Heteroptera or True Bugs of Ecuador: A Partial Catalog

RICHARD C. FROESCHNER

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ABSTRACT

Froeschner, Richard C. Heteroptera or True Bugs of Ecuador: A Partial Catalog. *Smithsonian Contributions to Zoology*, number 322, 147 pages, 1981.—This catalog lists a total of 584 species in 290 genera: from continental Ecuador, 496 species in 264 genera; from the Galapagos Islands, 101 species in 57 genera with just 3 genera restricted to those islands. Only 13 species are reported for both areas. For continental Ecuador the numbers appear to represent a small fraction of probable forms; for the Galapagos Islands the number of species represents a doubling during the dozen years since Linsley and Usinger's 1966 report of 43 species of Heteroptera from those islands. Inclusion of most species is based on literature records only, sometimes with additional data, and not a few species are included solely on specimen records. Zoogeographical conclusions are mostly deferred until further planned collecting reveals more fully the Ecuadorian fauna. Three nomenclatorial innovations are included: (1) Signoret's *Pangaeus vicinus*, described from Ecuador, is transferred from synonymy under the North American *Pangaeus bilineatus* (Say) to synonymy under the common South American *Pangaeus aethiops* (Fabricius); (2) *Ectrichodia geniculosa* Walker, described from Ecuador, is transferred for convenience to the new combination *Rhiginia geniculosa*; and (3) the spelling of the Tingidae tribal name Phatnomini is emended to Phatnomatini.

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Contents

Heteroptera or True Bugs of Ecuador: A Partial Catalog

Richard C. Froeschner

Introduction

The list offered here is a contribution toward a catalog, admittedly still very incomplete, of the Heteroptera of Ecuador, including the Galapagos Islands. Its preparation was prompted by the challenges encountered in attempting to identify heteropterous specimens captured during the Ecuador-Peace Corps-Smithsonian Institution Aquatic Insect Survey under the directorship of Dr. Paul J. Spangler of the Smithsonian Institution.

The list includes all literature records of Ecuadorian occurrence I have encountered plus the first reports on specimens of some of the terrestrial Heteroptera collected on the first two field trips of the survey. No new species are described herein; they will be made known in subsequent papers after allowing reasonable time for larger series to be collected. Also being worked for future publications are the aquatic forms. Additional collecting is planned and will be reported on later. As the list now stands it contains 584 identified species, of which 101 are known from the Galapagos Islands. Only 13 species, or about 2% of the total, are known from both areas.

Comparison of the 507 species of Heteroptera here recorded for continental Ecuador with numbers of species of that order for certain well-collected areas might be of interest and should indicate how much remains to be done to reveal fully the Heteroptera fauna of that physiographically and ecologically varied land. Unfortunately, there are no well-worked recent Heteroptera lists for tropical countries, so the comparison must be made with some of the better collected areas in the temperate part of the world. Accepting in a broad sense the observation that numbers of species in a group increases equatorward, one should certainly expect the Heteroptera fauna of Ecuador, which lies astride the Equator, to exceed that of temperate region areas like New York, which lies poleward of the 41st line of north latitude and occupies about half the area. At the same time, Ecuador, with its Andean elevations of more than 6100 meters, is subject to another generalization which notes that numbers of species decrease with increases in altitude.

Ecuador (present list)	270,681 sq km	507 species
British Isles (Southwood and Leston, 1959)	312,755 sq km	509 species
Florida (Blatchley, 1926)	151,670 sq km	548 species
New York (Leonard, 1928)	128,402 sq km	727 species

Zoogeographic Comments

The very incomplete state of our knowledge of the Heteroptera of continental Ecuador prevents serious efforts at zoogeographic conclusions based on that order of insects, conclusions that could err in making the absence of knowledge, rather than

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negative evidence, into scientific fact. Instead, such incomplete knowledge does serve as a challenge for careful and sustained collecting.

Whymper (1891) early generalized that the western lowlands of Ecuador had already received significant attention from collectors, but the difficulties of travel prevented ready access to the mountainous areas; limited evidence revealed that as one ascended the mountains he found that the individual insects were noticeably smaller and duller and were to be found only by "diligent searching." In comments about the Hemiptera (or "Rhynchota," as he termed them), he remarked that a straggler of the genus *Emesa*, a thread-legged assassin bug (Reduviidae), was taken at an elevation of about 5200 meters (more than 300 meters above the tree line) and was the only living thing found at that altitude. He further noted that the interior of Ecuador is rich in this order of insects.

The heteropterous fauna of Ecuador should be quite similar to that of the neighboring countries with which most of it is tied by several north-south bands of physiographic provinces that extend well beyond its borders. In addition, the southwest corner of the country receives the northernmost termination of the coastal desert which then extends south along Peru and Chile, and the eastern edge of Ecuador reaches onto the lands surrounding the headwaters of many of the rivers of the extensive Amazonian region. Further discussion of faunal relationships are appropriately deferred until later in the survey when more specimen data are available.

In contrast to the fragmentary knowledge of Heteroptera for continental Ecuador, the long sustained and intense interest in the Galapagos Islands (resulting in part from the islands' historical significance to Darwinism and in part from their own biogeographic peculiarities marked by many endemic species) has yielded much information about their heteropterous fauna. Darwin (1846:164) commented on the meager insect population of the islands, an observation which was corroborated by Banning (1933:18), who reported on the Hancock Expedition of 1933 to the Galapagos, and by Linsley and Usinger's (1966) summary of the 618 species of insects of the Galapagos Islands including 43 species of Heteroptera. Linsley's (1977) supplemental list plus the present catalog raises to 108 the number of species of Heteroptera on those islands—the number more than doubling in the dozen years since the 1966 list. Although many of these 108 species are known solely from the Galapagos Islands, only three of the heteropteran genera—*Darwinysius* Ashlock (Lygaeidae), *Galapagocoris* Carvalho (Miridae) and *Galapagomiris* Carvalho (Miridae)—are so restricted, a fact which supports the idea that the heteropterous fauna of these islands is in an early stage of evolution.

The origin of most of the Galapagos fauna is generally conceded to be in the Americas, especially in the tropical regions. Outstanding exceptions may be noted in Scudder's (1957) comments that in the entire animal kingdom only two genera have a Galapagos-Old World distribution—one in the Mollusca and one in the Heteroptera (see family Stenocephalidae, genus *Dicranocephalus*). All other genera shared by the Old World and the Galapagos Islands have significant tropical American representation from which the Galapagos forms appear to have been derived. In spite of the general agreement that the Neotropics was the source of nearly all of the Galapagos biota, there exist many explanations as to how the ancestors of the present forms got there.

Agassiz (1892) described a means of passive migration when he reported that oceanic currents near Panama carried floating materials in excess of 100 kilometers per day toward the Cocos Islands and the Galapagos Islands.

Van Duzee (1937:112) generalized as follows:

> The insect fauna of the Galapagos Islands is strictly tropical or subtropical American. Many of the species are identical, others, especially those that have migrated to the higher interior portions of the islands, have become differentiated into species more or less distinct from their continental relations. The area of distribution of the Galapagos insect fauna apparently embraces the West Indies and Panama with a smaller representation of the Peruvian and Ecuadorian fauna, possibly indicating a former land connection to the north rather than to the east.

In contrast, Van Dyke (1953:1-3) expressed

the belief that the Galapagos Islands were once fused with each other and with the continent and were separated by "subsidence of the intervening area between the Islands and the mainland." He claimed support by proposing that the Galapagos beetle (Coleoptera) fauna was derived from "barren grounds of western South America, especially Ecuador and Peru," and that the evolution within the beetle fauna took place after the physical land connections of the various units were broken.

Apparently the matter is quite complex, and the present Galapagos Heteroptera fauna has relationships with species now living in a variety of directions from the Galapagos Islands. For instance, Polhemus (1968) for the Saldidae, and Froeschner (1976) for the Tingidae concluded that the endemic species found on the Galapagos were probably derived from ancestral forms that gave rise to the mainland species from Ecuador and southward rather than northward. But Ashlock (1972) found for the Orsilline Lygaeidae that while some endemic species are related to Ecuadorian and Colombian forms, one has its closest relative on the Lesser Antillean island of Guadeloupe, and the two species of the endemic genus *Darwinysius* are closest to another genus endemic to the more southerly Juan Fernandez Islands in the Pacific Ocean, nearly 650 kilometers west of central Chile. But with our present fragmentary knowledge of South American Heteroptera, for both modern and fossil species, such conclusions can only be most tentative. There is certainly a possibility that an earlier continental fauna, perhaps even a pre-Andean one, may have been ancestral to species in all of South America and the Galapagos Islands before its own characteristics underwent changes forced by timely geological events—for evolution does involve time as well as organisms and geography.

Kuschel (1963:94) summarized his investigations on the Galapagos and certain other islands with the following comments:

> All the basement rock now visible on the islands is volcanic and young in geologic time, probably of the late Pliocene [ascertained by Cox and Dalrymple, 1966, to be about 2.4 million years old], *and* The date of the origin of life on the Galapagos is still an open field for speculation for, while the sea bottom soundings have provided no evidence for the presence of emerged land of any sort between the continent and the islands during the late Tertiary, the greater part of the Galapagos fauna, if not all of it, is relatively young.

This relative recency of formation of the Galapagos fauna is also concluded by Carlquist (1974:4), who states that the islands are "relatively young, relatively poor ecologically," and that "with the exception of Darwin finches, the Galapagos biota best serves to show earlier stages in the evolution of insular groups."

Literature Useful for the Study of the Heteroptera of Ecuador

Catalogs of the entire order or significantly large parts thereof are few and obsolete. These were Amyot and Serville's (1843) "Histoire naturelle des Hemipteres"; Dallas' (1851–1852) "List of the Specimens of Hemipterous Insects in the Collection of the British Museum"; Dohrn's (1859) "Catalogus Hemipterorum"; Walker's (1867–1873) "Catalogue of the Hemiptera-Heteroptera in the Collection of the British Museum"; Stal's (1870–1876) "Enumeratio Hemipterorum"; and Lethierry and Severin's (1893–1896) three-part "Catalogue general des Hémiptères" with Bergroth's (1908, 1913) supplements to the first two parts. All records for Ecuador and the Galapagos Islands found in the above items are cited in the present list.

There are no comprehensive manuals or keys for identifying the heteropterous fauna of South America. The most useful works for that purpose include Stal's (1870–1876) now obsolete but still useful "Enumeratio Hemipterorum," which contains many synopses of various groups offered in addition to the identification tables which he had scattered through his earlier studies—these earlier works containing keys to genera known to Stal will be referred to at the appropriate places in the following list. Other useful works on tropical American Heteroptera, but treating especially the Central American forms rather than the South American forms, are the two Rhynchotal parts of the *Biologia Centrali-Americana:* part I by Distant

(1880–1893) and part II by Champion (1897–1901). These abundantly illustrated publications are of real value in gaining some appreciation for the habitus of each group, but in large part treat species which are geographically remote from the Ecuadorian insect fauna. Champion's volume is more helpful than Distant's because it includes keys for various groups and an index which also covers Distant's volume. Bachman (1977) presented a bibliography of the aquatic Heteroptera of southern South America, many of the included references actually having wider application for that continent.

Keys to the families of Heteroptera can be found in textbooks, including Costa Lima's (1940a:21–27) "Insectos do Brasil." A comprehensive key to the families and subfamilies of the Heteroptera for the world was given by China and Miller (1959). Even though shifts of some of the categories up or down the taxonomic hierarchy have taken place, China and Miller's work is still very useful, especially if used in conjunction with subsequent papers on the status of the family-groups. Štys and Kerzhner (1975) summarized much of the nomenclatorial information dealing with family names and higher categories.

Several authors provided more-or-less order-wide coverage of the Heteroptera for certain South American countries, but all these works are now obsolete as to species included and to nomenclature. The series of contributions for Argentina by Berg (1877–1899) are of limited value for Ecuador because of the geographical remoteness of that country and because the series contains no keys or identification tables; for the same country, Pennington (1920–1922) presented a list of 531 species of known occurrence and a synopsis, with keys, to the family Coreidae in the broad sense. The early growth of knowledge of the Heteroptera of Chile is reflected in the studies by Spinola (1852, with descriptions of certain forms by Blanchard), Signoret (1863b), and Reed (1898–1901). The last of these would be of some use in Ecuador because it is more comprehensive and because Reed added occasional keys.

Attempts at order-wide coverage (all without keys) for continental Ecuador appeared in the following papers. Whymper (1891) included in the appendix to his "Travels" part of an illustrated paper by Distant on the Heteroptera of Ecuador, but this paper must be used in conjunction with Distant's (1893) later offering of original descriptions for the species designated as "new" in the 1891 paper [see below for explanation of this divided contribution]. Of special significance is a series of papers by Campos (1900–1932), especially his lists (1919 and 1925) summarizing the species he knew to occur in Ecuador. In these writings Campos sometimes mentioned specimens under the generic name without species identifications; examination of those specimens must be made to determine just which species were represented. Later Yust (1955, 1958) published lists of Ecuadorian insects, including Heteroptera, identified by himself or outside authorities. In the 1958 paper the pages were not numbered, but each species in each order received a number and often the prefix letter "L." Yust explained that the prefix "L" meant "collected primarily in the coastal areas," while those without that prefix were "primarily from the sierra."

For the Galapagos Islands seven papers listing all the species of Heteroptera known from those islands at the time of publication were presented by Butler (1877), Barber (1925, 1934), Van Duzee (1933, 1937), Linsley and Usinger (1966), and Linsley (1977).

References to papers dealing with taxa for Ecuador or the Galapagos Islands at the family level or below will be presented at the appropriate places in the following list.

Comments on the Whymper-Distant matter mentioned above might save time and perplexity for future students. The list of "Rhynchota" offered by Whymper (1891:111–120) is clearly labelled as having been prepared by W. L. Distant. In a footnote to the title, Whymper wrote:

> It was found necessary to publish Mr. Distant's contribution to the "Supplementary Appendix to Travels Amongst the Great Andes of the Equator" upon December 17, 1886, in advance of the volume. It is stated, however, that this paper contains errors; and as it has not been found possible

either to obtain corrections of these errors, or the return of specimens upon which the descriptions were founded, the descriptions are now omitted.

In spite of the deletion of the formal descriptions, the designation "n. sp." after various scientific names was retained. Where illustrations or adequate comparative statements accompanied these names the new species must be considered as valid from this work—as was done by Carvalho (1957–1960) in his world catalogue of the Miridae—and in the absence of such characterization the species must be considered nomina nuda.

Whymper's statement "found necessary to publish... upon December 17, 1886" is misleading. I found no evidence that such a Distant publication appeared in 1886. Instead, it was not until 1893 that Distant published the original descriptions with the following comments:

> The following descriptions were written eight years ago at the request of Mr. Whymper for inclusion in the Natural History Appendix to his "Travels amongst the Great Andes of the Equator." This publication appeared in the spring of the present year, and my species and genera are only indicated by name, as I was refused an opportunity of correcting proof with the woodcuts inserted in the text, and therefore declined to allow the sheets to go to press. It thus becomes a duty I owe to my brother students of the order to publish the full descriptions, while the above explanations will serve as comment to a footnote which Mr. Whymper has chosen to place to the first page of my contribution. I also correct some errors in what was thus printed without my supervision.

Distant, in this later paper, apparently believed that Whymper's deletion of the formal description of the new categories made all those names manuscript names. This is evident in his treatment wherein all the new names (except that of *Nezara nebulosa*, a true nomen nudum without illustration or descriptive comments) were repeated with the notation "n. sp. [or gen. nov.], Dist. in Whym. Trav. Great Andes, Append., p....." He did not mark *Nezara nebulosa* in this fashion because, as he explained, further study had convinced him that the specimen actually represented "*N. stictica* Dallas," the latter being catalogued below in the combination *Pellaea stictica*.

Explanations for the Catalog

The republic of Ecuador consists of two widely separated parts, the continental area and the Galapagos Islands, or Colon Territory, about 1000 kilometers west in the Pacific Ocean. Because of the special zoogeographic significance in this separation, the literature records of distribution given in the list below are presented either as "Ecuador" for the continental area or as "Galapagos Islands" for the archipelago.

The catalog is, for convenience of the user, arranged alphabetically by families (also subfamilies and tribes, if appropriate), genera, and species. It includes an entry for each family known to occur or likely to be found in Ecuador. Under each family are listed only those genera and species for which literature or specimen records are available.

In the synonymies under each species, for each case where the author was describing his material as a new species, the distributional data in the brackets includes the names of all countries from which the species was described and may include the word "type" or "lectotype" after the geographic name encompassing the type-locality—the absence of both of these words signifies that I have not yet located literature evidence that the type-locality has been fixed further than was done by the original author.

Those citations not indicating an original description deal only with records containing mention of Ecuador or the Galapagos Islands, kept separate in this list; all other countries mentioned are simply grouped under the inclusive abbreviation "etc."

Specimen records are given in a separate paragraph with the heading "Survey Collection."

Undoubtedly, examination of more specimens and more intensive study on each group will change some of the names used here and will add others.

Keys for identification of South American (here usually including Trinidad) genera of certain groups are inserted in appropriate places in the catalog to expand its usefulness, especially for

recognition of local occurrence of genera not otherwise listed. Admittedly, inclusion of keys to all genera of Heteroptera from South America would be desirable, but due to the state of our knowledge of the order, preparation of such inclusive keys for all families would seriously delay making available the main offering of this publication—a preliminary list of species of Heteroptera known to occur in Ecuador. Additional keys are planned for subsequent papers.

Original taxonomic and nomenclatorial changes are kept to a minimum, but three seem necessary and are signaled here for attention: (1) transfer of Signoret's *Pangaeus vicinus*, described from Ecuador, from synonymy under the North American *Pangaeus bilineatus* (Say) to synonymy under the common South American *Pangaeus aethiops* (Fabricius); (2) transfer, for convenience, of *Ectrichodia geniculosa* Walker to the new combination *Rhiginia geniculosa*; and (3) a necessary spelling emendation called to my attention by Mr. George Steyskal, Systematic Entomology Laboratory, United States Department of Agriculture: the gender of the generic name *Phatnoma* is neuter and its stem is *Phatnomat-*, hence the tribal name based on it must be Phatnomatini.

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Host-Country (Ecuador) investigators: Jose Donoso, Central University, Quito; Julio Molineros, Ministry of Agriculture, Quito. *Peace Corps personnel:* Tomas Guerrero P., Program Manager, Agriculture (Ecuador); Philip Lopes, former Peace Corps Country Director for Ecuador; Jeffrey Cohen, volunteer, Andrea Langley, volunteer. *Smithsonian Institution personnel:* Carlynne Nicholas, William Rowe, James Sherburne, Paul J. Spangler, Phyllis M. Spangler, Hollis Williams. *Voluntary aides:* Ashley B. Gurney, Patricia M. Turner, Paul Monnig.

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Catalog

Family ACANTHOSOMATIDAE Signoret

The three species in three genera here reported for continental Ecuador, none for the Galapagos Islands, probably do not comprise a complete listing of the local representation of the Acanthosomatidae. But the family is small, so relatively few additional species can be expected. Campos' (1925a:53) record of two unidentified species of *Acanthosoma* from Ecuador cannot be placed in the current classification of this family without examination of his specimens. That genus is known only from the Old World, and the subfamily to which it belongs is not now recognized from the Neotropics.

The accompanying keys to the subfamilies and tribes in South America are adapted from Kumar's (1974) revision of the family. The keys to the genera of the same area are adapted partly from that work, partly from Rolston and Kumar's (1975) key to the genera of this family occurring in the Americas, and are in part based on original study of specimens.

Kumar (1974:3) explained why this family name should be credited to Signoret instead of to Stal as has generally been done.

Key to Subfamilies of Acanthosomatidae in South America

Abdominal venter at base with a prominent median tubercle or spine directed anteriorly ..... Subfamily **BLAUDUSINAE** Kumar

Abdominal venter at base regularly convex, without a tubercle or spine ..... Subfamily **DITOMOTARSINAE** Signoret

Subfamily BLAUDUSINAE Kumar

Key to Tribes of Blaudusinae in South America

Abdomen with medioventral basal spine extremely elongate, attaining or surpassing anterior margin of mesosternum ... Tribe **BLAUDUSINI** Kumar

Abdomen with medioventral basal spine not projecting, not attaining median coxae ..... Tribe **LANOPINI** Kumar

Tribe BLAUDUSINI Kumar

Key to Genera of Blaudusini in South America

Humeral angles prolonged laterally as horizontal lobes with anterior and posterior margin subparallel and apex obliquely truncated. Abdomen with mediobasal ventral spine projecting anteriorly, extending under head ..... ***Bebaeus*** Dallas

Humeral angles not produced laterally. Abdomen with mediobasal ventral spine extending anteriorly only as far as anterior coxae ..... ***Blaudus*** Stal

Genus *Bebaeus* Dallas

Bebaeus Dallas, 1851:197 [type-species: *Bebaeus punctipes* Dallas, only included species].

Bebaeus punctipes Dallas

Bebaeus punctipes Dallas, 1851:312 [Colombia (lectotype); Venezuela].

SURVEY COLLECTION.—Although no specimens have been collected during the survey, the United States National Museum of Natural History has two specimens collected earlier in Ecuador: Guayas (Guayaquil, 7 Jun 1935); Tunguahura (Banos, 30 Feb 1937).

Genus *Blaudus* Stal

Blaudus Stal, 1872a:61 [type-species: *Blaudus ruficornis* Stal, only included species].—Kumar, 1974:32 [Kumar reported this genus from Colombia and Ecuador; since only one species is known for the genus, his records must pertain to it].

Blaudus ruficornis Stal

Blaudus ruficornis Stal, 1872a:62 [Colombia (type)].—Kumar, 1974:32 [Ecuador; etc.].

Tribe LANOPINI Kumar

Key to Genera of Lanopini in South America

1. Juga surpassing and contiguous anterior to apex of clypeus .... ***Sniploa*** Signoret

Juga surpassing clypeus or not, never convergent nor contiguous anterior to it 2

2(1). Osteolar peritreme elongate, extending much more than half way from osteolar pore to lateral margin of metapleuron 3

Osteolar peritreme short, extending not more than half way from osteolar pore to lateral margin of metapleuron 4

3(2). Pronotum with anterolateral margins strongly serrate. Antennal segment I not surpassing apex of head ..... ***Pseudobebaeus*** Distant

Pronotum with anterolateral margins not serrate. Antennal segment I slightly surpassing apex of head ..... ***Phorbanta*** Stal

4(2). Pronotum with humeral angle broadly, triangularly prominent, projecting laterad of costal margin by a distance about equal to width of an eye; posterior margin of projection sinuately concave ..... ***Lanopis*** Signoret

Pronotum with humeral angle not or only slightly (less than one-fourth width of an eye) projecting laterad of costal margin 5

5(4). Metapleural evaporatorium (dulled area) broadly extending more than three-fourths of way across metapleuron. Abdomen with mediobasal ventral projection reduced to a blunt, low but distinct, thick tubercle not reaching between posterior coxae ..... ***Acrophyma*** Bergroth

Metapleural evaporatorium confined to basal third or less (sometimes only forming a narrow halo around osteolar peritreme) of metapleuron. Abdomen with mediobasal ventral process projecting distinctly between posterior coxae as an elongate, compressed spine 6

6(5). Pronotum with anterolateral angle projecting laterally as a distinct but short acute angle. Body length larger, 7.5 mm. or longer 7

Pronotum with anterolateral angle evenly rounded, not forming an acute angle. Body length shorter, 5.5 mm or less ..... ***Hellica*** Stal

7(6). Jugum strongly, gradually narrowing, its apex not wider than apex of clypeus. Antennal segment I short, not or scarcely surpassing apex of head ..... ***Sinopla*** Signoret

Jugum weakly narrowing, apex distinctly wider than apex of clypeus. Antennal segment I longer, surpassing apex of head by about one-third its own length ..... ***Ea*** Distant

Subfamily DITOMOTARSINAE Signoret

Tribe DITOMOTARSINI Signoret

Key to Genera of Ditomotarsini in South America

1. Antenna with segment I on apical half about twice as wide as on basal half; segment II thicker than a tibial diameter. Hemelytral membrane narrowly extending basad along costa to a point about opposite mid-length of corio-membranal suture ..... ***Cylindrocnema*** Mayr

Antenna with segment I cylindrical; segment II narrower than diameter of a tibia. Membrane not thus extended along costa 2

2. Scutellum near base with a transverse calloused yellow or cream band reaching almost to lateral margins. Pronotum with strongly curved calloused yellow band connecting humeral angles and curving forward onto anterior pronotal lobe ..... ***Tolono*** Rolston and Kumar

Scutellum and pronotum without calloused bands described above 3

3. Osteolar peritreme elongate, reaching at least half way from osteolar pore to lateral margin of metapleuron. Costal margin and narrow border each side of clavocorial suture calloused yellow or cream .... ***Hyperbius*** Stal

Osteolar peritreme short, reaching about one-third or less of the way from osteolar pore to lateral margin of metapleuron. Wings without yellow marks described above 4

4. Juga strongly surpassing apex of clypeus, distinctly incurved and sometimes contiguous anterior to it ..... ***Mazanoma*** Rolston and Kumar

Juga weakly or not at all surpassing apex of clypeus, not incurved 5

5. Antenna with segment I with one-half or more of its length projecting beyond apex of head ..... ***Planois*** Signoret

Antennal segment I with not more than one-third its length projecting beyond apex of head 6

6. Prosternum with a broad, mediolongitudinal groove. Length of insect 12 mm or more ..... ***Nopalis*** Signoret

Prosternum convex, without a mediolongitudinal groove. Length of insect less than 10 mm 7

7. Antennal segment I slightly surpassing apex of head. Head and pronotum not colored as in other half of couplet ..... ***Ditomotarsus*** Spinola

Antennal segment I in no part surpassing apex of head. Head dorsally and pronotum red, contrasting with greenish color of scutellum and corium ..... ***Praesus*** Stal

Genus *Tolono* Rolston and Kumar

Tolono Rolston and Kumar, 1975:275 [type-species: *Tolono decoratus* Rolston and Kumar, only included species].

Tolono decoratus Rolston and Kumar

Tolono decoratus Rolston and Kumar, 1975:276 [Ecuador (type)].

Family ALYDIDAE Amyot and Serville

Listed below are nine species in six genera, all from continental Ecuador and none from the Galapagos Islands. These totals may or may not include the three unidentified species listed under the genus *Alydus* by Campos; examination of his specimens must be made before species recognition of them is possible. Additional species probably will be found.

The following keys to the subfamilies, tribes, and 11 genera occurring in South America were compiled from a variety of sources and checked against specimens where convenient to do so. At this time there is no modern treatment of the family as a unit; Ahmad (1965) revised the subfamily Leptocorisinae, and his conclusions are adopted here.

Key to Subfamilies of Alydidae

1. Posterior femur distinctly thicker than anterior or median femur, with a row of spines on posteroventral margin ..... ALYDINAE Amyot and Serville
   Posterior femur not thicker than anterior or median femur, without spines ventrally 2
2(1). Head about two-thirds as wide as greatest pronotal width. Labial segment II distinctly shorter than segments III and IV combined ..... LEPTOCORISINAE Stal
   Head nearly or quite as wide as greatest pronotal width. Labial segment II longer than segments III and IV combined ... MICRELYTRINAE Stal

Subfamily ALYDINAE Amyot and Serville

Key to Genera of Alydinae in South America

1. Posterior tibia moderately to strongly curved, apex compressed, prolonged ventroapically as a prominent angle or a distinct spine almost as long as midlength diameter of tibia 2
   Posterior tibia virtually straight, terete, ventroapically either unspined or with a very small spine 3
2(1). Posterior coxae separated by a space nearly or quite as great as transverse diameter of one coxa ..... ***Apidaurus*** Stal
   Posterior coxae separated by a space no more than half as great as transverse diameter of one coxa .. ***Hyalymenus*** Amyot and Serville
3(1). Antennal segment I shorter than segment II ..... ***Alydus*** Fabricius
   Antennal segment I subequal to or longer than segment II 4
4(3). Posterior tibia ventroapically with a short acute spine or tooth (best seen by looking along ventral margin toward apex) ..... ***Burtinus*** Stal
   Posterior tibia not spined apically ..... ***Megalotomus*** Fieber

Genus *Alydus* Fabricius

Alydus Fabricius, 1803:248 [type-species: *Cimex calcaratus* Linnaeus, fixed by Curtis, 1831:369].—Campos, 1919:56, 1925a:57; 1932b:14 [Campos reported a minimum of three unidentified species of "*Alydus*" from Ecuador; his specimens need reexamination].

Genus *Hyalymenus* Amyot and Serville

Hyalymenus Amyot and Serville 1843:223 [type-species: *Alydus dentatus* Fabricius, fixed by Van Duzee 1916:13].

Hyalymenus pulcher (Stal)

Alydus pulcher Stal 1854:235 [Honduras (type)].
"Hyalimenus" pulcher.—Campos 1919:55 [Ecuador].

Genus *Megalotomus* Fieber

Megalotomus Fieber, 1860:58 [type-species: *Alydus limbatus* Herrich-Schaeffer, a junior synonym of *Cimex junceus*, fixed by Oshanin, 1912:24].

Megalotomus rufipes (Westwood)

Alydus rufipes Westwood, 1842:19 [Centeral America (type)].

SURVEY COLLECTION.—Manabi (59 km W Santo Domingo de los Colorados, 8 May 1975). Unusual variation and great extent of geographic range are attributed to this tropical American species. The present identification, based on a lone female, needs verification by examination of a male.

Subfamily LEPTOCORISINAE Stal

Ahmad (1965) published a very useful illustrated revision of the subfamily Leptocorisinae of the world. The following key to tribes and genera known to occur in South America is adapted from that work.

Key to the Tribes and Genera of Leptocorisinae in South America

Juga exceeding greatly and nearly or quite contiguous anterior to clypeus. Dorsal surface of pronotum (in lateral view) nearly horizontal. Tribe LEPTOCORISINI Stal ..... ***Stenocoris*** Burmeister

Juga shorter than clypeus. Dorsal surface of pronotum (in lateral view) ascending from collar to posterior lobe. Tribe NOLIPHINI Ahmad ..... ***Lyrnessus*** Stal

Tribe LEPTOCORISINI Stal

Genus *Stenocoris* Burmeister

Stenocoris Burmeister, 1835–1839:1010 [type-species: *Cimex tipuloides* De Geer, fixed by Opinion 800 of the International Commission of Zoological Nomenclature, 1967:10–21].

Stenocoris americanus Ahmad

Stenocoris "americana" Ahmad, 1965:34 [Ecuador (type)].

SURVEY COLLECTION.—Guayas (5 km N San Pablo, 27 Feb 1976); Los Rios (10 km N Babahoyo, 22 Jun 1975); Manabi (35 km SE Bahía de Caráquez, 10 May 1975; Santo Domingo de los Colorados, 8 May 1975).

Stenocoris fabricii Ahmad

Stenocoris (Oryzocoris) fabricii Ahmad, 1965:62 [Peru (type)].

SURVEY COLLECTION.—Napo (42 km W Santa Cecilia, 16 May 1975).

Stenocoris tipuloides (De Geer)

Cimex tipuloides De Geer, 1773:354 [Surinam (type)].

Gerris tipuloides.—Stal, 1870:218 [Ecuador; etc.].

Leptocoris tipuloides.—Lethierry and Severin, 1894:103 [Ecuador; etc.].—Campos 1919:56 [Ecuador]; 1925a:57 [Ecuador].

Stenocoris (Stenocoris) tipuloides.—Ahmad, 1965:62 [Ecuador; etc.].

Subfamily MICRELYTRINAE Stal

Kormilev (1953) reviewed the subfamily Micrelytrinae for Argentina and included (pp. 52–53) a key to the genera and species treated there. Combining that work with Stal's (1872a:85–86) offering yielded the following key.

Key to Genera of Micrelytrinae in South America

1. Pronotum with posterolateral angle bearing dorsally a sharp, suberect to erect spine. Juga neither longer than tylus nor approaching each other above it 2

   Pronotum with posterolateral angle without a spine. Juga nearly or quite contiguous above deflexed clypeus 4

2(1). Scutellum with erect spine near apex (Caution! May be broken, look for hollow stub) 3

   Scutellum without erect spine ..... ***Calamocoris*** Breddin

3(2). Labial segment I long, reaching or surpassing base of head. Osteolar peritreme with a strongly elevated sub-auricular process apically ..... ***Cydamus*** Stal

Labial segment I not surpassing posterior margin of eye. Osteolar peritreme without an elevated process apically ..... ***Trachelium*** Herrich-Schaeffer

4(1). Head with lateral margins (both anterior and posterior to eyes) parallel. Antennae shorter than length of body ..... ***Bactrophya*** Breddin

Head with lateral margins behind eyes converging posteriorly. Antennae longer than length of body ..... ***Bactrocoris*** Kormilev

Genus *Bactrophya* Breddin

Bactrophya Breddin, 1901b:53.

Bactrophya aequatoriana Breddin

Bactrophya aequatoriana Breddin, 1901b:53 [Ecuador (type)].—Bergroth, 1913:158 [Ecuador].

Genus *Calamocoris* Breddin

Calamocoris Breddin, 1901b:52.

Calamocoris erubescens Breddin

Calamocoris erubescens Breddin, 1901b:52 [Ecuador (type)].—Bergroth, 1913:158 [Ecuador].

Calamocoris nigrolimbatus Breddin

Calamocoris nigrolimbatus Breddin, 1901b:52 [Ecuador (type)].—Bergroth, 1913:158 [Ecuador].

Genus *Cydamus* Stal

Cydamus Stal, 1858:33 [type-species: *Cydamus adspersipes* Stal, only included species].

Cydamus inauratus Distant

Cydamus inauratus Distant, 1893a:374 [Panama (type)].

SURVEY COLLECTION.—Pastas (12 km W Puyo, 5 Feb 1976); Tungurauna (32 km E Baños, 28 Jan 1976).

Family ANTHOCORIDAE Amyot and Serville

Listed below are seven species in six genera: two species for continental Ecuador and four others for the Galapagos Islands, the seventh species being reported for both areas. Certainly more species can be expected in the former.

The two comprehensive classical works on this family by Reuter (1884) and Poppius (1909b) were superseded by Carayon's (1972) redefinitions in the suprageneric classification of the family. A practical key to the nearly 20 genera known from South America is not readily made at this time. Herring (1966a) provided a list of this family as it occurs on the Galapagos Islands.

Subfamily ANTHOCORINAE Amyot and Serville

Tribe ORIINI Carayon

Genus *Orius* Wolff

Orius Wolff, 1811:161 [type-species: *Salda nigra* Wolff, original designation].—Herring, 1966b [revision of New World forms with key to species].

Orius florentiae Herring

Orius florentiae Herring, 1966a:1095 [Colombia (type); Ecuador; Bolivia; Peru].

SURVEY COLLECTION.—Tungurahua (Baños, 24 Jan 1976, 2000 km elevation).

Subfamily LASIOCHILINAE Carayon

Genus *Lasiochilus* Reuter

Lasiochilus Reuter, 1871:562 [type-species: *Lasiochilus pallidulus* Reuter, only included species].

Lasiochilus pallidulus Reuter

Lasiochilus pallidulus Reuter, 1871:562 [United States (type)].—Herring 1966b:128 [Galapagos Islands; etc.].

SURVEY COLLECTION.—Los Rios (Babahoyo, 21 Jun 1975; Quevedo, 11 May 1975).

Subfamily LYCTOCORINAE Reuter

Tribe CARDIASTETHINI Carayon

Genus *Alofa* Herring

Alofa Herring, 1976:150 [type-species: *Cardiastethus sodalis* White, only included species.]

Alofa sodalis (White)

Cardiastethus sodalis White, 1878:372 [Hawaiian Islands (type)].
Buchananiella sodalis.—Herring, 1966a:127 [Galapagos Islands].

Genus *Amphiareus* Distant

Amphiareus Distant, 1904c:220 [type-species: *Xylocoris fulvescens* Walker, a junior synonym of *Xylocoris constrictus* Stal, the only included species].

Amphiareus constrictus (Stal)

Xylocoris constrictus Stal, 1858:44 [Brazil (type)].
Buchananiella constrictus.—Herring, 1966a:127 [Galapagos Islands; etc.].

Genus *Brachysteles* Mulsant and Rey

Brachysteles Mulsant and Rey, 1852:104 [type-species: *Brachysteles pilosicornis* Mulsant and Rey, a junior synonym of *Anthocoris parvicornis* Costa, only included species].—Campos, 1925a:61 [Campos reported for Ecuador one unidentified species of this genus. As the modern concept of the genus restricts it to the Old World, Campos' specimens must be reexamined to ascertain its correct generic and specific placements].

Genus *Cardiastethus* Fieber

Cardiastethus Fieber, 1860:266 [type-species: *Cardiastethus luridellus* Fieber, fixed by Kirkaldy 1906a:121].

Cardiastethus aequinoctialis Poppius

Cardiastethus aequinoctialis Poppius, 1909b:18 [Ecuador (type)].

Cardiastethus limbatellus (Stal)

Xylocoris limbatellus Stal, 1858:44 [Brazil (type)].
Cardiastethus limbatellus.—Herring, 1966a:127 [Galapagos Islands].

Tribe SCOLOPINI Carayon

Genus *Nidicola* Harris and Drake

Nidicola Harris and Drake, 1941b:343 [type-species: *Nidicola marginata* Harris and Drake, only included species].—Drake and Herring, 1964 [revision of genus with key to species].

Nidicola mazda Herring

Nidicola mazda Herring, 1966a:129 [Galapagos Islands (type)].

Family ARADIDAE Spinola

The following list of 15 species of Aradidae in nine genera is undoubtedly far from a complete list for Ecuador. Exercise of the specialized collecting needed for obtaining insects of this group will certainly increase the list several fold.

The starting point for modern studies in South American Aradidae is Usinger and Matsuda's (1959) monograph which incorporates and synthesizes the earlier literature with much original information and thought. It provides keys to the genera of the world and to the species of a number of genera. Numerous subsequent papers by Kormilev add South American genera and species not known at the time of Usinger and Matsuda's study.

At this time a key to the more than fifty genera known to occur in South America is not practical.

Subfamily ANEURINAE Douglas and Scott

Štys (1974) published notes on this subfamily and included a list of the species of the world.

Genus *Aneurus* Curtis

Aneurus Curtis, 1825:86 [type-species: *Acanthia laevis* Fabricius, only included species].

Aneurus equatoriensis Kormilev

Aneurus equatoriensis Kormilev, 1973a:433 [Ecuador (type)].—Štys, 1974:101 [Ecuador].

Aneurus flavomaculatus Distant

Aneurus flavomaculatus Distant 1893b:92 [Ecuador (type). This species was listed for Ecuador by Distant, 1891:115, as a "n. sp." but without description or figure, and hence was a nomen nudum there].—Lethierry and Severin, 1896:46 [Ecuador].—Campos, 1925a:62 [Ecuador].—Štys, 1974: 102 [Ecuador].

Subfamily MEZIRINAE Amyot and Serville

Genus *Dysodius* Le Peletier and Serville

Dysodius Le Peletier and Serville, 1825:654 [type-species: *Acanthia lunata* Fabricius, only included species].—Champion, 1898:86 [key to four of the five species recognized in the genus *Dysodius*].

Dysodius equatorianus Kormilev

Dysodius equatorianus Kormilev, 1975:9 [Ecuador (type)].

Dysodius lunatus (Fabricius)

Acanthia lunata Fabricius, 1794:72 ["Indii" in error, type-locality corrected to South America by Fabricius, 1803: 117].

Dysodius lunatus.—Campos, 1919:58 [Ecuador]; 1925a:61 [Ecuador].

Genus *Mezira* Amyot and Serville

Mezira Amyot and Serville, 1843:305 [type-species: *Mezira granulata* Amyot and Serville, preoccupied, a junior synonym of *Brachyrhynchus abdominalis* Stal, only included species].—Kormilev, 1971:282–292 [key to the species of *Mezira* in the Americas].

Mezira aequatoriana Kormilev

Mezira aequatoriana Kormilev, 1968:9 [Ecuador (type)].

Mezira "ecuatoriana".—Kormilev, 1971:290 [Ecuador].

Mezira laeviventris (Champion)

Brachyrhynchus laeviventris Champion, 1898:94 [Panama (type)].

Mezira laeviventris.—Kormilev, 1975:21 [Ecuador].

Mezira obscura (Distant)

Cinyphus obscurus Distant, 1891:115 [Ecuador (type); figured, but not described as a "n. sp." Redescribed on the same material as a "n. sp." under the same name by Distant, 1893b:91].—Campos, 1919:58 [Ecuador]; 1925a:6 [Ecuador].

Brachyrhynchus obscurus.—Lethierry and Severin, 1896:43 [Ecuador].

Mezira obscura.—Kormilev, 1962b:264 [Ecuador]; 1971:289 [Ecuador].

Genus *Miorrhynchus* Champion

Miorrhynchus Champion, 1898:75 [type-species: *Miorrhynchus longipes* Champion, only included species].—Kormilev, 1973b:744 [key to the species of *Miorrhynchus*].

Miorrhynchus peruvianus Kormilev

Miorrhynchus peruvianus Kormilev, 1960:4 [Peru (type)]; 1973b:744 [Ecuador; etc.].

Genus *Nannium* Bergroth

Nannium Bergroth, 1898:100 [type-species: *Nannium parvum* Bergroth, original designation].

Nannium elongatum Bergroth

Nannium elongatum Bergroth, 1898:101 [Venezuela (type)].

SURVEY COLLECTION.—Although no specimens have been collected during the survey, a specimen from Guayas (Guayaquil, May 1975) is in the United States National Museum.

Genus *Neuroctenus* Fieber

Neuroctenus Fieber, 1861:34 [type-species: *Neuroctenus brasiliensis* Mayr, a junior synonym of *Brachyrhynchus punctulatus* Burmeister, fixed by Van Duzee, 1916:17].—Kormilev, 1973b:736–738 [key to the Neotropical species of *Neuroctenus*].

Neuroctenus rossi Kormilev

Neuroctenus rossi Kormilev, 1975:15 [Ecuador (type)].

Neuroctenus schlingeri Kormilev

Neuroctenus schlingeri Kormilev, 1975:14 [Peru (type); Ecuador].

Genus *Notapictinus* Usinger and Matsuda

Notapictinus Usinger and Matsuda, 1959:361 [type-species: *Pictinus dominicus* Usinger, original designation].—Kormilev, 1967:7–9 [key to the species of *Notapictinus* known at that time].

Notapictinus equatoriensis Kormilev

Notapictinus equatoriensis Kormilev, 1973a:438 [Ecuador (type)].

Notapictinus quadraticeps (Champion)

Pictinus quadraticeps Champion, 1898:83 [Panama (type)].
Notapictinus quadraticeps.—Kormilev, 1975:6 [Ecuador].

Genus *Ormenocoris* Usinger and Matsuda

Ormenocoris Usinger and Matsuda, 1959:371 [type-species: *Ormenocoris stylatus* Usinger and Matsuda only included species; *Ormenocoris* contains only this one species].

Ormenocoris stylatus Usinger and Matsuda

Ormenocoris stylatus Usinger and Matsuda, 1959:373 [Ecuador (type)].

Genus *Placogenys* Usinger and Matsuda

Placogenys Usinger and Matsuda, 1959:352 [type-species: *Placogenys cockerelli* Usinger and Matsuda, only included species].—Kormilev, 1973a:436–437 [key to the species of *Placogenys*].

Placogenys constrictus Kormilev

Placogenys constricta Kormilev, 1973a:437 [Ecuador (type)].

Family BELOSTOMATIDAE Leach

The literature reports of Ecuadorian occurrence of five species in two genera of Belostomatidae probably does not represent the total numbers in the country—more than 50 species in three genera have been recorded for South America.

Significant family treatments of the Belostomatidae were given by Cummings (1933), and Lauck and Menke (1961). Those papers, particularly the latter, were the sources of information on which are based the keys offered below. In addition, a long series of papers by De Carlo contributed much to the taxonomy of various sections of the family, especially for South America.

Key to the Subfamilies and Genera of Belostomatidae in South America

1. Last pregenital segment (5th visible) of abdomen with 2 longitudinal sutures on each side between midline and spiracles (latter sometimes concealed by fine silken hairs) 2
   Last abdominal segment of abdomen with but 1 longitudinal sulcus each side between midline and spiracles (latter sometimes concealed by fine silken hairs). Subfamily BELOSTOMATINAE Lauck and Menke ..... ***Belostoma*** Latreille
2. Anterior tarsus with 2 distinct segments; tarsal claws as long as or longer than vertical diameter of the supporting tarsal segment. Subfamily LETHOCERINAE Lauck and Menke ..... ***Lethocerus*** Mayr
   Anterior tarsus appearing unsegmented, the dividing suture vitrually or quite obliterated; tarsal claws vestigial, shorter than vertical diameter of supporting tarsal segment. Subfamily HORVATHIINAE Lauck and Menke ..... ***Horvathinia*** Montandon

Subfamily BELOSTOMATINAE Lauck and Menke

Genus *Belostoma* Latreille

Belostoma Latreille, 1807:144 [type-species: *Belostoma testaceo-pallidum* Latreille, only included species].—Lauck, 1962–1964 [Lauck revised this genus in a series of papers containing keys to the species which he arranged in species-groups].

Belostoma asiaticum (Mayr)

Zaitha asiatica Mayr, 1863:354 ["Borneo" in error; lectotype is without a locality label].
Zaitha anura.—Distant, 1891:118 [Ecuador].
Belostoma asiaticum.—Torre-Bueno, 1915:219 [Ecuador].—Campos, 1919:46 [Ecuador]; 1925b:49 [Ecuador]; 1926:7 [Ecuador].—Lauck, 1962:68 [Ecuador; etc.].
Belostoma species.—Brues, 1916:24 [Ecuador].
Zaitha boops.—Campos, 1919:49 [Ecuador].

Belostoma venezuela Lauck

Belostoma venezuela Lauck, 1962:76 [Venezuela (type); Ecuador].

Subfamily LETHOCERINAE Lauck and Menke

Genus *Lethocerus* Mayr

Lethocerus Mayr, 1852:15 [type-species: *Lethocerus cordofanus* Mayr, a junior synonym of *Belostoma fakir* Gistel; synonymized by Menke, 1976:176; only included species].—Brues 1916:160 [a "huge *Belostoma*" from Ecuador].—Cummings, 1933:198–199 [key to the species of *Lethocerus* known from the Western Hemisphere at the time].

Lethocerus annulipes (Herrich-Schaeffer)

Belostoma annulipes Herrich-Schaeffer, 1845:28 [South America (type)].—Uhler, 1869:326 [Ecuador].
Amorgius annulipes.—Campos, 1919:48 [Ecuador]; 1925b:46 [Ecuador].

Lethocerus camposi (Montandon)

Amorgius camposi Montandon, 1900:561 [Ecuador (type)].—Torre-Bueno, 1906:55 [Ecuador].—Campos, 1919:48 [Ecuador]; 1925b:45 [Ecuador].
Lethocerus camposi.—Cummings, 1933:204 [Ecuador].—De Carlo, 1964b:341 [Ecuador].
Lethocerus (Lethocerus) camposi.—Menke, 1963b:267 [Ecuador].

Lethocerus jimenezasuai De Carlo

Lethocerus jimenezasuai De Carlo, 1957:51 [Ecuador (type)].

Family BERYTIDAE Fieber

The present list contains Ecuadorian records of four species of Berytidae in three genera; of these, the single species known from the Galapagos Islands apparently has not been reported from the continent. Certainly others of the nearly 20 species in eight genera known from South America will be found in this country.

No comprehensive study of the family is extant. There are several regional synopses of which only Stusak and Cobben's (1975) treats some Neotropical forms and those from the Netherlands Antilles. The partial key to South American genera given below was derived from a variety of sources, including the study of specimens.

Key to the Genera of Berytidae in South America

1. Pronotum with distinct long spines, sometimes only at each posterolateral angle 2
   Pronotum without distinct spines 4
2(1). Corium with veins bearing rows of long slender spines . . ***Hoplinus*** Stal
   Corium without spines on veins 3
3(2). Pronotum with a distinct spine on midline of anterior disc and 3 long tapering spines on posterior disc (1 at each posterolateral angle and 1 on midline) ..... ***Parajalysus*** Distant
   Pronotum with posterior lobe bearing rows of spines along anterior and lateral margins and on midline ..... ***Acanthoberytus*** Stusak

4(1). Pronotum with posterior margin broadly expanded, completely covering scutellum ..... ***Xenoloma*** Harris
Pronotum with posterior margin not broadly expanded, scutellum exposed 5
5(4). Anterior pronotum with numerous calloused white tubercles ..... ***Phaconotus*** Harris
Anterior pronotum without white tubercles 6
6(5). Free part of osteolar peritreme with sulcus confined to lateral surface, with a stout spine projecting directly from its truncated apex ..... ***Jalysus*** Stal
Free part of osteolar peritreme abruptly bent posteriorly, its sulcus extending along lateral surface of vertical part, thence following the convex side of the bend and ending dorsally ..... ***Metacanthus*** Costa and ***Aknisus*** McAtee

Genus *Aknisus* McAtee

Aknisus McAtee, 1919:81 [type-species: *Aknisus calvus* McAtee, by original designation].

Aknisus galapagensis Barber

Jalysus (Metacanthus) tenellus.—Heidemann, 1901:366 [Galapagos Islands].
Aknisus galapagensis Barber, 1934:284 [Galapagos Islands (type)].—Linsley and Usinger, 1966:134 [Galapagos Islands].

Genus *Jalysus* Stal

Jalysus Stal, 1862a:59 [type-species: *Metacanthus macer* Stal, fixed by Van Duzee, 1916:17].

Jalysus macer (Stal)

Metacanthus macer Stal, 1859b:236 [Ecuador (type). Stal originally gave the source of his material as "Puna prope Guayaquil," not Brazil as reported by Lethierry and Severin, 1894:132, and certain later authors].

Jalysus sobrinus Stal

Jalysus sobrinus Stal, 1862a:60 [Brazil (type)].—Pennington, 1918:336 [Ecuador; etc.].

SURVEY COLLECTION.—Cotopaxi (117 km W Latacunga, 1 Jul 1975; Los Rios (46 km E Quevedo, 12 May 1977); Manabi (59 km W Sto. Domingo de los Colorados, May 1975); Pastaza (Puyo, 1-7 Feb 1976); Tungurahua (13 km E Baños, 22 Jan 1976).

Genus *Metacanthus* Costa

Metacanthus Costa, 1847:258 [type-species: *Berytus elegans* Costa, only included species].

Metacanthus tenellus Stal

Metacanthus tenellus Stal, 1859b:236 [Ecuador (type)].—Stusak, 1964:109 [Ecuador].
Jalysus tenellus.—Stal, 1873:128 [Ecuador].—Barber, 1934: 285 [Ecuador].—Harris, 1941:107 [Ecuador; etc.].

Family CANOPIDAE Amyot and Serville

Ecuadorian records are available for three species of the lone genus, *Canopus* Fabricius, of this family. McAtee and Malloch (1928a:12-14) furnished a key to the species of *Canopus*.

Genus *Canopus* Fabricius

Canopus Fabricius, 1803:27 [type-species, *Canopus obtectus* Fabricius, only included species].

Canopus caesus (Germar)

Chlaenocoris caesus Germar, 1839b:23 ["Middle America" (type)].
Canopus caesus.—McAtee and Malloch, 1928a:17 [Ecuador; etc.].

Canopus fabricii McAtee and Malloch

Canopus fabricii McAtee and Malloch, 1928a:14 [Panama (type); Ecuador; etc.].

Canopus germari McAtee and Malloch

Canopus germari McAtee and Malloch, 1928a:15 [Ecuador (type); etc.].

Family CERATOCOMBIDAE Fieber

No records of Ceratocombidae for Ecuador or the Galapagos Islands have yet been found. Nevertheless, it is probable that still-undiscovered species of this family of tiny, poorly known bugs do occur in both places. So far, three species of the genus *Ceratocombus* Signoret (1852) are the only members of the family reported for South America.

Assignment of this group to family status follows Štys (1970:41). His independent investigations on this family closely paralleled the appropriate parts of Emsley's (1969) study of the family Schizopteridae and its relatives, but differed principally in considering this group to represent a full family. The two papers mentioned above plus McAtee and Malloch's (1925a) paper form a helpful nucleus for studies in this family.

Family CIMICIDAE Latreille

To date there are records of two species of bed bugs, both in the genus *Cimex*, in Ecuador: the common bed bug, which also was reported from the Galapagos Islands, and the tropical bed bug.

Usinger (1966) presented a fully illustrated, broadly comprehensive monograph of the family Cimicidae. No effort is made here to abstract keys therefrom because the work is still available from the Thomas Say Foundation and is essential for any student of the group whether he be casually interested or vitally concerned. That work lists 11 species in eight genera for South America.

Subfamily CIMICINAE Latreille

Genus *Cimex* Linnaeus

Cimex Linnaeus, 1758:441 [type-species: *Cimex lectularius* Linnaeus, fixed by Opinion 81 of the International Commission of Zoological Nomenclature (1924:19)].

Cimex hemipterus (Fabricius)

Acanthia hemiptera Fabricius, 1803:113 [South America (type)].

Cimex rotundatus.—Campos, 1925a:1961 [Ecuador].

Cimex lectularius Linnaeus

Cimex lectularius Linnaeus, 1758:441 [Europe (type)].—Barber, 1934:281, 287 [Galapagos Islands].—Leon and Leon, 1953:54 [Ecuador].—Yust, 1958, nos. 196, 205 [Ecuador].—Linsley and Usinger, 1966:135 [Galapagos Islands].—Usinger, 1966:313 ["cosmopolitan"—without detailed text references, but with Ecuador and Galapagos Island occurrences indicated on map fig. 11-2, p. 251].

Family COLOBATHRISTIDAE Stal

Only one species has been reported as possibly from continental Ecuador, and none have been listed for the Galapagos Islands. At least several more of the approximately 40 species in 11 genera that have been attributed to South America will eventually be found in continental Ecuador.

The following key to South American genera of Colobathristidae was based in part on the generic keys by Horvath (1904:118–120) and Kormilev (1951:82–83) and in part on the study of specimens.

Key to Genera of Colobathristidae Occurring in South America

1. Head laterally ventrad of eye with a bare, elevated, curved, cross striate stridular ridge 2
   Head laterally ventrad of eye without such a stridular ridge 7
2(1). Scutellum apically with a distinct erect or suberect spine longer than scutellum [Caution! Spine may be broken off; look for hollow stub] 3
   Scutellum apically unarmed or with a horizontal spine shorter than scutellum 6

3(2). Ocelli far apart, space between them equal to or greater than distance from ocellus to eye. Head between ocelli with a sharp T-shape sulcus, its stem extending anteriorly along median line ..... ***Discopoea*** Horvath

Ocelli close together, space between them much less than distance from ocellus to eye. Head without above described T-shaped sulcus, but may have a median or approximate pair of short sulci anterior to ocellus 4

4(3). Vertex anterior to ocelli with 2 close-set parallel or convergent short, sharp sulci. Antennal segment IV longer than III 5

Vertex anterior to ocelli with a single median sulcus. Antennal segments IV and III subequal in length ..... ***Calliseidus*** Horvath

5(4). Antennal segment IV with a broad white ring basally. Scutellar spine without hairs ..... ***Neocolobathristes*** Kormilev

Antennal segment IV unicolorous, without a basal white ring. Scutellar spine with numerous long suberect hairs .. ***Trichocentrus*** Horvath

6(2). Anterior tibia along anteroventral margin with a series of distinct, triangular spines. Pronotum with anterior lobe weakly to strongly gibbosely swollen ..... ***Peruda*** Distant

Anterior tibia not spined as above. Pronotum with anterior lobe not swollen ..... ***Perudella*** Kormilev

7(1). Scutellum apically with an erect or suberect spine longer than the scutellum [Caution: Spine may be broken off; look for hollow stub] 8

Scutellum apically without an erect or suberect spine, sometimes with a horizontal spine shorter than the scutellum 9

8(7). Male with eight sternite (first genital segment) posteriorly strongly produced as a prominent acute angle ventrad of the genital capsule. Space between ocelli about half the space between an ocellus and the nearest eye. Labial segment III shorter than IV ..... ***Carvalhoia*** Kormilev

Male with eight sternite not angularly produced. Space between ocelli equal to or slightly less than space between an ocellus and nearest eye. Labial segments III and IV subequal in length. ..... ***Colobathristes*** Burmeister

9(7). Vertex immediately anterior to ocelli with a single short sulcus along midline. Space between ocelli greater than space between an ocellus and nearest eye ..... ***Labradoria*** Kormilev

Vertex immediately anterior to ocelli with 2 close-set [but not on midline] sulci or fovea. Space between ocelli equal to or less than space between an ocellus and nearest eye 10

10(9). Abdomen broad, the connexivum widely exposed on each side of combined hemelytra at rest. Anterior femur ventrally with several irregular rows of fine but distinct denticles for full length in addition to the strong subapical spine ..... ***Piptocentrus*** Horvath

Abdomen across connexiva narrower than combined hemelytra at rest. Anterior femur ventral with no or very few extremely fine denticles in addition to the strong subapical spine ... ***Colobasiastes*** Breddin

Genus *Peruda* Distant

Peruda Distant, 1888:x [type-species, *Peruda typica* Distant, only included species].—Kormilev, 1949:382 [key to the species of *Peruda*].

Peruda monrosi Kormilev

Peruda monrosi Kormilev, 1949:378 ["Patria ignota (probablemente Peru o Ecuador)"].

Family COREIDAE Leach

The Coreidae, one of the large families of Heteroptera, is represented in the following list by 58 species in 30 genera for continental Ecuador and but one species for the Galapagos Islands. Certainly, many additional species will be found in mainland Ecuador. Without a modern catalog of this family, an estimation of the South American genera and species is difficult to make, but these numbers would certainly include a minimum of 100 genera.

The classical classification of the Coreidae, the one followed most closely here, is Stal's (1870, 1873) "Enumeratio" catalog (and its supporting literature) which has served as a base for approximately a century. Subsequent studies suggesting changes to be made in the classification are usually too fragmentary in their coverage of genera for complete acceptance. The most recent consideration for the Coreidae is Schaefer's (1964, 1965, and 1968) four-part study on "The Morphology and Higher Classification of the Coreoidea." The structures used there suggested several changes in arrangement of forms, but since some of those characters are not readily available on undissected specimens and because some of the changes presented as desirable were not formalized by taxonomic names, the results are inappropriate for inclusion here.

The present state of knowledge about the taxonomy of this family makes impractical the construction of keys for large parts of its South American fauna; however, offered here is a key to the three subfamilies reported for the Americas and a key to the two tribes of the subfamily Meropachydinae. The only significant treatment of this family for a South American country was Pennington's (1921, 1922) two-part study of the Coreidae of Argentina. The keys offered therein are useful but, unfortunately, are quite incomplete for the family as it occurs in the northern half of the continent.

Key to the Subfamilies of Coreidae As They Occur in South America

1. Scent peritreme on or mesad of imaginary line connecting apices of meso- and metathoracic coxal cavities. Posterior tibia apicoventrally prolonged as a distinct, though sometimes small, spine .. **MEROPACHYDINAE** Stal

   Scent peritreme distinctly laterad of imaginary line connecting apices of meso- and metathoracic coxal cavities. Posterior tibia apicoventrally not prolonged as a spine 2

2. Elytral membrane with basal crossvein subparallel to and widely separated (more than diameter of middle tibia) from apical margin of corium ..... **PSEUDOPHLOEINAE** Stal

   Elytral membrane with basal crossvein at least in part almost or quite touching apical margin of corium ..... **COREINAE** Leach

Subfamily COREINAE Leach

Tribe ACANTHOCEPHALINI Stal

Barber's (1939:308–310) key to the tribes of the subfamily Coreinae in the Americas is not repeated here because of the complexity of the wording and the difficulty of using it without much previous knowledge and experience. Hopefully a more practical key can be prepared for a later study of the Ecuadorian Coreidae.

Genus *Acanthocephala* Laporte

Acanthocephala Laporte, 1833:29 [type-species: *Lygaeus compressipes* Fabricius, a junior synonym of *Cimex latipes* Drury, only included species]—Campos, 1919:53 [two species for Ecuador, one unidentified, the other listed below].

Acanthocephala granulosa (Dallas)

Metapodius granulosus Dallas, 1852:430 [Honduras (type)].
Acanthocephala granulosa.—Campos, 1919:53 [Ecuador]; 1925a:54 [Ecuador].

SURVEY COLLECTION.—Zamora (Zamora, 6–10 Jun 1976).

Genus *Laminiceps* Costa

Laminiceps Costa, 1863:250.

Laminiceps haenschi Breddin

Laminiceps haenschi Breddin, 1901b:42 [Ecuador (type)8].
Laminiceps "Haenschi".—Bergroth, 1913:130 [Ecuador].

Laminiceps proximus Breddin

Laminiceps proximus Breddin, 1901b:42 [Ecuador (type)].—Bergroth, 1913:130 [Ecuador].

Laminiceps viduus Breddin

Laminiceps viduus Breddin, 1901b:42 [Ecuador (type)].—Bergroth, 1913:130 [Ecuador].

Genus *Leptopetalops* Breddin

Leptopetalops Breddin, 1901b:52 [type-species: *Leptopetalops gracilis* Breddin, only included species.].

Leptopetalops gracilis Breddin

Leptopetalops gracilis Breddin, 1901b:52 [Ecuador (type)].—Bergroth, 1913:130 [Ecuador].

Genus *Petalops* Amyot and Serville

Petalops Amyot and Serville, 1843:201 [type-species: *Nematopus elegans* Serville, a junior synonym of *Cimex thoracicus* Thunberg, only included species].

Petalops distinguendus Breddin

Petalops distinguendus Breddin, 1901b:41 [Ecuador (type)].—Bergroth, 1913:130 [Ecuador].

Petalops virago Breddin

Petalops virago Breddin 1901b:41 [Ecuador (type)].—Bergroth, 1913:130 [Ecuador].

Tribe ANISOSCELIDINI Amyot and Serville

Genus *Anisoscelis* Latreille

Anisoscelis Latreille, 1829:197 [type-species: *Lygaeus foliaceus* Fabricius, fixed by Laporte, 1833:31].

Anisoscelis bilineatus (Fabricius)

Lygaeus bilineatus Fabricius, 1803:213 [Brazil (type)].
Anisoscelis bilineatus.—Campos, 1919:54 [Ecuador]; 1925a:55 [Ecuador].

Anisoscelis discolor (Stal)

Diactor discolor Stal, 1854:235 ["Taiti" (type); Stal himself queried this locality (1870:159)].
Anisoscelis discolor.—Campos, 1919:54 [Ecuador]; 1925a:55 [Ecuador].

Anisoscelis foliaceus (Fabricius)

Lygaeus foliaceus Fabricius, 1803:210 ["America meridionale" (type)].
Diactor foliaceus.—Uhler, 1869:323 ["between Napo and Maranon"].

Anisoscelis marginellus (Dallas)

Leptoscelis marginella Dallas, 1852:457 [Brazil (type)].
Anisoscelis marginella.—Campos, 1919:54 [Ecuador]; 1925a:54 [Ecuador].

Genus *Belonomus* Uhler

Belonomus Uhler, 1869:323 [type-species. *Belonomus annulaticornis* Uhler, only included species].

Belonomus annulaticornis Uhler

Belonomus annulaticornis Uhler 1869:323 ["between Napo and Maranon" (type)].

Genus *Leptoglossus* Guerin

Leptoglossus Gerin, 1831: Atlas, pl. 12, fig. 9 [type-species: *Leptoglossus dilaticollis* Guerin, only included species].—Allen, 1969:35–140 [revision; key to species, pages 54–60].

Leptoglossus gonagra (Fabricius)

Cimex gonagra Fabricius, 1775:708 [St. Thomas Island (type)].
Leptoglossus "gonager".—Campos, 1919:54 [Ecuador]; 1925a: 54 [Ecuador].

Leptoglossus ingens (Mayr)

Theognis ingens Mayr, 1865:434 [Brazil].

SURVEY COLLECTION.—Tungurahua (Baños, 24 Jan 1976; all adults had a distinct, irregular, transverse cream-colored fascia crossing both elytra).

Leptoglossus stigma (Herbst)

Cimex stigma Herbst, 1784:258 [Surinam (type)].
Leptoglossus stigma.—Allen, 1969:120 [Ecuador; etc.].

Leptoglossus zonatus (Dallas)

Anisoscelis zonata Dallas, 1852:452 [Mexico (type)].
Leptoglossus zonatus.—Campos, 1919:54 [Ecuador]; 1925a: 54 [Ecuador].—Allen 1969:110 [Ecuador; etc.].

Tribe COREINI Leach

Genus *Acanthocerus* Palisot de Beauvois

Acanthocerus Palisot de Beauvois, 1805–1821:205 [type-species: *Acanthocerus crucifer* Beauvois, fide O-Shea, 1973:63].

Acanthocerus clavipes (Fabricius)

Coreus clavipes Fabricius, 1803:196 [South America (type)].
Acanthocerus clavipes.—Campos, 1919:53 [Ecuador]; 1925a:54 [Ecuador].

SURVEY COLLECTION.—Napo (18 km E Lago Agrio, 30 Aug 1975); Zamora (Yanzaza, 15–18 Jun 1976; Zamora, 1–9 Jun1976; Zumbi, 10 Jun 1976).

Genus *Archimerus* Burmeister

Archimerus Burmeister, 1835–1839:321 [type-species: *Archimerus squalus* Burmeister, a junior synonym of *Coreus alternatus* Say, fixed by Van Duzee, 1916:11].

Archimerus camposi Montandon

Archimerus camposi Montandon, 1897:246 [Ecuador (type)].

Archimerus humeralis (Distant)

Sephina humeralis Distant, 1901a:420 [Ecuador (type)].—Bergroth, 1913:148 [Ecuador].

Genus *Capaneus* Stal

Capaneus Stal, 1862b:277, 279 [type-species: *Capaneus rubronotatus* Stal, fixed by Van Duzee, 1916:11].

Capaneus obscuratus Montandon

Capaneus obscuratus Montandon, 1899a:191 [Ecuador (type)].—Bergroth, 1913:144 [Ecuador].—Torre-Bueno, 1915:218 [Ecuador].—Campos, 1919:53 [Ecuador]; 1921: 91 [Ecuador]; 1925a:53 [Ecuador]; 1932b:13 [Ecuador].

Capaneus rubropictus Montandon

Capaneus rubropictus Montandon, 1897:248 [Ecuador (type)].—Bergroth, 1913:144 [Ecuador].—Campos, 1919: 52 [Ecuador]; 1925a:53 [Ecuador].

SURVEY COLLECTION.—Zamora (Sabanilla, 3 Jun 1976); Napo (110–146 km W Lago Agrio, 18 May 1975); Pastaza (Puyo, 31 Jan 1976); Tungurahua (20 km E Banos, 28 Jan 1976).

Genus *Machtima* Amyot and Serville

Machtima Amyot and Serville, 1843:215 [type-species: *Lygaeus crucigea* Fabricius, only included species].

Machtima crucigera (Fabricius)

Lygaeus crucigea Fabricius, 1775:709 [Brazil (type)].
Machtima crucigera.—Torre-Bueno, 1915:218 [Ecuador; etc.].—Campos, 1919:55 [Ecuador]; 1925a:54 [Ecuador].

Genus *Melucha* Amyot and Serville

Melucha Amyot and Serville, 1843:195 [type-species: *Melucha lineicollis* Amyot and Serville, only included species].

Melucha aculeata Montandon

Melucha aculeata Montandon, 1895:5 [Brazil (type)].—Campos, 1925a:55 [Ecuador].

Genus *Nematopus* Latreille

Nematopus Latreille, 1829:197 [type-species: *Nematopus nervosus* Laporte, fixed by Laporte, 1832:30].—Campos, 1919:53 [two unidentified species from Ecuador]; 1925a:54 [two unidentified species from Ecuador]; 1932b:13 [two unidentified species from Ecuador].

Nematopus nigriventris Breddin

Nematopus nigriventris Breddin, 1904b:147 [Ecuador (type)].—Bergroth, 1913:145 [Ecuador].

SURVEY COLLECTION.—Napo (Misahualli, 28 Jun 1976).

Genus *Pachylis* Le Peletier and Serville

Pachylis Le Peletier and Serville, 1825:62 [type-species: *Cimex pharaonis* Herbst, fixed by Blanchard, 1845, pl. 89, fig. 4].

Pachylis laticornis (Fabricius)

Lygaeus laticornis Fabricius, 1798:538 [Brazil (type)].
Pachylis laticornis.—Uhler, 1869:323 ["between Napo and Maranon"].—Distant, 1881a:107 [Ecuador; etc.].—Lethierry and Severin, 1894:13 [Ecuador; etc.].—Torre-Bueno, 1915:218 [Ecuador; etc.].—Campos, 1919:52 [Ecuador]; 1925a:53 [Ecuador].

Genus *Thasus* Stal

Thasus Stal, 1865b:174 [type-species: *Pachylis gigas* Burmeister, fixed by Van Duzee, 1916:11].

Thasus heteropterus (Latreille)

Coreus heteropterus Latreille, 1811:189 [Colombia (type)].
Thasus heteropterus.—Yust, 1958; no. 32 [Ecuador].

SURVEY COLLECTION.—Napo (Sta. Cecilia, 16 May 1975).

Tribe LEPTOSCELIDINI Stal

Genus *Leptoscelis* Laporte

Leptoscelis Laporte, 1833:31 [type-species: *Lygaeus haemorrhoidalis* Fabricius, a junior synonym of *Cimex bipustulatus* Linnaeus, original designation].—Campos, 1919:54 [unidentified species from Ecuador]; 1925a:55 [unidentified species from Ecuador].

Leptoscelis limbativentris Breddin

Leptoscelis limbativentris Breddin, 1901a:25 [Ecuador (type)].—Bergroth, 1913:143 [Ecuador].

Leptoscelis militaris Distant

Leptoscelis militaris Distant, 1901a:418 [Ecuador, Colombia].—Bergroth, 1913:143 [Ecuador; etc.].

Leptoscelis saepifer Breddin

Leptoscelis saepifera Breddin, 1901a:25 [Ecuador (type)].—Bergroth, 1913:143 [Ecuador].

Genus *Malvana* Stal

Malvana Stal, 1865b:183 [type-species: *Malvana serrulata* Stal, only included species].

Malvana lauta Breddin

Malvana lauta Breddin, 1903f:380 [Ecuador (type)].

Genus *Phthia* Stal

Phthia Stal, 1862b:294 [type-species: *Cimex lunatus* Fabricius, fixed by Van Duzee, 1916:11].—Campos, 1919:54 [two unidentified species for Ecuador, probably refers to two of the five species below; one of them undoubtedly being *P. picta*, because he reported it in 1925].

Phthia affinis Distant

Phthia affinis Distant, 1901a:419 [Ecuador (type)].—Bergroth, 1913:143 [Ecuador].

Phthia femorata Breddin

Phthia femorata Breddin, 1901b:41 [Ecuador (type)].—Bergroth, 1913:143 [Ecuador].

Phthia lunata (Fabricius)

Cimex lunatus Fabricius, 1787:289 [French Guiana (type)].
Coreus lunatus.—Latreille, 1811:187 [Ecuador].
Phthia lunata.—Distant, 1881a:128 [Ecuador, etc.].—Lethierry and Severin, 1894:51 [Ecuador; etc.].

SURVEY COLLECTION.—Napo (65 km W, Lago Agrio, 18 May 1975).

Phthia picta (Drury)

Cimex pictus Drury, 1770:107 [Antigua (type)].
Phthia picta.—Campos, 1925a:55 [Ecuador].

SURVEY COLLECTION.—Napo (Misahualli, 25 Jun 1976).

Phthia smaragdina (Walker)

Sphictyrtus smaragdinus Walker, 1871:137 [Ecuador (type)].
Phthia smaragdina.—Bergroth, 1913:143 [Ecuador].

Phthia sponsa Breddin

Phthia sponsa Breddin, 1901b:52 [Ecuador (type)].—Bergroth 1913:143 [Ecuador].

Tribe SPARTOCERINI Amyot and Serville

Genus *Sephina* Amyot and Serville

Sephina Amyot and Serville, 1843:185 [type-species: *Lygaeus pustulatus* Fabricius, only included species].

Sephina culta Distant

Selphina culta Distant,1893b:84 [Ecuador (type)]. [This species combination was listed for Ecuador by Distant, 1891: 112, as a "n. sp." but without description or illustration and hence was a nomen nudum there].—Campos, 1919: 54 [Ecuador]; 1925a:55 [Ecuador].

Sephina vinula Stal

Sephina vinula Stal, 1862b:273 [Mexico (type)].—Campos, 1925a:55 [Ecuador].
Sephina vinula "var."—Campos, 1919:54 [Ecuador].

Genus *Spartocera* Laporte

Spartocera Laporte, 1833:43 [type-species: "*Spartocerus*" *geniculatus* Burmeister, a junior synonym of *Cimex fusca* Thunberg, fixed by Kirkaldy, 1903:232].—Campos, 1919:54 [one unidentified species, as well as the *ortonedai* listed below, for Ecuador].

Spartocera pantomima (Distant)

Sephina pantomima Distant, 1881b:393 [Colombia (type)].
Spartocera ortonedai Montandon, 1897:249 [Ecuador (type)].
Spartocera "Ortonedai".—Campos, 1919:54 [Ecuador]; 1925a: 55 [Ecuador].

Tribe SYRTOMASTINI Stal

Genus *Althos* Kirkaldy

Margus Dallas 1852:523 preoccupied [type-species: *Margus pectoralis* Dallas, fixed by Van Duzee, 1916:12].
Althos Kirkaldy, 1904b:280 [proposed as a new name for *Margus* Dallas, hence must take the same type-species].

Althos tibialis (Distant)

Margus tibialis Distant, 1893b:84 [Ecuador (type). Was a nomen nudum when listed for Ecuador by Distant, 1891: 113, with neither description nor figure].—Campos, 1919: 55 [Ecuador]; 1925a:55 [Ecuador].

SURVEY COLLECTION.—Tungurahua (Banos, 27 Jan 1976; 39 km SE Baños, 25 Jan 1976).

Genus *Anasa* Amyot and Serville

Anasa Amyot and Serville,1843:209 [type-species: *Anasa cornuta* Amyot and Serville, only included species].—Campos, 1925a:56 [in addition to *A. andresii* and *A. trilineata* (see below), two undetermined species were recorded for Ecuador].

Anasa andresii (Guerin)

Gonocerus andresii Guerin, 1857:383 [Cuba (type)].
Anasa "Andresii".—Campos, 1919:55 [Ecuador]; 1925a:56 [Ecuador].

Anasa obscura Dallas

Anasa obscura Dallas, 1852:505 [Galapagos Islands (type)].—Dohrn, 1859:30 [Galapagos Islands].—Stal, 1870:197 [Galapagos Islands].—Butler, 1877:88 [Galapagos Islands].—Lethierry and Severin, 1894:76 [Galapagos Islands].—Heidemann, 1901:365 [Galapagos Islands].—Champion, 1924:260 [Galapagos Islands].—Linsley and Usinger, 1966:133 [Galapagos Islands].

Anasa trilineata Stal

Anasa trilineata Stal, 1870:190 [Colombia (type)].—Campos, 1919:55 [Ecuador]; 1925a:56 [Ecuador].

Genus *Catorhintha* Stal

Catorhintha Stal, 1859c:470 [type-species: *Lygaeus guttula* Fabricius, fixed by Van Duzee, 1916:12].

Catorhintha guttula (Fabricius)

Lygaeus guttula Fabricius, 1794:162 ["Americae Insulis" (type)].
"*Catorintha*" *guttula*.—Campos. 1919:55 [Ecuador]; 1925a:56 [Ecuador].

Genus *Cebrenis* Stal

Cebrenis Stal,1862b:298 [type-species: *Hyselonotus pulchellus* Herrich-Schaeffer, a junior synonym of *Hypselonotus centrolineata* Westwood, only included species].

Cebrenis haenschi Breddin

Cebrenis haenschi Breddin, 1901a:26 [Ecuador (type)].
Cebrenis "*Haenschi*".—Bergroth, 1913:150 [Ecuador].

Genus *Hypselonotus* Hahn

Hypselonotus Hahn, 1833:186 [type-species: *Cimex venosus* Fabricius, a junior synonym of *Cimex fulvus* DeGeer, fixed by Brulle, 1835:371].—Horvath, 1913:365–372 [revision with key to species, pages 365–368].—Campos, 1932b:14 [one unidentified species from Ecuador].—Whitehead, 1974: 223–233 [revision with key to species, page 224].

Note: The two most recent treatments of this genus differ markedly in concept of how many species are represented. Horvath (1913) considered it to contain 20 species, and several of these to have color varieties worthy of names. Whitehead (1974), accepting the same limits of the genus and making "a short study of chromatic variation," redefined the species mostly on color characters and reduced the number to nine full species; while he did recognize some infraspecific units, he did not apply names to them. Identification of species through use of either paper is interfered with by variations in the degree of development of the denticles proximal to the subapical ventral spines on the anterior femora of some species and the great variation in color patterns as well as color details. Actually, available specimens include color variations excluded by the wording of the descriptive literature, but at this time none of them appear to merit a name.

A detailed revision of the genus, with study of type-specimens and controlled rearing experiments, probably will find Horvath's number of species excessive; but until that revision appears, the categories are here identified by his "splitting" method in the belief that later students will find it easier to combine the names than to reassemble the specimens for re-identification if that becomes necessary.

Hypselonotus aberrans Horvath

Hypselonotus aberrans Horvath, 1913:366, 367 [Ecuador; Peru; here erroneously credited to Breddin].—Bergroth, 1913: 150 [Ecuador; etc.].
Hypselonotus interruptus.—Whitehead, 1974:226 [Ecuador; etc.].

Hypselonotus aequatorialis Horvath

Hypselonotus aequatorialis Horvath, 1913:368, 371 [Ecuador (type)].—Bergroth, 1913:150 [Ecuador].
Hypselonotus linea.—Whitehead, 1974:228 [Ecuador; etc.].

Hypselonotus andinus Breddin

Hypselonotus andinus Breddin, 1901a:25 [Ecuador (type)].—Horvath 1913:370 [Ecuador].—Bergroth, 1913:150 [Ecuador].
Hypselonotus interruptus.—Whitehead, 1974:226 [Ecuador; etc.].

Hypselonotus atratus Distant

Hypselonotus atratus Distant, 1881a:152 [Costa Rica (type)].—Campos, 1919:55 [Ecuador]; 1925a:56 [Ecuador].

Hypselonotus interruptus Hahn

Hypselonotus interruptus Hahn, 1833:187 [Brazil (type)].—Whitehead, 1974:226 [Ecuador; etc; here includes *aberrans* and *andinus*].

Hypselonotus linea (Fabricius)

Lygaeus linea Fabricius, 1803:220 [South America].
Hypselonotus linea.—Uhler, 1869:325 [Ecuador].—Campos, 1919:55 [Ecuador]; 1925a:56 [Ecuador].—Whitehead, 1974:228 [Ecuador; etc; here includes *aequatorialis*].

Hypselonotus lineatus Stal

Hypselonotus lineatus Stal, 1862b:297 [Mexico (type)].—Torre-Bueno, 1915:218 [Ecuador; etc.].—Whitehead, 1974:229 [Ecuador; etc.].

Genus *Paryphes* Burmeister

Paryphes Burmeister, 1835–1839:335 [type-species: *Lygaeus laetus* Fabricius, fixed by Kirkaldy, 1903:233].—Horvath 1913:344–359 [key to species pages 345–347].—Campos, 1925a:57 [two unidentified species for Ecuador].

Paryphes smaragdus Breddin

Paryphes smaragdus Breddin, 1901b:41 [Ecuador (type)].—Horvath, 1913:358 [Ecuador; etc.].—Bergroth, 1913:151 [Ecuador].
Paraphes smaragdus var. *trimaculatus* Blöte, 1935:202 [Ecuador].

Genus *Sundarus* Amyot and Serville

Sundarus Amyot and Serville, 1843:202 [type-species: *Sundarus neniator* Amyot and Serville, a junior synonym of *Charies-terus regalis* Westwood, only included species.].—Horvath, 1913:359–360 [key to species of *Sundarus*].

Sundarus inca Breddin

Sundarus inca Breddin, 1901b:41 [Ecuador (type)].—Bergroth, 1913:151 [Ecuador].

Sundarus muggei Schmidt

Sundarus muggei Schmidt, 1926: 142 [Ecuador (type)].

Sundarus splendidus (Distant)

Paryphes splendidus Distant, 1881b:395 [Ecuador (type)].—Lethierry and Severin, 1894:84 [Ecuador].—Bergroth, 1913:151 [Ecuador].
Sundarus splendidus.—Horvath, 1913:363 [Ecuador].

Genus *Sphictyrtus* Stal

Sphictyrtus Stal, 1859c:462.

Sphictyrtus sumtuosus (Stal)

Paryphes sumtuosus Stal, 1854:234 [Ecuador (type)]; 1859b: 232 [Ecuador].
Sphictyrtus sumtuosus.—Stal, 1859c:463 [Ecuador]; 1870:203 [Ecuador; etc.].—Campos, 1925a:56 [Ecuador].
Sphictyrtus "sumptuosus".—Walker, 1871:137 [Ecuador].—Lethierry and Severin, 1894:83 [Ecuador; etc.].

Genus *Zicca* Amyot and Serville

Zicca Amyot and Serville, 1843:240 [type-species: *Zicca massulata* Amyot and Serville, a junior synonym of *Cimex nigropunctatus* (De Geer), only included species].

Zicca inornata Breddin

Zicca inornata Breddin, 1902b:2 [Ecuador (type)].—Bergroth, 1913:150 [Ecuador].

SURVEY COLLECTION.—Pichincha (29 km W Sto Domingo de los Colorados, 7 May 1975).

Zicca taeniola (Dallas)

Clavigralla taeniola Dallas, 1852:514 [Venezuela (type)].
Zicca taeniola.—Campos, 1919:55 [Ecuador]; 1925a:56 [Ecuador].

Subfamily MEROPACHYDINAE Stal

The tribal classification presented in the key below is adapted from Kormilev (1954).

Key to Tribes of Meropachydinae in South America

1. Scutellum triangular, short, reaching onto base of claval commissure, that commissure visible for virtually full length 2
   Scutellum lanceolate or ligulate, long, reaching or surpassing apex of claval commissure, completely covering that commissure ..... **MEROPACHYDINI** Stal
2. Scutellum with disc elevated tumidly or conically, apex elevated as a small knob ..... **MEROCORINI** Stal
   Scutellum with neither disc nor apex prominently elevated ..... **SPATHOPHORINI** Kormilev

Tribe MEROCORINI Stal

Genus *Merocoris* Perty

Merocoris Perty, 1813:170 [type-species: *Merorcoris tristis* Perty, only included species].—Kormilev, 1954:157 [key to three species in South America].

Merocoris elevatus (Spinola)

Corynocoris elevatus Spinola, 1837:128 [Brazil (type)].

SURVEY COLLECTION.—Manabi (Sto. Domingo de los Colorados, 8 May 1975); Tungurahua (32–39 km E Baños, 25–28 Jan 1976); Zamora (Zamora, 1–5 Jun 1976).

Subfamily PSEUDOPHLOEINAE Stal

The lone South American genus of Pseudophoeinae is *Vilga* Stal, which was revised recently by Dolling (1977, key to species on page 30).

Family CORIXIDAE Leach

The following list of 10 species in five genera includes eight species from continental Ecuador alone, one from both mainland Ecuador and the Galapagos Archipelago, and one only from the Galapagos Islands—the last two species both belong to the genus *Trichocorixa.* Of the 69 species in eight genera known from South America, additional species quite likely will be collected in Ecuador.

The older literature and definitions of groups in this family are so scattered, confused, and unreliable that a would-be scholar of the group is forced to arbitrarily skip over much of it to accept a more recent point of relatively clear definition from which to work forward as well as backward. Such a point is found in Hungerford's (1948) well-illustrated monograph which provides definitions and keys, and makes corrections of the older literature. This work was reprinted in 1977 almost exactly as in the original, except for Sailer's corrected key to the species of the genus *Trichocorixa* and an addendum to up-date the list of publications. The excellent illustrations and keys in Nieser's (1975) study of the Corixidae in the Guyana Region should be of considerable help to students of this family as it occurs in northern South America.

Key to Subfamilies of Corixidae in South America

1. Posterior margin of pronotum broadly, shallowly concave, sub-parallel to anterior margin ..... **MICRONECTINAE** Jaczewski
   Posterior margin of pronotum convex to roundingly angulate 2
2. In lateral view, ventral angle of eye much closer to anterior margin of head than to posterior margin. A posteriorly directed suture arising from ventral angle of eye or very near to it. **HETEROCORIXINAE** Hungerford

In lateral view, ventral angle of eye midway between posterior and anterior margins of head. Posteriorly projecting suture, when present, arising from near middle of posterior margin of eye ..... **CORIXINAE** Leach

Subfamily CORIXINAE Leach

Genus *Centrocorisa* Lundblad

Centrocorisa Lundblad, 1928a:68 [type-species: *Corisa kollarii* Fieber, only included species].

Centrocorisa kollarii (Fieber)

Corisa kollarii Fieber, 1851:227 [Brazil (lectotype); Cuba].
Corixa kollarii.—Kirkaldy, 1899a:2 [Ecuador; etc.].
Corixa (Callicorixa) kollarii.—Kirkaldy, 1899b:6 [Ecuador].—Campos, 1925a:44 [Ecuador].
Callicorixa kollarii.—Kirkaldy and Torre-Bueno, 1909:194 [Ecuador; etc.].
Centrocorisa kollarii.—Hungerford, 1948:442 [Ecuador; etc.].—Nieser, 1969a:142 [Ecuador; etc.].

Genus *Neosigara* Lundblad

Neosigara Lundblad, 1928b:222 [type-species: *Neosigara columbiensis* Lundblad, only included species].

Neosigara griffini (Kirkaldy)

Corixa (Callicorixa) "Griffini" Kirkaldy, 1899b:7 [Ecuador (type); 16 days before this original description, Kirkaldy, 1899a:2, listed the species under the name combination "*Corixa Griffini*," which at that time was a nomen nudum].—Campos, 1925a:44 [Ecuador].
Corixa williamsi Hungerford, 1928b:175 [Ecuador (type)].
Sigara griffini.—Jaczewski, 1933:335 [Ecuador].—Hungerford, 1939:72 [Ecuador].
Neosigara griffini.—Hungerford, 1948:429 [Ecuador; etc.].

Genus *Trichocorixa* Kirkaldy

Arctocorisa subgenus *Trichorixa* Kirkaldy, 1908a:118 [type-species: *Corisa pygmaea* Fieber, only included species].—Sailer, 1948:289–407 [revision, key to species pages 302–305, in Hungerford, 1948]; 1977:289–407 [corrected key to species, p. 302–304a, in reprint of Hungerford, 1948].

Trichocorixa beebei Sailer

Trichocorixa species Hutchinson, 1931:474 [Galapagos Islands].
Trichocorixa beebei Sailer, 1948:306 [Galapagos Islands (type)].

Trichocorixa reticulata (Guerin)

Corisa reticulata Guerin, 1857:423 [Cuba (lectotype)].
Trichocorixa reticulata.—Sailer, 1948:343 [Ecuador; Galapagos Islands; etc.].—Linsley and Usinger, 1966:136 [Galapagos Islands].—Nieser, 1969a:153 [Ecuador; Galapagos Islands; etc.]; 1970a:66 [Ecuador; Galapagos Islands; etc.]; 1975:217 [Ecuador; Galapagos Islands; etc.].

Subfamily HETEROCORIXINAE Hungerford

The Heterocorixinae contains the lone genus *Heterocorixa* White, which occurs in the Western Hemisphere.

Genus *Heterocorixa* White

Corixa (Heterocorixa) White, 1879a:272 [type-species: *Corixa (Heterocorixa) hesperia* White, only included species].
Heterocorixa.—Hungerford, 1928a:99.

Heterocorixa boliviensis Hungerford

Heterocorixa boliviensis Hungerford, 1928a:100 [Bolivia (type)]; 1948:121 [Ecuador; etc.].—Nieser, 1970a:53 [Ecuador; etc.]; 1975:222 [Ecuador; etc.].

Heterocorixa brasiliensis Hungerford

Heterocorixa brasiliensis Hungerford, 1928a:101 [Brazil (type)]; 1948:107 [map record for Ecuador on page 136, but text only says in Brazil].

Subfamily MICRONECTINAE Jaczewski

The Micronectinae is represented in the Western Hemisphere by the single genus *Tenagobia* Bergroth.

Genus *Tenagobia* Bergroth

Tenagobia Bergroth, 1899:282 [type-species: *Tenagobia marmorata* Bergroth, only included species].—Deay, 1935:403–477

[revision from which keys, descriptions, and plates were reproduced in Hungerford, 1948:54–98].—Nieser, 1977a: 1–56 [revision with keys to subgenera and species].

Tenagobia constricta Deay

Tenagobia constricta Deay, 1930:176 [Ecuador (type)]; 1935: 401–425 [Ecuador]; 1948:59 [Ecuador].
Tenagobia (*Romanogobia*) *constricta.*—Nieser, 1977a:33 [Ecuador].

Tenagobia schadei Lundblad

Tenagobia schadei Lundblad, 1928c:23 [Paraguay (type)].
Tenagobia (*Schadegobia*) *schadei.*—Nieser, 1977a:44 [Ecuador; etc.].

Tenagobia testacea Nieser

Tenagobia (*Tenagobia*) *testacea* Nieser, 1977a:11 [Colombia (type); Ecuador].

Tenagobia truncata Deay

Tenagobia truncata Deay, 1930:172 [Ecuador (type)]; 1935: 407, 441 [Ecuador].
Tenagobia (*Tenagobia*) *truncata.*—Nieser, 1977a:12 [Ecuador; etc.].

Family CYDNIDAE Billberg

The following list of 10 species in four genera scarcely can be considered exhaustive for the Ecuadorian fauna of this family; one of these species also occurs on the Galapagos Islands.

The following keys to the subfamilies and genera occurring in South America are adapted basically from Froeschner's (1960) treatment of the family for the Western Hemisphere which also contains keys to the species of each genus. That work plus two later papers by Becker (1967) and Froeschner (1975) provide records and treatments of 73 species in 13 genera for South America.

Key to Subfamilies of Cydnidae in South America

1. Clavi meeting behind short scutellum and forming a commissure almost as long as scutellum ..... AMNESTINAE Hart
   Clavi not meeting behind scutellum, not forming a commissure 2
2. Anterior tibia much produced beyond tarsal insertion, tarsus appears to arise at midlength of tibia ..... SCAPTOCORINAE Froeschner
   Anterior tibia not produced beyond tarsal insertion, tarsus arising at or very close to apex of tibia ..... CYDNINAE Billberg

Subfamily AMNESTINAE Hart

This subfamily contains but one genus.

Genus *Amnestus* Dallas

Amnestus Dallas, 1851:126 [type-species: *Cydnus spinifrons* Say, only included species].

Amnestus bolivari (Signoret)

Pachymeroides "Bolivari" Signoret, 1880:vii [Ecuador (type); type, the only known specimen, consists of but two legs].—Lethierry and Severin, 1893:75 [Ecuador].
Amnestus bolivari.—Froeschner, 1960:638 [Ecuador].

Amnestus pusio (Stal)

Magoa pusio Stal, 1858:14 [Brazil (type)].
Amnestus pusio.—Froeschner, 1960:654 [Ecuador; etc.].

SURVEY COLLECTION.—Los Rios (Quevedo, 11 May 1975); Napo (3 km NE Lago Agrio, 17 May 1975; Sta. Cecilia, 16 May 1975); Pastaza (12 km W Puyo, 2 Feb 1976; 22 km W Puyo, 3 Feb 1976); Pichincha (20 km W Sto. Domingo de los Colorados, 7 May 1977).

Subfamily CYDNINAE Billberg

Key to Genera of Subfamily Cydninae in South America

1. Pronotum anteriorly with a sharply impressed line (sometimes enclosing punctures) paralleling anterior margin from side to side, never broken into a row of punctures ..... ***Pangaeus*** Stal

   Pronotum anteriorly without a sharply impressed anterior line, sometimes with a row of punctures paralleling anterior margin 2

2(1). Osteolar peritreme laterad of osteolar pore broader than peritreme mesad of osteolar pore, lateral part modified into a distinctly differentiated loop or lobe which is in part of wholly polished 3

   Osteolar peritreme laterad of osteolar pore not broader than peritreme mesad of osteolar pore, lateral part neither shaped nor polished as above; sometimes with a hook or flap projecting caudad from posterior face 6

3(2). Hemelytron with membrane occupying half its length ..... ***Ectinopus*** Dallas

   Hemelytron with membrane occupying less than one-third its length . 4

4(3). Metapleural evaporatorium (dulled area) very limited, just outlining peritreme, not approaching metapleural lamella posterior ..... ***Microporus*** Uhler

   Metapleural evaporatorium extensive, occupying more than half of supporting sclerite and nearly or quite reaching base of metapleural lamella posteriorly 5

5(4). Terminal process of osteolar peritreme scoop-shaped or auricular, with osteolar pore conspicuously visible ventrally at its base ..... ***Onalips*** Signoret

   Terminal process of osteolar peritreme flat, expanded posteriorly as a more or less polished lobe. Osteolar pore opening posteriorly, not visible in ventral view ..... ***Melanaethus*** Uhler

6(2). Labial segment II with a large, semicircular, foliaceous lobe this often concealed between anterior coxae .. ***Prolobodes*** Amyot and Serville

   Labial segment II somewhat compressed, but without large foliaceous lobe 7

7(6). Posterior tibia conspicuously compressed, anterior and posterior faces broad, glabrous, not spined, spines of posteroventral margin conspicuously longer, thinner, and more tapering than those of dorsal margin ..... ***Cyrtomenus*** Amyot and Serville

   Posterior tibia not conspicuously compressed, spines of dorsal and ventral margins about equally developed 8

8(7). Head with a complete row (extending from eye to apex of jugum) of coarse, usually more or less contiguous punctures giving rise to numerous long hairs and also to a row of short, blunt pegs ..... ***Tominotus*** Mulsant and Rey

   Head without a complete row (absent or extending not more than three-

fourths of way to apical angle of jugum) of coarse setigerous punctures, pegs never present ..... ***Dallasiellus*** Berg

Genus *Cyrtomenus* Amyot and Serville

Cyrtomenus Amyot and Serville 1843:90 [type-species: *Cyrtomenus castaneus* Amyot and Serville, a junior synonym of *Pentatoma ciliata* (Beauvois), fixed by Kirkaldy, 1903:230].

Cyrtomenus grossus Dallas

Cyrtomenus grossus Dallas 1851:111 [Colombia (type)].
Cyrtomenus (Syllobus) grossus.—Froeschner 1960:520 [Ecuador; etc.].

Cyrtomenus teter (Spinola)

Cydnus teter Spinola, 1837:332 [Brazil (type)].

SURVEY COLLECTION.—Bolivar (7 km W Balzapamba, 20 Jun 1975, alt 1524 m).

Genus *Dallasiellus* Berg

Stenocoris Signoret, 1880:xliv preoccupied [type-species: *Aethus longulus* Dallas, only included species].
Dallasiellus Berg, 1901:281 [proposed as a new name for *Stenocoris* Signoret, hence takes the same type-species].

Dallasiellus levipennis (Signoret)

Geotomus levipennis Signoret, 1883:35 [French Guiana (type)].
Dallasiellus (Dallasiellus) levipennis.—Froeschner, 1960:609 [Ecuador; etc.].

Dallasiellus longulus (Dallas)

Aethus longulus Dallas, 1851:119 [Brazil (type)].

SURVEY COLLECTION.—Bolivar (7 km SW Balzapamba, 20 Jun 1975).

Dallasiellus lugubris (Stal)

Aethus lugubris Stal, 1858:13 [Brazil (type)].
Aethus nigrocinctus.—Distant, 1891:111 [Ecuador; etc.].
Geotomus nigrocincutus.—Campos, 1925a:49 [Ecuador].

SURVEY COLLECTION.—Los Rios (Quevedo, 11 May 1975).

Dallasiellus murinus (Van Duzee)

Geotomus murinus Van Duzee, 1933:26 [Galapagos Islands (type)].— Barber, 1934:282 [Galapagos Islands].
Dallasiellus (Dallasiellus) murinus.—Froeschner, 1960:616 [Ecuador; Galapagos Islands].
Dallasiellus murinus.—Froeschner, 1968:198 [Ecuador; Galapagos Islands].—Linsley, 1977:10 [Galapagos Islands].

Genus *Ectinopus* Dallas

Ectinopus Dallas, 1851:121 [type-species: *Cydnus holomelas* Burmeister, only included species].—Campos, 1919:50 [two unidentified species for Ecuador]; 1925a:49 [two unidentified species for Ecuador].

Genus *Melanaethus* Uhler

Melanaethus Uhler 1876:280 [type-species, *Melanaethus elongatus* Uhler, preoccupied, a synonym under *Aethus subglaber* Walker, only included species].

Melanaethus subglaber (Walker)

Aethus subglaber Walker 1867:150 ["North America" (type)].
Melanaethus subglaber.—Froeschner 1960:440 [Galapagos Islands; etc.]; 1968:192 [suggests specimen reported in 1960 record for Galapagos Islands probably mislabeled].—Linsley, 1977:10 [Galapagos Islands].

Genus *Pangaeus* Stahl

Pangaeus Stal, 1862b:95 [type-species: *Aethus margo* Dallas, a junior synonym of *Cimex aethipos* Fabricius, fixed by Van Duzee, 1914:378].

Pangaeus aethiops (Fabricius)

Cimex aethiops Fabricius, 1787:269 [French Guiana (type)].
"*Pangoeus*" *vicinus.*—Signoret, 1882:255 [Ecuador (type)]. [New synonymy.]
Pangaeus vicinus.—Lethierry and Severin, 1893:170 [Ecuador].—Campos, 1919:49 [Ecuador]; 1925a:49 [Ecuador].
Pangaeus (Homaloporus) bilineatus.—Froeschner, 1960:459 [Froeschner examined no Ecuadorian specimens but assigned Signoret's (supra) "*Pangoeus*" *vicinus* to this synonymy—see note below].
Pangaeus (Pangaeus) aethiops.—Froeschner, 1960:504 [Ecuador; etc.].

Note: *Pangaeus vicinus* was described from Guayaguil by Signoret. Froeschner (1960:459), on the basis of a Signoret-determined Mexican specimen in the Signoret collection, assigned it as a junior synonym of *Pangaeus bilineatus* (Say). The latter specimen, besides being far from the locality reported for *Pangaeus vicinus*, differed from the original description in several characters. Here reconsidering the matter and recognizing that a South American species is not likely to be a member of the Nearctic subgenus *Homaloporus* to which *Pangeaus bilineatus* belongs, I conclude that Signoret's Mexican specimen is simply misidentified, and that the true *Pangaeus vicinus* (type-specimen still unlocated) must belong to the South American nominate subgenus *Pangaeus*.

The significant features mentioned in the original description are the type-locality, the 7 mm length, the single costal setigerous puncture, and the presence of only two setigerous punctures on each jugum. Within the subgenus *Pangaeus* These characters combined to suggest the widely ranging *Pangaeus aethiops*, which is known to occur in Ecuador, and the *Pangeaus laevigatus* Signoret reported only from Brazil. Because the original description gives no significant character for separating *Pangaeus vicinus* from either of those species, I here simply elect to transfer it to synonymy under the older name, *Pangaeus aethiops* (Fabricius), a new synonymy.

SURVEY COLLECTION.—Guayaquil (Olon, 29 Feb 1976).

Pangaeus docilis (Walker)

Aethus docilis Walker, 1867:154 [Brazil (type)].
Pangaeus (Pangaeus) docilis.—Froeschner, 1960:484 [Ecuador; etc.].

Subfamily SCAPTOCORINAE Froeschner

The latest taxonomic revision of the Scaptocorinae was by Becker (1967), and the following key to genera is derived from it.

Key to the Genera of Scaptocorinae in South America

Anterior and middle legs with tarsi. Osteolar orifice covered by apex of peritreme; latter abruptly terminated apically, not fused with surrounding cuticula ..... ***Scaptocoris*** Perty

Anterior and middle legs without tarsi. Osteolar orifice not covered by apex of peritreme; latter not abruptly terminated apically, fusing with surrounding cuticula ..... ***Atarsocoris*** Becker

Family DINIDORIDAE Stal

No record for occurrence of this family in Ecuador or the Galapagos Islands was encountered during this study. The family is known in the Americas only by the genus *Dinidor* Latreille, which contains about five South American species. One or more of these might be looked for in Ecuador.

A key to the included genera with a checklist of species was presented by Schouteden (1913), who treated this group as subfamily of the family Pentatomidae.

Family DIPSOCORIDAE Dohrn

(CRYPTOSTEMMATIDAE Bergroth)

No Ecuadorian records of Dipsocoridae were encountered during preparation of this list. For South America, two species in the genus *Cryptostemma* have been reported. But this group of tiny insects is very poorly known, and undoubtedly specialized collecting will reveal many more species for South America and much of the rest of the world.

Family status for this group of insects is in

keeping with Stys' (1970) studies. His findings closely agreed with those of Emsley (1969) except that the latter author considered this particular group to be a part of his more comprehensive "Cryptostemmatidae," a name which is now assigned to synonymy under the older name Dipsocoridae. Two other groups in Emsley's "Cryptostemmatidae" were raised by Štys to family status as Ceratocombidae and Hypsipterygidae.

A helpful nucleus for studies in this group would include the two above-mentioned papers plus the revision by McAtee and Malloch (1925).

Family ENICOCEPHALIDAE Stal

The two species, each in a different genus, for which Ecuador records have been found [none for the Galapagos Islands] must be far less than the number of species occurring in that country. In fact, the listing of only a half dozen species in four genera for all South America does not compare well with other faunal areas. Recognition of the cryptic habits of these insects and use of the special collecting techniques needed for their capture will undoubtedly greatly increase the number of tropical American species.

Works helpful to a study of the South American members of this family include the two comprehensive works, Jeannel's (1942) "Monographie" with keys down to species, and Usinger's (1945) "Classification" with a key to the world genera (pages 324–325). More recently, Štys (1970) reanalyzed some of the morphology and proposed certain suprageneric changes; and Kritsky (1977) provided for the genera of the family in the Western Hemisphere a key from which the following was abstracted.

Key to the Subfamilies and Genera of Enicocephalidae in South America

1. Pronotum divided by two distinct transverse sutures into three lobes. Subfamily ENICOCEPHALINAE Stal 2
   Pronotum entire, not divided by transverse grooves. Subfamily AENICTOPECHINAE Usinger ..... ***Gamostolus*** Berg
2. Anterior tarsus wth a single large claw. Scutellum ending in a knob ..... ***Enicocephalus*** Westwood
   Anterior tarsus with two distinct claws. Scutellum not knobbed apically.. 3
3. Middle pronotal lobe with a distinct longitudinal impression each side of deep median impression ..... ***Oncylocotis*** Stal
   Middle pronotal lobe without a longitudinal impression each side of median impression ..... ***Systelloderes*** Blanchard

Subfamily ENICOCEPHALINAE Stal

Genus *Oncylocotis* Stal

Oncylocotis Stal, 1855:44 [type-species: *Oncylocotis nasutus* Stal, only included species].—Kritsky, 1978:194–198 [review and key for the Neotropical species].

Oncylocotis concolor (Champion)

Henicocephalus concolor Champion, 1898:160 [Guatemala (type)].

Hymenocoris (Hymenocoris) concolor Jeannel, 1942:329 [Ecuador; etc.].

Genus *Systelloderes* Blanchard

Systelloderes Blanchard, 1852:224 [type-species: *Systelloderes moschatus* Blanchard, only included species].

Systelloderes moschatus Blanchard

Systelloderes moschatus Blanchard, 1852:224 [Chile (type)].—Yust 1955:427 [Ecuador]; 1958, no. 210 [Ecuador].

Family GELASTOCORIDAE Champion

Available records list 10 species in two genera for continental Ecuador; the family has not yet been reported for the Galapagos Islands. Certainly more species can be anticipated because the two known genera of this family have a combination of 28 species already reported for South America.

The following key to South American subfamilies and genera is adopted from Todd's (1955) well-illustrated work containing keys to and discussions of species. That paper and Todd's (1961) up-dated checklist are essential points of departure for studies on the Neotropical members of the family. Nieser (1975) adopted several modifications of Todd's studies, especially in resurrecting certain genera. At present, this list is following Todd's more comprehensive considerations.

Key to Subfamilies and and Genera of Gelastocoridae

Anterior tarsus not fused to tibia, articulate; with 2 well-developed claws. Labium arising from apex of head, directed posteriorly. Subfamily GELASTOCORINAE Champion ..... ***Gelastocoris*** Kirkaldy

Anterior tarsus fused with tibia; with only 1 well-developed claw. Labium appearing to arise on ventral surface of head, decurved so as to be directed ventrally or anteriorly. Subfamily NERTHRINAE Kirkaldy ..... ***Nerthra*** Say

Subfamily GELASTOCORINAE Champion

Genus *Gelastocoris* Kirkaldy

Galgulus Latreille, 1802:253, preoccupied [type-species: *Naucoris oculata* Fabricius, only included species].—Campos, 1919:49 [one unidentified species from Ecuador as well as *G. flavus* listed below as a synonym of *G. major*].

Gelastocoris Kirkaldy, 1897:258 [proposed as a new name for *Galgulus* Latreille, hence takes the same type-species].

Gelastocoris fuscus Martin

Gelastocoris fuscus Martin 1929:364 [Ecuador (type); etc.].—Todd, 1955:336 [Ecuador; etc.]; 1961:462 [Ecuador; etc.].—Nieser, 1975:37 [Ecuador; etc.]; 1977b:294 [Ecuador; etc.].

Gelastocoris major Montandon

Gelastocoris major Montandon, 1910:2 [no locality given].—Todd, 1955:327 [Ecuador; etc.]; 1957:147 [Ecuador; etc.]; 1961:463 [Ecuador; etc.].—Neiser, 1977b:294 [Ecuador; etc.].

Galgulus flavus.—Campos, 1919:49 [Ecuador]; 1925a:47 [Ecuador].

Gelastocoris duplicatus Martin, 1929:364 [Ecuador (type)].

Gelastocoris andinus Melin, 1929:159 [Mexico; Panama; Colombia; Ecuador; Brazil].

SURVEY COLLECTION—Santo Domingo de los Colorados (79 km W Manabi, 8 May 1975).

Gelastocoris nebulosus (Guerin)

Galgulus nebulosus Guerin, 1844:351 [Brazil (type); Bolivia].

Gelastocoris flavus.—Melin, 1929:161 [Ecuador; etc.].

Gelastocoris nebulosus.—Todd, 1955:331 [Ecuador; etc.]; 1961:463 [Ecuador; etc.].

Subfamily NERTHRINAE Kirkaldy

Genus *Nerthra* Say

Nerthra Say, 1832:37 [type-species: *Nerthra stygica* Say, only included species].

Nerthra amplicollis (Stal)

Mononyx amplicollis Stal, 1854:239 [Colombia (type)].—Kirkaldy and Torre-Bueno, 1909:180 [Ecuador; etc.].

Nerthra amplicollis.—Todd, 1955:384 [Ecuador; etc.].—Nieser, 1977b:295 [Ecuador; etc.].

Nerthra ecuadorensis (Melin)

Mononyx amplicollis var. *ecuadorensis* Melin, 1929:185 [Ecuador (type); etc.].
Nerthra ecuadorensis Todd, 1955:387 [Ecuador; etc.].

Nerthra lata (Montandon)

Mononyx lata Montandon, 1899b:399 [Ecuador (type)].—Melin, 1929:186 [Ecuador; etc.].
Mononyx "latus".—Torre-Bueno, 1906:50 [Ecuador; etc.].—Kirkaldy and Torre-Bueno, 1909:181 [Ecuador; etc.].—Campos, 1925a:47 [Ecuador].
Nerthra lata.—Todd, 1955:50 [Ecuador; etc.]; 1961:469 [Ecuador; etc.].

Nerthra peruviana (Montandon)

Mononyx peruvianus Montandon, 1905:403 [Peru (type)].
Nerthra peruviana.—Melin, 1929:184 [Ecuador].—Todd, 1955:375 [Ecuador; etc.]; 1961:471 [Ecuador; etc.].—Nieser, 1977b:296 [Ecuador; etc.].

Nerthra rudis (Melin)

Mononyx fuscipes variety *rudis* Melin, 1929:182 [Mexico (type); etc.].
Nerthra rudis.—Todd, 1955:391 [Ecuador; etc.]; 1957:150 [Ecuador; etc.]; 1961:472 [Ecuador; etc.].—Nieser, 1977b: 297 [Ecuador; etc.].

Nerthra tenebrosa Todd

Nerthra tenebrosa Todd, 1955:376 [Colombia (type); Ecuador; etc.]; 1961:474 [Ecuador; etc.].

Nerthra terrestris (Kevan)

Mononyx bipunctatus Melin, 1929:177, preoccupied [Trinidad; Brazil; French Guiana; Peru; Bolivia].
Mononyx terrestris Kevan, 1948:813 [new name for *Mononyx bipunctatus* Melin].
Nerthra terrestris.—Todd, 1957:149 [Ecuador]; 1961:474 [Ecuador; etc.].—Nieser, 1975:44 [Ecuador; etc.].

Family GERRIDAE Amyot and Serville

The following list of literature records for Ecuadorian occurrences of waterstriders includes 17 species in seven genera for the continental area and five species in the oceanic genus *Halobates* for the Galapagos Islands—three of those five species of *Halobates* are also found near the coast of the mainland (and are counted in the totals above). This appears to be considerably less representation than would be expected from the approximately 80 species in 17 genera known from South America.

A family-wide classification proposed by Hungerford and Matsuda (1960) consisted of keys to subfamilies, tribes, and genera; its was accompanied by a lengthier paper by Matsuda (1960) giving the morphological details and evolutionary sequences of that classification. Later Andersen (1975) modified the above classification by elevating to subfamilies all the tribes of Hungerford and Matsuda's (supra) subfamily Gerrinae and presented a reclassification, with key, to the genera of his newly restricted subfamily Gerrinae (i.e., the tribe Gerrini of Hungerford and Matsuda). Significant and useful to study of the South American members of the family are Drake and Harris' (1934) review of the Gerrinae of the Western Hemisphere with its keys through species and Kuitert's (1942) updating of some of those keys to species.

Subfamily CHARMOMETRINAE Matsuda

Genus *Brachymetra* Mayr

Brachymetra Mayr, 1865:455 [type-species: *Halobates albinervus* Amyot and Serville, only included species].—Shaw, 1934: 221–333 [revision with key to species].—Harris and Drake, 1945:211–212 [list of species].

Brachymetra albinerva (Amyot and Serville)

Halobates albinervus Amyot and Serville 1843:412 [Brazil (type)].
Brachymetra albinerva.—Shaw, 1934:228 [Ecuador; etc.].
Brachymetra "albinervis".—Nieser, 1970c:121 [Ecuador; etc.].

Brachymetra kleopatra (Kirkaldy)

Gerris kleopatra Kirkaldy, 1899b:3 [Ecuador (type); in a paper which appeared 16 days earlier than this one (1899a:2), this combination, as a nomen nudum, was included in a list].

Brachymetra kleopatra.—Hungerford and Matsuda, 1957:19 [Ecuador; etc.; corrects Shaw's (supra) concept of this species].

Genus *Charmometra* Kirkaldy

Charmometra Kirkaldy, 1899a:509 [type-species: *Brachymetra bakeri* Kirkaldy, only included species].

Charmometra bakeri (Kirkaldy)

Brachymetra bakeri Kirkaldy, 1898:101 [Colombia (type)]; 1899c:509 [Ecuador; etc.—this species binomen is here a "lapsus" because it is placed under the generic heading "*Charmatometra* gen. n." for which the type-species is cited as "*C. bakeri*"].—Kirkaldy and Torre-Bueno, 1909:211 [Ecuador; etc.].

Subfamily GERRINAE Amyot and Serville

Genus *Eurygerris* Hungerford and Matsuda

Eurygerris Hungerford and Matsuda, 1958:168 [type-species: *Brachymetra fuscinervis* Berg, original designation].—Drake, 1963:95 [list of species].

Eurygerris cariniventris (Champion)

Gerris cariniventris Champion, 1898:148 [Mexico; Guatemala; Costa Rica; Panama].—Kuitert, 1942:123 [Ecuador; etc.].

Eurygerris flavolineatus (Champion)

Gerris flavolineatus Champion, 1898:149 [Mexico; Guatemala].—Kirkaldy, 1899a:2 [Ecuador]; 1899b:1 [Ecuador].—Campos, 1925a:47 [Ecuador].—Drake and Harris, 1934:197 [Ecuador; etc.].
Eurygerris flavolineatus.—Drake, 1963:95 [Ecuador; etc.].

Eurygerris fuscinervis (Berg)

Brachymetra fuscinervis Berg, 1898:3 [Argentina (type)].
Gerris fuscinervis.—Kirkaldy, 1899c:507 [Ecuador].—Drake and Harris, 1934:198 [Ecuator; etc.]; 1938:204 [Ecuador; etc.].
Eurygerris fuscinervis.—Drake, 1963:95 [Ecuador; etc.].—Nieser, 1970c:114 [Ecuador; etc.].

Eurygerris kahli (Drake and Harris)

Gerris kahli Drake and Harris, 1934:199 [Venezuela (type)].—Kuitert, 1942:124 [Ecuador].
Eurygerris kahli.—Drake, 1963:95 [Ecuador; etc.].

Genus *Gerris* Fabricius

Gerris Fabricius, 1794:187 [type-species; *Cimex lacustris* Linnaeus, fixed by Latreille, 1810:434].—Kirkaldy, 1899b:1 [from Ecuador, Kirkaldy reported two probable new species of "subgenus *Limnometra*" and "Nymphs" of one or two unidentified species].—Kuitert, 1942:117–119 [key to males of species in New World].

Genus *Limnogonus* Stal

Limnogonus Stal, 1868:132 [type-species, *Hydrometra hyalina* Fabricius, fixed by Stal, 1868:133].—Kuitert, 1942:125–127 [key to species of New World].

Limnogonus aduncus Drake and Harris

Limnogonus aduncus Drake and Harris, 1933:110 [Brazil (type)]; 1934:209 [Ecuador; etc.].—Nieser, 1970c:106 [Ecuador; etc.].

Limnogonus hyalinus (Fabricius)

Hydrometra hyalina Fabricius, 1803:258 [South America].
Gerris hyalinus.—Kirkaldy, 1899a:2 [Ecuador].
Gerris (Limnogonus) hyalinus.—Kirkaldy 1899b:1 [Ecuador].—Campos, 1925a:48 [Ecuador].
Limnogonus hyalinus.—Drake and Harris; 1934:208 [Ecuador; etc.].—Nieser, 1970c:104 [Ecuador; etc.].

Genus *Tachygerris* Drake

Tachygonus Drake, 1957a:111 preoccupied [type-species: *Tenagogonus adamsoni* Drake, original designation].
Tachygerris Drake, 1957b:193 [proposed as a new name for *Tachygonus* Drake, hence takes same type-species].

Tachygerris opacus (Champion)

Limnometra opaca Champion, 1898:150 [Panama (type)].
Tenagogonus opacus.—Kuitert, 1942:133 [Ecuador; etc.].
Tachygerris opacus.—Nieser, 1970c:115 [Ecuador; etc.].—Roback and Nieser, 1974:36 [Ecuador; etc.].

Subfamily HALOBATINAE Bianchi

Genus *Halobates* Eschscholtz

Halobates Eschscholtz, 1822:106 [type-species: *Halobates micans* Eschsholtz, fixed by Laporte, 1832:24].—Banning 1933:

20 [during exploration of Galapagos Islands and adjacent waters, "Halobates—attracted by the brillant light at the gangway of the ship" and several were taken in "nightly plankton hauls"].—Herring, 1961 [monograph with key (pages 241–246) to species].

Note: Geographic localization of animals of the open ocean is not always clear, but for convenience they may be associated as part of the fauna of the land to which they come close or onto which they sometimes are washed by strong winds. Such treatment is here accorded to the several species of *Halobates* which occur on the open ocean near Ecuador and the Galapagos Islands.

Halobates micans Eschscholtz

Halobates micans Eschscholtz, 1822:107 [South Atlantic Ocean (type)].—Barber, 1934:289 [Galapagos Islands]; 1943:80 [Galapagos Islands].—Usinger, 1938:83 [Galapagos Islands].—Herring, 1961:227, 246 [Ecuador; Galapagos Islands; etc.].—Linsley and Usinger, 1966:136 [Galapagos Islands].

Halobates "Wuellersdorffi".—Uhler, 1890:194 [Galapagos Islands].—Heidemann, 1901:369 [Galapagos Islands].

Halobates robustus Barber

Halobates robustus Barber, 1925:253 [Galapagos Islands (type); listed as "*Halobates* n. sp." by Beebe, 1924:83, and Champion, 1924:260]; 1934:289 [Galapagos Islands].—Van Duzee, 1937:118 [Galapagos Islands].—Usinger, 1938:84 [Galapagos Islands].—Herring, 1961:229, 282 [Galapagos Islands].—Linsley and Usinger, 1966:136 [Galapagos Islands].

Halobates "sp." Heidemann, 1901:369 [Galapagos Islands; placed as *H. robustus* by Barber, 1934:289].—Beebe, 1924: 83–86, 432 [placed as *H. robustus* by Barber, 1925:253].

Halobates sericeus Eschscholtz

Halobates sericeus Eschscholtz, 1822:108 [Pacific Ocean "near the Equator" (type)].—Herring, 1961:227, 252 [Ecuador; Galapagos Islands; etc.].

Halobates sobrinus White

Halobates sobrinus White, 1883:46 ["Taiti" in error; known only from west coast of South America].—Herring, 1961: 229, 251 [Ecuador; Galapagos Islands; etc.].—Linsley and Usinger, 1966:136 ["near Galapagos" Islands].

Halobates splendens Witlaczil

Halobates splendens Witlaczil, 1886:178 [west coast of South America (type)].—Usinger, 1938:84 ["near the Galapagos" Islands].—Herring, 1961:229, 248 [Ecuador; Galapagos Islands; etc.].

Subfamily PTILOMERINAE Bianchi

Genus *Potamobates* Champion

Potamobates Champion, 1898:154 [type-species: *Potamobates unidentatus* Champion, fixed by Kirkaldy, 1906a:155].—Kuitert, 1942:140 [key to species of New World].

Potamobates bidentatus Champion

Potamobates bidentatus Champion, 1898:155 [Mexico (type)].—Kirkaldy, 1899a:2 [Ecuador]; 1899b:1 [Ecuador].—Campos, 1925a:48 [Ecuador].

Potamobates williamsi Hungerford

Potamobates williamsi Hungerford, 1932:228 [Ecuador (type)]; 1937:146 [Ecuador].—Drake and Harris, 1934: 228 [Ecuador].—Kuitert, 1942:141 [Ecuador].

Family HEBRIDAE Amyot and Serville

The family Hebridae is represented in the following list by literature records for four species in two genera from continental Ecuador and none from Galapagos Islands. Several additional species may be found in Ecuador.

Drake and Harris (1943) discussed this family as it occurs in the Western Hemisphere; the list of species was brought up-to-date by Drake and Chapman (1958:324–325), who enumerated 13 species in two genera for South America. The appended key based on classical separating characters should permit ready recognition of those two genera.

Key to Genera of Hebridae in South America

Antennae with 5 distinct, elongate segments ..... ***Hebrus*** Curtis
Antennae with 4 elongate segments ..... ***Merragata*** White
(including ***Lipogomphus*** Berg)

Genus *Hebrus* Curtis

Hebrus Curtis, 1833:198 [type-species: *Lygaeus pusillus* Fallen, only included species].

Hebrus camposi Drake and Chapman

Hebrus camposi Drake and Chapman, 1954:151 [Ecuador (type)]; 1958:325 [Ecuador].

Hebrus ecuadorensis Drake and Harris

Hebrus ecuadorensis Drake and Harris, 1943:55 [Ecuador (type)].—Drake and Chapman, 1958:325 [Ecuador].

Hebrus hungerfordi Drake and Harris

Hebrus hungerfordi Drake and Harris, 1943:58 [Ecuador (type)].—Drake and Chapman, 1958:325 [Ecuador].

Genus *Merragata* White

Merragata White, 1877:113. [type-species, *Merragata hebroides* White, only included species].

Merragata hebroides White

Merragata hebroides White, 1877:114 [Hawaiian Islands (type)].—Drake and Harris, 1943:43 [Ecuador; etc.].—Drake and Cobben, 1960b:36 [Ecuador; etc.].

Family HELOTREPHIDAE Esaki and China

The lack of Ecuadorian records for this family probably results from inadequate collecting rather than from its non-occurrence.

Two genera are known from South America. They can be separated by the following couplet abstracted from China's (1940:123–124) key to the genera of the subfamily Neotrephinae to which they both belong.

Key to the Genera of Helotrephidae in South America

Anterior margin of pronotum with two deep, angular emarginations separated by a broad, convex, central lobe. Labium not reaching posterior coxae ..... ***Neotrephes*** China
Anterior margin of pronotum virtually straight, without emarginations. Labium reaching between posterior coxae ..... ***Paratrephes*** China

Family HYDROMETRIDAE Billberg

The present list contains literature records of two species in a single genus for Ecuador and none for the Galapagos Islands. Surely more of South America's more than 20 species in three genera should be found there.

The starting points for study of South American forms of this family are Hungerford and Evan's (1934) monograph and Andersen's (1977) paper giving an up-dated key to subfamilies and genera of the world and a checklist of all known species.

Key to the Subfamilies and Genera of Hydrometridae in South America

1. Antennal segment I much longer than II, surpassing apex of head by more than half its own length. Antennal segment II arising subapically from segment I. Subfamily HETEROCLEPTINAE Villiers. ***Veliometra*** Andersen

Antennal segment I subequal to or shorter than II, usually only barely surpassing apex of head. Antennal segment II arising apically from segment I. Subfamily HYDROMETRINAE Billberg 2

2. Mesosternum with a longitudinal median sulcus ..... ***Bacillometra*** Esaki
Mesosternum not sulcate ..... ***Hydrometra*** Latrielle

Subfamily HYDROMETRINAE Billberg

Genus *Hydrometra Latreille*

Hydrometra Latreille, 1796:86 [type-species, *Cimex stagnorum* Linnaeus, fixed by Latreille, 1810:434].

Hydrometra caraiba Guerin

Hydrometra caraiba Guerin, 1857:413 [Cuba (type)].—Drake and Lauck, 1959:50 [Ecuador; etc.].—Nieser, 1970d:143 [Ecuador; etc.].

Hydrometra agenor Kirkaldy, 1902c:280 [Ecuador (type)].—Torre-Bueno, 1926:85 [Ecuador].—Hungerford and Evans, 1934:101 [Ecuador].

Hydrometra williamsi Hungerford and Evans

Hydrometra williamsi Hungerford and Evans, 1934:97 [Ecuador (type)].—Drake and Lauck, 1959:52 [Ecuador].

Family LARGIDAE Amyot and Serville

The following text contains records of four species in two genera of Largidae from continental Ecuador and none from the Galapagos Islands. Undoubtedly the list eventually will include more of the 60 species in seven genera that have been described from South America.

The family was cataloged by Hussey (1929) in its older traditional position as the subfamily Euryophthalminae of the family Pyrrhocoridae. China (1954:188–189) explained why Largidae is the proper name for this group. A particularly important paper dealing, in part, with the South American forms was published by Schmidt (1931).

The seven South American genera can be separated by the following key which is partly original and partly based on Stal's (1870:90–91) key.

Key to Genera of Largidae in South America

1. Head with a cylindrical neck about half as long as globular part of head ..... ***Thaumastaneis*** Kirkaldy
Head without a long neck 2

2. Pronotum with posterior angles rectangular or acute, usually projecting distinctly laterad of costal margins .. ***Astemma*** Le Peletier and Serville
Pronotum with posterior angles rounded or vaguely angled, not projecting laterad of costal margins 3

3. Anterior coxa with a strong oblique spine anterolaterally near apex. Male with anterior pronotal lobe distinctly convex, as high as or higher than posterior lobe; female with anterior lobe not elevated ... ***Fibrenus*** Stal
Anterior coxa unarmed. Neither sex with anterior pronotal lobe elevated. 4

4. Body stout,. oblong to oval. Hemelytra with costal margins weakly to strongly convex, their combined widths greater than width of pronotum ..... ***Largus*** Hahn
Body slender, nearly or quite parallel-sided. Hemelytra with costal margins virtually straight, their combined widths not greater than width of pronotum 5

5. Head dorsally between eyes moderately to strongly concave 6
   Head dorsally between eyes flat or slightly convex ..... ***Stenomacra*** Stal
6. Eyes supported on elongate, oblique stalks about as long as the dorsal width of an eye ..... ***Acinocoris*** Hahn
   Eyes not stalked ..... ***Theraneis*** Spinola

Genus *Acinocoris* Hahn

Acinocoris Hahn, 1834:113 [type-species, *Acinocoris calidus* Hahn, not Fabricius, a variety of *Cimex lunaris* Gmelin, only included species].—Schmidt, 1931:4–6 [key to species of *Acinocoris*].

Acinocoris includens Walker

Acinocoris includens Walker, 1873a:38 [Ecuador (type)].—Schmidt, 1931:11 [Ecuador; etc.].
Acinocoris bilineatus var. *includens*.—Hussey, 1929:12 [Ecuador].

Genus *Largus* Hahn

Largus Hahn, 1831:13 [type-species: *Cimex humilis* Drury, only included species].

Largus cinctus Herrich-Schaeffer

Largus cinctus Herrich-Schaeffer, 1842:6 [Mexico].
Largus "cinctus?".—Campos, 1925a:59 [Ecuador].

Largus haenschi Schmidt

Largus "Haenschi" Schmidt, 1931:28 [Ecuador (type)].

Largus martinezi Bolivar

Largus martinezi Bolivar, 1879:141 [Ecuador (type)].
Euryophthalmus martinezi.—Hussey, 1929:18 [Ecuador].

Family Lygaeidae Shilling

For this large family, only 24 species in 17 genera are reported for continental Ecuador, and nine species in seven genera are reported for the Galapagos Islands; of these species just one, *Cymoninus notabilis* (Distant), is known from both areas. The total numbers involved are 33 species in 19 genera. The continental records were taken primarily from Slater's (1964) catalog which gives access to all the literature of the family; the Galapagos Islands' records were taken primarily from Ashlock's (1972) study of "The Lygaeidae of the Galapagos Islands," which gives keys and discussions for all forms known from that archipelago.

As no comprehensive keys for the many genera of this large group in tropical America are available, none can be adapted, and the time and materials for making an original one are not now available.

Subfamily Blissinae Stal

Genus *Blissus* Burmeister

Blissus Burmeister, 1835–1839:290 [type-species: *Blissus hirtulus* Burmeister, by Opinion 705 of International Commission of Zoological Nomenclature, 1966].—Campos, 1919:57 [two unidentified species from Ecuador]; 1925a:58 [two unidentified species from Ecuador].

Genus *Ischnodemus* Fieber

Ischnodemus Fieber, 1837:337 [type-species: *Ischnodemus quadratus* Fieber, only included species].—Campos, 1919:57 [one unidentified species from Ecuador]; 1925a:58 [one unidentified species from Ecuador].

Subfamily Cyminae Baerensprung

Tribe Ninini Barber

Genus *Cymoninus* Breddin

Cymoninus Breddin, 1907a:38. [type-species: *Cymoninus subunicolor* Breddin, a junior synonym of *Ninus sechellensis* Bergroth, original designation].

Cymoninus notabilis (Distant)

Ninus notabilis Distant, 1882:191 [Guatemala (type)].
Cymoninus notabilis.—Ashlock, 1972:97 [Galapagos Islands; Ecuador; etc.].—Linsley, 1977:11 [Galapagos Islands].

Subfamily GEOCORINAE Baerensprung

Genus *Geocoris* Fallen

Geocoris Fallen, 1814:10 [type-species: *Cimex grylloides* Linnaeus, fixed by Oshanin, 1912:30].—Campos 1919:57; [one unidentified species from Ecuador]; 1925a:58 [one unidentified species from Ecuador].

Subfamily LYGAEINAE Amyot and Serville

Genus *Acroleucus* Stal

Acroleucus Stal, 1874:99, 114 [type-species: *Lygaeus coxalis* Stal, fixed by Slater, 1964:11].

Acroleucus heros Breddin

Acroleucus heros Breddin, 1904b:148 [Ecuador (type)].—Slater, 1964:12 [Ecuador].

Acroleucus pothus Breddin

Acroleucus pothus Breddin, 1904b:148 [Ecuador (type)].—Slater, 1964:12 [Ecuador].

Genus *Craspeduchus* Stal

Craspeduchus Stal,1874:105, 109 [type-species: *Lygaeus xanthostaurus* Herrich-Schaeffer, fixed by Van Duzee, 1916:18].

Craspeduchus aequatorialis (Breddin)

Spilostethus (*Craspeduchus*) *aequatorialis* Breddin, 1912:353 [Ecuador (type)].
Craspeduchus aequatorialis.—Slater, 1964:47 [Ecuador].

Genus *Lygaeus* Fabricius

Lygaeus Fabricius, 1794:113 [type-species: *Cimex equestris* Linnaeus, fixed by Curtis, 1833:481].—Campos, 1919:56 [two unidentified species from Ecuador; no clue as to a modernly restricted genus in which they would be placed today]; 1925a:58 [two unidentified species from Ecuador; see note for 1919].

Genus *Nicuesa* Distant

Nicuesa Distant, 1893a:385 [type-species: *Nicuesa speciosa* Distant, only included species].

Nicuesa affinis Distant

Nicuesa affinis Distant, 1901b:538 [Ecuador (type)].—Slater, 1964:151 [Ecuador].

Genus *Ochrostomus* Stal

Lygaeus (*Ochrostomus*) Stal, 1874:105, 110 [type-species: *Lygaeus pulchellus* Fabricius, fixed by Van Duzee, 1916:18].

Ochrostomus confraternus (Uhler)

Lygaeus confraternus Uhler, 1869:325 ["between Napo and Maranon" (type)].

Genus *Oncopeltus* Stal

Lygaeus (*Oncopeltus*) Stal, 1868:70, 75 [type species, *Cimex famelicus* Fabricius, fixed by Distant 1904a:4].
Oncopeltus.—Stal, 1872b:40.

Oncopeltus fasciatus (Dallas)

Lygaeus fasciatus Dallas, 1852:538 [U.S.A.; Mexico; Brazil; British Guiana; Colombia].
Oncopeltus fasciatus.—Campos, 1919:56 [Ecuador]; 1925a:58 [Ecuador].
Oncopeltus (*Erythrischius*) *fasciatus.*—Slater, 1964:175 [Ecuador; etc.].

Oncopeltus varicolor (Fabricius)

Lygaeus varicolor Fabricius, 1794:149 [Trinidad (type)].
Oncopeltus varicolor.—Campos, 1919:56 [Ecuador]; 1925a:58 [Ecuador].
Oncopeltus (*Oncopeltus*) *varicolor.*—Slater, 1964:174 [Ecuador; etc.].

Subfamily ORSILLINAE Stal

Ashlock (1967) published a reclassification of the world genera of the subfamily Orsillinae with keys and numerous illustrations. His tribal arrangement of genera differs, in significant part, from that in the Slater catalog.

Tribe METRARGINI Breddin

Genus *Darwinysius* Ashlock

Darwinysius Ashlock, 1967:42 [type-species: *Nysius marginalis* Dallas, only included species].

Darwinysius marginalis (Dallas)

Nysius marginalis Dallas, 1852:556 [Galapagos Islands (type)].—Dohrn, 1859:33 [Galapagos Islands].—Walker, 1872:142 [Galapagos Islands].—Stal, 1874:122 [Galapagos Islands].—Butler, 1877:88 [Galapagos Islands].—Lethierry and Severin, 1894:154 [Galapagos Islands].—Heidemann, 1901:366 [Galapagos Islands].—Champion, 1924:260 [Galapagos Islands].—Barber, 1934:285 [Galapagos Islands].—Van Duzee, 1937:114 [Galapagos Islands].—Slater, 1964:287 [Galapagos Islands].—Linsley and Usinger, 1966:134 [Galapagos Islands].

Cymus galapagoensis Stal, 1859b:252 [Galapagos Islands].

Nysius (*Cymus*) *marginalis*.—Barber, 1925:245 [Galapagos Islands].

Darwinysius marginalis.—Ashlock, 1967:42 [Galapagos Islands]; 1972:95 [Galapagos Islands].—Linsley, 1977:11 [Galapagos Islands].

Darwinysius wenmanensis Ashlock

Darwinysius wenmanensis Ashlock, 1972:95 [Galapagos Islands (type)].—Linsley, 1977:11 [Galapagos Islands].

Genus *Xyonysius* Ashlock and Lattin

Xyonysius Ashlock and Lattin, 1963:702 [type-species: *Nysius californicus* Stal, original designation].

Xyonysius californicus (Stal)

Nysius californicus Stal, 1859b:242 [United States (type)].—Yust, 1955:428 [Ecuador]; 1958, no. 148 [Ecuador].

Xyonysius naso (Van Duzee)

Nysius (*Ortholomus*) *naso* Van Duzee, 1933:27 [Galapagos Islands (type)].

Ortholomus naso.—Barber, 1934:285 [Galapagos Islands].

Nysius naso.—Usinger, 1941b:131 [Galapagos Islands]; 1942b:116 [Galapagos Islands].—Slater, 1964:288 [Galapagos Islands].—Linsley and Usinger 1966:134 [Galapagos Islands].

Xyonysius naso.—Ashlock, 1972:97 [Galapagos Islands].—Linsley, 1977:11 [Galapagos Islands].

Tribe NYSIINI Uhler

Genus *Nysius* Dallas

Nysius Dallas, 1852:551 [type-species: *Lygaeus thymi* Wolff, by Opinion 319 of International Commission of Zoological Nomenclature, 1955].

Nysius procerus Distant

Nysius procerus Distant, 1893b:86 [Ecuador (type); Distant (1891:113) listed this combination as a "n.sp." from Ecuador but had neither a description nor an illustration, hence it was a nomen nudum there].—Campos, 1919:56 [Ecuador]; 1925a:58 [Ecuador].—Slater, 1964:291 [Ecuador].

Nysius usitatus Ashlock

Nysius usitatus Ashlock, 1972:89 [Galapagos Islands (type)].—Linsley, 1977:10 [Galapagos Islands].

Tribe ORSILLINI Stal

Genus *Ortholomus* Stal

Nysius (*Ortholomus*) Stal, 1872b:43 [type-species: *Heterogaster punctipennis* Herrich-Schaeffer, only included species].

Ortholomus jamaicensis (Dallas)

Nysius jamaicensis Dallas, 1852:335 [Jamaica (type)].

Nysius spurcus.—Campos, 1919:56 [Ecuador]; 1925a:58 [Ecuador].

Ortholomus jamaicensis.—Slater, 1964:335 [Ecuador; etc.].

Ortholomus usingeri Ashlock

Ortholomus usingeri Ashlock, 1972:91 [Galapagos Islands (type)].—Linsley, 1977:10 [Galapagos Islands].

Subfamily PACHYGRONTHINAE Stal

This subfamily was monographed by Slater (1955) with keys to genera and species.

Tribe PACHYGRONTHINI Stal

Genus *Pachygrontha* Germar

Pachygrontha Germar, 1837b:152 [type-species: *Pachygrontha lineata* Germar, only included species].

Pachygrontha oedancalodes carvalhoi Slater

Pachygrontha oedancalodes carvalhoi Slater, 1955:38 [Brazil (type); etc.]; 1956:5 [Ecuador]; 1964:725 [Ecuador; etc.].

Subfamily RHYPAROCHROMINAE Amyot and Serville

Tribe CLERADINI Stal

Genus *Clerada* Signoret

Clerada Signoret, 1863a:28 [type-species: *Clerada apicicornis* Signoret, only included species].

Clerada apicicornis Signoret

Clerada apicicornis Signoret, 1863a:28 [Reunion Island; St. Thomas Island; Venezuela].—Leon and Leon, 1953:54 [Ecuador; etc.]

Tribe LETHAEINI Stal

Genus *Cistalia* Stal

Cistalia Stal, 1874:164 [type-species: *Lygaeus signoreti* Guerin, fixed by Van Duzee, 1916:23].—Slater and Baranowski, 1973:264 [key to species of *Cistalia*].

Cistalia neotropicalis Slater and Baranowski

Cistalia neotropicalis Slater and Baranowski, 1973:267 [Venezuela (type); Ecuador; etc.].

Genus *Cryphula* Stal

Cryphula Stal, 1874:164 [type-species: *Cryphula parallelogramma* Stal, only included species].—Campos, 1919:57 [two unidentified species from Ecuador]; 1925a:59 [two unidentified species from Ecuador].—Scudder, 1962:766 [key to species].

Cryphula affinis (Distant)

Trapezus affinis Distant, 1901c:500 [Guatemala (type)].
Cryphula trimaculata.—Barber, 1955:137 [Ecuador; etc.].—Slater, 1964:815 [Ecuador; etc.].

Genus *Paragonatus* Barber

Paragonatus Barber, 1939:363 [type-species: *Gonatas divergens* Distant, original designation].

Paragonatas divergens (Distant)

Gonatas divergens Distant, 1882:219 [Guatemala; Panama].—Campos, 1919:57 [Ecuador]; 1925a:57 [Ecuador].

Genus *Exptochiomera* Barber

Exptochiomera Barber, 1928:175 [type-species: *Lygaeus* (*Beosus*) *minimus* Guerin, original designation].

Exptochiomera confusa Barber

Exptochiomera confusa Barber, 1953a:21 [United States (type); Ecuador; etc.].—Slater, 1964:1077 [Ecuador; etc.].

Exptochiomera fuscicornis (Stal)

Plociomera fuscicornis Stal, 1874:152 [United States (type)].—Campos, 1925a:58 [Ecuador].
Exptochiomera fuscicornis.—Slater, 1964:1079 [Ecuador; etc.].

Genus *Heraeus* Stal

Heraeus Stal, 1862b:314 [type-species: *Lygaeus triguttatus* Guerin, only included species].

Heraeus pacificus Barber

Heraeus pacificus Barber, 1925:245 [Galapagos Islands (type)]; 1934:286 [Galapagos Islands].—Slater, 1964:1083 [Galapagos Islands].—Linsley and Usinger, 1966:134 [Galapagos Islands].—Ashlock, 1972:101 [Galapagos Islands].—Linsley, 1977:11 [Galapagos Islands].

Genus *Myodocha* Latreille

Mydodocha Latreille, 1807:126 [type-species: *Myodocha serripes* Latreille, fixed by Latreille, 1810:255].—Campos, 1919:57 [one unidentified species from Ecuador]; 1925a:59 [one unidentified species from Ecuador].

Genus *Pachybrachius* Hahn

Pachybrachius Hahn, 1826:18 [type-species: *Pachybrachius luridus* Hahn, only included species].

Pachybrachius albocinctus Barber

Pachybrachius albocinctus Barber, 1953b:216 [United States (type); Ecuador; etc.].—Slater, 1964:1110 [Ecuador; etc.].

Pachybrachius bilobatus (Say)

Pamera bilobata Say, 1832:17 [United States; Mexico].—Lethierry and Severin, 1894:192 [Ecuador; etc.].—Campos, 1919:57 [Ecuador]; 1925a:59 [Ecuador].
Rhyparochromus ochroceras Stal, 1859b:245 [Ecuador; etc.].
Pachybrachius bilobatus.—Slater, 1964:1113 [Ecuador; etc.].

Pachybrachius insularis (Barber)

Orthaea insularis Barber, 1925:246 [Galapagos Islands (type)]; 1934:286 [Galapagos Islands].—Linsley and Usinger 1966:134 [Galapagos Islands].
Pachybrachius insularis.—Slater, 1964:1127 [Galapagos Islands].—Ashlock, 1972:98 [Galapagos Islands].—Linsley, 1977:11 [Galapagos Islands].

Pachybrachius nesovinctus Ashlock

Pachybrachius nesovinctus Ashlock, 1972:98 [Galapagos Islands (type)].—Linsley, 1977:11 [Galapagos Islands].

Pachybrachius procinctus (Breddin)

Pamera procincta Breddin, 1901c–1902a:59 [Ecuador (type)].
Pachybrachius procinctus.—Slater, 1964:1139 [Ecuador].

Pachybrachius recinctus (Breddin)

Pamera recincta Breddin, 1901c–1902a:59 [Ecuador (type)].
Pachybrachius recinctus.—Slater, 1964:1140 [Ecuador].

Pachybrachius vinctus (Say)

Pamera vincta Say, 1832:16 [United States (type)].
Rhyparochromus vinulus Stal, 1859b:246 [Ecuador; etc.].
Pamera parvula.—Distant, 1882:206 [Ecuador; etc.].—Campos, 1919:57 [Ecuador]; 1925a:59 [Ecuador].
Orthaea vincta.—Barber, 1923:27 [Ecuador; etc.].
Pachybrachius vinctus.—Slater, 1964:144 [Ecuador; etc.].

Genus *Pephysena* Distant

Pephysena Distant, 1882:211 [type-species: *Pephysena levis* Distant, fixed by Barber, 1954:218].

Pephysena picta Barber

Pephysena picta Barber, 1954:220 [Ecuador (type)].—Slater, 1964:1159 [Ecuador].

Family MACROVELIIDAE McKinstry

No member of this family is known from Ecuador. The only species reported from South America is the lone member of the genus *Chepuvelia* China (1963:17), and it may be confined to Chile.

Drake and Chapman (1963) presented keys to subfamilies, tribes, and genera of Macroveliidae.

Family MEGARIDIDAE McAtee and Malloch

The only genus belonging to this family, *Megaris* Stal, is restricted to tropical America where it ranges as far north as Trinidad and Mexico. Although there are as yet no literature records for Ecuador, the family undoubtedly will be found there.

McAtee and Malloch (1928a:5–6) presented a key to the species known to them and then (1928b:46) described an additional species from South America.

Family MESOVELIIDAE Douglas and Scott

At this time records are available for two species, each in a separate genus, from continental Ecuador and none from the Galapagos Islands. Certainly more of the seven South American species, all in the two genera mentioned above, will be found in Ecuador. This catalog follows Drake and Chapman (1963) and other authors who considered Mesoveliidae and Macroveliidae as separate families (see Macroveliidae earlier in this list).

Landmark literature treating this family as a unit includes Horvath's (1915) monograph and (1929) world catalog. For the Western Hemisphere the most recent checklist of species was given by Drake (1948b:147).

The following key to the two genera in South America was adapted from Hungerford's (1929: 288–289) description of the genus *Mesoveloidea*.

Key to the South American Genera of Mesoveliidae

Antennal insertion separated from eye by a space almost equal to diameter of any eye ..... ***Mesovelia*** Mulsant and Rey

Antennal insertion close to an eye, space between not greater than diameter of antennal segment I ..... ***Mesoveloidea*** Hungerford

Genus *Mesovelia* Mulsant and Rey

Mesovelia Mulsant and Rey, 1852:138 [type-species: *Mesovelia furcata* Mulsant and Rey, only included species].

Mesovelia hambletoni Drake and Harris

Mesovelia hambletoni Drake and Harris, 1946:8 [Ecuador (type)].—Drake, 1948b:147 [Ecuador].

Genus *Mesoveloidea* Hungerford

Mesoveloidea Hungerford, 1929:288 [type-species: *Mesoveloidea williamsi* Hungerford, only included species].

Mesoveloidea williamsi Hungerford

Mesoveloidea williamsi Hungerford, 1929:289 [Ecuador (type)].—Jaczewski, 1931:64 [Ecuador].—Hungerford, 1938:218 [Ecuador; etc.].—Harris and Drake, 1941a:277 [Ecuador; etc.].—Drake and Harris, 1946:8 [Ecuador].—Drake, 1948b:147 [Ecuador; etc.].

Family MIRIDAE Hahn

Listed below are Miridae records for 60 species in 40 genera for continental Ecuador and 40 species in 16 genera from the Galapagos Islands. Of the species reported from the Galapagos Islands, 34 are known only from that archipelago; of the other five, three are virtually cosmopolitan and two are widespread in the Neotropics.

The number of species in the Miridae approaches all of the other Heteroptera together, hence many, many more can be expected in continental Ecuador and at least several more on the Galapagos Islands. Carvalho alone and with coworkers described many species and provided keys for parts of the family. His (1955) classical "Keys to the Genera of Miridae of the World" and his (1957–1960) "Catalogue of the Miridae of the World" must be used by any aspiring student of the family for previous literature. Significant modifications of parts of those world works, as they are important to Neotropical studies, will be referred to at appropriate points in the following list. The Galapagos Islands' Miridae fauna was reviewed by Carvalho and Gagne (1968) in a single paper with keys to species in which each author was individually responsible for large parts and joined in coauthorship for the remainder. A key to subfamilies based on nymphs was given by Akingbohungbe (1974:693).

For purposes of this list, the suprageneric classification of the Carvalho "Catalogue" is followed. Some of the subsequently proposed rearrangements may have merit, but an established comprehensive system is more easily followed than is piecemeal change.

Subfamily BRYOCORINAE Baerensprung

Tribe BRYOCORINI Baerensprung

Genus *Cyrtocapsus* Reuter

Cyrtocapsus Reuter, 1876:78 [type-species: *Capsus caligineus* Stal, only included species].

Cyrtocapsus andinus Carvalho

Cyrtocapsus andinus Carvalho, 1954a:13 [Peru (type); etc.].—Yust, 1955:438 [Ecuador]; 1958:190 [Ecuador].

Genus *Eccritotarsus* Stal

Eccritotarsus Stal, 1858:57 [type-species: *Eccritotarsus nigrocruciatus* Stal, fixed by Kirkaldy, 1906a:135].—Yust, 1958, nos. 168, 169 [Yust reports two unidentified species as "sp. No. 1" and "sp. No. 2"].—Carvalho and Gomes, 1971b: 185–188 [key to known species].

Eccritotarsus ecuadorensis Carvalho

Eccritotarsus ecuadorensis Carvalho, 1966:233 [Ecuador (type)].

Eccritotarsus nigrocruciatus Stal

Eccritotarsus nigrocruciatus Stal, 1858:57 [Brazil (type)].—Carvalho, 1957:99 [Ecuador; etc.].

Eccritotarsus paracruciatus Carvalho and Gomes

Eccritotarsus ecuadorensis Carvalho and Gomes, 1969a:226, preoccupied [Ecuador (type)].
Eccritotarsus paracruciatus Carvalho and Gomes, 1971b:186 [proposed as new name for preoccupied combination *Eccritotarsus ecuadorensis* Carvalho and Gomes].

Genus *Monalocoris* Dahlbom

Monalocoris Dahlbom, 1851:209 [type-species: *Cimex filicis* Linnaeus, only included species].

Monalocoris neotropicalis Carvalho and Gomes

Monalocoris neotropicalis Carvalho and Gomes, 1969a:228 [Ecuador (type)].

Genus *Neofurius* Distant

Neofurius Distant, 1884:292 [type-species: *Neofurius affinis* Distant, fixed by Kirkaldy 1906a:147].—Campos, 1925a:60 [one unidentified species for Ecuador].

Neofurius discovittatus Carvalho and Hsiao

Neofurius discovittatus Carvalho and Hsiao, 1954:143 [Ecuador (type)].—Carvalho, 1957:114 [Ecuador].

Genus *Pycnoderes* Guerin

Pycnoderes Guerin, 1857:404 [type-species: *Pycnoderes quadrimaculatus* Guerin, only included species].—Yust, 1958, no. 202 [for Ecuador "Pycnoderes sp. new"].

Pycnoderes ecuadorensis Carvalho and Gomes

Pycnoderes ecuadorensis Carvalho and Gomes, 1971d:472 [Ecuador (type)].

Genus *Tenthecoris* Scott

Tenthecoris Scott, 1886:65 [type-species: *Tenthecoris bicolor* Scott, only included species].—Carvalho, 1948b:281–282 [key to species of *Tenthocoris*].

Tenthecoris ecuadorensis Carvalho

Tenthecoris ecuadorensis Carvalho, 1954b:104 [Ecuador (type)]; 1957:130 [Ecuador].

Tribe MONALONIINI Reuter

Genus *Monalonion* Herrich-Schaeffer

Monalonion Herrich-Schaeffer, 1853:168 [type-species, *Monalonion parviventre* Herrich-Schaeffer, only included species].—Carvalho, 1972:119–143 [revision, key to known species pp. 121–122].

Monalonion annulipes Signoret

Monalonion annulipes Signoret, 1858b:500 [Mexico (type)].—Carvalho, 1972:121, 123 [Ecuador; etc.].

Monalonion atratum Distant

Monalonion atratum Distant, 1883:247 [Panama (type)].—Kirkaldy, 1902a:264 [Ecuador].—Carvalho, 1957:137 [Ecuador; etc.]; 1972:121, 127 [Ecuador; etc.].
Monalonion pilosipes Kirkaldy, 1902a:264 [Ecuador (type)].

Monalonion dissilmulatum Distant

Monalonion dissimulatum Distant, 1883:247 [Guatemala (type)].—Carvalho, 1972:121, 134 [Ecuador; etc.].
Monalonion megiston Kirkaldy, 1902a:264 [Amazon (type); Ecuador].—Distant, 1917:382 [Ecuador; etc.].—Carvalho, 1957:139 [Ecuador; etc.].

Tribe CYLAPINI Kirkaldy

Genus *Peltidocylapus* Poppius

Cylapus (Peltidocylapus) Poppius, 1909a:12 [type-species: *Valdasus rugosus* Distant, fixed by Carvalho, 1957:31].
Peltidocylapus.—Carvalho and Fontes, 1968b:275–277 [elevated to full genus; reviewed; list of species].

Peltidocylapus scutellaris (Poppius)

Cylapus (Peltidocylapus) scutellaris Poppius, 1909a:12 [Ecuador (type)].—Carvalho, 1957:31 [Ecuador].
Peltidocylapus scutellaris.—Carvalho and Fontes, 1968b:276 [Ecuador].

Tribe FULVIINI Uhler

Schmitz and Stys (1973:401) elevated this tribe to subfamily status.

Genus *Fulvius* Stal

Fulvius Stal, 1862b:322 [type-species: *Fulvius anthocorides* Stal, only included species].

Fulvius brevicornis Reuter

Fulvius brevicornis Reuter, 1895:138 [France, on ship from Senegal].—Carvalho and Gagne, 1968:153 [Galapagos Islands].—Linsley, 1977:13 [Galapagos Islands].

Fulvius geniculatus Van Duzee

Fulvius geniculatus Van Duzee, 1933:29 [Galapagos Islands (type)].—Barber, 1934:281, 287 [Galapagos Islands].—Carvalho, 1957:17 [Galapagos Islands].—Linsley and Usinger, 1966:135 [Galapagos Islands].—Carvalho and Gagne, 1968: 152 [Galapagos Islands].—Linsley, 1977:13 [Galapagos Islands].

Subfamily DERAEOCORINAE Douglas and Scott

Tribe CLIVINEMATINI Reuter

Carvalho and Gomes (1971a:89–90) provided an updated key to genera of "Clivinemini." Steyskal (1973:204) gave an explanation for the spelling of the tribal name.

Genus *Admetus* Distant

Admetus Distant, 1883:250 [type-species: *Admetus fimbriatus* Distant, only included species].

Admetus sulinus Carvalho and Gomes

Admetus sulinus Carvalho and Gomes 1969a:225 [Ecuador (type)].

Tribe HYALIODINI Carvalho and Drake

Genus *Antias* Distant

Antias Distant, 1884:298 [type-species: *Antias subaeratus* Distant, fixed by Kirkaldy, 1906a:146].

Antias gaucha Carvalho and Gomes

Antias gaucha Carvalho and Gomes 1972:147 [Brazil (type); Ecuador].

Genus *Hyaliodocoris* Knight

Hyaliodocoris Knight, 1943:119 [type-species: *Hyaliodocoris frosti* Knight, only included species].

Hyaliodocoris frosti Knight

Hyaliodocoris frosti Knight, 1943:119 [Ecuador (type)].—Carvalho, 1957:49 [Ecuador].

Genus *Knightonia* Carvalho and Drake

Knightiella Carvalho and Drake, 1943:87, preoccupied [type-species: *Knightiella knighti* Carvalho and Drake, only included species].
Knightonia Carvalho and Drake, 1944:239 [proposed as a new name for *Knightiella* Carvalho and Drake, hence takes same type-species].

Knightonia knighti (Carvalho and Drake)

Knightiella knighti Carvalho and Drake, 1943:87 [Ecuador (type)].
Knightonia knighti.—Carvalho, 1953c:171 [Ecuador]; 1957:49 [Ecuador].

Genus *Lyde* Distant

Lyde Distant, 1891:113 [type-species: *Lyde translucida* Distant, only included species].

Lyde translucida Distant

Lyde translucida Distant, 1891:114 [Ecuador (type); figured but not described, except for length]; 1893b:90 [Ecuador; described as a "n. sp."].—Campos, 1925a:61 [Ecuador].

Eccritotarsus ecuadorensis Carvalho

Eccritotarsus ecuadorensis Carvalho, 1966:233 [Ecuador (type)].

Eccritotarsus nigrocruciatus Stal

Eccritotarsus nigrocruciatus Stal, 1858:57 [Brazil (type)].—Carvalho, 1957:99 [Ecuador; etc.].

Eccritotarsus paracruciatus Carvalho and Gomes

Eccritotarsus ecuadorensis Carvalho and Gomes, 1969a:226, preoccupied [Ecuador (type)].
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Neofurius Distant, 1884:292 [type-species: *Neofurius affinis* Distant, fixed by Kirkaldy 1906a:147].—Campos, 1925a:60 [one unidentified species for Ecuador].

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Neofurius discovittatus Carvalho and Hsiao, 1954:143 [Ecuador (type)].—Carvalho, 1957:114 [Ecuador].

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Pycnoderes Guerin, 1857:404 [type-species: *Pycnoderes quadrimaculatus* Guerin, only included species].—Yust, 1958, no. 202 [for Ecuador "Pycnoderes sp. new"].

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Pycnoderes ecuadorensis Carvalho and Gomes, 1971d:472 [Ecuador (type)].

Genus *Tenthecoris* Scott

Tenthecoris Scott, 1886:65 [type-species: *Tenthecoris bicolor* Scott, only included species].—Carvalho, 1948b:281–282 [key to species of *Tenthocoris*].

Tenthecoris ecuadorensis Carvalho

Tenthecoris ecuadorensis Carvalho, 1954b:104 [Ecuador (type)]; 1957:130 [Ecuador].

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Monalonion annulipes Signoret

Monalonion annulipes Signoret, 1858b:500 [Mexico (type)].—Carvalho, 1972:121, 123 [Ecuador; etc.].

Monalonion atratum Distant

Monalonion atratum Distant, 1883:247 [Panama (type)].—Kirkaldy, 1902a:264 [Ecuador].—Carvalho, 1957:137 [Ecuador; etc.]; 1972:121, 127 [Ecuador; etc.].
Monalonion pilosipes Kirkaldy, 1902a:264 [Ecuador (type)].

Monalonion dissilmulatum Distant

Monalonion dissimulatum Distant, 1883:247 [Guatemala (type)].—Carvalho, 1972:121, 134 [Ecuador; etc.].
Monalonion megiston Kirkaldy, 1902a:264 [Amazon (type); Ecuador].—Distant, 1917:382 [Ecuador; etc.].—Carvalho, 1957:139 [Ecuador; etc.].

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Peltidocylapus.—Carvalho and Fontes, 1968b:275–277 [elevated to full genus; reviewed; list of species].

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Cylapus (Peltidocylapus) scutellaris Poppius, 1909a:12 [Ecuador (type)].—Carvalho, 1957:31 [Ecuador].
Peltidocylapus scutellaris.—Carvalho and Fontes, 1968b:276 [Ecuador].

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Schmitz and Stys (1973:401) elevated this tribe to subfamily status.

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Fulvius Stal, 1862b:322 [type-species: *Fulvius anthocorides* Stal, only included species].

Fulvius brevicornis Reuter

Fulvius brevicornis Reuter, 1895:138 [France, on ship from Senegal].—Carvalho and Gagne, 1968:153 [Galapagos Islands].—Linsley, 1977:13 [Galapagos Islands].

Fulvius geniculatus Van Duzee

Fulvius geniculatus Van Duzee, 1933:29 [Galapagos Islands (type)].—Barber, 1934:281, 287 [Galapagos Islands].—Carvalho, 1957:17 [Galapagos Islands].—Linsley and Usinger, 1966:135 [Galapagos Islands].—Carvalho and Gagne, 1968: 152 [Galapagos Islands].—Linsley, 1977:13 [Galapagos Islands].

Subfamily DERAEOCORINAE Douglas and Scott

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Admetus Distant, 1883:250 [type-species: *Admetus fimbriatus* Distant, only included species].

Admetus sulinus Carvalho and Gomes

Admetus sulinus Carvalho and Gomes 1969a:225 [Ecuador (type)].

Tribe HYALIODINI Carvalho and Drake

Genus *Antias* Distant

Antias Distant, 1884:298 [type-species: *Antias subaeratus* Distant, fixed by Kirkaldy, 1906a:146].

Antias gaucha Carvalho and Gomes

Antias gaucha Carvalho and Gomes 1972:147 [Brazil (type); Ecuador].

Genus *Hyaliodocoris* Knight

Hyaliodocoris Knight, 1943:119 [type-species: *Hyaliodocoris frosti* Knight, only included species].

Hyaliodocoris frosti Knight

Hyaliodocoris frosti Knight, 1943:119 [Ecuador (type)].—Carvalho, 1957:49 [Ecuador].

Genus *Knightonia* Carvalho and Drake

Knightiella Carvalho and Drake, 1943:87, preoccupied [type-species: *Knightiella knighti* Carvalho and Drake, only included species].
Knightonia Carvalho and Drake, 1944:239 [proposed as a new name for *Knightiella* Carvalho and Drake, hence takes same type-species].

Knightonia knighti (Carvalho and Drake)

Knightiella knighti Carvalho and Drake, 1943:87 [Ecuador (type)].
Knightonia knighti.—Carvalho, 1953c:171 [Ecuador]; 1957:49 [Ecuador].

Genus *Lyde* Distant

Lyde Distant, 1891:113 [type-species: *Lyde translucida* Distant, only included species].

Lyde translucida Distant

Lyde translucida Distant, 1891:114 [Ecuador (type); figured but not described, except for length]; 1893b:90 [Ecuador; described as a "n. sp."].—Campos, 1925a:61 [Ecuador].

Subfamily MIRINAE Hahn

Tribe MIRINI Hahn

Genus *Adphytocoris* Carvalho and Gomes

Adphytocoris Carvalho and Gomes, 1969b:430 [type-species: *Calocoris montanus* Distant, original designation].

Adphytocoris collinus (Distant)

Lygus collinus Distant, 1893b:89 [Ecuador (type); Distant's (1891:114) record as a "n. sp." from Ecuador had neither a description nor an illustration and hence was a nomen nudum there].—Campos, 1925a:60 [Ecuador].—Carvalho, 1959:118 [Ecuador].

Adphytocoris longilineus Carvalho and Gomes

Adphytocoris longilineus Carvalho and Gomes, 1969b:432 [Ecuador (type)].

Adphytocoris montanus (Distant)

Calocoris montanus Distant, 1893b:89 [Ecuador (type). Distant's (1891:114) record as a "n. sp." from Ecuador had neither a description nor an illustration and hence was a nomen nudum there].—Campos, 1925a:60 [Ecuador].—Carvalho, 1959:42 [Ecuador].

Adphytocoris montanus.—Carvalho and Gomes, 1969b:431 [Ecuador].

Genus *Alda* Reuter

Alda Reuter, 1909b:4 [type-species: *Alda fuscipennis* Reuter, only included species].

Alda ecuatoriana Carvalho and Gomes

Alda ecuatoriana Carvalho and Gomes 1969b:427 [Ecuador (type)].

Alda pechinchana Carvalho and Gomes

Alda pechinchana Carvalho and Gomes 1969b:429 [Ecuador (type)].

Genus *Creontiades* Distant

Creontiades Distant, 1883:237 [type-species: *Megacoelum rubrinerve* Stal, only included species].

Creontiades castaneus Van Duzee

Creontiades castaneum Van Duzee, 1933:27 [Galapagos Islands (type)].—Barber, 1934:288 [Galapagos Islands].—Carvalho, 1959:74 [Galpagos Islands].—Linsley and Usinger, 1966:136 [Galapagos Islands].—Carvalho and Gagne, 1968:190 [Galapagos Islands].—Linsley, 1977:14 [Galapagos Islands].

Creontiades citrinus Carvalho

Creontiades citrinus Carvalho in Carvalho and Gagne, 1968: 192 [Galapagos Islands (type)].—Gagne in Carvalho and Gagne, 1968:192 [Galapagos Islands].—Linsley, 1977:14 [Galapagos Islands].

Creontiades fernandinus Carvalho

Creontiades fernandinus Carvalho in Carvalho and Gagne, 1968: 192 [Galapagos Islands (type)].—Gagne in Carvalho and Gagne, 1968:193 [Galapagos Islands].—Linsley, 1977:14 [Galapagos Islands].

Creontiades fuscosus Barber

Creontiades fuscosus Barber, 1925:248 [Galapagos Islands (type)]; 1934:288 [Galapagos Islands].—Van Duzee, 1937: 115 [Galapagos Islands].—Carvalho, 1959:75 [Galapagos Islands].—Carvalho and Gagne, 1968:194 [Galapagos Islands].—Linsley, 1977:14 [Galapagos Islands].

Creontiades "fucosus".—Linsley and Usinger, 1966:136 [Galapagos Islands].

Creontiades punctatus Carvalho

Creontiades punctatus Carvalho in Carvalho and Gagne, 1968: 196 [Galapagos Islands (type)].—Linsley, 1977:14 [Galapagos Islands].

Creontiades vittatus Carvalho

Creontiades vittatus Carvalho in Carvalho and Gagne, 1968: 196 [Galapagos Islands (type)].—Gagne in Carvalho and Gagne, 1968:197 [Galapagos Islands].—Linsley, 1977:14 [Galapagos Islands].

Creontiades willowsi Van Duzee

Creontiades willowsi Van Duzee, 1933:28 [Galapagos Islands (type)]; 1937:115 [Galapagos Islands].—Barber, 1934:288 [Galapagos Islands].—Carvalho, 1959:78 [Galapagos Islands].—Linsley and Usinger, 1966:136 [Galapagos Is-

lands].—Carvalho and Gagne, 1968:197 [Galapagos Islands].—Linsley, 1977:14 [Galapagos Islands].

Genus *Dagbertus* Distant

Dagbertus Distant, 1904b:203 [type-species: *Capsus darwini* Butler, fixed by Kirkaldy, 1906a:123].—Carvalho and Gagne, 1968:218 [for Galapagos Islands, three unnamed species as species A, B, and C].

Dagbertus darwini (Butler)

Capsus darwini Butler, 1877:89 [Galapagos Islands (type):cb.
Dagbertus darwini.—Distant, 1904b:203 [Galapagos Islands].—Champion, 1924:260 [Galapagos Islands].—Barber, 1934:287 [Galapagos Islands]. Carvalho, 1957:87 [Galapagos Islands]; 1959:80 [Galapagos Islands].—Linsley and Usinger, 1966:135 [Galapagos Islands].—Carvalho and Gagne 1968:206 [Galapagos Islands].—Linsley, 1977:15 [Galapagos Islands].

Dagbertus figuratus Gagne

Dagbertus figuratus Gagne in Carvalho and Gagne, 1968:217 [Galapagos Islands (type)].—Linsley, 1977:15 [Galapagos Islands].

Dagbertus formosus Carvalho

Dagbertus formosus Carvalho in Carvalho and Gagne, 1968: 207 [Galapagos Islands (type)].—Gagne in Carvalho and Gagne, 1968:209 [Galapagos Islands].—Linsley, 1977:15 [Galapagos Islands].

Dagbertus lineatus Gagne

Dagbertus lineatus Gagne in Carvalho and Gagne, 1968:216 [Galapagos Islands (type)].—Linsley, 1977:15 [Galapagos Islands].

Dagbertus marmoratus Carvalho

Dagbertus marmoratus Carvalho in Carvalho and Gagne, 1968: 209 [Galapagos Islands (type)].—Gagne, in Carvalho and Gagne 1968:209 [Galapagos Islands].—Linsley, 1977:15 [Galapagos Islands].

Dagbertus nigrifrons Gagne

Dagbertus nigrifrons Gagne in Carvalho and Gagne, 1968:214 [Galapagos Islands (type)].—Linsley, 1977:15 [Galapagos Islands].

Dagbertus pallidus Gagne

Dagbertus pallidus Gagne in Carvalho and Gagne, 1968:212 [Galapagos Islands (type)].—Linsley, 1977:15 [Galapagos Islands].

Dagbertus quadrinotatus (Walker)

Capsus quadrinotatus Walker, 1873a:113 [Galapagos Islands (type)].—Butler, 1877:89 [Galapagos Islands].
Resthenia quadrinotatus.—Atkinson, 1890:60 [Galapagos Islands].
Dagbertus quadrinotatus.—Champion, 1924:260 [Galapagos Islands].—Barber, 1934:288 [Galapagos Islands].—Carvalho, 1959:80 [Galapagos Islands].—Linsley and Usinger, 1966:135 [Galapagos Islands].—Carvalho and Gagne, 1968:210 [Galapagos Islands].—Linsley, 1977:15 [Galapagos Islands].

Dagbertus spoliatus (Walker)

Capsus spoliatus Walker, 1873a:112 [Galapagos Islands (type)].—Butler 1877:89 [Galapagos Islands].
Resthenia spoliatus.—Atkinson, 1890:61 [Galapagos Islands].
Dagbertus spoliatus.—Champion, 1924:260 [Galapagos Islands].—Barber, 1934:288 [Galapagos Islands].—Carvalho, 1959:80 [Galapagos Islands].—Linsley and Usinger, 1966:135 [Galapagos Islands].—Carvalho and Gagne, 1968a:212 [Galapagos Islands].—Linsley, 1977:15 [Galapagos Islands].

Genus *Galapagomiris* Carvalho

Galapagomiris Carvalho in Carvalho and Gagne, 1968:187 [type-species: *Galapagomiris longirostris* Carvalho, only included species].

Galapagomiris longirostris Carvalho

Galapagomiris longirostris Carvalho in Carvalho and Gagne, 1968:188 [Galapagos Island].—Linsley, 1977:14 [Galapagos Islands].

Genus *Garganus* Stal

Garganus Stal, 1862b:231 [type-species: *Garganus albidivittis* Stal, fixed by Kirkaldy, 1906a:137].—Carvalho, 1945a:1–15 [revision; key to species, page 9].

Garganus gracilentus (Stal)

Cyllecoris gracilentus Stal, 1858:53 [Brazil (type)].
Garganus gracilentus.—Yust, 1958, no. L166 [Ecuador].

Garganus magnus Carvalho and Gomes

Garganus magnus Carvalho and Gomes, 1969a:230 [Ecuador (type)].

Genus *Horcias* Distant

Horcias Distant, 1884:277 [type-species: *Horcias variegatus* Distant, fixed by Kirkaldy, 1906a:141].—Carvalho and Jurberg, 1974:49–65 [classical genus *Horcias* broken into three genera separated in a key to six closely related genera].

Horcias albiventris Distant

Horcias albiventris Distant, 1904b:200 [Ecuador (type)].—Carvalho, 1959:100 [Ecuador].

Horcias chiriquinus Distant

Horcias chiriquinus Distant, 1884:278 [Panama (type)].—Carvalho and Gagne, 1968:198 [Galapagos Islands; etc.].—Linsley, 1977:14 [Galapagos Islands].

Horicas lateiclavus Distant

Horcias lateiclavus Distant, 1904b:200 [Ecuador (type)].—Carvalho, 1959:102 [Ecuador].

Genus *Horciasinus* Carvalho and Jurberg

Horciasinus Carvalho and Jurberg, 1974:49 [type-species: *Capsus signoreti* Stal, original designation]; 1976:811–834 [revision, key to known species].

Horciasinus amazonicus Carvalho and Jurberg

Horciasinus amazonicus Carvalho and Jurberg, 1976:815 [Brazil (type); Ecuador; etc.].

Genus *Lygus* Hahn

Lygus Hahn, 1833:47 [type-species: *Cimex pratensis* Linnaeus, fixed by Opinion 667 of the International Commission of Zoological Nomenclature, 1966].

Lygus excelsus Distant

Lygus excelsus Distant, 1893b:90 [Ecuador (type); Distant's (1891:114) listing of this as a "n. sp." from Ecuador had neither a description nor an illustration and hence was a nomen nudum there].—Carvalho, 1959:119 [Ecuador].

Lygus sublimatus Distant

Lygus sublimatus Distant, 1893b:89 [Ecuador (type). Distant's (1891:114) listing of this as a "n. sp." from Ecuador had neither a description nor an illustration and hence was a nomen nudum there].—Campos, 1925a:61 [Ecuador].—Carvalho, 1959:129 [Ecuador].

Genus *Phytocoris* Fallen

Phytocoris Fallen, 1814:10 [type-species, *Cimex populi* Linnaeus, fixed by Westwood, 1840:12].—Yust, 1955:428 [unidentified species reported from Ecuador]; 1958, no. L133 [unidentified species reported from Ecuador].—Carvalho and Gomes, 1970:115–117 [key to subgenera; list of Neotropical species; the species *"Phytocoris sugestivus"* listed on p. 116 from Ecuador has been confirmed by Carvalho (in correspondence) as a nomen nudum].

Phytocoris lojaensis Carvalho and Gomes

Phytocoris lojaensis Carvalho and Gomes, 1969b:421 [Ecuador (type)]; 1970:115 [Ecuador].

Phytocoris rioleonensis Carvalho and Gomes

Phytocoris rioleonensis Carvalho and Gomes, 1969b:423 [Ecuador (type)]; 1970:116 [Ecuador].

Phytocoris variegatus (Distant)

Dioniza variegata Distant, 1891:114 [Ecuador (type); figured but not described except for length]; 1893b:88 [Ecuador; described as a "n. sp."].—Campos, 1925a:60 [Ecuador].
Phytocoris variegatus.—Carvalho, 1959:220 [Ecuador].—Carvalho and Gomes, 1970:116 [Ecuador].

Phytocoris vilis (Distant)

Compsocerocoris vilis Distant; 1893a:260 [Guatemala; Panama].
Phytocoris vilis.—Carvalho and Gomes, 1969b:424 [Ecuador; etc.]; 1970;116 [Ecuador; etc.].

Genus *Piasus* Distant

Piasus Distant, 1883:242 [type-species: *Piasus illuminatus* Distant, a junior synonym of *Deraeocoris cribricollis* Stal, only included species].

Piasus cribricollis (Stal)

Deraeocoris cribricollis Stal, 1858:48 [Brazil (type)].
Piasus cribricollis.—Bergroth, 1922:12 [Ecuador; etc.].—Carvalho, 1946:16 [Ecuador; etc.]; 1959:225 [Ecuador; etc.].

Genus *Polymerus* Hahn

Polymerus Hahn, 1831:27 [type-species: *Polymerus holosericeus* Hahn, only included species].—Carvalho and Gomes, 1969c:478 [key to species in Chile].
Poeciloscytus.—Van Duzee, 1937:117 [in addition to *Poeciloscytus vegatus*, a junior synonym of *nigritulus* as listed below, Van Duzee reported an unidentified species from Ecuador].

Polymerus nigritulus (Walker)

Capsus nigritulus Walker, 1873a:112 [Galapagos Islands (type)].—Champion, 1924:260 [Galapagos Islands].—Barber, 1934:288 [Galapagos Islands].
Resthenia nigritulus.—Atkinson, 1890:59 [Galapagos Islands].
Poeciloscytus vegatus Van Duzee, 1933:28 [Galapagos Islands (type)]; 1937:117 [Galapagos Islands].
Polymerus vegatus.—Barber, 1934:288 [Galapagos Islands].—Carvalho, 1959:242 [Galapagos Islands].—Linsley and Usinger, 1966:136 [Galapagos Islands].
Polymerus nigritulus.—Carvalho, 1959:238 [Galapagos Islands].—Linsley and Usinger, 1966:136 [Galapagos Islands].—Carvalho and Gagne, 1968:200 [Galapagos Islands].—Linsley, 1977:15 [Galapagos Islands].

Polymerus testaceipes (Stal)

Deraeocoris testaceipes Stal, 1858:50 [Brazil (type)].
Polymerus "testaceips".—Yust, 1959, no. L133 [Ecuador].

Genus *Proba* Distant

Proba Distant, 1884:269 [type-species: *Proba gracilis* Distant, only included species].

Proba sallei (Stal)

Lygus sallei Stal, 1862b:321 [Mexico (type)].
Proba sallei.—Yust, 1955:428, 440 [Ecuador]; 1958, nos. 84, 149, 267, 293 [Ecuador].

Genus *Quitocoris* Carvalho and Gomes

Quitocoris Carvalho and Gomes, 1969b:425 [type-species: *Quitocoris quitoensis* Carvalho and Gomes, only included species].

Quitocoris quitoensis Carvalho and Gomes

Quitocoris quitoensis Carvalho and Gomes, 1969b:426 [Ecuador (type)].

Genus *Taedia* Distant

Taedia Distant, 1883:263 [type-species, *Taedia bimaculata* Distant, preoccupied, renamed by Carvalho, 1954c:426, as *Taedia distantina*, only included species].—Carvalho, 1975b:167–206 [review, key to known species].

Taedia pacifica Carvalho and Gomes

Taedia pacifica Carvalho and Gomes, 1971c:250, 252, 272 [Ecuador (type); etc.].—Carvalho, 1975b:182 [Ecuador; etc.].

Genus *Taylorilygus* Leston

Lygus (Taylorilygus) Leston, 1952a:219 [type-species: *Lygus simonyi* Reuter, original designation].
Taylorilygus.—Kelton, 1955:281.

Taylorilygus pallidulus (Blanchard)

Phytocoris pallidulus Blanchard, 1852:193 [Chile (type)].
Taylorilygus pallidulus.—Carvalho in Carvalho and Gagne, 1968:203 [Galapagos Islands; etc.].—Gagne in Carvalho and Gagne, 1968:204 [Galapagos Islands].—Linsley, 1977:15 [Galapagos Islands].

Tribe RESTHENINI Reuter

Note: Carvalho and Fontes (1971:141–144) presented an illustrated key to genera of this tribe.

Genus *Lampsophorus* Reuter

Lampsophorus Reuter, 1909a:6 [type-species: *Lampsophorus caesarius* Reuter, only included species].—Carvalho and Ferreira, 1968:207–211 [review of genus].

Lampsophorus ecuadorensis Carvalho and Ferreira

Lampsophorus ecuadorensis Carvalho and Ferreira, 1968:209 [Ecuador (type)].

Genus *Mimoncopeltus* Kirkaldy

Lygdus Distant, 1883:242, preoccupied [type-species: *Lygus simulans* Distant, only included species].
Mimoncopeltus Kirkaldy, 1906b:374 [proposed as a new name for *Lygdus* Distant, hence takes same type-species].

Mimoncopeltus albidofasciatus (Reuter)

Lygdus albidofasciatus Reuter, 1910:16 [Ecuador (type)].
Mimoncopeltus albidofasciatus.—Carvalho, 1959:327 [Ecuador; etc.].

Mimoncopeltus ecuadorensis Carvalho

Mimoncopeltus ecuadorensis Carvalho, 1953b:82 [Ecuador (type)]; 1959:327 [Ecuador].

Mimoncopeltus variabilis Carvalho

Mimoncopeltus variabilis Carvalho, 1953b:85 [Ecuador (type)]: 1959: 328 [Ecuador].

Genus *Prepops* Reuter

Resthenia (Prepops) Reuter, 1905:15 [type-species: *Resthenia (Prepops) frontalis* Reuter, only included species].
Prepops.—Bergroth 1922:4.

Prepops cruxnigra (Reuter)

Platytylellus cruxnigrum Reuter, 1910:31 [Ecuador (type)].
Prepops cruxnigrum.—Carvalho, 1959:334 [Ecuador].—Carvalho, Fontes, and Ferreira, 1968:390 [Ecuador].

Genus *Resthenia* Spinola

Resthenia Spinola, 1837:185 [type-species, *Resthenia scutata* Spinola, only included species].—Campos, 1919:57 [from Ecuador, an unidentified species of *Resthenia*, a name used in a more inclusive sense at that time]; 1925a:60 [see note for 1919].—Carvalho and Fontes, 1968a:235-242 [review of genus].

Resthenia poppiusi Reuter

Resthenia poppiusi Reuter, 1912a:39 [Ecuador (type)].—Carvalho, 1953b:80 [Ecuador]; 1959:345 [Ecuador].—Carvalho and Fontes, 1968:237 [Ecuador].

Tribe STENODEMINI China

Carvalho (1975a:121-122) presented a key to the Neotropical genera of Stenodemini.

Genus *Collaria* Provancher

Collaria Provancher, 1872:79 [type-species: *Collaria meilleurii* Provancher, only included species].

Collaria oleosa (Distant)

Trachelomiris oleosus Distant, 1883:238 [Guatemala; Panama].
Collaria oleosa.—Yust 1958, no. L133 [Ecuador].

Genus *Dolichomiris* Reuter

Dolichomiris Reuter, 1882a:29 [type-species: *Dolichomiris linearis* Reuter, only included species].—Eyles and Carvalho, 1975:257-260 [revision, key to species, pp. 258-259]

Dolichomiris linearis Reuter

Dolichomiris linearis Reuter, 1882a:29 [Ghana (lectotype)].—Carvalho, 1959:287 [Galapagos Islands; etc.].—Carvalho in Carvalho and Gagne, 1968a:183 [Galapagos Islands; etc.].—Gagne in Carvalho and Gagne, 1968:185 [Galapagos Islands].—Eyles and Carvalho, 1975:260 [Galapagos Islands; etc.].

Genus *Neotropicomiris* Carvalho and Fontes

Neotropicomiris Carvalho and Fontes, 1969:332 [type-species: *Neotropicomiris pilosus* Carvalho and Fontes, original designation; key to known species].

Neotropicomiris ecuadorensis Carvalho and Fontes

Neotropicomiris ecuadorensis Carvalho and Fontes, 1969:336 [Ecuador (type)].

Neotropicomiris nordicus Carvalho and Fontes

Neotropicomiris nordicus Carvalho and Fontes, 1969:338 [Venezuela (type); Ecuador].—Carvalho, 1975a:122 [Ecuador; etc.].

Genus *Ophthalmomiris* Berg

Ophthalmomiris Berg, 1883:6 [type-species: *Ophthalmomiris reuteri* Berg, only included species].

Ophthalmomiris spurius (Stal)

Miris spurius Stal, 1859b:254 [Ecuador (type)].—Walker, 1873a:52 [Ecuador].—Atkinston, 1890:35 [Ecuador].
Stenodema spuria.—Bergroth, 1922:2 [Ecuador].
Ophthalmomiris spurius.—Carvalho, 1959:298 [Ecuador].

Genus *Stenodema* Laporte

Stenodema Laporte, 1833:40 [type-species: *Miris virens* Fabricius, a junior synonym of *Cimex virens* Linnaeus, only included species].—Yust, 1955:428 [one unidentified species from Ecuador]; 1958, nos. 150, 210 [one unidentified species from Ecuador].—Carvalho, 1975a:137 [key to neotropical species].

Stenodema andina Carvalho

Stenodema andina Carvalho, 1975a:122, 128 [Argentina (type); Ecuador; etc.].

Stenodema praecelsa (Distant)

Neomiris praecelsus Distant, 1891:113 [Ecuador (type); figured but not described except for length]; 1893b:87 [described from Ecuador as a "n. sp."].—Campos, 1925a:60 [Ecuador].
Stenodema (Stenodema) praecelsus.—Carvalho, 1959:306 [Ecuador].—Carvalho and Fontes, 1969:331 [Ecuador; etc.].—Carvalho, 1975a:123, 125 [Ecuador; etc.].

Genus *Trigonotylus* Fieber

Trigonotylus Fieber, 1858:302 [type-species: *Miris ruficornis* Fallen, a junior synonym of *Cimex ruficornis* Geoffroy, only included species].

Trigonotylus lineatus (Butler)

Miris lineatus Butler, 1877:89 [Galapagos Islands (type)].—Heidemann, 1901:366 [Galapagos Islands].—Champion, 1924:260 [Galapagos Islands].—Barber, 1934:287 [Galapagos Islands].
Trigonotylus lineatus.—Carvalho and Wagner, 1957:135 [Galapagos Island].—Carvalho, 1959:314 [Galapagos Islands].—Linsley and Usinger, 1966:135 [Galapagos Islands].—Carvalho in Carvalho and Gagne, 1968:185 [Galapagos Islands].

Subfamily ORTHOTYLINAE Van Duzee

Tribe ORTHOTYLINI Van Duzee

Genus *Falconia* Distant

Falconia Distant, 1884:298 [type-species: *Falconia caduca* Distant, a junior synonym of *Falconia poetica* Distant, fixed by Kirkaldy, 1906a:146].

Falconia andina Carvalho

Falconia andina Carvalho, 1953a:35 [Ecuador (type)]: 1958b: 61 [Ecuador].

Falconia minor Carvalho

Falconia minor Carvalho, 1945b:184 (Brazil (type)].
Falconia "major" Yust, 1958, no. 29 [Ecuador; in the absence of a species name "*Falconia major*," this record is assigned to *minor* in the tentative belief that an inadvertent substitution of the opposite term was made].

Genus *Galapagocoris* Carvalho

Galapagocoris Carvalho in Carvalho and Gagne, 1968:179 [type-species: *Diaphnidia crockeri* Van Duzee, only included species].

Galapagocoris crockeri (Van Duzee)

Diaphnidia crockeri Van Duzee, 1933:29 [Galapagos Islands (type)].—Barber, 1934:287 [Galapagos Islands].—Carvalho, 1958b:56 [Galapagos Islands].—Linsley and Usinger, 1966:135 [Galapagos Islands].
Galapagocoris crockeri.—Carvalho and Gagne, 1968:180 [Galapagos Islands].—Linsley, 1977:14 [Galapagos Islands].

Genus *Hyalochloria* Reuter

Hyalochloria Reuter, 1907:18 [type-species, *Hyalochloria cariceps* Reuter, fixed by Van Duzee, 1916:218].

Hyalochloria denticornis Hsiao

Hyalochloria denticorne Hsiao, 1945:24 [Peru (type)].—Yust, 1955:429 [Ecuador]; 1958, no. 127 [Ecuador].

Genus *Paraproba* Distant

Paraproba Distant, 1884:270 [type-species: *Paraproba fasciata* Distant, fixed by Kirkaldy, 1906a:138].

Paraproba singularis Carvalho and Gomes

Paraproba singularis Carvalho and Gomes, 1969a:228 [Ecuador (type)].

Subfamily PHYLINAE Douglas and Scott

Tribe DICYPHINI Reuter

Genus *Cyrtopeltis* Fieber

Cyrtopeltis Fieber, 1860:76, 323 [type-species: *Cyrtopeltis geniculata* Fieber, fixed by Fieber, 1861:323].

Cyrtopeltis affinis Gagne

Cyrtopeltis (Engytatus) affinis Gagne in Carvalho and Gagne, 1968:175 [Galapagos Islands (type)].—Linsley, 1977:13 [Galapagos Islands].

Cyrtopeltis arida Gagne

Cyrtopeltis (Engytatus) arida Gagne in Carvalho and Gagne, 1968:176 [Galapagos Islands, (type)].—Linsley, 1977:13 [Galapagos Islands].

Cyrtopeltis floreana Gagne

Cyrtopeltis (Engytatus) floreana Gagne in Carvalho and Gagne, 1968:176 [Galapagos Islands (type)].—Linsley, 1977:13 [Galapagos Islands].

Cyrtopeltis gummiferae Gagne

Cyrtopeltis (Engytatus) gummiferae Gagne in Carvalho and Gagne, 1968:172 [Galapagos Islands (type)].—Linsley, 1977:13 [Galapagos Islands].

Cyrtopeltis helleri Gagne

Cyrtopeltis (Engytatus) helleri Gagne in Carvalho and Gagne, 1968:174 [Galapagos Islands (type)].—Linsley, 1977:13 [Galapagos Islands].

Cyrtopeltis modesta (Distant)

Neosilia modestus Distant, 1893a:447 [Guatemala (type)].
Engytatus geniculatus.—Van Duzee, 1937:116 [Galapagos Islands; etc.].
Cyrtopeltis (Engytatus) "modestus".—Carvalho, 1959a:186 [Ecuador; Galapagos Islands].
Cyrtopeltis modesta.—Linsley and Usinger, 1966:136 [Galapagos Islands].
Cyrtopeltis (Engytatus) modesta.—Carvalho and Gagne, 1968: 177 [Galapagos Islands; etc.].—Linsley, 1977:14 [Galapagos Islands].

Genus *Dicyphus* Fieber

Dicyphus Fieber, 1858:326 [type-species: *Capsus pallidus* Herrich-Schaeffer, fixed by Kirkaldy, 1906a:127].

Dicyphus cucurbitaceus (Spinola)

Phytocoris cucurbitaceus Spinola, 1852:196 [Chile (type)].
Dicyphus cucurbitaceus.—Yust, 1955:440, 442 [Ecuador]; 1958, No. 293 [Ecuador].
Dicyphus "curubitaceus".—Yust, 1958, nos. 87, 293 [Ecuador].

Genus *Macrolophus* Fieber

Macrolophus Fieber, 1858:326 [type-species: *Capsus nubilus* Herrich-Schaeffer, fixed by Kirkaldy, 1906a:129].—Yust, 1958, no. 108 [one unidentified species from Ecuador].

Macrolophus innotatus Carvalho

Macrolophus innotatus Carvalho in Carvalho and Gagne, 1968: 167 [Galapagos Islands (type)].—Gagne in Carvalho and Gagne, 1968:167 [Galapagos Islands].—Linsley, 1977:13 [Galapagos Islands].

Macrolophus praeclarus (Distant)

Pandama praeclarus Distant, 1884:271 [Guatemala (type)].
Macrolophus praeclarus.—Yust, 1955:441 [Ecuador].
Macrolophus "pareclarus".—Yust, 1958, no. L86 [Ecuador].

Macrolophus punctatus Carvalho

Macrolophus punctatus Carvalho in Carvalho and Gagne, 1968: 168 [Galapagos Islands (type)].—Gagne in Carvalho and Gagne, 1968:170 [Galapagos Islands].—Linsley, 1977:13 [Galapagos Islands].

Tribe PHYLINI Douglas and Scott

Genus *Campylomma* Reuter

Campylomma Reuter, 1878:52 [type-species: *Campylomma nigronasuta* Reuter, fixed by Distant, 1904a:483].

Campylomma citrinum Carvalho

Campylomma citrina Carvalho in Carvalho and Gagne, 1968: 156 [Galapagos Islands (type)].—Gagne in Carvalho and Gagne, 1968:157 [Galapagos Islands].—Linsley, 1977:13 [Galapagos Islands].

Genus *Psallus* Fieber

Psallus Fieber, 1858:321 [type-species: *Cimex roseus* Fabricius, fixed by Distant, 1904a:482].

Psallus insularis Barber

Psallus insularis Barber, 1925:250 [Galapagos Islands (type)]; 1934:287 [Galapagos Islands].—Carvalho, 1958b: 122 [Galapagos Islands].—Linsley and Usinger, 1966:135 [Galapagos Islands].—Carvalho and Gagne, 1968:163 [Galapagos Islands].—Linsley, 1977:13 [Galapagos Islands].

Psallus longirostris Carvalho

Psallus longirostris Carvalho in Carvalho and Gagne, 1968: 158 [Galapagos Islands (type)].—Gagne in Carvalho and Gagne, 1968:159 [Galapagos Islands].—Linsley, 1977:13 [Galapagos Islands].

Psallus mella (Van Duzee)

Europiella mella Van Duzee, 1937:117 [Galapagos Islands (type)].—Carvalho, 1958a:46 [Galapagos Islands].—Linsley and Usinger, 1966:136 [Galapagos Islands].

Psallus mella.—Carvalho and Gagne, 1968:159 [Galapagos Islands].—Linsley, 1977:13 [Galapagos Islands].

Psallus usingeri Carvalho

Psallus usingeri Carvalho in Carvalho and Gagne, 1968:162 [Galapagos Islands (type)].—Gagne in Carvalho and Gagne, 1968:162 [Galapagos Islands].—Linsley, 1977:13 [Galapagos Islands].

Genus *Rhinacloa* Reuter

Rhinacloa Reuter, 1876:88 [type-species: *Rhinachloa forticornis* Reuter, only included species].

Rhinacloa aricana Carvalho

Rhinacloa aricana Carvalho, 1948a:9 [Chile (type); etc.].—Yust, 1955:433, 440 [Ecuador]; 1958, nos. 80, 88 [Ecuador].

"Chinacloa arica".—Yust, 1958, no. 70 [Ecuador].

Rhinacloa forticornis Reuter

Rhinacloa forticornis Reuter, 1876:89 [United States (type)].—Yust, 1955:428 [Ecuador]; 1958, nos. 267, 293 [Ecuador].

Rhinacloa rubescens Carvalho

Rhinacloa rubescens Carvalho in Carvalho and Gagne, 1968: 164 [Galapagos Islands (type)].—Gagne in Carvalho and Gagne, 1968:166 [Galapagos Islands].—Linsley, 1977:13 [Galapagos Islands].

Rhinacloa subpallicornis Knight

Rhinacloa subpallicornis Knight, 1926:225 [United States (type)].—Yust, 1955:429 [Ecuador]; 1958, no. 128 [Ecuador].

Family NABIDAE Costa

Of the approximately 35 species of Nabidae in six genera reported for South America, only four species in two genera are listed below for Ecuador; another three species in one of these genera have been reported for the Galapagos Islands. Many more species should be found in Ecuador.

The following key to subfamilies is adapted from China and Miller (1959), while the keys to genera are a combination of original effort and adaptations from several sources. The genus *Aphelonotus* Uhler is now considered as a member of the family Pachynomidae. The genus *Nabis* is keyed in its former broad sense as a practical expedience. More study and more specimens of South American species of this "genus" are

needed before a practical key to its modern components can be offered in a subsequent paper.

The species of the Galapagos Islands were treated by Kerzhner (1968).

Key to Subfamilies of Nabidae

1. Metathoracic scent osteoles and elevated peritremes distinct between middle and posterior coxae. Tarsi 3 segmented 2
   Metathoracic scent osteoles and peritreme obsolete, not distinct. Tarsi 1 segmented ..... CARTHASINAE Blatchley
2. Posterior margin of pronotum laminately expanded backwards on each side of base of scutellum ..... ARACHNOCORINAE Reuter
   Posterior margin of pronotum not laminately expanded backwards on each side of base of scutellum 3
3. Anterior coxal cavities completely encircled by prosternum ..... GORPINAE Reuter
   Anterior coxal cavities not surrounded by prosternum posteriorly 4
4. Pronotum with a broad collar distinctly set off posteriorly by a sharply incised suture. Claval commissure longer than scutellum ..... NABINAE Reuter
   Pronotum without a distinct suture setting off a collar. Claval commissure shorter than scutellum ..... PROSTEMMINAE Reuter

Subfamily ARACHNOCORINAE Reuter

Contains the lone genus *Arachnocoris* Scott which is restricted to the American tropics. China (1946:121–122) provided a key to the known species.

Subfamily CARTHASINAE Blatchley

Contains the lone genus *Carthasis* Champion which is confined to the American tropics. Harris (1928:75–76) provided a key to the known species.

Subfamily GORPINAE Reuter

Contains two Old World genera and one New World genus, *Neogorpis* Barber, with its sole species known only from the Greater Antilles.

Subfamily NABINAE Reuter

Key to Genera of Nabinae in the Neotropics

Antennal segment I twice as long as head, apical fourth to third slightly but abruptly swollen ..... ***Metatropiphorus*** Reuter
Antennal segment I less than twice as long as head, apical part not swollen ..... ***Nabis*** Latreille

Genus *Nabis* Latreille

Nabis Latreille, 1802:248 [type-species: *Cimex ferus* Linnaeus, fixation by Westwood, 1840:120, accepted by International Commission of Zoological Nomenclature Opinion 104, 1928].—Campos, 1918:18 [two unidentified species from Ecuador]; 1919:59 [two unidentified species from Ecuador]; 1925a:63 [two unidentified species from Ecuador].—Yust, 1958, no. 210 [one unidentified species from Ecuador].—Kerzhner, 1968:85–91 [review of *Nabis* for Galapagos Islands with synonymies of species recorded from there].

Nabis capsiformis Germar

Nabis capsiformis Germar, 1837b:132 [South Africa].

SURVEY COLLECTION.—Manabi (59 km W Sto. Domingo de los Colorados, 8 May 1975).

Nabis consimilis (Reuter)

Reduviolus consimilis Reuter, 1912a:23 [Ecuador (type)].
Nabis punctipennis.—Heidemann, 1901:366 [Galapagos Islands].—Barber, 1925:251 [Galapagos Islands]; 1934:287 [Galapagos Islands].—Linsley and Usinger, 1966:135 [Galapagos Islands].
Nabis consimilis.—Kerzhner, 1968:85 [Ecuador; Galapagos Islands; etc.].—Linsley, 1977:12 [Galapagos Islands].

Nabis galapagoensis Kerzhner

Nabis galapagoensis Kerzhner, 1968:86 [Galapagos Islands (type)].—Linsley, 1977:12 [Galapagos Islands].

Nabis nigriventris Stal

Nabis nigriventris Stal, 1862a:458 [Mexico (type)].
Nabis "prob. *nigriventris*".—Yust, 1958, no. 267 [Ecuador].

Nabis reductus Kerzhner

Nabis reductus Kerzhner, 1968:90 [Galapagos Islands (type)].

Nabis spinicrus (Reuter)

Acanthonabis spinicrus Reuter, 1890:305, 309 [Brazil (type)].

SURVEY COLLECTION.—Zam-Chin (Sabanilla, 3 Jun 1976).

Subfamily PROSTEMMINAE Reuter

Key to Genera of Prostemminae Represented in the Neotropics

1. Each abdominal segment sublaterally with subhorizontal carina extending from base to apex. Abdominal segment I with a distinct, compressed lobe projecting anteriorly between posterior coxae ..... ***Phorticus*** Stal
   Abdomen without modifications described above 2
2. Antennal segment I distinctly shorter than II .... ***Alloeorhynchus*** Fieber
   Antennal segments I and II subequal in length ..... ***Pagasa*** Stal

Genus *Phorticus* Stal

Phorticus Stal 1858:69 [type-species, *Phorticus viduus* Stal, fixed by Distant 1904a:395].

Phorticus collaris Stal

Phorticus collaris Stal 1873:109 [Texas (type)].

SURVEY COLLECTION.—Los Rios (Quevedo, 11 May 1975; 1♀ agrees well with Mexican specimens).

Family NAUCORIDAE Stal

Only two species in two genera are here listed for Ecuador. None have been reported for the Galapagos Islands. The discovery of many more species in Ecuador can be expected because more than 100 species in 10 genera have been credited to South America.

The present treatment follows La Rivers' (1971) "Catalogue" and his two supplements (1974 and 1976) to it. He followed Usinger's (1941a) classification, but did make some changes of his own and acknowledged Popov's (1970, 1971a, and 1971b) review of the superfamily.

Subfamily AMBRYSINAE Usinger

Genus *Ambrysus* Stal

Ambrysus Stal, 1862b:459 [type-species: *Ambrysus signoreti* Stal, fixed Kirkaldy, 1906a:151].

Ambrysus fossatus Usinger

Ambrysus fossatus Usinger, 1946a:191 [Ecuador (type)].—De Carlo, 1950a:11 [Ecuador].—Roback, 1966:214 [Ecuador; etc.].—La Rivers, 1971:66 [Ecuador]; 1976:1 [Ecuador; etc.].—Roback and Nieser, 1974:36 [Ecuador; etc.].

Subfamily CRYPHOCRICINAE Montandon

Genus *Cryphocricos* Signoret

Cryphocricos Signoret, 1850:290 [type-species: *Cryphocricos barozzi* Signoret, only included species].

Cryphocricos breddini Montandon

"Cryphocricus" breddini Montandon, 1911:88 [Ecuador (type)].—Usinger, 1947:341 [Ecuador; etc.].—La Rivers, 1971:79 [Ecuador; etc.].

Subfamily NAUCORINAE Stal

Genus *Pelocoris* Stal

Pelocoris Stal, 1876:142 [type-species: *Naucoris femoratus* Beauvois, fixed by Kirkaldy, 1906a:150].—Campos, 1919:49 [one unidentified species from Ecuador]; 1926:6 [one unidentified species from Ecuador].

Family NEPIDAE Latreille

The following Ecuadorian records of four species in two genera of Nepidae must represent only a small fraction of the species that might be expected, because South America is already known to have nearly one hundred species in four genera. The family is not known to occur on the Galapagos Islands.

For a useful but admittedly incomplete nucleus of works with which to begin a study of South American Nepidae, the following may be consulted: De Carlo (1946, 1951, and 1956) and Nieser (1975). The supra-generic classification within the Nepidae was discussed by Menke and Stange (1964), and by Lansbury (1974).

Key to the Subfamilies, Tribes, and Genera of Nepidae in South America

1. Pronotum across anterior angles distinctly wider than head. Abdomen ventrally on each side of the 4 pregenital segments with 2 longitudinal sutures between the midline and the row of spiracles. Subfamily NEPINAE Latreille 2

   Pronotum across anterior angles not wider, often narrower, than head. Abdomen ventrally in each side of the 4 pregenital segments with but 1 longitudinal sulcus between midline and row of spiracles. Subfamily RANATRINAE Douglas and Scott 3

2(1). Length of body (excluding terminal respiratory tubes) 5 or more times as long as greatest width of body. Tribe CURICTINI Menke and Stange ..... ***Curicta*** Stal

   Length of body not more than 3 times as long as greatest width of body. Pronotum wider than long. Tribe NEPINI Latreille ..... ***Telmatotrephes*** Stal

3(1). Eyes transversely ovate, mesal margin shorter than transverse diameter; eye projecting laterad ..... ***Ranatra*** Fabricus

   Eyes not transversely ovate, mesal margin about as long as width of eye; eye extending anteriorly forming a deep, acute cleft between itself and side of head ..... ***Amphischizops*** Montadon

Subfamily NEPINAE Latreille

Tribe NEPINI Latreille

Genus *Telmatotrephes* Stal

Telmatotrephes Stal, 1854:241 [type-species: *Telmatotrephes sculpticollis* Stal, only included species].—Lansbury, 1972: 271–286 [revision; key to species, page 273].

Telmatotrephes ecuadorensis Lansbury

Telmatotrephes ecuadorensis Lansbury, 1972:273, 279 [Ecuador (type)].

Subfamily RANATRINAE Douglas and Scott

Genus *Ranatra* Fabricius

Ranatra Fabricius, 1790:213 [type-species: *Nepa linearis* Linnaeus, fixed by Latreille, 1810:434].

Ranatra attenuata Kuitert

Ranatra attenuata Kuitert, 1949:24 [Ecuador (type)].—De Carlo, 1964a:189 [Ecuador].

Ranatra camposi Montandon

Ranatra camposi Montandon, 1907:59 [Ecuador (type)].—Campos, 1926:5 [Ecuador].—De Carlo, 1946:16 [Ecuador]; 1964a:159 [Ecuador].—Drake and De Carlo, 1953: 116 [Ecuador].

Ranatra "Camposi".—Campos, 1919:48 [Ecuador]; 1921:91 [Ecuador]; 1925a:45 [Ecuador]; 1925b:49 [Ecuador].

Ranatra ecuadorensis De Carlo

Ranatra annulipes.—De Carlo, 1946:14 [Ecuador records only].

Ranatra ecuadorensis De Carlo, 1950b:525 [Ecuador (type)]; 1964a:160 [Ecuador].

Family NOTONECTIDAE Latreille

The number of species listed below for continental Ecuador—six species in two genera—most certainly will increase greatly with study of the aquatic Heteroptera taken during the survey. No report of any species for the Galapagos Islands was found.

The higher classification of the Notonectidae rests on studies by Hungerford (1933) which were accepted by Truxal (1949) and China and Miller (1959), and modified by Lansbury (1965b). The present key is adapted from those works. Each of the three genera known to have species in South America has a relatively recent revision referred to below under the appropriate generic name. Štys and Kerzhner (1975) pointed out that Latreille, and not Leach, deserves authorship of this family-group name.

Key to the Subfamilies, Tribes, and Genera of Notonectidae in South America

1. Hemelytral commissure about twice as long as scutellum, with a distinct pit anteriorly. Subfamily ANISOPINAE Hutchinson. ..... ***Buenoa*** Kirkaldy

   Hemelytral commissure but slightly longer than scutellum, without a pit anteriorly. Subfamily NOTONECTINAE Latreille. 2

2. Middle femur with a distinct protuberance or spine subapically on posteroventral margin. Anterolateral margin of prothrox not foveolate. Tribe NOTONECTINI Latreille. ..... ***Notonecta*** Linnaeus

   Middle femur without such a modification. Anterolateral margin of prothorax with a large, distinct fovea. Tribe NYCHINI Hungerford ..... ***Martarega*** White

Subfamily ANISOPINAE Hutchinson

Genus *Buenoa* Kirkaldy

Buenoa Kirkaldy, 1904a:120 [type-species: *Anisops antigone* Kirkaldy, original designation].—Truxal, 1953:1351–1523 [revision with key to species].

Buenoa antigone (Kirkaldy)

Anisops antigone Kirkaldy, 1899d:30 [Jamaica (type)]; 1899a: 2 [Ecuador; etc.]; 1899b:8 [Ecuador].

?*Anisops* sp. 2 (immature) Kirkaldy, 1899b:8 [Ecuador].—Nieser, 1968:130 [Ecuador; etc.]; 1969b:92 [Ecuador; etc.]; 1970b:81 [Ecuador; etc.].

?*Anisops* sp. 3 (imperfect) Kirkaldy, 1899b:8 [Ecuador].

Buenoa antigone.—Kirkaldy, 1904a:122 [Ecuador; etc.].—Kirkaldy and Torre-Bueno, 1909:200 [Ecuador; etc.].

Anisops "Antigone".—Campos, 1925a:44 [Ecuador].

Buenoa antigone antigone.—Truxal, 1953:1376 [Ecuador; etc.].—Nieser, 1968:130 [Ecuador; etc.]; 1969b:92 [Ecuador; etc.]; 1970b:81 [Ecuador; etc.].

Buenoa crassipes (Champion)

Anisops crassipes Champion, 1901:374 [Guatemala (type)].

Buenoa crassipes.—Truxal, 1953:1414 [Ecuador; etc.].

Buenoa pallens (Champion)

Anisops pallens Champion, 1901:374 [Guatemala (type)].

Buenoa pallens.—Truxal, 1953:1414 [Ecuador; etc.].—Nieser, 1969b:94 [Ecuador; etc.]; 1975:190 [Ecuador; etc.].

Buenoa pallipes (Fabricius)

Notonecta pallipes Fabricius, 1803:103 ["Americae Insulis" (type)].

?*Anisops elegans*.—Kirkaldy, 1899a:2 [Ecuador; etc.; Truxal (1953:1453) reported the type-specimen of *Anisops elegans* Fieber, 1851, is a true *Anisops* and agrees with an African species; thus its locality for tropical America must be erroneous. Assignment of subsequent American records before examination of their base specimens is uncertain and is arbitrarily made here]; 1899b:9 [Ecuador].—Campos, 1925a:45 [Ecuador].

Buenoa pallipes.—Kirkaldy, 1904a:123 [Ecuador; etc.].—Kirkaldy and Torre-Bueno, 1909:201 [Ecuador; etc.].

Subfamily NOTONECTINAE Latreille

Genus *Notonecta* Linnaeus

Notonecta Linnaeus, 1758:439 [type-genus: *Notonecta glauca* Linnaeus, fixed by Latreille, 1810:434].—Hungerford, 1933:5–195 [world revision; Western Hemisphere, pp. 65–145].

Tribe NYCHINI Hungerford

Genus *Martarega* White

Martarega White, 1879a:271 [type-species: *Martarega membranacea* White, only included species].—Truxal, 1949:1–24 [revision with key to species on pages 6–7].

Martarega membranacea White

Martarega membranacea White, 1879a:272 [Brazil (type)].—Kirkaldy, 1899a:2 [Ecuador]; 1899b:9 [Ecuador]; 1904a: 126 [Ecuador; etc.].—Kirkaldy and Torre-Bueno, 1909: 201 [Ecuador; etc.].—Roback and Nieser, 1974:46 [Ecuador; etc.].—Nieser, 1968:119 [Ecuador; etc.]; 1970b:76 [Ecuador; etc.]; 1975:203 [Ecuador; etc.].

Martarega williamsi Truxal

Martarega williamsi Truxal, 1949:13 [Ecuador (type); etc.].—Nieser, 1970b:79 [Ecuador; etc.]; 1975:205 [Ecuador; etc.].

Family OCHTERIDAE Kirkaldy

Ecuadorean records for four species in two genera compare well with the five species in only two genera reported from South America. No reports of this family on the Galapagos Islands have been found.

The latest revision of the family in the Western Hemisphere was by Schell (1943), who provided keys to and discussions of the species. In a subsequent paper Drake and Menor described the second South American genus of the family.

Key to Genera of Ochteridae in South America

Pronotum with flat expanded lateral margin as wide as width of an eye ..... ***Ocyochterus*** Drake and Gomez-Menor

Pronotum not explanate or with narrow expanded margin distinctly less than width of an eye ..... ***Ochterus*** Latreille

Genus *Ochterus* Latreille

Ochterus Latreille, 1807:142 [type-species: *Ochterus marginatus* Latreille, only included species].—Drake, 1952b:74–75 [list of species].

Ochterus aeneifrons (Champion)

Pelogonus aeneifrons Champion, 1901:344 [Mexico; Guatemala; Panama; Grenada; St. Vincent].
Ochterus aeneifrons.—Schell, 1943:43 [Ecuador; etc.].

Ochterus parvus Schell

Ochterus parvus Schell, 1943:39 [Ecuador (type)].—Drake, 1952b:74 [Ecuador].

Ochterus perbosci (Guerin)

Pelogonus perbosci Guerin, 1843:113 [Mexico (type)].
Ochterus perbosci.—Schell, 1943:33 [Ecuador; etc.].—Nieser, 1975:28 [Ecuador; etc.].

Genus *Ocyochterus* Drake and Gomez-Menor

Ocyochterus Drake and Gomez-Menor, 1954:157 [type-species: *Pelogonus victor* Bolivar, only included species].

Ocyochterus victor (Bolivar)

Pelogonus victor Bolivar, 1879:144 [Ecuador (type)].—Champion, 1901:344 [Ecuador].
Pelogonus splendidulus Montandon, 1898:73 [Ecuador (type)].—Campos, 1925a:47 [Ecuador].
Ochterus victor.—Torre-Bueno, 1906:50 [Ecuador].—Kirkaldy and Torre-Bueno, 1909:179 [Ecuador].—Schell, 1943:46].—Drake, 1952b:75 [Ecuador].
Pelogonus "Victor".—Campos, 1925a:47 [Ecuador].
Ochterus splendidulus.—Schell, 1943:33 [Ecuador].—Drake, 1952b:75 [Ecuador].
Ocyochterus victor.—Drake and Gomez-Menor, 1954:158 [Ecuador].—Nieser, 1975:25 [Ecuador].

Family PACHYNOMIDAE Stal

Records are given below for two species in one genus in Ecuador (none in the Galapagos Islands).

The family Pachynomidae, as defined by Carayon and Villiers' (1968) study, reported about nine species in two genera, including *Aphelonotus* Uhler, which had formerly been in the Nabidae, for South America. Probably a few more of these, and possibly some new ones, will be found in Ecuador. The following key was abstracted from descriptions in literature and tried on specimens at hand.

Key to Subfamilies and Genera of Pachynomidae in South America

Mesocorium (between clavus and radial vein) no longer than clavus, its posterior margin transverse; exocorium (between costa and radial vein) extending broadly along costal margin of membrane as a long lobe more than twice its basal width. Ocelli present. Subfamily APHELONOTINAE Carayon and Villiers. ..... ***Aphelonotus*** Uhler

Mesocorium and exocorium with posterior margins forming a continuous, straight, oblique line. Ocelli absent. Subfamily PACHYNOMINAE Stal ..... ***Camarochilus*** Harris

Subfamily APHELONOTINAE Carayon and Villiers

Genus *Aphelonotus* Uhler

Aphelonotus Uhler, 1894:208 [type-species: *Aphelonotus simplus* Uhler, only included species].—Carayon and Villiers 1968:733 [placed in family Pachynomidae].

Aphelonotus fraterculus Harris

Aphelonotus fraterculus Harris, 1931:18 [Panama (type); Ecuador; etc.]; 1943:261 [Ecuador; etc.].

Aphelonotus simplus Uhler

Aphelonotus simplus Uhler, 1894:209 [Grenada (type)].—Kirkaldy, 1901a:225 [Ecuador].

Family PENTATOMIDAE Leach

This catalog lists 87 species in 46 genera for Ecuador and eight species in six genera for the Galapagos Islands; of these, three species in two genera have been reported for both areas while a total of five genera is shared by them. The totals involved are 92 species in 47 genera. Comparison with Kirkaldy's (1909) "Catalogue" of about 1000 species in nearly 90 genera for South America strongly suggests many more should be found in Ecuador.

The large size of this family and the confusion resulting from the diverse concepts of its contents as used by various authors have combined to make difficult a comprehensive synopsis of the group. Stal (1867) published a series of keys to genera of Pentatomidae in the New World and later (1872) cataloged the family for the same region. The more recent catalog of the family for the world was by Kirkaldy (1909), who used "Cimicidae" for the name of the family. Other authors have presented revisions of various parts of the family and of these, the ones that include treatments of the Neotropical members of Pentatomidae will be mentioned at the appropriate places in the following list.

Several records of Ecuadorian occurrence of certain Pentatomidae cannot be placed in the present partial list for the reasons given below. Walker (1867:415) described the genus *Ebora* for four species, three from Australia and the new species *E. plana* from Ecuador; the genus *Ebora* with its Australian species was synonymized under the genus *Notius* Dallas by Kirkaldy (1909: 186) without assigning *E. plana* to a genus. Hopefully, specimens will be collected during the survey so that this species might be placed in an appropriate genus. Campos (1919:52) reported for Ecuador a badly broken specimen indicated as probably representing a new genus of the subfamily Phyllocephalinae; because that subfamily is otherwise known only from the Old World, Campos' specimen must be assumed to belong to some other subfamily, probably the Pentatominae. Campos (1919:50) also reported for Ecuador two unidentified species of the genus *Podops* Laporte, a genus whose modern definition restricts it also to the Old World; because Campos did not report these forms in subsequent papers and because the subfamily Graphosomatinae to which the genus *Podops* belongs has no other reported representation in South America, the assumption must be made here also that his material belongs to another subfamily, most likely to the Pentatominae.

Subfamily ASOPINAE Amyot and Serville

Schouteden (1907) presented a generic synopsis, with keys to genera, and lists of the species of this subfamily for the world.

Genus *Alcaeorrhynchus* Bergroth

Mutyca Stal, 1862a:58, preoccupied [type-species: *Canthecona grandis* Dallas, only included species].

Alcaeorrhynchus Bergroth, 1891:235 [proposed as new name for preoccupied *Mutyca* Stal, hence takes same type-species].

Alcaeorrhynchus grandis (Dallas)

Canthecona grandis Dallas, 1851:91 [Colombia; Mexico].

"Mutica" grandis.—Campos, 1925a:53 [Ecuador].

Alcaeorrhynchus grandis.—Barber, 1934:281, 283 [Galapagos

Islands].—Linsley and Usinger, 1966:133 [Galapagos Islands].—Becker and Grazia-Vieira, 1977:63 [Galapagos Islands; etc.].

Genus *Apateticus* Dallas

Apateticus Dallas, 1851:105 [type-species: *Apateticus halys* Dallas, a junior synonym of *Halys lineolatus* Herrich-Schaeffer, only included species].

Apateticus lineolatus (Herrich-Schaeffer)

Halys lineolatus Herrich-Schaeffer, 1840:69 [Mexico (type)].
Podisus lineolatus.—Campos, 1919:50 [Ecuador]; 1925a:49 [Ecuador].

Genus *Euthyrhynchus* Dallas

Euthyrhynchus Dallas, 1851:77 [type-species: *Cimex floridanus* Linnaeus, fixed by Schouteden, 1907:56].

Euthyrhynchus floridanus (Linnaeus)

Cimex floridanus Linnaeus, 1767:719 ["Carolina" (type)].

SURVEY COLLECTION.—Pastaza (16 km W Puyo, 3 Feb 1976).

Genus *Mineus* Stal

Mineus Stal, 1867:498 [type-species: *Podisus strigipes* Herrich-Schaeffer, only included species].

Mineus triangularis (Walker)

Strachia triangularis Walker, 1867:323 [Ecuador (type)].
Mineus triangularis.—Schouteden, 1907:61 [Ecuador].—Kirkaldy, 1909:17 [Ecuador].

Genus *Oplomus* Spinola

Oplomus Spinola, 1837:355 [type-species: *Cimex tripustulatus* Fabricius, a junior synonym of *Asopus salamandra* Burmeister, fixed by Schouteden, 1907:34].

Oplomus chrysomela Breddin

Oplomus chrysomela Breddin, 1901b:53 [Ecuador (type)].—Schouteden, 1907:35 [Ecuador].—Kirkaldy, 1909:7 [Ecuador].
"Hoplomus" chrysomela.—Bergroth, 1908:180 [Ecuador].

Oplomus salamandra (Burmeister)

Asopus salamandra Burmeister, 1835:381 [Peru (type)].
Oplomus chrysomelas Walker, 1867:121 [Ecuador (type)].
Oplomus tripustulatus.—Distant, 1880:30 [Ecuador; etc.].—Lethierry and Severin, 1893:205 [Ecuador; etc.].—Kirkaldy, 1909:8 [Ecuador; etc.].

Genus *Podisus* Herrich-Schaeffer

Podisus Herrich-Schaeffer, 1851:296 [type-species: *Podisus vittipennis* Herrich-Schaeffer, a junior synonym of *Arma nigrispina* Dallas, fixed by Kirkaldy, 1908b:124].

Podisus argilliventris Bergroth

Podisus argilliventris Bergroth, 1891:218 [Ecuador (type)].—Lethierry and Severin, 1893:217 [Ecuador].—Schouteden, 1907:71 [Ecuador].—Kirkaldy, 1909:18 [Ecuador].

Podisus neniator Breddin

Podisus neniator Breddin, 1904b:154 [Ecuador (type)].—Bergroth, 1908:183 [Ecuador].—Kirkaldy, 1909:20 [Ecuador].

Podisus sordidus (Stal)

Arma sordida Stal, 1859b:221 [Galapagos Islands (type)].
Podisus (Podisus) sordidus.—Stal, 1870:51 [Galapagos Islands].
Podisus sordidus.—Lethierry and Severin, 1893:219 [Galapagos Islands].—Heidemann, 1901:364 [Galapagos Islands].—Barber, 1934:283 [Galapagos Islands].—Linsley in Linsley and Usinger, 1966:133 [Galapagos Islands].
Apateticus (Eupodisus) sordidus.—Schouteden, 1907:72 [Galapagos Islands; etc .].
Apateticus (Podisus) sordidus.—Kirkaldy, 1909:21 [Galapagos Islands; etc.].
Podisus (Arma) sordidus.—Barber, 1925:241 [Galapagos Islands].

Genus *Stiretrus* Laporte

Stiretrus Laporte, 1833:67, 75 [type-species: *Stiretrus decemguttatus* Le Peletier and Serville, fixed by Schouteden, 1907: 7].—Piran, 1963b:313–320 [review; key to species of subgenus *Stiretroides*].

Stiretrus bifrenatus Breddin

Stiretrus bifrenatus Breddin, 1906:194 [Ecuador (type)].—Bergroth, 1908:180 [Ecuador].
Stiretrus (Stiretroides) bifrenatus.—Schouteden, 1907:9 [Ecuador].—Kirkaldy, 1909:33 [Ecuador].—Piran, 1963b:317 [Ecuador].

Genus *Supputius* Distant

Supputius Distant, 1889:321 [type-species: *Telepta pulchricornis* Stal, fixed by Schouteden, 1907:59].

Supputius obscurus Breddin

Supputius obscurus Breddin, 1904b:154 [Ecuador (type)].—Schouteden, 1907:59 [Ecuador].—Bergroth, 1908:183 [Ecuador].—Kirkaldy, 1909:16 [Ecuador].—Piran, 1956:2 [Ecuador].

Subfamily CYRTOCORINAE Distant

Horvath (1916) and Kormilev (1955b) reviewed the subfamily, the latter giving a key to three of the four known genera, omitting the Brazilian *Pseudocyrtocoris* of Jensen-Haarup (1926: 53).

Genus *Cyrtocoris* White

Coptosoma (Oxynotus) Laporte, 1832:74 preoccupied [type-species, *Tetyra gibba* Fabricius, only included species].
Cyrtocoris White, 1842:89 [proposed as a replacement name for *Oxynotus* Laporte, hence takes same type-species].

Cyrtocoris trigonus (Gemar)

Oxynotus trigonus Germar, 1839b:44 [Brazil].

SURVEY COLLECTION.—Napo (3 km NE Lago Agrio, 17 May 1975).

Subfamily DISCOCEPHALINAE Fieber

Genus *Alcippus* Stal

Alcippus Stal 1867:500 [type-species, *Coriplatus reticulatus* Stal, fixed by Stal, 1872a:10, first included species].

Alcippus dimidiatus Ruckes

Alcippus dimidiatus Ruckes 1959:97 [Ecuador (type)].

Genus *Antiteuchus* Dallas

Antiteuchus Dallas, 1851:152, 163 [type-species: *Dinidor variolosus* Westwood, fixed by Kirkaldy, 1909:217].—Ruckes, 1964:49–102 [revision; keys to species].

Antiteuchus maculosus Ruckes

Antiteuchus maculosus Ruckes, 1964:81 [Ecuador (type)].

Antiteuchus marmoratus (Erichson)

Cimex marmoratus Erichson, 1848:609 [British Guiana (type)].
Dinocoris marmoratus.—Campos, 1919:50 [Ecuador]; 1925a:49 [Ecuador].

Genus *Braunus* Distant

Braunus Distant, 1899:422 [type-species: *Coriplatus sciocorinus* Walker, only included species].

Braunus sciocorinus (Walker)

Coriplatus sciocorinus Walker, 1867:197 [Ecuador (type)].
Braunus sciocorinus.—Distant, 1899:422 [Ecuador].—Bergroth, 1908:151 [Ecuador].—Kirkaldy, 1909:220 [Ecuador].

Genus *Callostethus* Ruckes

Callostethus Ruckes, 1961:153 [type-species: *Edessa guttatopunctatus* Fabricius, only included species].

Callostethus guttatopunctatus (Fabricius)

Edessa guttatopunctatus Fabricius, 1803:152 [South America (type)].
Antiteuchus fraternus Uhler, 1869:321 ["near the Napo River" (type); [type-specimen not located, but description allows confident placement here].

Genus *Discocephalessa* Kirkaldy

Platycarenus (Discocephalessa) Kirkaldy, 1909:215 [type-species: *Discocephala notulata* Stal, original designation].
Discocephalessa.—Ruckes, 1966b:13.

Discocephalessa andina (Breddin)

Discocephala andina Breddin, 1904b:58 [Ecuador (type)].—Bergroth, 1913:180 [Ecuador].
Platycarenus (Discocephalessa) andina.—Kirkaldy, 1909:215 [Ecuador].
Discocephalessa andina.—Ruckes, 1966b:21 [Ecuador].

Genus *Dryptocephala* Laporte

Dryptocephala Laporte, 1833:55–56 [type-species: *Dryptocephala brullei* Laporte, only included species].—Ruckes, 1966c:1–31 [revision; key to species, pages 5–7].

Dryptocephala obtusiceps Stal

Dryptocephala obtusiceps Stal, 1872a:4 [Columbia (type)].—Ruckes, 1966c:24 [Ecuador; etc.].

Genus *Eurystethus* Mayr

Eurystethus Mayr, 1864:907 [type-species: *Eurystethus nigropunctatus* Mayr, only included species].—Ruckes, 1966a:6–8 [keys to subgenera and species].

Eurystethus nigricornis Ruckes

Eurystethus nigricornis Ruckes, 1966a:25 [Ecuador (type)].

Genus *Mecistorhinus* Dallas

Mecistorhinus Dallas, 1851:162 [type-species: *Mecistorhinus rufescens* Dallas, only included species].

Mecistorhinus variegatus Ruckes

Mecistorhinus variegatus Ruckes, 1966d:223 [Ecuador (type)].

Genus *Platycarenus* Fieber

Platycarenus Fieber 1860:77 [type-species: *Cydnus umbraculatus* Fabricius, designated by Fieber 1861:327, first included species].—Ruckes, 1966b:1–42 [revision; key (pp. 10–11) to this and related genera].

Platycarenus umbraculatus (Fabricius)

Cydnus umbraculatus Fabricius 1803:186 [South America (type)].
Platycarenus umbraculatus.—Ruckes 1966b:13 [Ecuador; etc.].

Genus *Trincavellius* Distant

Trincavellius Distant, 1900:163 [type-species: *Sciocoris galapagoensis* Butler, only included species].

Trincavellius galapagoensis (Butler)

Sciocoris galapagoensis Butler, 1877:88 [Galapagos Islands (type)].
Trincavellius galapagoensis.—Distant, 1900:163 [Galapagos Islands].—Bergroth, 1908:151 [Galapagos Islands].—Kirkaldy, 1909:214 [Galapagos Islands].—Champion, 1924:260 [Galapagos Islands].—Barber, 1934:281–282 [Galapagos Islands].—Linsley and Usinger, 1966:133 [Galapagos Islands].

Subfamily PENTATOMINAE Leach

Tribe EDESSINI Kirkaldy

Genus *Edessa* Fabricius

Edessa Fabricius, 1803:145 [type-species: *Cimex cervus* Fabricius].—Uhler, 1869:323 ["*Aceratodes* sp." from "between Napo and Maranon"; cannot be better placed at this time].—Campos, 1919:52 [four unidentified species, in addition to *E. helix* included below, from Ecuador].

Edessa addax Breddin

Edessa addax Breddin, 1903e:132 [Ecuador (type)].—Bergroth, 1908:178 [Ecuador].—Kirkaldy, 1909:154 [Ecuador].

Edessa bibos Breddin

Edessa bibos Breddin, 1903e:132 [Ecuador (type)].—Bergroth, 1908:178 [Ecuador].—Kirkaldy, 1909:154 [Ecuador].

Edessa brontes Kirkaldy

Edessa gazella Breddin, 1903e:131, preoccupied [Ecuador (type); not "Columbia" as given by Kirkaldy, 1909:155].—Bergroth, 1908:178 [Ecuador].
Edessa brontes Kirkaldy, 1909:155 [proposed as new name for *Edessa gazella* Breddin].

Edessa cervus (Fabricius)

Cimex cervus Fabricius, 1787:282 [French Guiana (type)].
Edessa cervus.—Uhler, 1869:323 ["between Napo and Maranon"].

Edessa civilis Breddin

Edessa civilis Breddin, 1903e:139 [Ecuador (type)].—Bergroth, 1908:178 [Ecuador].—Kirkaldy, 1909:156 [Ecuador].

Edessa cordifera (Walker)

Aceratodes cordifer Walker, 1868:452 [Mexico (type)].
Edessa cordifera.—Piran, 1963a:108 [Ecuador].

Edessa dolosa Breddin

Edessa dolosa Breddin, 1907b:336 [Ecuador (type)].—Bergroth, 1908:195 [Ecuador].—Kirkaldy, 1909:368 [Ecuador].

Edessa dorcas Breddin

Edessa dorcas Breddin, 1903e:132 [Ecuador (type)].—Bergroth, 1908:178 [Ecuador].—Kirkaldy, 1909:157 [Ecuador].

Edessa graminicolor Breddin

Edessa graminicolor Breddin, 1903e:139 [Ecuador (type)].—Bergroth, 1908:178 [Ecuador].—Kirkaldy, 1909:154 [Ecuador].

Edessa haedulus Breddin

Edessa haedulus Breddin, 1904b:178 [Ecuador (type)].—Bergroth, 1908:178 [Ecuador].—Kirkaldy, 1909:158 [Ecuador].

Edessa helix Erichson

Edessa helix Erichson, 1848:610 [British Guiana (type)].—Campos, 1919:52 [Ecuador]; 1925a:52 [Ecuador].

Edessa ibex Breddin

Edessa ibex Breddin, 1903e:131 [Ecuador (type)].—Bergroth, 1908:178 [Ecuador].—Kirkaldy, 1909:158 [Ecuador].

Edessa incomis Breddin

Edessa incomis Breddin, 1907b:329 [Ecuador (type)].—Bergroth, 1908:195 [Ecuador].—Kirkaldy, 1909:368 [Ecuador].

Edessa leucoryx Breddin

Edessa leucoryx Breddin, 1903e:132 [Ecuador (type)].—Bergroth, 1908:179 [Ecuador].—Kirkaldy, 1909:160 [Ecuador].

Edessa necopinata Breddin

Edessa necopinata Breddin, 1907b:337 [Ecuador (type)].—Bergroth, 1908:195 [Ecuador].—Kirkaldy, 1909:368 [Ecuador].

Edessa obscuricornis Stal

Edessa obscuricornis Stal, 1858:27 [Brazil (type)].—Campos, 1925a:52 [Ecuador].

Edessa pacifica Breddin

Edessa pacifica Breddin, 1903e:139 [Ecuador (type)].—Bergroth, 1908:179 [Ecuador].—Kirkaldy, 1909:161 [Ecuador].

Edessa pugil Breddin

Edessa pugil Breddin, 1903e:139 [Ecuador (type)].—Bergroth, 1908:179 [Ecuador].—Kirkaldy, 1909:163 [Ecuador].

Edessa quadridens Fabricius

Edessa quadridens Fabricius, 1803:148 [South America (type)].—Breddin, 1904a:140 [Ecuador; etc.].—Kirkaldy, 1909:163 [Ecuador; etc.].

Edessa reversa Walker

Edessa reversa Walker, 1868:439 [Ecuador (type)].—Kirkaldy, 1909:163 [Ecuador].

Edessa rufomarginata (DeGeer)

Cimex rufomarginatus DeGeer, 1773:330 [America (type)].
Edessa rufomarginata.—Campos, 1925a:52 [Ecuador].

Edessa rupicapra Breddin

Edessa rupicapra Breddin, 1903e:139 [Ecuador (type)].—Bergroth, 1908:179 [Ecuador].—Kirkaldy, 1909:164 [Ecuador].

Edessa sternalis Breddin

Edessa sternalis Breddin, 1903d:123 [Ecuador (type)].—Bergroth, 1908:179 [Ecuador].—Kirkaldy, 1909:165 [Ecuador].

Edessa tragelaphus Breddin

Edessa civilis Breddin, 1903e:139 [Ecuador (type)].—Bergroth, 1908:178 [Ecuador].—Kirkaldy, 1909:156 [Ecuador].

Edessa urus Breddin

Edessa urus Breddin, 1903e:139 [Ecuador (type)].—Bergroth, 1908:179 [Ecuador].—Kirkaldy, 1909:166 [Ecuador].

Edessa vernicosa Breddin

Edessa vernicosa Breddin, 1904b:178 [Ecuador (type)].—Bergroth, 1908:179 [Ecuador].—Kirkaldy, 1909:166 [Ecuador].

Edessa vinula Stal

Edessa vinula Stal, 1862a:115 [Mexico (type)].—Campos, 1925a:52 [Ecuador].

Tribe HALYINI Stal

Genus *Lincus* Stal

Lincus Stal, 1867:524 [type-species: *Pentatoma rufospilota* Westwood, only included species].—Kirkaldy, 1909:186 ["Ecuador" record for *Lincus securiger* Breddin apparently in error as the species was originally described from "Bolivia," a locality not listed by Kirkaldy].

Lincus dentiger Breddin

Lincus dentiger Breddin, 1904b:154 [Ecuador (type)].—Bergroth, 1908:152 [Ecuador].—Kirkaldy, 1909:185 [Ecuador].

Genus *Melanodermus* Stal

Melanodermus Stal, 1867:524 [type-species: *Ochlerus circummaculatus* Stal, fixed by Kirkaldy 1909:185].

Melanodermus dilutipes Breddin

Melanodermus dilutipes Breddin, 1904:154 [Ecuador (type)].—Bergroth, 1908:152 [Ecuador].—Kirkaldy, 1909:185 [Ecuador].

Genus *Tetrochlerus* Breddin

Tetrochlerus Breddin, 1904:153 [type-species: *Tetrochlerus fissiceps* Breddin, only included species].

Tetrochlerus fissiceps Breddin

Tetrochlerus fissiceps Breddin, 1904:153 [Ecuador (type)].—Bergroth, 1908:152 [Ecuador].—Kirkaldy, 1909:185 [Ecuador].

Genus *Typhoecoris* Breddin

Typhoecoris Breddin, 1903d:122 [type-species: *Typhoecoris fulvifemur* Breddin, only included species].

Typhoecoris fulvifemur Breddin

Typhoecoris fulvifemur Breddin, 1903d:122 [Ecuador (type)].—Bergroth, 1908:152 [Ecuador].
"Typnoecoris" fulvifemur.—Kirkaldy, 1909:368 [Ecuador].

Tribe PENTATOMINI Leach

Genus *Acrosternum* Fieber

Acrosternum Fieber, 1860:79 [type-species: *Acrosternum heegeri* Fieber, first included species, Fieber, 1861:331].

Acrosternum laetum (Stal)

Rhaphigaster laetus Stal, 1859b:228 [Ecuador (type)].
Nezara (Acrosternum) laeta.—Kirkaldy, 1909:119 [Ecuador].
Nezara laeta.—Campos, 1919:51 [Ecuador]; 1925a:51 [Ecuador].

Acrosternum marginatum (Beauvois)

Pentatoma marginata Beauvois, 1817:147 [Santo Domingo (type)].
Nezara marginata.—Campos, 1919:51 [Ecuador]; 1925a:51 [Ecuador].

Acrosternum runaspis (Dallas)

Rhaphigaster runaspis Dallas, 1851:280 [Ecuador (type)].—Dohrn, 1859:17 [Ecuador].
Nezara runaspis.—Stal, 1872a:43 [Ecuador].
Nezara "Runaspis".—Lethierry and Severin, 1893:166 [Ecuador].
Nezara (Acrosternum) runaspis.—Kirkaldy, 1909:121 [Ecuador].

Acrosternum viridans (Stal)

Rhaphigaster viridans Stal, 1859b:228 [Galapagos Islands; Panama].
Nezara (Acrosternum) viridans.—Stal, 1872a:41 [Galapagos Islands; etc.].—Kirkaldy, 1909:120 [Galapagos Islands; etc.].—Stal, 1872a:41.
Nezara viridans.—Distant, 1880:79 [Galapagos Islands; etc.].—Uhler 1890:194 [Galapagos Islands].—Lethierry and Severin, 1893:166 [Galapagos Islands; etc.].—Heidemann, 1901:365 [Galapagos Islands; etc.].—Van Duzee, 1937:113 [Galapagos Islands].
Acrosternum (Nezara) viridans.—Barber, 1925:241 [Galapagos Islands; etc.].
Acrosternum viridans.—Barber, 1934:281–282 [Galapagos Islands; etc.].—Linsley and Usinger, 1966:133 [Galapagos Islands].

Genus *Agroecus* Dallas

Agroecus Dallas 1851:193, 199 [type-species: *Agroecus griseus* Dallas, fixed by Kirkaldy 1909:63].—Jensen-Haarup, 1937:170–171 [revision; key to species page 171].—Buckup, 1957:5–20 [revision; key to species, pages 8–9].

Agroecus ecuadoriensis Jensen-Haarup

Agroecus ecuadoriensis Jensen-Haarup 1937:171 [Ecuador (type)].
Agroecus "ecuadorienses".—Buckup 1957:17 [Ecuador].

Genus *Arocera* Spinola

Arocera Spinola, 1837:316 [type-species: *Arocera aurantiaca* Spinola, a junior synonym of *Pentatoma acroleuca* Perty, only included species].

Arocera apta (Walker)

Strachia apta Walker, 1867:323 ["Amazon Region" (type)].
Arocera apta.—Campos, 1919:50 [Ecuador]; 1925a:51 [Ecuador].—Piran, 1963a:107 [Ecuador].
Arocera (Euopta) apta.—Becker and Grazia-Vieira, 1977:55 [Ecuador; etc.].

SURVEY COLLECTION.—Pastaza (16 km W Puyo, 3 Feb 1976); Zamora-Chinchipe (Yanzaza, 15–16 Jun 1976).

Arocera crucigera Haglund

Arocera crucigera Haglund, 1868:157 ["Amazon" (type)].—Campos, 1919:51 [Ecuador]; 1925a:51 [Ecuador].

Arocera protea Distant

Arocera protea Distant, 1880:73 [Guatemala (type)].

SURVEY COLLECTION.—Napo (Largo Agria, 16 Aug 1975).

Arocera splendens (Blanchard)

Pentatoma splendens Blanchard, 1841:148 [Colombia (type)].
Arocera splendens.—Distant, 1891:112 [Ecuador; etc.].—Campos, 1919:50 [Ecuador]; 1925a:51 [Ecuador].

Genus *Arvelius* Spinola

Arvelius Spinola, 1837:344 [type-species: *Cimex gladiator* Fabricius, a junior synonym of *Cimex albopunctatus* De Geer, fixed by Kirkaldy, 1909:150].

Arvelius albopunctatus (De Geer)

Cimex albopunctatus De Geer, 1773:331 [Surinam (type)].
Arvelius "albo-punctatus".—Campos, 1919:52 [Ecuador].
Arvelius albopunctatus.—Campos, 1925a:52 [Ecuador].

Genus *Banasa* Stal

Banasa Stal, 1858:24 [type-species: *Banasa induta* Stal, fixed by Kirkaldy 1909:115].—Campos, 1925a:52 [two unidentified species from Ecuador].

Genus *Berecynthus* Stal

Berecynthus Stal 1862b:101 [type-species: *Proxys crenatus* Amyot and Serville, a junior synonym of *Cimex delicator* Fabricius, only included species].

Berecynthus imitator Jensen-Haarup

Berecynthus imitator Jensen-Haarup 1937:324 [Ecuador (type)].

Genus *Brachystethus* Laporte

Edessa (Brachystethus) Laporte, 1833:63 [Type-species: *Edessa (Brachystethus) marginatus* Laporte, a junior synonym of *Cimex geniculatus* Fabricius, fixed Kirkaldy, 1909:152].
Brachystethus.—Herrich-Schaeffer, 1845:1.—Campos, 1919: 52 [two unidentified species, plus *B. vicinus* (see below), from Ecuador].

Brachystethus cribrus (Fabricius)

Cimex cribrum Fabricius, 1781:357 [America (type)].
Brachystethus "cribrum?".—Campos, 1925a:52 [Ecuador].

Brachystethus geniculatus (Fabricius)

Cimex geniculatus Fabricius, 1787:292 [French Guiana (type)].
Brachystethus geniculatus.—Uhler, 1869:323 [Ecuador].

Brachystethus tricolor Bolivar

Brachystethus tricolor Bolivar, 1879:138 [Ecuador (type)].—Kirkaldy, 1909:152 [Ecuador].

Brachystethus vicinus Signoret

Brachystethus vicinus Signoret, 1851:344 [Brazil (type)].—Campos, 1919:52 [Ecuador]; 1925a:52 [Ecuador].

Genus *Chlorocoris* Spinola

Chlorocoris Spinola, 1837:288 [type-species: *Chlorocoris tau* Spinola, only included species].—Campos, 1919:51 [one unidentified species, as well as *C. depressus*, from Ecuador].

Chlorocoris depressus (Fabricius)

Halys depressus Fabricius, 1803:182 [South America (type)].
Chlorocoris depressus.—Campos, 1919:51 [Ecuador]; 1925a:51 [Ecuador].

Genus *Euschistus* Dallas

Euschistus Dallas, 1851:193, 201 [type-species: *Euschistus apicalis* Dallas, a junior synonym of *Cimex heros* Fabricius, fixed by Kirkaldy, 1909:63].—Campos, 1919:51 [six unidentified species from Ecuador]; 1925a:50 [six unidentified species from Ecuador]; 1932b:13 [one unidentified species from Ecuador].

Euschistus bifibulus (Beauvois)

Pentatoma bifibula Beauvois, 1817:148 [Santo Domingo (type)].
Euschistus bifibulus var. *guayaquilinus* Kuhlgatz, 1903:254 [Ecuador (type); listed from Ecuador by Therese von Bayern, 1903:247, without description].
Euschistus bifibulus.—Kirkaldy, 1909:64 [Ecuador; etc.].

Genus *Eysarcoris* Hahn

Eysarcoris Hahn, 1834:66 [type-species: *Cimex aeneus* Scopoli, fixed by Opinion 313, International Commission on Zoological Nomenclature, 1954].—Campos, 1925a:53 [two unidentified species from Ecuador placed in this Old World genus; correct generic placement awaits reexamination of the specimens].

Genus *Lopadusa* Stal

Lopadusa Stal, 1858:25 [type-species: *Lopadusa augur* Stal, only included species].—Becker and Grazia, 1970:217–237 [revision; key to subgenera, page 221].

Lopadusa fuscopunctata (Distant)

Bothrocoris fuscopunctatus Distant, 1880:84 [Panama; Guiana].—Piran, 1963a:108 [Ecuador; etc.].
Lopadusa (Bothrocoris) fuscopunctatus.—Becker and Grazia, 1970:229 [Ecuador; etc.].

Genus *Loxa* Amyot and Serville

Loxa Amyot and Serville, 1843:137 [type-species: *Cimex flavicollis* Drury, fixed by Kirkaldy, 1909:96].—Horvath, 1925:307–324 [revision; key to species, pp. 308–310].

Loxa flavicollis (Drury)

Cimex flavicollis Drury, 1773b:67 [Jamaica (type)].
Loxa flavicollis.—Campos, 1919:51 [Ecuador]; 1925a:51 [Ecuador].—Becker and Grazia-Vieira, 1977:59 [Ecuador; Galapagos Islands; etc.].

Loxa picticornis Horvath

Loxa picticornis Horvath, 1925:312 [Brazil; Ecuador; Galapagos Islands; Panama].

Genus *Mormidea* Amyot and Serville

Mormidea Amyot and Serville, 1843:134 [type-species: *Cimex ypsilon* Linnaeus, fixed by Kirkaldy, 1903:231].—Campos, 1925a:50 [two unidentified species from Ecuador].

Mormidea montandoni Kirkaldy

Mormidea montandoni Kirkaldy, 1902b:165 [Ecuador (type)]; 1909:61 [Ecuador].
Mormidea "Montandoni".—Bergroth, 1908:162 [Ecuador].

SURVEY COLLECTION.—Tungurahua (20, 29, and 39 km E Baños, 25–28 Jan 1976).

Genus *Nezara* Amyot and Serville

Nezara Amyot and Serville, 1843:143 [type-species: *Cimex smaragdulus* Fabricius, a junior synonym of *Cimex viridula* Linnaeus, fixed by Kirkaldy, 1903:231].

Nezara viridula (Linnaeus)

Cimex viridulus Linnaeus, 1758:444 [India (type)].
Nezara viridula.—Campos, 1919:51 [Ecuador]; 1925a:51 [Ecuador].

Genus *Oebalus* Stal

Oebalus Stal, 1862b:102 [type-species: *Cimex typhoeus* Fabricius, a junior synonym of *Cimex pugnax* (Fabricius), fixed by Kirkaldy, 1909:61].—Sailer, 1944:105–127 [revision (using generic name *Solubea*), key to species, pp. 108–109]; 1957:41–42 [validates use of generic name *Oebalus*].

Oebalus poecilus (Dallas)

Mormidea poecila Dallas, 1851:213 [North America (type)].
Solubea poecila.—Sailer, 1944:121 [Ecuador; etc.].

Genus *Padaeus* Stal

Padaeus Stal, 1862b:101 [type-species: *Cimex irroratus* Herrich-Schaeffer, preoccupied, a synonym of *Mormidea vidua* Vollenhoven, fixed by Kirkaldy, 1909:68].

Padaeus viduus (Vollenhoven)

Mormidea vidua.—Vollenhoven, 1868:180 [Guatemala (type)].
"Padaeus irroratus?".—Campos, 1925a:50 [Ecuador].

Genus *Pellaea* Stal

Nezara (Pellaea) Stal, 1872a:40 [type-species: *Rhaphigaster sticticus* Dallas, fixed Kirkaldy, 1909:115].

Pellaea stictica (Dallas)

Rhaphigaster sticticus Dallas, 1851:281 [British Guiana; Colombia; Mexico].
Nezara nebulosa Distant, 1891:112 [Ecuador (type)].—Campos, 1919:51 [Ecuador]; 1925a:52 [Ecuador].
Nezara stictica.—Distant, 1893b:83 [Ecuador; etc.].—Campos, 1919:51 [Ecuador]; 1925a:51 [Ecuador].

Genus *Pharypia* Stal

Pharypia Stal, 1861b:139 [type-species: *Cimex pulchellus* Drury, only included species].

Pharypia pulchella (Drury)

Cimex pulchellus Drury, 1782:67 ["Bay of Honduras" (type)].
Pharypia pulchella.—Campos, 1919:52 [Ecuador]; 1925a:51 [Ecuador].

Genus *Piezodorus* Fieber

Piezodorus Fieber, 1860:78 [type-species: *Piezodorus degeeri* Fieber, a junior synonym of *Cimex lituratus* Fabricius, fixed by Fieber, 1861:329, first included species].

Piezodorus guildinii (Westwood)

Rhaphigaster guildinii Westwood, 1837:31 [St. Vincent, West Indies (type)].
Piezodorus "Guildinii".—Distant, 1891:112 [Ecuador; etc.].—Campos, 1925a:52 [Ecuador].

Genus *Proxys* Spinola

Proxys Spinola, 1837:325 [type-species: *Cimex victor* Fabricius, only included species].—Campos, 1919:51 [Campos reported *P. victor* and one undetermined species from Ecuador]; 1925a:50 [repeat of 1919 information].

Proxys victor (Fabricius)

Cimex victor Fabricius, 1775:705 [Brazil (type)].
Proxys victor.—Campos, 1919:51 [Ecuador]; 1925a:50 [Ecuador].

SURVEY COLLECTION.—Pichincha (Sto. Domingo de los Colorados, May 1975).

Genus *Runibia* Stal

Runibia Stal, 1861b:140 [type-species: *Cimex perspicuus* Fabricius, fixed by Kirkaldy, 1909:110].

Runibia decorata (Dallas)

Strachia decorata Dallas, 1851:266 [Brazil (type)].

SURVEY COLLECTION.—Pastaza (Puyo, 31 Jan 1976).

Genus *Sibaria* Stal

Sibaria Stal, 1872b:23 [type-species: *Mormidea armata* Dallas, only included species].—Rolston, 1976:218–225 [review; key to species page 220].

Sibaria andicola Breddin

Sibaria andicola Breddin, 1904b:49 [Ecuador; Peru].—Bergroth, 1908:16 [Ecuador; etc.].—Kirkaldy, 1909:62 [Ecuador].—Rolston, 1976:224 [Ecuador; etc.].

Sibaria armata (Dallas)

Mormidea armata Dallas, 1851:215 [Brazil (type)].
Sibaria armata.—Rolston, 1976:223 [Ecuador; etc.].

Genus *Thyanta* Stal

Thyanta Stal, 1862a:58 [type-species: *Cimex perditor* Fabricius, fixed by Kirkaldy, 1909:94].—Jensen-Haarup, 1928:185–191 [review; key to species, pp. 186–189].

Thyanta antiguensis (Westwood)

Pentatoma antiguensis Westwood, 183:36 [Antigua (type)].—Torre-Bueno, 1915:218 [Ecuador; etc].—Campos, 1925a:50 [Ecuador].

Thyanta humilis Bergroth

Thyanta humilis Bergroth, 1891:226 [Brazil (type)].
Thyanta humilis var. *viridescens* Kuhlgatz, 1903:256 ["zwischen Panama und Guayaquil"].—Therese, 1903:247 [Ecuador].

Thyanta perditor (Fabricius)

Cimex perditor Fabricius, 1794:102 [Insular America (type)].
Thyanta perditor.—Distant, 1891:111 [Ecuador; etc.].—Therese, 1903:247 [Ecuador; etc.].—Campos, 1925a:50 [Ecuador].

Thyanta setigera Ruckes

Thyanta perditor.—Heidemann, 1901:365 [Galapagos Islands].—Barber, 1934:282 [Galapagos Islands].—Van Duzee, 1937:112 [Galapagos Islands].
Thyanta setigera Ruckes, 1957:179 [Galapagos Islands (type)].—Linsley and Usinger, 1966:133 [Galapagos Islands].

Thyanta similis Van Duzee

Thyanta similis Van Duzee, 1933:26 [Galapagos Islands (type)].—Barber, 1934:282 [Galapagos Islands].—Linsley and Usinger, 1966:133 [Galapagos Islands].

Genus *Tibilis* Stal

Tibilis Stal, 1858:26 [type-species: *Tibilis subconspersa* Stal, only included species].

Tibilis glabriuscula Breddin

Tibilis glabriuscula Breddin, 1903f:371 [Ecuador (type)].—Bergroth, 1980:175 [Ecuador].—Kirkaldy, 1909:140 [Ecuador].

Genus *Tibraca* Stal

Tibraca Stal, 1858:18 [type-species: *Tibraca limbativentris* Stal, only included species].

Tibraca simillima Barber

Tibraca simillima Barber, 1941:110 [Ecuador (type)].

Family PHLOEIDAE Amyot and Serville

No Ecuadorian reference to occurrence of this South American family has been encountered. Whether or not any of the three included species actually occurs in Ecuador remains to be seen.

Leston's (1953) review of the family was expanded by Lent and Jurberg (1965); each work gave a key to genera.

Key to the Genera of Phloeidae

Narrowed apical part of scutellum elongate, at least as long as broad basal part. Labium distinctly surpassing midlength of abdomen ..... ***Phloeophana*** Kirkaldy

Narrowed apical part of scutellum not more than two-thirds as long as broad basal part. Labium not surpassing midlength of abdomen ..... ***Phloea*** Le Peletier and Serville

Family PHYMATIDAE Laporte

The present placement of this group as a full family follows the contentions of the specialist on it, N.A. Kormilev, and reflects the frequent textbook treatment at that level. Nevertheless, there is a general tendency among heteropterists to follow Carayon, et al. (1958) and place it as a subfamily of the Reduviidae.

As encountered to date, the only Ecuadorian records for the family are those of Campos, who reported three unidentified species in two genera. There are no indications that it is represented on the Galapagos Islands. The reported South American occurrence of nearly 90 species in six genera suggests numerous species, especially of the genera *Phymata* and *Macrocephalus*, should be found in Ecuador.

Two subfamilies occur in South America. For the subfamily Phymatinae, Kormilev (1962a) gave keys for and treatments of the genera, subgenera, and species; for the Macrocephalinae, one must return to the monograph by Handlirsch (1897) for a comprehensive-at-the-time point of departure.

Key to Subfamilies of Phymatidae in South America

Head dorsad of eye and propleuron just ventrad of lateral margin with a distinct, broad, longitudinal groove into which antenna fits at rest ..... PHYMATINAE Laporte

Head and propleuron without groove described above ..... MACROCEPHALINAE Handlirsch

Subfamily MACROCEPHALINAE Handlirsch

Key to Genera of Macrocephalinae in South America

Posterior pronotal lobe with a strong, transverse carina across anterior margin. Scutellum with elevated median line widened on basal fourth to half, reduced to carinate line posteriorly ..... ***Macrocephalus*** Swederus

Posterior pronotal lobe without transverse carina anteriorly. Scutellum with elevated median line similarly developed for full length ..... ***Lophoscutus*** Kormilev

Genus *Macrocephalus* Swederus

Macrocephalus Swederus, 1787:183 [type-species: *Macrocephalus cimicoides* Swederus, only included species].—Campos, 1925a:62 [one unidentified species, "proxima a la *M. cimicoides* Swed.," from Ecuador].

Subfamily PHYMATINAE Laporte

Key to Genera of Phymatinae in South America

1. Middle and posterior tibiae dorsally carinate laterally and sulcate along midline. Anterior femur swollen, subtriangular in lateral view ..... ***Phymata*** Latreille
   Middle and posterior tibiae convex dorsally, neither carinate nor sulcate. Anterior femur triangular or not 2
2. First visible labial segment twice as long as second segment. Sutures between abdominal sternal segments II to V indistinct ..... ***Kelainocoris*** Kormilev
   First visible labial segment almost as long as second 3
3. Anterior femur subtriangular with lateral surface convex, granulated, dull. Suture between abdominal sternites II and III clearly visible ..... ***Anthylla*** Stal
   Anterior femur elongately oval with lateral surface flat, smooth, glossy as if polished. Suture between abdominal sternites II and III indistinct ..... ***Neoanthylla*** Kormilev

Genus *Phymata* Latreille

Phymata Latreille, 1802:247 [type-species: *Acanthia crassipes* Fabricius, only included species].—Campos, 1919:58 [one unidentified species from Ecuador]; 1925a:62 [two unidentified species from Ecuador].

Family PIESMATIDAE Amyot and Serville

Only two species, each in a different genus of the subfamily Piesmatinae, have been reported from South America. The Chilean species *Miespa* Drake may be confined to that country; but the Pan-American form, *Piesma cinereum* (Say), reported from southern Canada south to Argentina, undoubtedly will be found in continental Ecuador.

Drake and Davis (1958) reviewed the family morphologically, taxonomically, and biologically and presented keys to the world genera and to the American species. The following key is adapted therefrom.

Subfamily PIESMATINAE

Key to the Genera of Piesmatinae in South America

Juga strongly surpassing apex of clypeus (by a distance several times their own diameter). Abdomen ventrally with visible spiracles (usually on low polished tubercles) on last two pregenital segments ..... ***Piesma*** Lethierry and Severin

Juga not or only very slightly surpassing apex of clypeus. Abdomen ventrally with visible spiracles only on last pregenital segment ..... ***Miespa*** Drake

Family PLEIDAE Fieber

As yet no records of occurrence of Pleidae in Ecuador or on the Galapagos Islands have been found. The only genus known from South America, *Neoplea* Esaki and China, is credited with having five species on that continent—undoubtedly some of them will be found in Ecuador.

The classical cosmopolitan genus *Plea* Leach was divided into three subgenera by Esaki and

China (1928:166); all of these were elevated to full generic status by Drake and Maldonado (1956:53).

Family PLOKIOPHILIDAE China

No records of the existence of this family in Ecuador have been found.

Štys (1967, 1972) provided a discussion and redefinition of the family and reduced its contents to three monotypic genera, two of which occur in South America. The three genera are keyed in Štys' earlier paper; a modified verison of that key follows.

Key to the South American Genera of Plokiophilidae

Anterior and middle legs stout, femora less that three times as long as high and with a ventral row of acute teeth. Labium slightly surpassing anterior coxae ..... ***Embiophila*** China

Anterior and middle legs elongate, femora almost eight times as long as high, unarmed. Labium attaining posterior coxae ..... ***Lipokophila*** Stys

Family POLYCTENIDAE Westwood

The absence of reports of this family for Ecuador will probably continue until the necessary examination of their hosts, the bats, is performed. The single genus known for the Western Hemisphere, *Hesperoctenes* Kirkaldy, already includes nine species from South America (for key to species see Ronderos, 1960:179–181). Unquestionably, some of these have been carried into Ecuador by their host bats.

The points of departure for studies within this family are Ferris and Usinger's (1939) copiously illustrated monograph, a world catalog by Usinger (1946b), and an updated checklist with bibliography by Ryckman and Casdin (1977). The first two contain considerable discussion and extensive bibliographies. Subsequent studies on South American Polyctenidae were published by Ferris and Usinger (1945) and by Ronderos (1960, 1962, 1964).

Family PYRRHOCORIDAE Amyot and Serville

Recorded in the following list are 14 species from a single genus. Of these, 13 occur on the continent and one is shared by the continent and the Galapagos Islands; a second species known from the Galapagos Islands has not yet been reported from continental Ecuador.

Hussey (1929) listed but one genus of the Pyrrhocoridae (in the restricted sense) from South America, *Dysdercus* Guerin, which was subsequently revised by Doesburg (1968) with a key to species. Previous literature records not placed by Doesburg and subsequent records based on them are here given (with a preceding question mark) an apparently appropriate species assignment.

Campos (1919:57) reported one undescribed species of "*Pyrrhocoris*" from Ecuador, but the proper generic placement of that species is an up-to-date classification is not possible at this time—*Pyrrhocoris* now being restricted to the Eurasian land mass.

Genus *Dysdercus* Guerin

Dysdercus Guerin, 1831:Atlas, pl. 12, fig. 16 [type-species: *Dysdercus peruvianus* Guerin, only included species].—Doesburg, 1968:1–215 [monograph, including dorsal photograph of each species, host plants, natural enemies, and key to species, pp. 19–23].

Dysdercus basialbus Schmidt

Dysdercus basialbus Schmidt, 1932:268 [Colombia (type)].
Dysdercus basialbus silaceus Doesburg, 1968:170 [Bolivia (type); Ecuador; etc.].

Dysdercus bimaculatus Stal

Dysdercus bimaculatus Stal, 1854:236 [no locality given, see Doesburg, 1968]; 1859b:253 [Ecuador; etc.].—Sailer,

1947:15-19 [Sailer restored *D. bimaculatus* as valid species; attempted to sort out and correctly place literature records resulting from former treatment of this species as a synonym under *D. obliquus* Herrich-Schaeffer—these placements are followed in the present paper because subsequent literature did not dispute them].—Doesburg, 1968: 75 [Panama (lectotype); Ecuador, text p. 79 but not on map on p. 79; etc.].

Dysdercus obliquus.—Stal, 1870:121 [part of records, including Ecuador].—Distant 1883:232 [Ecuador record credited to Stal 1859, 1870].—Lethierry and Severin, 1894:254 [part of records, including Ecuador].—Hussey, 1929:97 [part of records, including Ecuador].—Beccari and Gerini, ?1970: 45, 61 [Ecuador; etc.; this paper probably in press when Doesburg's paper appeared.].

Dysdercus bloetei Doesburg

Dysdercus bloetei Doesburg, 1968:39 [Ecuador (type)].

Dysdercus chaquensis Freiberg

Dysdercus chaquensis Freiberg, 1948:121 [Argentina (type)].—Doesburg, 1968:134 [Ecuador; etc.].

Dysdercus collaris Blöte

Dysdercus collaris Blöte, 1931:119, 134 [Colombia (type)].—Yust, ?1955:429 [Ecuador; quite possibly correct because Doesburg, 1968:25, maps it for Columbia almost at its border with Ecuador]; ?1958, no. 48 [Ecuador].

Dysdercus concinnus Stal

Dysdercus concinnus Stal, 1861a:198 [Mexico (type)].—Campos, ?1919:58 [Ecuador]; ?1925a:59 [Ecuador].—Barber, ?1925:248 [Galapagos Islands; etc.]; ?1934:286 [Galapagos Islands; etc.].—Hussey, 1929:88 [Ecuador; etc.].—Linsley and Usinger, ?1966:134 [Galapagos Islands].—Beccari and Gerini, ?1970:34, 61 [Ecuador; etc; this paper probably in press when Doesburg's paper appeared].

Dysdercus concinnus mundus.—Doesburg, 1968:72 [Ecuador; etc.].

Dysdercus imitator Blote

Dysdercus imitator Blöte, 1931:123 [Peru (type); etc.].—Doesburg, 1968:26 [Ecuador; etc.].

SURVEY COLLECTION:—Napo (Mishualli, 25 Jun 1976); Zamora-Chinchipe (Cumbaratza, 12 Jun 1976; Yanzaza, 15 Jun 1976; Zumbi,10 Jun 1976).

Dysdercus lunulatus Uhler

Dysdercus lunulatus Uhler, 1861:24 [Mexico (neotype)].—Doesburg, 1968:88 [Galapagos Islands; etc.].

Dysdercus maurus Distant

Dysdercus maurus Distant, 1901d:590 [Brazil (type)].—Doesburg, 1968:128 [Ecuador on map, p. 132, but not in text; etc.].

Dysdercus mimuloides Blöte

Dysdercus mimuloides Blöte, 1933:599 [Panama (type)].—Doesburg, 1968:58 [Ecuador; etc].

Dysdercus mimus (Say)

Capsus mimus Say, 1832:20 [Mexico (neotype)].

Dysdercus ruficollis.—Walker, ?1872:183 [Ecuador; etc.].—Berg, ?1878:265 [Ecuador record probably based on Walker, 1872:183; etc.].; ?1879:114 [Ecuador (see 1878: 265); etc.].—Distant, 1883:233 [Ecuador record credited to Berg, 1879:114; etc.].—Lethierry and Severin, ?1894: 254 [Ecuador; etc.].—Therese, ?1903:249 [Ecuador record credited to Distant, 1883:233; etc.].—Torre-Bueno, ?1915: 219 [Ecuador; etc.].—Campos, ?1919:58 [Ecuador]; ?1925a:60 [Ecuador].—Hussey, 1929:101 [Ecuador record credited to 3 of authors above; etc.]. [Ecuador records under the frequently misapplied name *D. rupicollis* are placed here, but reexamination of specimens involved might discover they belong to other species.]

Dysdercus albidiventris.—Hussey, 1927:235 [Ecuador].

Dysdercus mimus distanti.—Doesburg, 1968:34 [Ecuador; etc.].

Dysdercus mimus ecuadorensis Doesburg, 1968:39 [Ecuador (type)].

SURVEY COLLECTION.—Numerous specimens of the subspecies *D. mimus ecuadorensis*: Los Rios (10 km N Babahoyo, 22 Jun 1975; Quevedo, 11 May 1975); Manabi (35 km SE Bahía de Caráquez, 10 May 1975); Pichincha (29 km W Sto. Domingo de los Colorados, 7 May 1975).

Dysdercus obscuratus Distant

Dysdercus obscuratus Distant, 1883:230 [Costa Rica (lectotype); etc.].

Dysdercus incertus Distant, 1883:230 [Costa Rica (type)].

Dysdercus incertus var. *flavipenuis* Blöte, 1931:126 [Panama (type)].

Dysdercus lugubris Schmidt, 1932:274 [Ecuador (type)].

Dysdercus obscuratus flavipenuis.—Doesburg, 1968:103 [Ecuador; etc.].

Dysdercus obscuratus incertus.—Doesburg, 1968:103 [Ecuador; etc.].

Dysdercus obscuratus lugubris.—Doesburg, 1968:104 [Ecuador; etc.].

SURVEY COLLECTION.—Specimens of subspecies *D. obscuratus incertus*: Los Rios (Quevedo, 11 May 1975); Pichincha (29 km W Sto. Domingo de los Colorados, 7 May 1975).

Dysdercus peruvianus Guerin

Dysdercus peruvianus Guerin, 1831:pl.12, fig. 16 [Peru (type)].—Stal, ?1870:121 [Ecuador; etc.].—Walker, 1872: 184 [Ecuador; etc.].—Lethierry and Severin ?1894:254 [Ecuador; etc.].—Hussey, 1929:99 [Ecuador record credited to Stal, 1870:121; etc.].—Doesburg, 1968:144 [Ecuador; etc.].—Beccari and Gerini, 1970:47, 61 [Ecuador; etc.; this paper probably in press when Doesburg's paper appeared].

Dysdercus ruficeps (Perty)

Lygaeus ruficeps Perty, 1833:172 [Brazil (type)].

Dysdercus ruficeps.—Uhler, 1869:326 ["near the Napo River"].—Hussey, 1929:100 [Ecuador; etc.].—Doesburg, 1968:60 [Ecuador; etc.].—Beccari and Gerini, 1970:49, 61 [Ecuador; etc.; this paper probably in press when Doesburg's paper appeared].

SURVEY COLLECTION.—Napo (Napo, 27 June 1976).

Family REDUVIIDAE Latreille

In spite of the number of species of Reduviidae identified from continental Ecuador and from the Galapagos Islands, no species or genus of the family appears to be shared by the two areas. The numbers involved are 66 species in 35 genera for Ecuador and eight species in three genera for the Galapagos Islands.

Combining Wygodzinsky's (1949) list of American Reduviidae with his (1966) monograph of the Emesinae produced a total of nearly 800 South American species in more than 60 genera. Further collecting and study should bring the total of Ecuadorian species of Reduviidae to several times the numbers reported here.

Studies on the suprageneric classification of the superfamily Reduvioidea during the past few decades resulted in some disagreement as to the number of such categories to be recognized and the hierarchical status to be assigned to them. Recognition of this unsettled state and the absence of a comprehensive practical key to the categories in a present-day concept leads me to use Usinger's (1943) classification of the Reduvioidea. The chief subsequent modifications affecting the American members of Usinger's classification [and not used here] are Carayon et al.'s (1958) treatment of the classical family Phymatidae as a subfamily of the Reduviidae and Davis' (1969) devaluation of the old subfamily Apiomerinae to tribal status under the subfamily Harpactorinae. The key to subfamilies presented below was derived from a variety of sources including Usinger (1943), but in considerable part from specimens on which most characters were verified.

Key to the Subfamilies of Reduviidae in South America

1. Always macropterous, membrane with 3 simple veins not forming closed cells. Body extremely flattened (aradid-like) .... ELASMODEMINAE Lethierry and Severin

   When macropterous, membrane with 1 or more closed cells 2

2(1). Venter of head for full length on each side of midline distinctly produced to form sides of a more or less distinct mediolongitudinal groove ..... PHIMOPHORINAE Handlirsch

   Venter of head without such a groove 3

3(2). Anterior coxae elongate. Usually 4–5 times as long as wide. Anterior legs strongly raptorial, i.e., ventral margins of femora and tibiae with rows of spines, tibia capable of being folding along ventral

surface of femur. Body extremely slender, almost stick-like 4
Anterior coxae usually less than twice as long as wide. Anterior legs may or may not be raptorial. Body not slender and stick-like ... 5

4(3). Anterior coxal cavities shifted to open anteriorly. Ocelli absent ..... **EMESINAE** Amyot and Serville
Anterior coxal cavities wholly or in large part opening ventrally. Ocelli present ..... **BACTRODINAE** Stal

5(3). Transverse pronotal constriction distinctly posterior to midlength of pronotum 6
Transverse pronotal constriction close to or anterior to midlength of pronotum 7

6(5). Anterior tibiae not produced beyond tarsal insertion, with an apical spongy fossa ..... **PEIRATINAE** Stal
Anterior tibiae produced beyond tarsal insertion as a stout spine, not provided with apical spongy fossae ..... **VESCIINAE** Fracker and Bruner

7(5). Ocelli absent 8
Ocelli present 9

8(7). Labial segment II swollen at base. Elytral membrane, when present, with 2 or more closed cells ..... **SAICINAE** Stal
Labial segment II not swollen at base. Elytral membrane with but 1 closed cell ..... **CHRYXINAE** Champion

9(7). Corium with a distinct 4-6-sided "cubital" cell in or close to inner apical angle 10
Corium without a cell in or near inner apical angle 12

10(9). Cubital cell 6-sided (sometimes 5-sided). Antennal segment I porrect, appearing thicker and more heavily scleritized than other antennal segments ..... **STENOPODAINAE** Amyot and Serville
Cubital cell 4-sided. Antennal segment I porrect or not, appearing no more heavily sclerotized than other segments 11

11(10). Ocelli more widely separated than eyes; each ocellus distinctly elevated, directed laterally. Antennal segment I not or but slightly longer than head. Anterior tarsi generally not as strongly developed as other tarsi. Tarsal claws simple (without teeth or appendages) ..... **APIOMERINAE** Amot and Serville
Ocelli not as widely separated as eyes; not directed laterally. Antennal segment I longer, generally distinctly more than head. Anterior tarsi as well developed as others. Tarsal claws dentate or appendiculate ..... **HARPACTORINAE** Amyot and Serville

12.(9). Scutellum apically terminated by 2–3 prongs arranged in a horizontal series (disregard spines or prongs on midline of dorsal surface of scutellum) ..... **ECTRICHODIINAE** Spinola
Scutellum apically terminated as a more or less acute angle or as a single spine or prong 13

13(12). Antennal segment II subdivided into 8 or more somewhat beadlike pseudosegments. Ocelli located between eyes ..... **MICROTOMINAE** Schumacher

Antennal segment II not subdivided. Ocelli located on or behind imaginary line connecting posterior margins of eyes 14

14(13). Antenniferous tubercles elevated, projecting anteriorly distinctly beyond decurved apex of head 15

Antenniferous tubercles not projecting beyond apex of head 16

15(14). Anterior tarsi 2 segmented, lateral margin of connexivun with a long stout spine near apex of each segment ..... SALYAVATINAE Amyot and Serville

Anterior tarsi 3 segmented. Margin of connexivum without spines ..... SPHAERIDOPINAE Amyot and Serville

16(14). Ocelli (sometimes obscure) widely separated, located laterally on posterior lobe of head ..... TRIATOMINAE Jeannel

Ocelli prominent, close together on a single elevation near or between posterior margins of eyes 17

17(16). Postocular part of head, strongly, concavely narrowed, eyes appearing very strongly stalked. Metapleuron in posterolateral angle with a small, somewhat spiraclelike pore (serves as opening for the Brindley glands) ..... CETHERINAE Jeannel

Postocular part of head, when narrowed, not making eyes appear strongly stalked. Metapleuron without pore in posterolateral angle ..... REDUVIINAE Latreille

Subfamily APIOMERINAE Amyot and Serville

A key to the genera of this subfamily was given by Costa Lima, Hathaway, and Seabra (1948: 761–763). Davis (1969:84) reduced this group to a tribe under the subfamily Harpactorinae.

Genus *Apiomerus* Hahn

Apiomerus Hahn, 1831:29 [type-species: *Reduvius hirtipes* Fabricius, only included species].—Costa Lima, Seabra, and Hathaway, 1951:273–442 [revision; keys to species, p. 284–298 (Spanish), 299–312 (English)].

Apiomerus lobulatus Breddin

Apiomerus lobulatus Breddin, 1904b:148 [Ecuador (type)].—Wygodzinsky, 1949:17 [Ecuador].—Costa Lima, Seabra, and Hathaway, 1951:397 [Ecuador].

Apiomerus pilipes (Fabricius)

Reduvius pilipes Fabricius, 1787:309 [French Guiana (type)].
Apiomerus pilipes.—Campos, 1925a:66, 1928:69 [Ecuador].—Leon and Leon, 1953:54 [Ecuador; etc.].

Genus *Heniartes* Spinola

Heniartes Spinola, 1837:109 [type-species: *Heniartes erythromerus* Spinola, fide Wygodzinsky, 1947a:8].—Wygodzinsky, 1947a:1–56 [revision; key to species p. 8–9].

Heniartes cachabi Wygodzinsky

Heniartes cachabi Wygodzinsky, 1947a:37 [Ecuador (type)]; 1949:19 [Ecuador].

Heniartes distinguendus Wygodzinsky

Heniartes distinguendus Wygodzinsky, 1947a:40 [Ecuador (type)]; 1949:19 [Ecuador]; 1953:373 [Ecuador].

Subfamily ECTRICHODIINAE Spinola

Wygodzinsky (1951:35–36) provided a key to the American genera of this subfamily.

Genus *Rhiginia* Stal

Rhiginia Stal, 1859d:176, 181 [type-species: *Reduvius lateralis* Le Peletier and Serville, only included species].—Campos, 1918:18 [two undetermined species of "*Ectrichodia*" from

Ecuador probably belong in *Rhiginia, Ectrichodia* no longer recognized from the New World]; 1919:59 [three undetermined species of "*Ectrichodia*"; from Ecuador, see note for 1918:18].

Rhiginia bimaculata Breddin

Rhiginia bimaculata Breddin, 1914:59 [Ecuador (type)].—Wygodzinsky, 1949:24 [Ecuador].

Rhiginia conspersa Breddin

Rhiginia conspersa Breddin, 1901c:75 [Ecuador (type)]. —Wygodzinsky, 1949:24 [Ecuador].

Rhiginia crudelis Stal

Rhiginia crudelis Stal, 1862b:455 [Mexico (type)].
Ectrichodia "ruficollis?".—Campos, 1925a:63 [Ecuador]; 1928: 69 [Ecuador].

Rhiginia geniculosa (Walker), new combination

Ectrichodia geniculosa Walker, 1873c:59 [Ecuador (type)].—Wygodzinsky, 1949:25 [Ecuador; but of uncertain generic placement].

Rhiginia haenschi Breddin

Rhiginia haenschi Breddin, 1903a:65 [Ecuador (type)].—Wygodzinsky, 1949:24 [Ecuador].

Rhiginia immarginata Stal

Rhiginia immarginata Stal, 1866:302 [Ecuador (type)].—Wygodzinsky, 1949:24 [Ecuador].
Ectrichodia immarginata.—Stal, 1872a:102 [Ecuador].—Campos, 1925a:63 [Ecuador]; 1928:69 [Ecuador].

SURVEY COLLECTION.—Pastaza (Santa Clara, 30 Jun 1976).

Genus *Santainezia* Miller

Santainezia Miller, 1956:4 [type-species: *Santainezia bicolor* Miller, only included species].

Santainezia bicolor Miller

Santainezia bicolor Miller, 1956:5 [Ecuador (type)].

Genus *Zirta* Stal

Zirta Stal, 1859d:175 [type-species: *Reduvius hirticornis* Fabricius, only included species].

Zirta granulata (Walker)

Ectrichodia granulata Walker, 1873c:58 [Ecuador (type)].—Wygodzinsky, 1949:24 [Ecuador].

Subfamily EMESINAE Amyot and Serville

Wygodzinsky (1966) provided a well-illustrated, definitive monograph of this subfamily in which are supplied clear keys to tribes, genera and species.

Several of the records of Emesinae for Ecuador reported by Campos (1919:59; 1925a:62–63; 1928:63) were made with generic but no specific determinations. At present some of these records, because of the generic names used by Campos, are confusing, and for convenience are here entered in apparently appropriate places; Campos' specimens must be studied before more confidently accurate placements can be made.

Tribe EMESINI Amyot and Serville

Genus *Gardena* Dohrn

Gardena Dohrn, 1860:214 [type-species: *Gardena melinarthrum* Dohrn, only included species].
Emesa.—Distant, 1891:117 ["*Emesa* sp." from Ecuador; because Distant noted this specimen as allied to *E. longipes*, his "sp." is here placed in the genus *Gardena* to which *E. longipes* is now assigned].—Campos, 1925a:62 [Campos cites Whymper's (actually Distant's) 1891:117, Ecuadorian record of "*Emesa* sp."]; 1928:63 [three species of "*Emesa*" from Ecuador and citation of Whymper's (actually Distant's), 1891:117, Ecuadorian record of "*Emesa* sp."].

Genus *Stenolemus* Signoret

Stenolemus Signoret, 1858a:251 [type-species: *Stenolemus spiniventris* Signoret, only included species].

Stenolemus anduzei Wygodzinsky

Stenolemus anduzei Wygodzinsky, 1947b:131 [Venezuela (type)]; 1966:322 [Ecuador; etc.].

Tribe LEISTARCHINI Stal

Genus *Ploiaria* Scopoli

Ploiaria Scopoli, 1786:60 [type-species: *Ploiaria domestica* Scopoli, only included species].—Campos, 1919:59 [one unidentified species of *Ploiaria* from Ecuador]; 1925a:63 [two unidentified species of *Ploiaria* from Ecuador]; 1928:63 [four unidentified species of *Ploiaria* from Ecuador].

"Gen. Emesina".—Campos 1919:59 [three unidentified species of "Gen. Emesina" from Ecuador; "Emesina" is not a generic name but a junior synonym of the tribal name Leistarchini, a tribe represented in the Western Hemisphere only by the genus *Ploiaria*]; 1925a:62 [comments under 1919:59 apply here].

Emesodema.—Campos, 1919:59 [two unidentified species from Ecuador]; 1925a:63 [two unidentified species from Ecuador].

Ploiaria macrophthalma (Dohrn)

Luteva macrophthalma Dohrn, 1860:244 [Brazil; Colombia].

Ploiaria macrophthalma.—Villiers, 1970:229 [Galapagos Islands; etc.].—Linsley, 1977:11 [Galapagos Islands].

Tribe METAPTERINI Stal

Genus *Barce* Stal

Barce Stal, 1865a:163 [type-species: *Ploiaria fraterna* Say, only included species].

Barce fraterna (Say)

Ploiaria fraterna Say, 1832:33 [United States of America (type)].

Barce fraterna.—Wygodzinsky, 1966:441 [Ecuador; etc.].—Cobben and Wygodzinsky, 1975:3 [Ecuador; etc.].

Genus *Ghinallelia* Wygodzinsky

Ghinallelia Wygodzinsky, 1966:485 [type-species: *Ghilianella globifera* Bergroth, original designation].—Villiers, 1970: 230–237 [in addition to four species listed below, Villiers reported two unidentified nymphs: one previously reported by McAtee and Malloch, 1925a:100, as *Ghilianella galapagensis* Heidemann here listed as "*Ghilianella* sp. A"; the other as "*Ghinalellia* sp. B"].—Villiers, 1978:49–50 [key to species on Galapagos Islands].

Ghinallelia galapagensis (Heidemann)

Ghilianella galapagensis Heidemann, 1901:367 [Galapagos Islands (type)].—McAtee and Malloch, 1925a:100 [Galapagos Islands].—Barber, 1934:286 [Galapagos Islands].—Wygodzinsky, 1949:28 [Galapagos Islands].—Linsley and Usinger, 1966:135 [Galapagos Islands].

Ghinallelia galapagensis.—Wygodzinsky, 1966:488 [Galapagos islands].—Linsley, 1977:11 [Galapagos Islands].

Ghinallelia leleuporum Villiers

Ghinallelia leleuporum Villiers, 1970:231 [Galapagos Islands (type)].—Linsley, 1977:11 [Galapagos Islands].

Ghinallelia schaeferi Villiers

Ghinallelia schaeferi Villiers, 1978:49 [Galapagos Islands].

Ghinallelia usingeri Villiers

Ghinallelia usingeri Villiers, 1970:235 [Galapagos Islands (type)].—Linsley, 1977:11 [Galapagos Islands].

Ghinallelia vagvolgyiana Villiers

Ghinallelia vagvolgyianus Villiers, 1978:46 [Galapagos Islands]

Ghinallelia wygodzinskyi Villiers

Ghinallelia wygodzinskyi Villiers, 1970:233 [Galapagos Islands (type)].—Linsley, 1977:11 [Galapagos Islands].

Subfamily HARPACTORINAE Amyot and Serville

Genus *Arilus* Hahn

Arilus Hahn, 1831:33 [type-species: *Cimex serratus* Fabricius, a junior synonym of *Cimex carinatus* Forster, only included species].

Arilus carinatus (Forster)

Cimex carinatus Forster, 1771:72 [Brazil (type)].

Prionotus carinatus.—Distant, 1891:115 [Ecuador].—Campos, 1919:61 [Ecuador]; 1925a:64 [Ecuador]; 1928:69 [Ecuador].

Prionotus serratus.—Campos, 1918:20 [Ecuador].

Arilus gallus (Stal)

Prionotus gallus Stal, 1872a:72 [Colombia (type)].—Campos, 1925a:64 [Ecuador]; 1928:69 [Ecuador].

SURVEY COLLECTION.—Cotopaxi (117 km W Latacunga, 1 Jul 1975).

Genus *Corcia* Stal

Corcia Stal, 1859d:368 [type-species: *Corcia columbica* Stal, fide Wygodzinsky, 1949:37].

Corcia aequatoria Breddin

Corcia aequatoria Breddin, 1901c:59 [Ecuador (type)].—Wygodzinsky, 1949:37 [Ecuador].

Corcia columbica Stal

Corcia columbica Stal, 1859d:369 [Colombia (type)].

SURVEY COLLECTION.—Napo (Baeza, 72 km E 16 May 1975; Lago Agrio 110 km W, 18 May 1975); Pastaza (22 km W Puyo, 5 Feb 1976); Tungurahua (32 km E Baños, 28 Jan 1976; 39 km E Baños, 25 Jan 1976).

Genus *Doldina* Stal

Doldina Stal, 1859d:366, 368 [type-species: *Doldina carinulata* Stal, only included species].—Hussey and Elkins, 1956: 261–278 [revision; key to species, pp. 276–277].

Doldina penalea Hussey and Elkins

Doldina penalea Hussey and Elkins, 1956:269 [Honduras (type); Ecuador; etc.].

Genus *Heza* Amyot and Serville

Heza Amyot and Serville, 1843:374 [type-species: *Reduvius binotatus* Le Peletier and Serville, only included species].—Maldonado, 1976b:403–433 [revision; key to species, pp. 406–414].

Heza similis Stal

Heza similis Stal, 1859d:199 [Colombia (type)].

SURVEY COLLECTION.—Los Rios (20 km N Babahovo, 22 Jun 1975).

Genus *Montina* Amyot and Serville

Montina Amyot and Serville, 1843:363 [type-species: *Reduvius sinuosus* Le Peletier and Serville, only included species].—Campos, 1919:62 [one unidentified species from Ecuador]; 1925a:66 [one unidentified species from Ecuador]; 1928:70 [one unidentified species from Ecuador].

Montina fumosa (Stal)

Aristippus fumosus Stal, 1866:300 [Brazil (type)].

SURVEY COLLECTION.—Pastaza (Santa Clara, 4 Jul 1976); Zamora-Chinchipe (Yanzaza, 16 Jun 1976).

Genus *Ploeogaster* Amyot and Serville

Ploeogaster Amyot and Serville, 1843:363 [type-species, *Ploeogaster mammosus* Amyot and Serville, fixed by Wygodzinsky, 1949:6].

Ploeogaster pallidula (Walker)

Helonotus pallidulus Walker, 1873c:90 [Ecuador (type)].
Ploeogaster pallidulus.—Wygodzinsky, 1949:44 [Ecuador].

Genus *Repipta* Stal

Repipta Stal, 1859d:366, 369 [type-species: *Zelus taurus* Fabricius, fide Van Duzee, 1916:31].

Repipta annulipes Barber

"Cosmoclopius (Harpactor) sp.?" Heidemann, 1901:366 [Galapagos Islands].
Repipta annulipes Barber, 1925:250 [Galapagos Islands (type)]; 1934:287 [Galapagos Islands].—Van Duzee, 1937: 115 [Galapagos Islands].—Wygodzinsky, 1949:45 [Galapagos Islands].—Linsley and Usinger, 1966:135 [Galapagos Islands].
"Cosmoclopius sp.?" Barber, 1934:287 [Galapagos Islands].

Genus *Ricolla* Stal

Ricolla Stal, 1859d:366, 367 [type-species: *Cimex quadrispinosus* Linnaeus fixed by Wygodzinsky, 1949:6].

Ricolla pallidinervis Stal

Ricolla pallidinervis Stal, 1859d:367 [Venezuela (type)].—Fracker and Bruner, 1924:172 [Ecuador].

Genus *Sinea* Amyot and Serville

Sinea Amyot and Serville, 1843:375 [type-species: *Reduvius diadema* Fabricius, fide Van Duzee, 1916:31].—Caudell, 1901:11 [revision; key to species, pp. 2–3].—Campos, 1919:61 [*Sinea raptoria* as listed below and an unidentified species of *Sinea* from Ecuador]; 1925a:66 [same as 1919: 61]; 1928:70 [same as 1919:61].

Sinea raptoria Stal

Sinea raptoria Stal, 1862b:444 [Mexico (type)].—Campos, 1918:20 [Ecuador]; 1919:61 [Ecuador]; 1925a:66 [Ecuador]; 1928:70 [Ecuador].

Genus *Zelus* Fabricius

Zelus Fabricius, 1803:281 [type-species: *Cimex longipes* Linnaeus, fixed by Latreille, 1810:433].—Torre-Bueno, 1915: 219 [one unidentified species of *Zelus* (*Diplodus*) from Ecuador].—Campos, 1918:18 [three unidentified species of *Zelus* from Ecuador]; 1919:58 [three unidentified species of *Zelus* from Ecuador]; 1925a:63 [four unidentified species of *Zelus* from Ecuador]; 1928:69 [four unidentified species of *Zelus* from Ecuador].—Yust, 1958, no. 99 [one unidentified species of *Zelus* from Ecuador].

Zelus filicauda Bergroth

Zelus filicauda Bergroth, 1893:63 [Ecuador (type)].—Lethierry and Severin, 1896:152 [Ecuador].—Wygodzsinsky, 1949:49 [Ecuador].

Subfamily Microtominae Schumacher

Genus *Homalocoris* Perty

Platycoris Perty, 1833:175 [type-species: *Platycoris varia* Perty, only included species].

Homalocoris Perty, 1833:216 [proposed as replacement name for *Platycoris* Perty, hence takes same type-species].

Homalocoris maculicollis Stal

Homalocoris maculicollis Stal, 1872:101 [Mexico (type)].—Campos, 1918:20 [Ecuador]; 1919:62 [Ecuador]; 1925a:60 [Ecuador]; 1928:70 [Ecuador].

Subfamily Phimophorinae Handlirsch

The following genus contains the only New World member of this subfamily.

Genus *Phimophorus* Bergroth

Phimophorus Bergroth, 1886:53 [type-species: *Phimophorus spissicornis* Bergroth, only included species].

Phimophorus spissicornis Bergroth

Phimophorus spissicornis Bergroth, 1886:54 [Brazil (type)].—Carayon, et al., 1958:270 [Ecuador; etc.].

Subfamily Peiratinae Amyot and Serville

The long-used "Piratinae" must yield to the above spelling because, as Kerzhner (1974:92, of translation) pointed out, the International Rules of Zoological Nomenclature make it necessary to use Serville's (1831:213) original spelling of the type-genus, *Peirates*, and to include under it as a junior synonym Burmeister's (1835:239) emended spelling "Pirates."

The following key to genera is a modified version of Stal's (1872a:104–105) key to which is added the subsequently described genus *Eidmannia* Taeuber.

Key to Genera of Peiratinae in South America

1. Head with preocellar transverse groove deeply impressed. Anterior coxa elongate, apical third to half extended caudad of prosternal process. 2

   Head with preocellar suture obsoletely or not at all impressed. Anterior coxa short, apex not or only very slightly extending caudad of prosternal process 6

2(1). Intermediate tibia without a ventral apical pad .... ***Sirthenea*** Spinola
Intermediate tibia with a ventral apical pad occupying a fifth or more of tibial length 3
3(2). Metapleural sulcus straight, horizontal, located halfway between median coxal cavity and lateral margin of supporting sclerite .. ***Tydides*** Stal
Metapleural sulcus distinctly curved along or near lateral margin of supporting sclerite 4
4(3). Anterior tibia with ventral apical pad confined to apical third of tibia. Hemelytra, when present, uniformly fuscous to black. ..... ***Melanolestes*** Stal
Anterior tibia with ventral apical pad extending three-fourths or more of way to base of tibia. Hemelytra contrastingly bicolored 5
5(4). Eye small, in dorsal view about half as wide as interocular space. Scutellum with apical prolongation distinctly upcurved, apical part erect ..... ***Eidemannia*** Taeuber
Eye large, in dorsal view as wide or wider than interocular space. Scutellum with apical prolongation horizontal or oblique, apex not erect ..... ***Rasahus*** Amyot and Serville
6(1). Posterior lobe of head abruptly converging from eyes to neck. Body broad, spaces between middle coxae and between posterior coxae wider than a coxal width ..... ***Thymbreus*** Stal
Posterior lobe of head abruptly converging to collar from a point considerably caudad to eyes. Body narrow, space between middle coxae and between posterior coxae narrower than a coxal width ..... ***Phorastes*** Kirkaldy

Genus *Melanolestes* Stal

Melanolestes Stal, 1866:251, 259 [type-species: *Pirates picipes* Herrich-Schaeffer, fide Van Duzee, 1916:29].

Melanolestes argentinus Berg

Melanolestes argentinus Berg, 1879:163 [Argentina (type)].—Campos, 1918:20 [Ecuador]; 1919:61 [Ecuador]; 1925a:66 [Ecuador]; 1928:69 [Ecuador].

Melanolestes morio (Erichson)

Pirates morio Erichson, 1848:613 [British Guiana (type)].
Melanolestes morio.—Torre-Bueno, 1915:219 [Ecuador; etc.].

Genus *Rasahus* Amyot and Serville

Rasahus Amyot and Serville, 1843:325 [type-species: *Peirates sulcicollis* Serville, fide Van Duzee, 1916:29].

Rasahus hamatus (Fabricius)

Reduvius hamatus Fabricius, 1781:381 [French Guiana (type)].
Rasahus hamatus.—Campos, 1918:18 [Ecuador]; 1919:61 [Ecuador]; 1925a:65 [Ecuador]; 1928:68 [Ecuador].

SURVEY COLLECTION.—Manabi (Bahía de Caráquez, 9 May 1975).

Rasahus sulcicollis (Serville)

Peirates sulcicollis Serville, 1831:219 [French Giana (type)].
Rasahus sulcicollis.—Campos, 1918:19 [Ecuador]; 1919:61 [Ecuador]; 1920:53 [Ecuador]; 1925a:65 [Ecuador]; 1928:68 [Ecuador].

Genus *Sirthenea* Spinola

Sirthenea Spinola, 1837:100 [type-species: *Reduvius carinatus* Fabricius, only included species].

Sirthenea anduzei Drake and Harris

Sirthenea anduzei Drake and Harris, 1945:55 [Venezuela (type); etc.].

SURVEY COLLECTION.—Napo (Lago Agrio, 17 May 1975, 22 Aug 1975); Pastaza (Puyo, 8–11 Feb 1976).

Subfamily REDUVIINAE Latreille

Lent and Wygodzinsky (1947b:342–343) presented a key to the American genera of Reduviinae.

Genus *Opisthacidius* Berg

Spiniger (*Opisthacidius*) Berg, 1879:172 [type-species: *Platymeria rubroptica* Herrich-Schaeffer, only included species].
Opisthacidius.—Lent and Wygodzinsky, 1947b:351 [elevated to genus; revision; key to species, pp. 353–354].

Opisthacidius pertinax (Breddin)

Spiniger pertinax Breddin, 1903b:114 [Bolivia (type)].
Zelurus domesticus.—Lent and Wygodzinsky, 1946:263 [Ecuador; etc.].
Opisthacidius pertinax.—Lent and Wygodzinsky, 1947b:356 [Ecuador; etc.]; 1955:135 [Ecuador; etc.]; 1956:332 [Ecuador; etc.]; 1966:153 [Ecuador].

Genus *Zelurus* Hahn

Zelurus Hahn, 1826, pl. 6 [type-species: *Zelurus ocellatus* Hahn, a junior synonym of *Reduvius eburneus* Le Peletier and Serville, only included species].—Campos, 1918:18 [Campos reported five species of "*Spiniger*"—a junior synonym of *Zelurus*—from Ecuador, including four undetermined species plus the "*Spiniger limbatus*" listed below as a junior synonym of *Z. circumcinctus*]; 1919:60 [same as 1918:18]; 1925a:64 [same as 1918:18].—Costa Lima, 1940:1–123 [revision; keys to subgenera, pp. 7–9 to species, pp. 14–27].

Zelurus alcides (Stal)

Spiniger alcides Stal, 1863:56 [Brazil (type)].
Zelurus alcides.—Lent and Wygodzkinsky, 1957:22 [Ecuador; etc.].

Zelurus anthracinus Lent and Wygodzinsky

Zelurus anthracinus Lent and Wygodzinsky, 1968:324 [Ecuador (type)].

Zelurus audax (Breddin)

Spiniger audax Breddin, 1901c:83 [Ecuador (type)].
Spiniger (*Spiniger*) *audax*.—Costa Lima, 1940b:55 [Ecuador].
Zelurus audax.—Wygodzinsky, 1949:59 [Ecuador].—Lent and Wygodzinsky, 1955:135 [Ecuador]; 1966:148 [Ecuador; etc.].

Zelurus camposi Lent and Wygodzinsky

Zelurus camposi Lent and Wygodzinsky, 1955:138 [Ecuador (type)]; 1957:24 [Ecuador].

Zelurus circumcinctus (Hahn)

Reduvius limbatus Le Peletier and Serville, preoccupied, 1825:275 [Brazil (type)].
Acrocoris circumcinctus Hahn, 1835, pl. LXXX, fig. 246 [no locality given].
Spiniger limbatus.—Campos, 1918:18 [Ecuador]; 1925a:64 [Ecuador]; 1928:68 [Ecuador].
Spiniger (*Spiniger*) *circumcinctus*.—Costa Lima, 1940b:92 [Ecuador; etc.].
Zelurus circumcinctus.—Lent and Wygodzinsky, 1955:135 [Ecuador; etc.]; 1957:24 [Ecuador; etc.].

Zelurus fugax (Breddin)

Spiniger fugax Breddin, 1903b:114 [Ecuador (type)].
Spiniger (*Spiniger*) *fugax*.—Costa Lima, 1940b:97 [Ecuador].
Zelurus fugax.—Wygodzinsky, 1949:60 [Ecuador].—Lent and Wygodzinsky, 1955:135 [Ecuador]; 1966:159 [Ecuador].

Zelurus nugax (Breddin)

Spiniger nugax Breddin, 1903b:108 [Ecuador (type)].
Spiniger (*Spiniger*) *nugax*.—Costa Lima, 1940b:82 [Ecuador].
Zelurus nugax.—Wygodzinsky, 1949:61 [Ecuador].—Lent and Wygodzinsky, 1951:6 [Ecuador; etc.]; 1955:135 [Ecuador]; 1957:35 [Ecuador; etc.]; 1966:151 [Ecuador]; 1968:319 [Ecuador].

Zelurus petax (Breddin)

Spiniger petax Breddin, 1901c:75 [Ecuador (type)].
Spiniger (*Spiniger*) *petax*.—Costa Lima, 1940b:52 [Ecuador].

Zelurus petax.—Wygodzinsky, 1949:61 [Ecuador].—Lent and Wygodzinsky, 1951:4 [Ecuador]; 1955:135 [Ecuador]; 1966:146 [Ecuador]; 1968:319 [Ecuador].

Zelurus tenax (Breddin)

Spiniger tenax Breddin, 1901c:83 [Ecuador (type)].
Spiniger (Spiniger) tenax.—Costa Lima, 1940b:72 [Ecuador].
Zelurus sailei Lent and Wygodzinsky, 1947a:348 [Ecuador (type)]; 1951:27 [Ecuador]; 1955:135 [Ecuador]; 1957:38 [Ecuador; etc.].—Wygodzinsky, 1949:61 [Ecuador].
Zelurus tenax.—Wygodzinsky, 1949:62 [Ecuador].—Lent and Wygodzinsky, 1955:135 [Ecuador]; 1966:146 [Ecuador].

Zelurus vorax (Breddin)

Spiniger vorax Breddin, 1903b:114 [Ecuador (type)].
Spiniger (Spiniger) vorax.—Costa Lima, 1940b:68 [Ecuador].
Zelurus vorax.—Wygodzinsky, 1949:62 [Ecuador].—Lent and Wygodzinsky, 1955:135 [Ecuador]; 1966:161 [Ecuador].

Subfamily SAICINAE Stal

The following key to the American genera of the subfamily Saicinae was adapted from Monte (1943:361).

Key to American Genera of Saicinae

1. Anterior femora and tibiae with rows of stout spines arising from stouter prominent tubercles 2
   Anterior femora and tibiae without spines, sometimes with rows of dense hairs which may clump together and appear superficially spine-like 4
2(1). Pronotum without spines ..... ***Tagalis*** Stal
   Pronotum dorsally with spines, at least in posterolateral angles 3
3(2). Anterior pronotal lobe with 4 erect spines. Apparent scutellum with 2 curved erect spines ..... ***Paratagalis*** Monte
   Anterior pronotal lobe without spines. Apparent scutellum with low tubercles but no elongate spines .... ***Bagriella*** McAtee and Malloch
4(1). Apparent scutellem with a long, triangular structure terminating in a long, horizontal apical spine ..... ***Oncerotrachelus*** Stal
   Apparent scutellem consisting of 3 parts, each with a dorsal erect or oblique tubercle or spine, never with a horizontal apical spine ..... ***Saica*** Amyot and Serville

Genus *Oncerotrachelus* Stal

Oncerotrachelus Stal, 1868:130 [type-species: *Reduvius acuminatus* Say, only included species].

Oncerotrachelus acuminatus (Say)

Reduvius acuminatus Say, 1832:32 [United States of America (type)].
Oncerotrachelus "acuminatus var.".—Campos, 1925a:64 [Ecuador]; 1928:63 [Ecuador].

Genus *Saica* Amyot and Serville

Saica Amyot and Serville, 1843:371 [type-species: *Saica rubella* Amyot and Serville, a junior synonym of *Zelus recurvatus* Fabricius, only included species].

?Saica fokkeri Montandon

Saica "Fokkeri".—Campos, 1925a:64 [Ecuador; species credited to Montandon, but I have not yet found a published description of the species]; 1928:64 [Ecuador; see note for 1925a:64].

Saica ochracea Distant

Saica ochracea Distant, 1902b:175 [Ecuador (type)].—McAtee and Malloch, 1923:252 [Ecuador].—Wygodzinsky, 1949:63 [Ecuador].

Subfamily STENOPODAINAE Amyot and Serville

Barber's (1929–1930) revision of this subfamily for the New World was followed by a key to the

neotropical genera given by Costa Lima and Seabra (1945:507-510) [in the United States National Museum reprint copies of the latter appears a handwritten correction interchanging "*Pnohirmus*" from couplet 1 with "*Pnirontis*" from couplet 7].

To resolve a conflict with the Crustacean name Stenopodidae, the International Commission of Zoological Nomenclature ruled in Opinion 868 (1969) that the name for this group of insects should be spelled Stenopodainae.

Genus *Oncocephalus* Klug

Reduvius (*Oncocephalus*) Klug, 1830:2 [type-species: *Oncocephalus notatus* Klug, fide Distant, 1903:227].

Oncocephalus.—Fieber, 1861:42.—Reuter, 1882b:673-758 [monograph; key to species, pp. 674-682].—Campos, 1925a:64 [two unidentified species of *Oncocephalus* from Ecuador].

Oncocephalus antipodus Reuter

Oncocephalus antipodus Reuter, 1882a:41 [Ecuador (type)].—Lethierry and Severin, 1896:86 [Ecuador].—Barber, 1930: 228 [Ecuador; etc.].—Wygodzinsky, 1949:67 [Ecuador].—Cobben and Wygodzinsky, 1975:14 [Ecuador; etc.].

Genus *Pnirontis* Stal

Pnirontis Stal, 1859d:381 [type-species: *Pnirontis scutellaris* Stal, fixed by Van Duzee, 1916:28].

Pnirontis infirma Stal

Pnirontis infirma Stal, 1859d:382 [United States (type)].

SURVEY COLLECTION.—Napo (Sta. Cecilia, 16 May 1975).

Pnirontis pallescens Stal

Pnirontis pallescens Stal, 1859d:382 [Brazil (type)].—Campos, 1925a:63 [Ecuador]; 1928:64 [Ecuador].

Genus *Pnohirmus* Stal

Pnohirmus Stal, 1859d:384 [type-species: *Pnohirmus violentus* Stal, only included species].

Pnohirmus whymperi Distant

Pnohirmus whymperi Distant, 1891:117 [Ecuador (type); illustrated but not described].—Barber, 1930:182 [Ecuador].—Wygodzinsky, 1949:68 [Ecuador].

Pnohirmus "Whymperi" Distant, 1893b:93 [Ecuador (type); described as a "n. sp."].—Lethierry and Severin: 1896:84 [Ecuador].—Campos, 1919:61 [Ecuador]; 1925a:63 [Ecuador]; 1928:64 [Ecuador].

Genus *Pygolampis* Germar

Pygolampis Germar, 1817:286 [type-species: *Acanthia denticulata* Rossi, a junior synonym of *Cimex bidentatus* Goeze, only included species].—Campos, 1918:18 [in addition to *Pygolampis spurca* listed below, Campos reported an unidentified species from Ecuador]; 1919:59 [see notes under 1918:18].

Pygolampis spurca Stal

Pygolampis spurca Stal, 1859d:379 [Surinam (type)].—Campos, 1918:18 [Ecuador]; 1919:59 [Ecuador]; 1925a:64 [Ecuador]; 1928:64 [Ecuador].

Genus *Stenopoda* Laporte

Stenopoda Laporte, 1833:26 [type-species: *Stenopoda cinerea* Laporte, only included species].—Campos, 1919:60 [in addition to *Stenopoda scutellata* listed below, Campos reported an unidentified species of *Stenopoda* from Ecuador]; 1925a: 63 [see note for 1919:60]; 1928:64 [see note for 1919: 60].—Maldonado, 1976a:357-360 [modified generic limits].

Stenopoda cana Stal

Stenopoda cana Stal, 1859d:384 [Brazil (type)].

SURVEY COLLECTION.—Pastaza (27 km N Puyo, 4 Feb 1976).

Stenopoda scutellata Distant

Stenopoda scutellata Distant, 1891:116 [Ecuador (type); illustrated but not described]; 1893b:92 [Ecuador (type), described as a "n. sp."].—Lethierry and Severin, 1896:84 [Ecuador].—Campos, 1919:60 [Ecuador]; 1925a:63 [Ecuador]; 1928:64 [Ecuador].—Barber, 1930:202 [Ecuador].—Wygodzinsky, 1949:70 [Ecuador].

Subfamily TRIATOMINAE Jeannel

The following key to tribes and genera resulted from adjusting Usinger's (1944:27–28) key by incorporating Martinez and Carcavallo's (1977) new subfamily, by deleting and adding certain genera, and by testing characters and their descriptions against specimens when possible. (See Lent and Wygodzinsky, 1979.)

Key to Tribes and Genera of Triatominae in South America

1. Genae (lying on each side of clypeus beyond apex of juga) extending anteriorly beyond apex of head as 2 short points or vertical plates. Ocelli (inconspicuous among coarse head granules) located on anterior half of posterior lobe of head. Tribe BOLBODERINI Usinger 2

   Genae not extending anteriorly beyond apex of head. Ocelli variously located on posterior lobe of head 3

2(1). Scutellar apex prolonged as a cylindrical, blunt spine reaching apex of clavus. Femora ventrally with 2–3 spines on each margin ..... ***Belminus*** Stal

   Scutellar apex broadly truncate, extending only to apical third of clavus. Femora ventrally each with a single pair of stout spines subapically ..... ***Parabelminus*** Lent

3(1). Ocelli inconspicuous, located in or near transverse postocular groove. Corial veins scarcely elevated, almost obsolete. Tribe CAVERNICOLINI Usinger ..... ***Cavernicola*** Barber

   Ocelli conspicuous, each located on elevation in or near posterolateral angles of posterior lobe of head. Corium with 1 or more distinctly formed veins 4

4(3). Interocular space broad, equal to or broader than width of an eye. Head without a longitudinal interocellar groove. Middle and posterior femora without tubercles ventrally 5

   Interocular space distinctly narrower than an eye. Head with a deep, longitudinal, interocellar groove. All femora with tubercles ventrally. Tribe ALBERPROSENIINI Martinez and Carcavallo ..... ***Alberprosenia*** Martinez and Carcavallo

5(4). Clypeus distinctly narrowing apically. Genae subparallel or slightly converging anteriorly. Postocular lobe of head without a callosity behind each eye. Tribe TRIATOMINI Jeannel 7

   Clypeus more or less widening apically. Genae divergent. Postocular lobe of head with a callosity behind each eye. Tribe RHODNIINI Pinto 6

6(5). Head short; anteocular lobe broad, about twice as long as length of an eye ..... ***Psammolestes*** Bergroth

   Head elongate, anteocular lobe slender, 3 or more times as long as an eye ..... ***Rhodnius*** Stal

7(5). Scutellar apex prolonged as a long, tapering, upcurved sharp spine ..... ***Eratyrus*** Stal

   Scutellar apex various, but never prolonged as a long, tapering, up-

curved sharp spine 8

8(7). Base of scutellum on each side of midline with an anteriorly directed small but distinct bent fingerlike tubercle .. ***Nesotriatoma*** Usinger

Base of scutellum without spines 9

9(8). Antennae inserted near to or anterior to midlength of long, slender, preocular lobe of head 10

Antennae inserted well behind midlength of preocular lobe of head . 11

10(9). Each abdominal sternite delimited laterally by a suture remote from abdominal margin by a space about equal to a femoral diameter. Antennal segment II without long, stiff bristles. Length less than 35 mm ..... ***Triatoma*** Laporte

Each abdominal sternite extending uninterrupted (i.e., no suture) to or virtually to margin of abdomen. Antennal segment II with numerous long, stiff bristles, some of which are twice as long as diameter of the segment. Length 38 mm ..... ***Dipetalogaster*** Usinger

11(9). Pronotum with prominent conical tubercles discally and laterally. Scutellar apex blunt, upturned. Anterior and middle femora ventrally with a single pair of small spines ..... ***Mestor*** Kirkaldy

Pronotum with discal and lateral spines inconspicuous or absent. Scutellar apex prolonged as long, cylindrical, horizontal spine. Anterior and middle femora ventrally usually with several pairs of small spines ..... ***Panstrongylus*** Berg

Genus *Eratyrus* Stal

Eratyrus Stal, 1859a:101, 103 [type-species: *Eratyrus mucronatus* Stal, fide Wygodzinsky, 1949:71].—Lent and Jurberg, 1970:297–312 [review; key to species, p. 309].

Eratyrus cuspidatus Stal

Eratyrus cuspidatus Stal, 1859a:103, 104 [Colombia (type)].—Lent and Jurberg, 1970:306 [Ecuador; etc.].

Genus *Panstrongylus* Berg

Panstrongylus Berg, 1879:167 [type-species: *Panstrongylus "Guntheri"* Berg, only included species].—Lent and Pifano, 1940:631 [tabular key to species].—Lent, 1960:168–169 [key to species].—Lent and Jurberg, 1975:379–438 [revision; no key, but illustration of external genitalia of both sexes].

Panstrongylus chinai Del Ponte

Panstrongylus chinai Del Ponte, 1929:4 [Peru (type)].—Leon and Leon, 1953:53 [Ecuador; etc.].—Lent, 1960:167 [Ecuador, on map].—Lent and Jurberg, 1975:386 [Ecuador; etc.].

Panstrongylus geniculatus (Latreille)

Reduvius geniculatus Latreille, 1811:225 [Peru (type)].

Panstrongylus geniculatus.—Leon and Leon, 1953:52 [Ecuador; etc.].—Lent, 1960:167 [Ecuador, on map].—Lent and Jurberg, 1968:499 [Ecuador; etc.].

Panstrongylus howardi Neiva

Triatoma howardi Neiva, 1911:240 [Africa (type)].

Panstrongylus howardi.—Lent, 1960:164 [Ecuador, correction of original locality].—Lent and Jurberg, 1975:404 [Ecuador].

Panstrongylus rufotuberculatus (Champion)

Lamus rufotuberculatus Champion, 1899:210 [Panama (type)].

Triatoma "coxo-rufa".—Campos, 1932a:1, 3 [Ecuador].—Neiva and Lent, 1936:170, 184 [Ecuador].—Costa Lima, 1940a:186 [Ecuador].

Panstrongylus rufotuberculatus.—Neiva and Lent, 1936:177 [Ecuador; etc.].—Lent and Pifano, 1940:633, 638 [Ecuador; etc.].—Neiva and Lent, 1941:86 [Ecuador; etc.].—Leon and Leon, 1953:50 [Ecuador; etc.].—Lent, 1960:167 [Ecuador, on map].—Lent and Jurberg, 1975:426 [Ecuador; etc.].

Mestor rufotuberculatus.—Usinger, 1944:45 [Ecuador; etc.].—Leon, 1949:574 [Ecuador; etc.].

Genus *Rhodnius* Stal

Rhodnius Stal, 1859a:104 [type-species: *Rhodnius prolixus* Stal, fide Neiva and Lent 1941:70].—Lent and Jurberg, 1969: 487–560 [revision; key to species, pp. 499–500].

Rhodnius ecuadoriensis Lent and Leon

Rhodnius ecuadoriensis Lent and Leon, 1958:181 [Ecuador (type)].—Lent and Jurberg, 1969:498, 510 [Ecuador; etc.].

Rhodnius pictipes Stal

Rhodnius pictipes Stal, 1872a:110 [Brazil (type)].—Dias, 1952: 320, 323 [Ecuador; etc.].—Leon and Leon, 1953:53 [Ecuador; etc.].—Lent, 1954:244 [Ecuador; etc.; on map fig. 11, not in text].—Lent and Jurberg, 1969:498, 535 [Ecuador; etc.].

Rhodnius prolixus Stal

Rhodnius prolixus Stal, 1859a:104 [Venezuela (type)].—Da Matta, 1919:611 [Ecuador].—Leon, 1949:574 [Ecuador, etc.].—Dias, 1952:320, 323 [Ecuador; etc.].—Leon and Leon, 1953:53 [Leon and Leon refuted Da Matta's 1919 record for Ecuador].—Lent, 1954:244 [Ecuador; etc.; on map fig. 11, not in text].—Lent and Jurberg, 1969:498, 540 [Ecuador; etc.].

Rhodnius robustus Larrousse

Rhodnius robusts Larrousse, 1927:85 [French Guiana; Brazil].—Lent and Jurberg, 1969:498, 550 [Ecuador; etc.].

Genus *Triatoma* Laporte

Triatoma Laporte, 1832:11 [type-species: *Nabis gigas* Fabricius, a junior synonym of *Cimex rubrofasciatus* De Geer, only included species].

Conorhinus.—Campos, 1919:61 [two unidentified species of *Conorhinus* from Ecuador, the Naranjapata specimen later designated by Lent (1950) as holotype of his new species *Triatoma dispar*].

Triatoma carrioni Larrousse

Triatoma carrioni Larrousse, 1926:136 [Ecuador (type)].—Pinto, 1931:87 [Ecuador].—Mazzotti and Leon, 1942:56 [Ecuador].—Leon, 1949:57 [Ecuador; etc.].—Wygodzinsky, 1949:74 [Ecuador].—Leon and Leon 1953:49 [Ecuador].—Dias, 1952:320 [Ecuador].

Triatoma "Carrioni".—Campos, 1928:65 [Ecuador].

Eutriatoma "Carrioni".—Pinto, 1931:87 [Ecuador].

Eutriatoma carrioni.—Hase, 1932:597 [Ecuador].—Neiva and Lent, 1936:169, 184 [Ecuador]; 1941:74, 91 [Ecuador].

Triatoma (Eutriatoma) carrioni.—Costa Lima, 1940a:199 [Ecuador].

Triatoma dimidiata (Latreille)

Reduvius dimidiatus Latreille, 1811:223 [Peru (type)].

Conorhinus dimidiatus.—Stal, 1859a:110 [Ecuador; etc.]; 1872a:111 [Ecuador; etc.].—Walker, 1873c:16 [Ecuador; etc.].—Distant, 1891:115 [Ecuador].—Lethierry and Severin, 1896:116 [Ecuador; etc.].—Champion, 1899:206 [Ecuador; etc.].—Campos, 1918:19 [Ecuador]; 1919:60 [Ecuador].

Triatoma dimidiata.—Neiva, 1914:36 [Ecuador; etc.].—Del Ponte, 1921:39 [Ecuador; etc.].—Campos, 1923:2 [Ecuador]; 1925a:65 [Ecuador]; 1928:65 [Ecuador]; 1931:111 [Ecuador].—Fracker and Bruner, 1924:165 [Ecuador].—Arteaga, 1930:92 [Ecuador].—Pinto, 1925:66 98 [Ecuador]; 1931:63 [Ecuador].—Hase, 1932:596 [Ecuador; etc.].—Neiva and Lent, 1936:170, 184 [Ecuador; etc.]; 1941:76, 91 [Ecuador; etc.].—Usinger, 1940:461 [Ecuador; etc.].—Leon, 1954:88 [Ecuador].—Alvarez, 1944:111 [Ecuador]; 1947:311 [Ecuador].—Dias, 1952:319, 323 [Ecuador; etc.].—Leon and Leon, 1953;46 [Ecuador].

Triatoma dimidiata maculipennis.—Hussey, 1922:114 [Ecuador; etc.].

Triatoma dimidiata capitata.—Leon, 1949:574 [Ecuador].—Dias, 1952:319, 323 [Ecuador].—Leon and Leon, 1953:48 [Ecuador].

Triatoma dispar Lent

Conorhinus.—Campos, 1919:61 [of three unidentified specimens reported, the Naranjapata specimen was designated by Lent (1950) as holotype of his new species *Triatoma dispar*].

Eutriatoma venosa.—Del Ponte, 1930:904 [Ecuador].—Pinto, 1931:104 [Ecuador; etc.].—Neiva and Lent, 1941:88, 91 [Ecuador; etc.].

Triatoma venosa.—Neiva and Lent, 1936:179, 184 [Ecuador; etc.].—Usinger 1944:61 [Ecuador; etc.].—Dias, 1952:320, 323 [Ecuador].—Leon and Leon, 1953:50 [Ecuador; etc.].

Triatoma (Eutriatoma) venosa.—Costa Lima, 1940a:198 [Ecuador; etc.].

Triatoma "venonosa".—Leon, 1949:574 [Ecuador; etc.].

Triatoma dispar Lent, 1950:437 [Ecuador (type)].—Dias, 1952:320, 323 [Ecuador; etc.].

Subfamily VESCIINAE Fracker and Bruner

Wygodzinsky's (1943) well-illustrated work on this group was followed by China and Usinger's (1949b) review and list of the Vesciinae; the latter was modified by Wygodzinsky (1950), who transferred the genus *Mirambulus* from the subfamily Reduviinae to the Vesciinae.

Genus *Mirambulus* Breddin

Mirambulus Breddin, 1901c:74 [type-species: *Mirambulus niger* Breddin, only included species].—Wygodzinsky, 1950: 265-268 [transferred genus *Mirambulus* from subfamily Reduviinae to subfamily Vesciinae].

Mirambulus niger Breddin

Mirambulus niger Breddin, 1901c:75 [Ecuador (type)].—Wygodzinsky, 1949:56 [Ecuador]; 1950:266 [Ecuador; etc.].

Family RHOPALIDAE Amyot and Serville

Listed below are seven species in four genera for Ecuador and three species in three genera for the Galapagos Islands; three genera, but as yet no species, have been reported from both areas. Additional species can be expected from Ecuador because more than 30 species in five genera of Rhopalidae are already known for South America.

A classification, including useful keys, for the Rhopalidae from genus upward was presented by Chopra (1967). It was from that paper that the following key to subfamilies, tribes, and genera in South America was adapted.

Key to the Subfamilies, Tribes, and Genera of Rhopalidae in South America

1. Lateral margin of pronotum with a distinct notch delimiting the collar posteriorly. Suture between visible abdominal segments III and IV as strong and deep as suture between sternites IV and V. Subfamily SERINETHINAE Stal ..... ***Jadera*** Stal

   Lateral margins of pronotum not notched immediately posterior to collar. Suture between visible abdominal segments III and IV much shallower and weaker than other suture. Subfamily RHOPALINAE Amyot and Serville 2

2(1). Posterior femur thicker than median or anterior femora, ventrally with several strong spines 3

   Posterior femur not thicker than anterior or median femora, no spines ventrally 4

3(2). Anterolateral angle of pronotum produced anteriorly as an acute tooth. Clypeus acutely projecting beyond juga. Tribe HARMOSTINI Stal ..... ***Harmostes*** Burmeister

   Anterolateral angle of pronotum not produced. Clypeus bluntly rounded apically, not or slightly (less than own width) surpassing juga. Tribe CHOROSOMINI Douglas and Scott ..... ***Xenogenus*** Berg

4(2). Pronotum with a sharp transverse suture delimiting anterior collar; surface between collar and calli elevated, calloused, impunctate (sometimes flecked with fuscous or red). Tribe RHOPALINI Amyot and Serville ..... ***Liorhyssus*** Stal

   Pronotum without a delimited anterior collar; surface between collar and calli distinctly punctate, neither elevated nor calloused. Tribe NIESTHRINI Chopra 5

5(4). Last connexival segment dorsally with an inconspicuous oblique suture

setting off lateral basal angle (generally, membrane must be lifted to see this suture). Labium not surpassing posterior coxae. ..... ***Arhyssus*** Stal

Last connexival segment without a dividing suture. Labium reaching or surpassing third abdominal sternite ..... ***Niesthrea*** Spinola

Subfamily RHOPALINAE Amyot and Serville

Tribe HARMOSTINI Stal

Genus *Harmostes* Burmeister

Harmostes Burmeister, 1835:307 [type-species: *Harmostes dorsalis* Burmeister, only included species].—Harris 1944: 192–195 [included list of species and a key to 27 of the 30 known species].

Harmostes corazonus Distant

Harmostes corazonus Distant, 1893b:85 [Ecuador (type); Distant, 1891:113, listed this as a "n. sp." for Ecuador with neither description nor figure, hence as a nomen nudum]. —Campos, 1925a:57 [Ecuador].

Harmostes disjunctus Barber

Harmostes serratus.—Heidemann, 1901:365 [Galapagos Islands].

Harmostes disjunctus Barber, 1925:241 [Galapagos Islands (type)]; 1934:283 [Galapagos Islands].—Harris, 1944:195 [Galapagos Islands].

Harmostes montivagus Distant

Harmostes montivagus Distant, 1893b:85 [Ecuador (type); Distant, 1891:113, listed this as a "n. sp." for Ecuador with neither description nor figure, hence as a nomen nudum]. —Campos, 1925a:57 [Ecuador].

Harmostes serratus (Fabricius)

Acanthia serrata Fabricius 1775:695 [no locality given].

Harmostes reflexulus.—Torre-Bueno, 1915:219 [Ecuador; etc.]. —Campos, 1925a:57 [Ecuador].

Tribe NIESTHRINI Chopra

Genus *Niesthrea* Spinola

Niesthrea Spinola, 1837:245 [type-species: *Lygaeus sidae* Fabricius, only included species].

Niesthrea pictipes (Stal)

Rhopalus pictipes Stal, 1859b.239 [Brazil (type)].

Corizus pictipes.—Campos, 1919:56 [Ecuador]; 1925a:57 [Ecuador].

Niesthrea sidae (Fabricius)

Lygaeus sidae Fabricius, 1794:169 [South America (type)].

Rhopalus sidae.—Torre-Bueno, 1915:219 [Ecuador; etc.].—Campos, 1925a:56 [Ecuador].

Tribe RHOPALINI Amyot and Serville

Genus *Liorhyssus* Stal

Corizus (*Liorhyssus*) Stal, 1870:222 [type-species: *Lygaeus hyalinus* Fabricius, fixed by Reuter, 1888:763].

Liorhyssus.—Stal, 1872b:55.—Göllner-Scheiding, 1976:181–206 [revision; key to species, pp. 204–205].

Liorhyssus hyalinus (Fabricius)

Lygaeus hyalinus Fabricius, 1794:168 ["Americae Insulis" (type)].

Rhopalus lugens Stal, 1859b:240 [Galapagos Islands (type)].—Linsley and Usinger, 1966:134 [Galapagos Islands].

Corizus lugens Signoret, 1859:92 [Galapagos Islands (type); described but indicated as a "Stal, Mss." name].—Berg, 1879:95 [Galapagos Islands]; 1884:47 [Galapagos Islands].—Lethierry and Severin, 1894:118 [Galapagos Islands; etc.].—Barber, 1934:284 [Galapagos Islands; etc.].

Corizus (*Liorhyssus*) *lugens.*—Stal, 1870:222 [Galapagos Islands].

Corizus hyalinus.—Barber, 1925:245 [Galapagos Islands]; 1934:284 [Galapagos Islands].

Liorhyssus hyalinus.—Linsley and Usinger, 1966:134 [Galapagos Islands].

Liorhyssus lineatoventris (Spinola)

Merocoris "lineato-ventris" Spinola, 1852:168 [Chile (type)].

Rhopalus "rufescens".—Torre-Bueno, 1915:219 [Ecuador; etc.].—Campos, 1925a:56 [Ecuador].

Subfamily SERINETHINAE Stal

Genus *Jadera* Stal

Jadera Stal, 1862a:59 [type-species: *Cimex sanguinolenta* Fabricius, fixed by Van Duzee, 1916:15].

Jadera aeola (Dallas)

Serinetha aeola Dallas, 1852:463 [Mexico (type)].
Jadera aeola.—Campos, 1919:56 [Ecuador]; 1925a:57 [Ecuador].

Jadera sanguinolenta (Fabricius)

Cimex sanguinolentus Fabricius, 1775:721 ["America" (type)].
Jadera sanguinolenta.—Heidemann, 1901:365 [Galapagos Islands; etc.].—Barber, 1934:284 [Barber noted Heidemann's Galapagos Islands specimens too damaged to confirm identification].—Linsley and Usinger, 1966:134 [Galapagos Islands].

Family SALDIDAE Amyot and Serville

The present catalogue includes for Saldidae records of three species in two genera for continental Ecuador, and two species in two genera for the Galapagos Islands; no species and only one genus are reported as occurring in both areas. Polhemus (1968a) reported on the Saldidae fauna of the Galapagos Islands. Undoubtedly, more species will be found in Ecuador because about 30 species in six genera are known to occur in South America.

Several authors working in this group give indications of pending changes, hence no attempt will be made here to construct a generic key to the family as it occurs in South America. However, the present arrangement follows Cobben's (1959) suprageneric classification.

Subfamily CHILOXANTHINAE Cobben

Genus *Pentacora* Reuter

Pentacora Reuter, 1912b:10 [type-species: *Acanthia signoreti* Guerin, original designation].

Pentacora sphacelata (Uhler)

Salda sphacelata Uhler, 1877:434 [United States of America (type)].
Salda rubromaculata Heidemann, 1901:368 [Galapagos Islands (type)].
Acanthia rubromaculata.—Kirkaldy and Torre-Bueno, 1909: 179 [Galapagos Islands].
Pentacora rubromaculata.—Barber, 1934:289 [Galapagos Islands].—Drake, 1949:189 [Galapagos Islands].
Pentacora sphacelata.—Drake and Hottes, 1954:5 [Galapagos Islands; etc.].—Linsley and Usinger, 1966:136 [Galapagos Islands].—Polhemus, 1968a:21 [Galapagos Islands; etc.].—Linsley, 1977:16 [Galapagos Islands].

Subfamily SALDINAE Amyot and Serville

Tribe CHARTOSCIRTINI Cobben

Genus *Pseudosaldula* Cobben

Pseudosaldula Cobben, 1961:96 [type-species: *Acanthia rogeri* Kirkaldy, original designation].

Pseudosaldula andensis (Distant)

Acanthia andensis Distant, 1891:118 [Ecuador (type); figured as "n. sp." but not described]; 1893b:93 [Ecuador; described as "n. sp."].—Kirkaldy and Torre-Bueno, 1909: 175 [Ecuador].
Salda andensis.—Lethierry and Severin, 1896:216 [Ecuador].
Saldula andensis.—Drake and Hoberlandt, 1950:7 [Ecuador].
Orekora andensis.—Drake, 1962:122 [Ecuador; etc.].

Pseudosaldula bucayana (Drake)

Pentacora bucayana Drake, 1955:157 [Ecuador (type)].

Genus *Saldula* Van Duzee

Saldula Van Duzee, 1914:387 [type-species: *Cimex saltatorius* Linnaeus, original designation].

Saldula galapagosana Polhemus

Saldula galapagosana Polhemus, 1968a:22 [Galapagos Islands (type)].—Linsley, 1977:16 [Galapagos Islands].

Saldula sectilis (Hodgden)

Salda sectilis Hodgden, 1949:160 [Panama Canal Zone (type)].
Saldula sectilis.—Polhemus, 1968a:22 [Ecuador].

Family SCHIZOPTERIDAE Reuter

As yet no Ecuadorian records of the Schizopteridae have been encountered, but the probability of its presence cannot be doubted. Some 60 species of these tiny infrequently collected insects in 11 genera already have been reported for South America. Specialized collecting probably will increase that number several fold.

The two most comprehensive studies for this family in the Western Hemisphere are those by McAtee and Malloch (1925b), and Emsley (1969). McAtee and Malloch presented partial keys to the genera and species known to them from the New World, a coverage which is quite incomplete when compared to our modern knowledge of the family. Emsley discussed numerous characters and suggested a subfamily classification into which he assigned most of the genera; however his only keys are to genera and species known to occur on Trinidad. A practical key to the described genera in South America has yet to be made.

Family SCUTELLERIDAE Leach

The following list contains six species of Scutelleridae in four genera from Ecuador and none for the Galapagos Islands. Certainly many more of the 73 species in 23 genera reported for South America in the Kirkaldy (1909) "Catalogue" will be found in Ecuador.

A world review of the group, as a subfamily of Pentatomidae, containing keys down to genera and subgenera and lists of species, was published by Schouteden (1904). Leston's (1952b) examination of the genitalia of this group found the suprageneric units to be of unequal value and led him to rearrange the suprageneric hierarchy.

Subfamily TETYRINAE Amyot and Serville

Genus *Homaemus* Dallas

Homaemus Dallas, 1851:4, 36 [type-species: *Pachycoris exilis* Herrich-Schaeffer, a junior synonym of *Scutellera aeneifrons* (Say), fixed by Schouteden, 1904:59].—Campos, 1925a: 52 [two unidentified species from Ecuador].

Genus *Pachycoris* Burmeister

Pachycoris Burmeister, 1835:348, 391 [type-species: *Pachycoris fabricii* Burmeister, a junior synonym of *Cimex torridus* Scopoli, fide Kirkaldy, 1903:213].—Campos, 1919:50 [three unidentified species from Ecuador]; 1925a:49 [three unidentified species from Ecuador].

Pachycoris chrysomelinus Walker

Pachycoris chrysomelinus Walker, 1867:52 [Ecuador (type)].—Schouteden, 1904:49 [Ecuador].—Kirkaldy, 1909:285 [Ecuador].

Genus *Polytes* Stal

Polytes Stal, 1867:492 [type-species: *Polytes hebraicus* Stal, a junior synonym of *Pachycoris lineolatus* Dallas, only included species].

Polytes granulatus (Walker)

Symphylus granulatus Walker, 1868:516 [Ecuador (type)].
Polytes granulatus.—Kirkaldy, 1909:286 [Ecuador].

Polytes rubromaculatus Distant

Polytes rubromaculatus Distant, 1911:243 [Ecuador (type)].

Genus *Symphylus* Dallas

Symphylus Dallas, 1851:5, 37 [type-species: *Symphylus obtusus* Dallas, fixed by Schouteden, 1904:60].

Symphylus deplanatus (Herrich-Schaeffer)

Pachycoris deplanatus Herrich-Schaeffer, 1837:3 [Brazil (type)].
Symphylus deplanatus.—Torre-Bueno, 1915:218 [Ecuador; etc.].

Symphylus lativittatus Breddin

Symphylus lativittatus Breddin, 1903c:57 [Ecuador (type)].—Schouteden, 1904:61 [Ecuador].—Bergroth, 1908:142 [Ecuador].—Kirkaldy, 1909:280 [Ecuador].

Subfamily SCUTELLERINAE Leach

Genus *Augocoris* Burmeister

Augocoris Burmeister, 1835:349, 396 [type-species: *Augocoris gomesii* Burmeister, fixed by Brulle, 1835:404].

Augocoris gomesii Burmeister

Augocoris gomesii Burmeister, 1835:396 [Brazil (type)].
Augocoris "Gomesii" Campos, 1919:50 [Ecuador]; 1925a:49 [Ecuador].

Family STENOCEPHALIDAE Dallas

The family Stenocephalidae appears to be restricted to the Old World except for the species *Dicranocephalus insularis* (Dallas), which is reported only from the Galapagos Islands. Scudder (1957: 156), after confirming the generic assignment of this species, remarked:

> This confirmation of the generic assignment of the Galapagos species is rather surprising as such an Old World plus Galapagos distribution is unknown elsewhere in the animal kingdom except for one instance in the Mollusca. One would suspect this family is also present but as yet undiscovered or unrecognized in the New World.

After a history of conflicting assignments in classifications of the Heteroptera, this group now appears to be firmly established as a full family. The most recent revision of the Stenocephalidae was by Lansbury (1965a–1966), who discussed the morphology, distribution, and infrafamilial taxonomy; he included keys to genera and species (pp. 62–63).

Genus *Dicranocephalus* Hahn

Dicranocephalus Hahn, 1826:1 [type-species: *Coreus nugax* Fabricius, a junior synonym of *Cimex agilis* Scopoli, only included species].

Dicranocephalus insularis (Dallas)

Stenocephalus insularis Dallas, 1852:482 [Galapagos Islands (lectotype)].—Dohrn, 1859:29 [Galapagos Islands].—Stal, 1870:218 [Galapagos Islands].—Lethierry and Severin, 1894:98 [Galapagos Islands].—Heidemann, 1901:365 [Galapagos Islands].—Barber, 1925:241 [Galapagos Islands]; 1934:282 [Galapagos Islands].
Dicranocephalus insularis.—Sailer, 1952:302 [Galapagos Islands].—Scudder, 1957:156 [Galapagos Islands].—Linsley and Usinger, 1966:133 [Galapagos Islands].—Lansbury, 1965a:71 [Galapagos Islands].

Note: Lansbury (1965a:72) remarked that this species, even after the lapse of a century and a quarter, is still known only from two specimens collected on the Galapagos Islands by Charles Darwin in the 1830's during the famous voyage of the Beagle! Absence of subsequent collections raises questions about it truly being a member of that archipelago's fauna or simply another case of mislabelling. Even if the latter were true, there still is no explanation for the lack of additional specimens from the Old World. Collectors should be alert to rediscover this species.

Family TERMITAPHIDIDAE Silvestri

No records of this termitophilous family of bugs in Ecuador have been encountered.

The two known genera of this family occur in the American tropics, including South America, and may be separated by the following couplet abstracted from Usinger's (1942a:158) revision of the Termitaphididae, which also gives keys to the species of the two genera (pp. 158–159).

Key to the Genera of Termitaphididae

Body flattened dorsoventrally; marginal lamina shallowly crenulate, not divided into separate lobes ..... ***Termitaradus*** Myers
Body almost as high as wide; marginal lamina divided into distinct, deeply and widely separated lobes ..... ***Termitaphis*** Wasman

Family TESSARATOMIDAE Schilling

One of the two South American species of this family has been reported from Ecuador.

A series of papers by Leston (1954, 1955), Kumar (1969a, 1969b), and Kumar and Ghauri (1970) has changed in various ways the concept of this group as catalogued by Kirkaldy (1909: 343–361), including elevating it from subfamily to family status, transferring the American group Pantochlorini to the Pentatomidae, and leaving two of the species of the genus *Piezosternum* as the only New World members of the family.

Subfamily ONCOMERINAE Stal

Genus *Piezosternum* Amyot and Serville

Piezosternum Amyot and Serville, 1843:161 [type-species: *Pentatoma mucronata* Beauvois, a junior synonym of *Cimex subulatus* (Thunberg), only included species].

Piezosternum subulatum (Thunberg)

Cimex subulatus Thunberg, 1783:41 [no locality].
Piezosternum subulatum.—Campos, 1925a:52 [Ecuador].

Family THAUMASTOCORIDAE Kirkaldy

No Ecuadorian records for this family have been found.

The two genera of the subfamily Xylastodorinae occur in the Western Hemisphere, and of these, only *Discocoris* Kormilev (1955a:8) has been reported from South America (Argentina). A comprehensive review of the Thaumastocoridae with keys to subfamilies, genera, and species was given by Drake and Slater (1957).

Family THYREOCORIDAE Amyot and Serville

So far, this lists accounts for a single species of Thyreocoridae in Ecuador and none for the Galapagos Islands. The probable existence of many more species in Ecuador is evident from the numbers, 135 species in six genera, reported for South America in McAtee and Malloch's (1933) "Revision" of the group as a subfamily of Pentatomidae.

The above-mentioned revision includes keys down to subspecies and many useful illustrations. The key to genera presented below was adapted therefrom and checked against specimens.

Key to the Genera of Thyreocoridae in South America

1. Costal margin with a fine longitudinal carina delimited mesad by a narrow longitudinal impression of row of punctures. Spiracles on all visible pregenital abdominal segments about equidistant from lateral and basal margins of the segment 2
   Costal margin thickly rounded, with neither a fine carina nor a sublateral impression of row of punctures. Spiracles on last 3 pregenital segments much closer to lateral margin than to basal margin of segment ..... ***Corimelaena*** White
2. Abdominal sternites, except first-visible, each with 1 or 2 long, stout bristles near lateral margin 3
   Abdominal sternities either without long stout bristles or bristles present on only 1 or 2 segments ..... ***Pericrepis*** Horvath
3. Posterior tibia convex dorsally ..... ***Galgupha*** Amyot and Serville
   Posterior tibia dorsally distinctly flattened or broadly sulcate 4
4. Posterior tibia with a fine longitudinal carina along posterior face. Pronotum on posterior half distinctly lineate-rastrate. ***Amyssonotum*** Horvath
   Posterior tibia without carina posteriorly. Pronotum not rastrate ..... ***Alkindus*** Distant

Genus *Corimelaena* White

Corimelaena White, 1839:539 [type-species: *Tetyra lateralis* Fabricius, original designation].—Torre-Bueno, 1939:186 [Torre-Bueno reduced McAtee and Malloch's (1933:358) generic name *Allocoris* to a junior synonym of *Corimelaena*].—Sailer, 1945:129 [Sailer explains synonymy of *Allocoris* under *Corilmelaena*].

Corimelaena tibialis (Fabricius)

Tetyra tibialis Fabricius, 1803:144 [South America (type)].
Allocoris (Allocoris) tibialis.—McAtee and Malloch, 1933:379 [Ecuador; etc.].

SURVEY COLLECTION.—Manabi (Sto. Domingo de los Colorados, May 1975).

Family TINGIDAE Laporte

The following list contains 33 species of lace bugs in 17 genera from continental Ecuador and five species in two genera from the Galapagos Islands. So far, the two areas share two genera but no species. The above numbers do not comprise a very large percentage of the more than 450 species in 55 genera already reported from South America; undoubtedly, many more species of the family will be found in Ecuador. The Galapagos Islands lace bug fauna was treated in a synposis by Drake and Froeschner (1967), and the subsequent description of a fifth species by Froeschner (1976).

Most of the following literature records were taken from the Drake and Ruhoff (1965) world catalog of Tingidae, a work that is indispensable for studies in the family and includes keys to subfamilies and tribes (pp. 16–17); a few subsequent papers are cited also. A key to the world genera is in preparation, but it is not yet complete enough to adapt as a guide to all the genera known from South America.

Subfamily CANTACADERINAE Stal

Tribe PHATNOMATINI Drake and Davis, new emendation

Genus *Phatnoma* Fieber

Phatnoma Fieber, 1844:57 [type-species: *Phatnoma laciniata* Fieber, only included species].

Phatnoma biordinatum Froeschner

Phatnoma biordinatum Froeschner, 1976:183 [Galapagos Islands (type)].

Phatnoma ecuadoris Drake

Phatnoma ecuadoris Drake, 1941:141 [Ecuador (type)]; 1944: 141 [Ecuador]; 1950:165 [Ecuador].—Drake and Ruhoff, 1965:36 [Ecuador].

Phatnoma eremaeum Drake and Froeschner

Phatnoma eremaea Drake and Froeschner, 1967:83 [Galapagos Islands (type)].—Linsley, 1977:12 [Galapagos Islands].

Subfamily TINGINAE Laporte

Tribe TINGINI Laporte

Genus *Acanthocheila* Stal

Monanthia (Acanthocheila) Stal, 1858:61 [type-species: *Monanthia (Acanthocheila) armigera* Stal, fixed by Van Duzee, 1916:26].
Acanthocheila Stal, 1873:127.

Acanthocheila armigera (Stal)

Monanthia (Acanthocheila) armigera Stal, 1858:61 [Brazil (type)].
Acanthocheila armigera.—Drake and Hambleton, 1945:359 [Ecuador].—Drake and Ruhoff, 1965:56 [Ecuador; etc.].

Genus *Amblystira* Stal

Amblystira Stal, 1873:120, 129 [type-species: *Monanthia pallipes* Stal, only included species].

Amblystira machalana Drake

Amblystira machalana Drake, 1948a:22 [Ecuador (type)].—Drake and Ruhoff, 1965:80 [Ecuador; etc.].
"*Ablystira*" *machalana.*—Yust, 1958, nos. 1–165 [Ecuador].

Genus *Ambotingis* Drake and Ruhoff

Ambotingis Drake and Ruhoff, 1960:29 [type-species: *Monanthia senta* Drake and Hambleton, only included species].

Ambotingis senta (Drake and Hambleton)

Monanthia senta Drake and Hambleton, 1942:329 [Peru (type)]; 1945:356 [Ecuador].
Ambotingis senta.—Drake and Ruhoff, 1965:83 [Ecuador; etc.].

Genus *Atheas* Champion

Atheas Champion 1898:44 [type-species, *Atheas nigricornis* Champion, fixed by Van Duzee 1916:26].

Atheas nigricornis Champion

Atheas nigricornis Champion 1898:45 [Mexico; Guatemala].—Drake and Ruhoff 1965:93 [Ecuador; etc.].

Genus *Corythaica* Stal

Corythaica Stal, 1873:120, 128 [type-species: *Tingis monacha* Stal, only included species].—Hurd, 1945:79–99 [monograph; key to species pp. 81–82].

Corythaica costata Gibson

Corythaica costata Gibson, 1919:99 [Peru (type)].—Monte, 1940:284 [Ecuador; etc.].—Drake and Hambleton, 1942: 330 [Ecuador; etc.]; 1945:366 [Ecuador; etc.].—Hurd, 1945:94 [Ecuador; etc.].—Yust, 1955:439, 441–442 [Ecuador]; 1958, nos. 104, 129, L75, L86 [Ecuador].—Drake and Ruhoff 1965:137 [Ecuador; etc.].

Corythaica cytharina (Butler)

Monanthia cytharina Butler, 1877:90 [Galapagos Islands (type)].
Leptostyla cytharina.—Distant, 1902a:354 [Galapagos Islands].—Champion, 1924:260 [Galapagos Islands].
Corythaica renormata Barber, 1925:251 [Galapagos Islands (type)].
Corythaica cytharina.—Barber, 1934:286 [Galapagos Islands].—Monte, 1941:88 [Galapagos Islands].—Drake and Hambleton, 1942:330 [Galapagos Islands].—Hurd, 1945:82, 86 [Galapagos Islands].—Drake and Ruhoff, 1965:138 [Galapagos Islands].—Linsley and Usinger, 1966:134 [Galapagos Islands].—Drake and Froeschner, 1967:84 [Galapagos Islands].—Froeschner, 1976:182 [Galapagos Islands].—Linsley, 1977:12 [Galapagos Islands].

Corythaica darwiniana Drake and Froeschner

Corythaica darwiniana Drake and Froeschner, 1967:89 [Galapagos Islands].—Froeschner, 1976:182 [Galapagos Islands].—Linsley, 1977:12 [Galapagos Islands].

Corythaica wolfiana Drake and Froeschner

Corythaica wolfiana Drake and Froeschner, 1967:89 [Galapagos Islands (type)].—Froeschner, 1976:182 [Galapagos Islands].—Linsley, 1977:12 [Galapagos Islands].

Genus *Corythucha* Stal

Corythucha Stal, 1873:119, 122 [type-species: *Tingis fusciger* Stal, fixed by Van Duzee, 1916:25].

Corythucha globigera Breddin

Corythucha globigera Breddin, 1901c:82 [Ecuador (type)].—Monte, 1941:90 [Ecuador].—Drake and Hambleton, 1944:129 [Ecuador; etc.]; 1945:366 [Ecuador; etc.].—Drake and Ruhoff 1965:149 [Ecuador; etc.].

Corythucha gossypii (Fabricius)

Acanthia gossypii Fabricius, 1974:78 ["Americae meridionalis, Insulin Dom." (type)].
Corythucha gossypii.—Drake and Hambleton, 1945:366 [Ecuador; etc.].—Drake and Ruhoff, 1965:149 [Ecuador; etc.].

Corythucha nocens Drake and Hambleton

Corythucha nocentis Drake and Hambleton, 1942:330 [Peru (type)]; 1945:366 [Ecuador; etc.].
Corythucha nocens.—Drake and Ruhoff, 1965:156 [Ecuador; etc.].

Genus *Dictyla* Stal

Dictyla Stal, 1874:57 [type-species: *Monanthia platyoma* Fieber, only included species].

Dictyla berryi (Drake)

Monanthia berryi Drake, 1943;141–142 [Peru (type)].—Drake and Hambleton, 1945:357 [Ecuador; etc.].
Dictyla berryi.—Drake and Ruhoff, 1965:182 [Ecuador; etc.].

Genus *Gargaphia* Stal

Monanthia (*Gargaphia*) Stal, 1862b:324 [type-species: *Monanthia* (*Phyllontochila*) *patricia* Stal, fixed by Van Duzee, 1916: 25].
Gargaphia.—Stal, 1873:119, 124.

Gargaphia neivai Drake and Poor

Gargaphia neivai Drake and Poor, 1940:227 [Paraguay (type); Ecuador].—Drake and Hambleton, 1945:365 [Ecuador; etc.].—Yust, 1958, no. 202 [Ecuador; etc.].—Drake and Ruhoff, 1965:228 [Ecuador; etc.].

Genus *Leptobyrsa* Stal

Leptobyrsa Stal, 1873:119, 123 [type-species: *Tingis steini* Stal, only included species].

Leptobyrsa decora Drake

Leptobyrsa decora Drake, 1922:375 [Colombia (type); Ecuador].—Drake and Poor, 1937:164 [Ecuador; etc.].—Monte, 1938:130 [Ecuador].—Yust, 1958, no. 207 [Ecuador].—Drake and Ruhoff, 1965:258 [Ecuador; etc.].

SURVEY COLLECTION.—Cotopaxi (117 mi W Latacunga, 1 Jul 1975).

Genus *Leptodictya* Stal

Leptodictya Stal, 1873:121, 127 [type-species: *Monanthia ochropa* Stal, fixed by Oshanin, 1912:45].

Note: All the species listed below belong to the subgenus *Hanuala* Kirkaldy, 1905:217 [type-species: *Hanuala leinahoni* Kirkaldy, only included species].

Leptodictya bambusae Drake

Leptodictya bambusae Drake, 1918:175 [Puerto Rico (type)].—Drake and Hambleton, 1945:362 [Ecuador; etc.].
Leptodictya (*Hanuala*) *bambusae* Drake and Ruhoff, 1965:261 [Ecuador; etc.].

Leptodictya circumcincta Champion

Leptodictya circumcincta Champion, 1897:24 [Panama (type)].
Leptodictya (*Hanuala*) *circumcincta* Drake and Ruhoff, 1965: 261 [Ecuador; etc.].

Leptodictya colombiana Drake

Leptodictya colombiana Drake, 1928:48 [Colombia (type)].
Leptodictya (*Hanuala*) *colombiana* Drake and Ruhoff, 1965:261 [Ecuador; etc.].

Leptodictya ecuadoris Drake and Hambleton

Leptodictya ecuadoris Drake and Hambleton, 1945:362 [Ecuador; (type)].
Leptodictya (*Hanuala*) *ecuadoris* Drake and Ruhoff, 1965:263 [Ecuador; etc.].

Leptodictya formositis Drake

Leptodictya formosatis Drake, 1928:50 [Ecuador (type)]; 1931a: 121 [Ecuador].—Monte, 1941:108 [Ecuador].
Leptodictya (*Hanuala*) *formositis.*—Drake and Ruhoff, 1965: 263 [Ecuador].

Leptodictya leinahoni (Kirkaldy)

Hanuala leinahoni Kirkaldy, 1905:217 [Bolivia (type); Peru].
Leptodictya (*Hanuala*) *leinahoni.*—Drake, 1931a:121 [Ecuador; etc.].—Drake and Ruhoff, 1965:264 [Ecuador; etc.].

Leptodictya luculenta Drake

Leptodictya luculenta Drake, 1928:49 [Ecuador (type)].—Monte, 1941:108 [Ecuador].
Leptodictya (*Hanuala*) *luculenta.*—Drake, 1931a:121 [Ecuador].—Drake and Ruhoff, 1965:265 [Ecuador].

Leptodictya vulgata Drake

Leptodictya vulgata Drake, 1928:46 [Ecuador (type)].—Monte, 1941:108 [Ecuador].
Leptodictya (*Hanuala*) *vulgata.*—Drake, 1931a:121 [Ecuador].—Drake and Ruhoff, 1965:269 [Ecuador; etc.].

Leptodictya williamsi Drake

Leptodictya williamsi Drake, 1928;47 [Ecuador (type)].—Monte, 1941:108 [Ecuador].
Leptodictya (*Hanuala*) *williamsi.*—Drake 1931a:121 [Ecuador].—Drake and Ruhoff, 1965:269 [Ecuador].

SURVEY COLLECTION.—Cotopaxi (117 km S Latacunga, 1 Jul 1975); Napo (Lago Agnio, 18 May 1975); Tungurahua (trail S of Baños, 27 Jan 1976).

Genus *Leptopharsa* Stal

Leptopharsa Stal, 1873:122, 126 [type-species: *Leptopharsa elegantula* Stal, fixed by Drake, 1922:370].

Leptopharsa deca Drake and Hambleton

Leptopharsa deca Drake and Hambleton, 1945:359 [Ecuador (type)].—Drake and Ruhoff, 1965:272 [Ecuador].

Leptopharsa elegantula Stal

Leptopharsa elegantula Stal, 1873:126 [Colombia (type)].—Drake and Ruhoff, 1965:274 [Ecuador; etc.].

Leptopharsa jubaris Drake and Hambleton

Leptopharsa jubaris Drake and Hambleton, 1945:361 [Ecuador (type)].—Drake and Ruhoff, 1965:278 [Ecuador].

Leptopharsa lauta Drake and Hambleton

Leptopharsa lauta Drake and Hambleton, 1945:361 [Ecuador (type)].—Drake and Ruhoff, 1965:278 [Ecuador].

Leptopharsa luxa Drake and Hambleton

Leptopharsa luxa Drake and Hambleton, 1945:361 [Ecuador (type)].—Drake and Ruhoff, 1965:279 [Ecuador].

Leptopharsa machalana Drake and Hambleton

Leptopharsa machalana Drake and Hambleton, 1946:12 [Ecuador (type)].—Drake and Ruhoff, 1965:279 [Ecuador].

Genus *Nyctotingis* Drake

Nyctotingis Drake, 1922:362 [type-species: *Nyctotingis osborni* Drake, only included species].

Nyctotingis osborni Drake

Nyctotingis osborni Drake, 1922:363 [Brazil (type)]; 1928:42 [Ecuador].—Monte, 1938:132 [Ecuador; etc.].—Drake and Ruhoff, 1965:307 [Ecuador; etc.].

Genus *Oedotingis* Drake

Oedotingis Drake 1942:19 [type-species: *Australotingis williamsi* Drake, only included species].

Oedotingis williamsi (Drake)

Australotingis williamsi Drake, 1928:51 [Ecuador (type)].
Oedotingis williamsi.—Drake, 1942:20 [Ecuador].—Drake and Ruhoff, 1965:308 [Ecuador].

Genus *Phymacysta* Monte

Phymacysta Monte, 1942:106 [type-species: *Leptostyla tumida* Champion, original designation].

Phymacysta tumida (Champion)

Leptostyla tumida Champion, 1897:14 [Guatemala (type)].
Phymacysta tumida.—Drake and Hambleton, 1945:362 [Ecuador; etc.].—Drake and Cobben, 1960a:85 [Ecuador; etc.].—Drake and Ruhoff, 1965:327 [Ecuador; etc.].

Genus *Sphaerocysta* Stal

Sphaerocysta Stal, 1873:120 [type-species: *Tingis globifera* Stal, only included species].

Sphaerocysta nosella Drake and Hambleton

Sphaerocysta nosella Drake and Hambleton, 1945:358 [Ecuador (type)].—Drake and Ruhoff, 1965:352 [Ecuador].

Genus *Teleonemia* Costa

Teleonemia Costa, 1864:144 [type-species: *Teleonemia funerea* Costa, only included species].

Teleonemia prolixa (Stal)

Laccometopus prolixus Stal, 1858:65 [Brazil (type)].
Teleonemia prolixa.—Drake, 1929:35 [Ecuador; etc.].—Drake and Hambleton, 1945:358 [Ecuador].—Drake and Ruhoff, 1965:381 [Ecuador; etc.].

Teleonemia tricolor (Mayr)

Monanthia (*Gargaphia*) *tricolor* Mayr, 1865:442 [Venezuela (type)].
Teleonemia dispersa Drake, 1931b:227 [Ecuador (type)].
Teleonemia tricolor.—Drake and Ruhoff, 1965:385 [Ecuador; etc.].

Family VELIIDAE Amyot and Serville

The 15 species in three genera here reported for Ecuador—plus one species for the Galapagos

Islands—certainly must be a fraction of the number that should be expected when considering the 150 or more species in 10 genera already described from South America.

Comprehensive keys to subfamilies and genera were given by China and Usinger (1949a). Since that time, the subfamily Macroveliinae has been elevated to full family status, Macroveliidae, a status which is utilized in this catalog of Ecuadorian Heteroptera. Štys' (1976) modifications of that study are important, but do not affect this list because he continues to accept the family Macroveliidae.

Genus *Microvelia* Westwood

Microvelia Westwood, 1834, pl. 6, fig. 5 [type-species: *Microvelia pulchella* Westwood, only included species, as explained by Drake and Hussey, 1955:96–97].—Drake and Hussey, 1955:113–115 [list of American species].

Microvelia ashlocki Polhemus

Microvelia ashlocki Polhemus, 1968b:129 [Galapagos Islands (type)].—Linsley, 1977:16 [Galapagos Islands].

Microvelia braziliensis McKinstry

Microvelia braziliensis McKinstry, 1937:36 [Brazil (type)].—Drake and Hussey, 1951:143 [Ecuador; etc.]; 1955:113 [Ecuador; etc.].

Microvelia longipes Uhler

Microvelia longipes Uhler, 1894:219 [Grenada (type)].—Drake, 1952a:13 [Ecuador; etc.].—Drake and Hussey, 1955:114 [Ecuador; etc.].

Microvelia mimula White

Microvelia mimula White, 1879b:487 [Brazil (type)].—Drake and Hussey, 1951:144 [Ecuador; etc.]; 1955:114 [Ecuador; etc.].—Drake and Plaumann, 1953:414 [Ecuador; etc.].

Microvelia pulchella Westwood

Velia (*Microvelia*) "*Pulchella*" Westwood, 1834, pl. 6, fig. 5 [St. Vincent (type); described later on p. 647].

Microvelia pulchella.—Campos, 1925a:48 [Ecuador].

Microvelia stellata Kirkaldy

Microvelia stellata Kirkaldy, 1902c:281 [Ecuador (type)].—Campos, 1925a:48 [Ecuador].—Drake and Hussey, 1955:115 [Ecuador; etc.].

Genus *Paravelia* Breddin

Paravelia Breddin, 1898:159 [type-species: *Paravelia basalis* Breddin, original designation].—Polhemus, 1976:509–513 [Polhemus noted the American species assigned to *Velia* Latreille (1804) were not congeneric with Old World members of that genus and had to be transferred in part to *Paravelia* and in part to *Stridulivelia* Hungerford].

Paravelia inveruglas (Kirkaldy)

Velia inveruglas Kirkaldy, 1899b:4 [Ecuador (type); in a paper which appeared 16 days earlier than this one, Kirkaldy, 1899a:2, used the combination *Paravelia inveruglas*, but then it was a nomen nudum].—Hungerford, 1930:120 [Ecuador].

Paravelia inveruglas.—Campos, 1925a:48 [Ecuador].—Polhemus, 1976:512 [Ecuador].

Genus *Rhagovelia* Mayr

Rhagovelia Mayr, 1865:445 [type-species *Velia nigricans* Burmeister, fixed by Kirkaldy, 1901b:285].—Bacon, 1956:695–913 [revision; keys to species scattered in text].

Rhagovelia augustipes Uhler

Rhagovelia angustipes Uhler, 1894:215 [Grenada, West Indies (type)].—Gould, 1931:15 [Ecuador; etc.].—Bacon, 1956:713 [Ecuador].

Rhagovelia castanea Gould

Rhagovelia castanea Gould, 1931:9 [Ecuador (type)].—Bacon, 1956:782 [Ecuador].

Rhagovelia festae Kirkaldy

Rhagovelia festae Kirkaldy, 1899b:4 [Ecuador (type); in a paper which appeared 16 days earlier than this one, 1899a:2, this combination, as a nomen nudum, was included in a list].—Gould, 1931:37 [Ecuador].—Bacon, 1956:723 [Ecuador].

Rhagovelia "*Festae*".—Campos, 1925a:48 [Ecuador].

Rhagovelia longipes Gould

Rhagovelia longipes Gould, 1931:35 [Ecuador (type)]; 1933: 469 [Ecuador].—Bacon, 1956:729 [Ecuador; etc.].

Rhagovelia sinuata Gould

Rhagovelia sinuata Gould, 1931:42 [Ecuador (type)].—Bacon, 1956:806 [Ecuador].

Rhagovelia spinosa Gould

Rhagovelia spinosa Gould, 1931:43 [Ecuador (type)].—Bacon, 1956:737 [Ecuador; etc.].—Drake and Hussey, 1957:1 [Ecuador; etc.].

Rhagovelia tenuipes Champion

Rhagovelia tenuipes Champion, 1898:137 [Mexico (type)].—Bacon, 1956:741 [Ecuador; etc.].—Roback and Nieser, 1974:36 [Ecuador; etc.].
Rhagovelia confusa Gould, 1931:23 [Ecuador (type)].
Rhagovelia obscura Gould, 1931:38 [Ecuador].

Rhagovelia trista Gould

Rhagovelia trista Gould, 1931:45 [Ecuador (type)].—Bacon, 1956:763 [Ecuador].

Rhagovelia williamsi Gould

Rhagovelia williamsi Gould, 1931:47 [Ecuador (type)].—Bacon, 1956:812 [Ecuador].

Family VIANAIDIDAE Kormilev

No records of this family are available for either continental Ecuador or the Galapagos Islands—but, because both known genera occur on the South American continent, there is a probability that these small, myrmecophilous insects may be discovered in Ecuador.

The Vianaididae and Tingidae are generally conceded to be closely allied, but their exact relationship is still unsettled. Drake and Ruhoff (1965:443) followed Drake and Davis (1960:88) and others in cataloging the group as a subfamily of the Tingidae; Štys and Kerzhner (1975:71) called attention to the contradictory studies and then listed it as a full family. Drake and Ruhoff's (1965:18) key to the genera and species accounted for all the forms except the species subsequently described from Surinam by Doesburg (1977:185).

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