892 : 180, (type *culicus* Uhler, 1892 : 181) is a straight synonym. Mr. China sent a specimen of *pugnatorius* Distant (1904 : 278) from the Hex River Valley, Africa, which he identified as an *Aerorchestes* but in my opinion this specimen runs directly to *Systelloderes*. Under the circumstances I have listed *pugnatorius* as a doubtful species. Mr. China's identification raises some question as to the validity of the anomalous characters of *Aerorchestes*, e. g., front coxal cavities closed behind and middle and hind tarsi one-segmented.

Species of **Systelloderes**

1. **Systelloderes aetherius** Bergroth, 1916 : 16. Queensland.*
2. **Systelloderes angustatus** (Champion) 1898 : 161, Tab. X, fig. 5. Guatemala, Mexico.† ‡
3. **Systelloderes biceps** (Say) 1832 : 32. Pennsylvania, U. S. A.‡ (Figured in Champion, 1898 : 162, Tab. X, fig. 6; Johannsen, 1909 : 3, figs. 1–17; and Usinger, 1932, fig. 5.)
4. **Systelloderes capillicornis** Bergroth, 1918 : 116. Luzon, P. I.*
5. **Systelloderes crassatus** (Usinger), 1932 : 151, fig. 6. California.§
6. **Systelloderes culicus** (Uhler), 1892 : 181. Utah.§
   (=*schwarzii* Ashmead MS, 1893 : 328.)
7. **Systelloderes inusitatus** (Drake and Harris) 1927 : 102. Miss.§
8. **Systelloderes iowensis** (Drake and Harris) 1927 : 102. Iowa.§
9. **Systelloderes maclachlani** (Kirkaldy) 1901 : 218, fig. 1. New Zealand.‡
10. **Systelloderes moschatus** Blanchard, 1852 : 224, pl. 2, fig. 14. Chile.‡
11. **Systelloderes nitidus** (Usinger) 1932 : 152, fig. 4. British Honduras.§
12. **Systelloderes terrenus** (Drake and Harris), 1927 : 103, Iowa.§ (nymph).

*Status determined from descriptions by R. L. Usinger.
†Status determined from types by W. E. China.
‡Status determined from identified specimens by R. L. Usinger.
§Status determined from examination of the types by R. L. Usinger.

Species of Doubtful Generic Position

1. **Enicocephalus barbatus** Bergroth, 1906 : 323. Ceylon.
   (Figured by Distant, 1910 : 167, fig. 91.)
2. **Enicocephalus bergrothi** Breddin, 1899 : 176, fig. 8. Lombock.
3. **Enicocephalus bironianus** Bergroth, 1906 : 325. New Guinea.
4. **Enicocephalus braunsii** Bergroth, 1903 : 254. Cape Colony, Africa.
5. **Enicocephalus fimbria** Breddin, 1912 : 17. Africa.
6. **Enicocephalus hymenaeus** Bergroth, 1905 : 376. Madagascar.
7. **Enicocephalus jacobsoni** Bergroth, 1915 : 115, Java.
8. **Enicocephalus japonicus** Esaki, 1935 : 23, pl. 5, fig. 3. Japan.
9. **Enicocephalus laticollis** Bergroth, 1905 : 376. Madagascar.
10. **Enicocephalus myrmecophilus** Bergroth, 1915 : 292. Cape Colony, Africa.
11. **Enicocephalus pugnatorius** Distant, 1904 : 278. Cape Colony, Africa.
12. **Enicocephalus tasmanicus** Westwood, 1837 : 24. Tasmania.
13. **Enicocephalus traegaordhi** Bergroth, 1914 : 12. Zululand, Africa.
14. **Enicocephalus volatilis** Bergroth, 1915 : 118. Java.
15. **Gamostolus tonnoiri** Bergroth, 1927 : 684. New Zealand.
16. **Phthirocoris antarcticus** Enderlein, 1904 : 787, figs. 2–5. Crozet Island.

Fossil Species

1. **Disphaerocephalus constrictus** Cockerell, 1917 : 361, fig. 3. Burmese Amber (Miocene).
2. **Enicocephalus fossilis** Cockerell, 1916 : 135, fig. 1. Burmese Amber (Miocene).
3. **Enicocephalus fulvescens** Westwood, 1837 : 23. Gum Animé.
   (=*nasalis* Hope, 1837 : 56.)
4. **Enicocephalus swinhoei** Cockerell, 1917 : 364, fig. 4. Burmese Amber (Miocene).

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The reviewer continues in his belief that little can be said of a catalogue in critical comment. The author's introduction indicates that this work embodies a careful and thorough effort to present data on the families treated, with the inevitable compromise in the interpretation of references and the evaluation of varied opinions. It seems doubtful to the reviewer that any more of the fundamental data could be expected than have been included here. The volume continues the excellent form of the preceding fascicles of the series.—A. W. L.