NOTES ON NEARCTIC HETEROPTERA.

Coreidæ.

By W. L. McAtee.

Harmostes reflexulus var. **virescens** Dallas.

Harmostes virescens; Dallas, W. S. List of the specimens of Hemipterous Insects in the collection of the British Museum, II, 1852, pp. 520–521 [Georgia].

This form seems well enough marked for recognition in nomenclature. It is characterized by clear greenish color (stramineous in some dried specimens) with very slight dark markings of any kind. All specimens seen by me are from west of the Mississippi River. The localities are: Ardmore, So. Dak., Sidney, Nebr., Cañon City, Colo., Promontory Point and Mouth of Bear River, Utah, Graham Mts. and Tucson, Ariz.

Habits of Alydini.

All of the species of Alydini that I have collected about Washington, D. C., breed upon *Ceanothus americanus.* I have not found the nymphs upon any other plants. These remarks apply to *Megalotomus 5-spinosus* Say, *Alydus eurinus* Say and *Alydus pilosulus* Herrich Schaffer.

It may be of interest to note that I found several *Alydus eurinus* under carrion, on Four Mile Run Hill, Va., May 31, 1914. This is the only observation I have made that would indicate a preference on the part of this species, for such material.

Hypselonotus.—The various names cited under this genus in our catalogs and lists may well be arranged as synonyms or varieties* of the earliest of them, namely *fulvus* De Geer. *Hypselonotus fulvus* would appear to be a wide-ranging species with color varieties, which if future study shows, are localized, should be known as subspecies.

Cimex fulvus De Geer, Charles. Memoires pour servir a L'Histoire des Insectes, III, 1773, pp. 341–2 [no locality]. Thorax with a pale yellow median vitta.

* See note under *Phthia picta* further on.

Cimex striatulus, Fabricius, J. C. Systema Entomologiae, etc., 1775, p. 721 (Brazil). Posterior margin of thorax fuscous with 3 yellow lines.

Lygæus venosus Fabricius, J. C. Entomologia Systematica emendata et aucta, etc., IV, 1794, pp. 142–3 [Cayenne]. No distinguishing characters mentioned.

Hypselonotus dimidiatus Hahn, C. W. Die Wanzenartigen Insecten, 1, 1831, pp. 189–190 [Brazil]. Thorax with 4 black dashes behind; scutellum with yellow median vitta and margins.

Hypselonotus lineatus Stål, C. Hemiptera Mexicana enumeravit speciesque novas descripsit, Entomologische Zeitung (Stettin), 23, No. 7–9, July–Sept., 1862, p. 297 [Mexico]. Thorax with four black lines.

Hypselonotus punctiventris Stål, op. cit., pp. 297–8 [Mexico]. Two interrupted black lines on thorax; three series of black spots on pleura and 5 on venter.

These varieties run into each other, but all specimens I have seen from the United States seem referable to *punctiventris* Stål. Data for specimens examined are:

Victoria, Texas, Sept. 9, Nov. 6, 1902, W. E. Hindls; Nov. 3, 1903, A. W. Morrill; Alice, Texas, Dec. 12, 1894, C. H. T. Townsend; San Diego, Texas, Oct. 27; Beeville, Texas, April 20, 1896, C. L. Marlatt; Nov. 8; San Antonio, Texas, Dec. 10, 1916, J. D. Hood.

Food Plant of Anasa repetita Heidemann.

In the vicinity of Washington this species breeds exclusively upon bur-cucumber (*Sicyos angulatus* L.), upon which it is abundant. Nymphs have been collected from July 19 to October 11.

Chelinidea.

From study of the available specimens of *Chelinidea,* in which I have been aided by suggestions from Mr. H. G. Barber I have reached the conclusions embodied in the following key and discussion.

Key to Nearctic CHELINIDEA.

A. *Humeral angles elevated,* as high or nearly as high as intervening parts of thorax. Posterior and lateral margins of pronotum conspicuously reflexed, lateral margins especially elevated, convex posteriorly, concave anteriorly and *passing almost smoothly* (margin interrupted by no more than slight crenulations) *into the large, porrect, sharp-pointed, postocular spines.* Basal joint of antenna foliaceous within, and tibiæ almost foliaceous, especially in males.....*tabulata* Burmeister.

AA. *Humeral angles distinctly lower* than intervening parts of thorax; pronotal margins not so much elevated particularly anteriorly and less concave. *Postocular spines smaller, blunter; if of medium size then* not porrect, but *directed* somewhat *outwardly.* Tibiæ and basal joint of antenna merely carinate. Both lateral and posterior emarginations of male genital plate more pronounced.

B. Pronotal margin more elevated anteriorly, with a distinct notch at base of short, rather blunt, and outwardly directed postocular spine.....*vittiger* subspecies *vittiger* Uhler.

BB. Pronotal margin less elevated anteriorly, sometimes not even carinate (almost evenly rounded); postocular spine reduced to a mere blunt tubercle or even entirely lacking.

vittiger subspecies *æquoris* n. subsp.

Chelinidea tabulata Burmeister.

Gonocerus tabulatus Burmeister, H. Handbuch der Entomologie, II, 1, 1835, p. 311 [Mexico]. The original description is obscurely brief, but from the figure in the Biologia Centrali Americana,* which is said (p. 136) to be of a typical specimen, the name may be fixed upon the form characterized in the above key.

So far as seen this species does not lack the contrasting markings on head, although in some specimens the "dark vittæ" are no more than a rich buff but little darker than the median stripe. The corium is a little more distinctly marked than in the other forms, there being usually light and dark longitudinal streaks.

Specimens examined include 4 from Mexico and the following from the United States: Devil's River, Texas, May 4, 1907, F. C. Pratt (U. S. N. M.); Luxello, Texas, Nov. 3, 1916, on *Opuntia,* J. D. Hood (Writer's collection).

* Insecta Rhynchota Hemiptera-Heteroptera, I, 1880–1893, Pl. 13, fig. 17.

Chelinidea vittiger subspecies **vittiger** Uhler.

Chelinidea vittiger Uhler, P. R. Hemipterological Contributions —No. 2. Proc. Ent. Soc. Philadelphia, II, p. 366, Dec. 1863 [Utah, Fort Benton, Virginia and Louisiana].

Typically this subspecies has the head black with a strongly contrasting median yellow vitta; no specimens entirely lack these markings, though in some of the form mentioned hereafter the general color of head fades to pale brownish yellow. The typical form of subspecies *vittiger* has the antennæ and legs black, and in most cases dark markings on both anterior and posterior parts of pronotum.

A variety which I call *artuflava* new variety has the antennæ and legs chiefly or entirely yellow to orange; and usually lacks the anterior and sometimes all dark markings on thorax.

The specimen of *C. vittiger* in National Collection labelled as Uhler's type bears no other data. Since Virginia and Louisiana specimens belong to the new subspecies described hereafter, these localities, although mentioned by Uhler in connection with the original description, are eliminated from consideration of the type locality of *vittiger*. Two localities remain: Utah and Fort Benton. An entire state is too indefinite for a type locality, hence I select Fort Benton, Montana, as the type locality of *Chelinidea vittiger vittiger* Uhler.

Specimens of *Chelinidea v. vittiger* examined: Greeley, Colo., June 2, 1904, E. S. G. Titus (U. S. N. M.); Poudre River, Colo., June, 1883 (U. S. N. M.); Canon City, Colo., Sept., 1898, H. Soltau (U. S. N. M.); Platte Canyon, Colo., May, Dyar and Caudell (U. S. N. M.); Chimney Gulch, Colo., May 13, 1901, Dyar and Caudell (U. S. N. M.); Fort Collins, Colo., April 11, 1899; June 6, 1904, E. S. G. Titus (U. S. N. M.); Bennett, Colo., May 22, 1915, D. E. Lantz (Biol. Survey); numerous specimens labelled simply Colorado; Evanston, Wyo., June 15, 1885 (U. S. N. M.); Newcastle, Wyo., May 6, 1916, R. T. Jackson (Biol. Survey); Ogden [Utah], (U. S. N. M.); Koehler, N. Mexico, Aug. 18, C. N. Ainslie (U. S. N. M.); Arizona (U, S. N. M.); Los Angeles Co., Calif., Coquillett (U. S. N. M.).

Specimens of *Chelinidea v. vittiger* var. *artuflava* n. var. examined: Texas (U. S. N. M.); Fort Defiance, N. Mex. (U. S. N.

M.) ; Huachucha Mts., Ariz., July, G. Beyer (Type, U. S. N. M.) ; Tucson, Ariz., Jan. 1, 10, on *Opuntia* (U. S. N. M.) ; Dec. 30, on *Cereus giganteus,* H. G. Hubbard (U. S. N. M.) ; Hot Springs, Ariz., June 14, Barber and Schwarz (U. S. N. M.) ; Grand Cañon, Ariz., July 10 (U. S. N. M.) ; Fort Grant, Ariz., Horn; July 14, H. G. Hubbard (U. S. N. M.) ; Palm Springs, Calif., Feb. 7, 24, H. G. Hubbard (U. S. N. M.).

Chelinidea vittiger subspecies **æquoris** n. subsp.

In its most pronounced phase this subspecies is characterized by very low pronotal margins, especially along the sides anteriorly, which in some specimens are scarcely carinate (that is almost smoothly rounded over). The postocular tubercle in all is very small, in some entirely lacking. The color of typical specimens is the palest of any *Chelinidea* examined, being with the exceptions of the greenish black membrane and reddish eyes, entirely stramineous to sordid buff.

The name proposed for the subspecies, derived from a word applied by the Romans to smooth bodies of water and by license to areas of level ground, is considered appropriate for a form which seems to be restricted to the Atlantic Coastal Plain the best marked biotic area of Eastern North America.

Type male and allotype female from San Diego, Texas, May 6 and May 2, E. A. Schwarz (U. S. N. M.). Other specimens examined: San Diego, Texas, April 30, E. A. Schwarz (U. S. N. M.) ; Columbus, Texas (U. S. N. M.) ; Brownsville, Texas, Wickham (U. S. N. M.) ; Texas, on Opuntia (U. S. N. M.) ; San Antonio, Texas, Oct. 29, 1916, on *Opuntia,* J. D. Hood (writer's coll.) ; Luxello, Texas, Nov. 3, 1916, on *Opuntia,* J. D. Hood (writer's coll.).

A form of subspecies *æquoris* with the legs and antennæ nearly or entirely black, with darker corium and dark bar across posterior part of pronotum, may be known as variety *artuatra,* new variety. This form contains the variants toward subspecies *vittiger.*

Type male from Southern Pines, N. C., Dec., 1906. Other specimens examined: Virginia, Uhler; Selma, Ala., on *Opuntia,* Oct. 30, E. A. Schwarz; Dallas, Tex.; Hockley, Tex.; Hack-

berry, Tex., on *Opuntia;* Texas, May 20 (all specimens in U. S. N. M.).

Varieties of *Phthia picta* Drury.

The extensive synonymy of this species indicates its great variability. The fact that a name is cited in specific synonymy, however, is no reason against its use with varietal significance. If numerous color varieties of species are placed indiscriminately in collections, the effect is a hodge-podge that is anything but desirable. The synonyms of *Phthia picta,* therefore, are cited below with notes on the differential color characters so that the names may be used for the particular color phases of the species to which they were originally applied.

Cimex pictus Drury, D. Illustrations of Natural History, I, 1770, pp. 107–8, Pl. XLV, fig. 1 [Antigua]. Thorax red with black patches near anterior and posterior margins.

Cimex ciliatus Fabricius, J. C. Systema entomologiæ, etc., 1775, p. 706 [America]. Margin and posterior fascia of thorax yellow.

Cimex leprosus Fabricius, J. C., op cit., p. 719 [America]. Posterior margin of thorax and two spots red.

Cimex candelabrum, Goeze, J. A. E., Entomologische Beytrage, etc., 2, 1778, p. 254. A straight synonym.

Lygæus crenulatus Fabricius, J. C., Entomologia Systematica emendata et aucta, etc., IV, 1794 [Islands of America]. Large spot and posterior margin of thorax black. A straight synonym.

Lygæus dispar, Fabricius, J. C., Systema Rhyngotorum, etc., 1803, p. 214 [America meridionali]. Black, thorax and anterior half of elytra red margined.

Anisoscelis divisus Herrich-Schaffer, G. A. W., Die Wanzenartigen Insecten 7, 1844, p. 9 [Brazil]. Lateral margins and posterior antemarginal fascia of thorax, scutellum, apex of elytra and base of costa orange.

Anisoscelis pulverulentus, Herrick-Schaffer, loc. cit., pp. 9–10 [Mexico]. Sides of thorax and elytra orange; thorax ochraceous sparsely black spotted, black posteriorly.

Leptoscelis obscura Dallas, W. S. List of the specimens of hemipterous insects in the collection of the British Museum, II, 1852, p. 458 [Columbia, Cayenne]. Thorax and elytra narrowly red margined.

Anisoscelis anulipes Guerin-Meneville, in Sagra, R. de la, Historia fisica, politica y natural de la Isla de Cuba, Historia Natural, VII, 1856, pp. 161–2 [Cuba, Guadeloupe]. Thorax and elytra red margined.

The writer has seen specimens of variety *dispar* Fabr. from Southern Florida and from San Antonio, Texas. (Nov. 2, 1916, J. D. Hood.)

MEROCORIS.

Following are the names that have been proposed for forms of this genus occurring in the United States:

Lygæus typhœus. Fabricius, J. C., Supplementum Entomologiæ Systematicæ, 1798, pp. 537–8 [Carolina].

Coreus acridioides. Fabricius, J. C., Systema Rhyngotorum, etc., 1803, p. 200 [Carolina]. An exact and gratuitous synonym of the preceding.

Merocoris rugosus. Amyot, C. J. B., et Serville, A., Histoire Naturelle des Insèctes. Hémiptères, 1843, p. 244 [Carolina].

Merocoris distinctus. Dallas, W. S., List of the Hemipterous Insects in the Collection of the British Museum, II, 1852, p. 491 [St. Louis].

Unless controverted by evidence derived from the type specimens, the three forms having Carolina as the type locality must be regarded as identical. Mr. H. G. Barber recognizes* this form, under the name *typhœus* as separable from *distinctus.*

Specimens of *Merocoris* from the western United States differ principally from those of the east in the shorter terminal antennal joint. In the former it is about 3.3 to 4.5 times as long as thick while in the later it is from 5.3 to 7.25 times. Intergrades occur and for that reason the western form is regarded as a subspecies for which the name *Merocoris typhœus* subspecies *curtatus* new subsp. is proposed.

* Insects of Florida, II. Hemiptera. Bul. Am. Mus. Nat. Hist., 33, pp. 518–9, August 21, 1914.

The differences are slight, however, and the present writer would range this form and the new one indicated below as subspecies of a single transcontinental species. These three subspecies may be separated as follows:

A. Beak reaching past middle coxæ.....subspecies *typhœus.*
AA. Beak not or barely attaining middle coxæ.
B. Length of terminal antennal joint 5.3 to 7.25 times its diameter .....subspecies *distinctus.*
BB. Length of terminal antennal joint 3.3 to 4.5 times its diameter .....subspecies *curtatus* n. subsp.

Color in all three forms is extremely variable, and apparently must be disregarded in classification.

As type of the new subspecies, a specimen from Los Angeles Co., Calif., collected by D. W. Coquillett, is selected. This specimen is figured in *The Insect Book,* L. O. Howard, 1904, Pl. 29, fig. 13, and is deposited in the National Museum.

Specimens of *Merocoris typhœus curtatus* examined came from the states of California, Arizona, New Mexico, Colorado and Texas.

Specimens of *Merocoris typhœus distinctus* have been seen from New York, New Jersey, Maryland, Virginia, Alabama, Illinois, Iowa, Missouri, Arkansas, Kansas and Oklahoma.

Specimens of *Merocoris typhœus typhœus* have thus far been seen only from Florida.

Pentatomoidea.

Separation of Jugæ in *Dendrocoris humeralis.*

In Mr. H. G. Barber's key to *Dendrocoris,** *D. humeralis* is placed in the section with "head rounded in front, with lateral lobes more or less in contact." It is worth noting that some specimens collected in the vicinity of Washington, D. C., which agree in other respects with *D. humeralis* have the jugæ distinctly separated in front of tylus.

* Ent. News, 22, No. 6, June, 1911, p. 269.

Thyanta custator var. **accerra** new variety. Differs from the ordinary form as follows: general color brownish green to yellowish brown, with faint fuscous vermiculations on thorax, corium and scutellum. On latter, fuscous markings are aggregated, and bound a sharply defined pale median vitta from apex to near base. Lateral margins of pronotum in pronounced forms nearly black. Corium with numerous small, distinct, irregular pale areas. Membrane with numerous distinct black dashes along veins. Connexivum more distinctly banded. Lower surface partaking of the general ground color, plentifully sprinkled with fuscous to black dots. Spiracular orifices and ends of abdominal incisures black.

Type: A female from Barachias, Ala., Oct. 15, 1916, E. G. Holt (U. S. Nat. Museum). Two other specimens from same locality, Oct. 21, 1916, same collector (Biological Survey). One from San Antonio, Texas, Oct. 29, 1916, J. D. Hood (W. L. McAtee).

Black Points at Edge of Abdominal Incisures of *Euschistus.*

This character used for the third division in Van Duzee's key to the species of Euschistus,* is not, I am convinced, extraordinarily reliable in the differentiation of Pentatomidæ. Specimens, which by their identity in every other respect certainly are *Euschistus variolarius* Pal. Beauv. have distinct incisural spots, although absence of such spots ordinarily is one of the best marks of that species. Specimens at hand with incisural spots are from Riverhead, N. Y., West Cornwall, Conn., Westport, Conn., and Mendham, N. J.

* Van Duzee, E. P., Trans. Am. Ent. Soc., 30, 1904, pp. 43–44.