AN ANNOTATED LIST OF THE MIRIDAE OF WEST VIRGINIA (HEMIPTERA-HETEROPTERA)

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AN ANNOTATED LIST OF THE MIRIDAE OF WEST VIRGINIA (HEMIPTERA-HETEROPTERA)

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ABSTRACT

A list of 247 mirids, or plant bugs, of West Virginia is presented, based on collections from 1977 to 1981, supplemented by a review of the literature and examination of collections. Most of the species represent new state records; only 19 species were listed from West Virginia in Carvalho's (1957-60) world catalogue of the Miridae. County distribution and seasonal range are provided for all species collected during the survey. Observed host plants for mirids in West Virginia are recorded.

West Virginia, with its diversity of habitats — many of the specialized ones little spoiled by man's activities — can be expected to have a rich insect fauna. Although the state is small (24,181 sq. mi.), its irregular outline reaches north to the latitude of Staten Island, N.Y.; south to 60 miles below Richmond, Va.; west to 40

miles west of Cleveland, Ohio; and east to 50 miles east of Buffalo, N Y (Straushaugh and Core 1970). The state lies wholly within the

southern Appalachians, an area designated the Southern Appalachian Highlands (Blauch 1975). This region has a rich endemic biota [see Holt (1969) for a review of invertebrates and (1970) for review of plants] and is an important center of animal and plant distribution.

The number of insect species occurring in West Virginia should equal or surpass that of many eastern states, but with the exception of butterflies (Drees and Butler 1978), mosquitoes (Amrine and Butler 1980), horse and deer flies (Drees et al. 1980), Plecoptera (Tarter and Kirchner 1980) and other aquatic insects studied by D.C. Tarter and colleagues, most groups have received little attention. As Woodruff (1973) pointed out, West Virginia often appears as a void on insect distribution maps. The species composition and distribution of the largest family of Hemiptera-Heteroptera, the Miridae or plant bugs, is no exception; only 19 species are recorded from West Virginia in Carvalho's (1957-60) catalogue of the world fauna.

Many entomologists deprecate the assembling of local faunal lists. Slater and Schaefer (1963) cite the abuses and provincialisms that are common in local studies: Lists of local insects often are based on limited collecting, usually little effort is made to examine extant collections for additional records, frequently the identifications are inaccurate, and records based on misidentifications are perpetuated in the literature and are difficult to correct. Even if one has time to restudy specimens to make corrections, voucher material may be lacking.

The study of local faunas, however, remains one of the best means of documenting changes in geographic range and of detecting exotic species. Publication of local lists, based on intensive collecting and accurate determinations, not only aids students of the local fauna and systematists making revisionary studies, but may be of value in a broader sense when biogeographic analysis of

Early Collecting of West Virginia Miridae

One of the first substantial collections of mirids from the state was made by Otto Heidemann, the first hemipterist employed by the U.S. Department of Agriculture at the U.S. National Museum. In 1898 the USDA's Bureau of Entomology named him as an entomological assistant and specialist in Hemiptera. By 1907 he had gained the respect of such hemipterists as Bergroth, Reuter, and Uhler, and he was appointed Honorary Custodian of Hemiptera (Howard et al. 1916). Heidemann worked at a time when entomologists belonging to local societies would gather at some member's home to drink beer and exchange ideas (Howard 1909). Excursions to collect insects locally were also popular. Amateurs and professionals alike would journey by train or trolley for a day or weekend of collecting; interesting captures usually were exhibited at meetings.

Heidemann collected in West Virginia at Berkeley Springs, Morgan Co., a popular resort near Washington, as early as 1885. Some of his observations were incorporated into a paper on host plants of some mirids in the Washington vicinity (Heidemann 1892), one of the earliest articles treating host relationships of North American plant bugs (Wheeler and Henry 1975). Heidemann also collected at Harpers Ferry, Jefferson Co., near Washington, D.C., and at Aurora in Preston Co., during an apparent several-week stay in August 1904. Cornell University purchased Heidemann's collection (Mallis 1971), and many of his West Virginia Miridae are in the Cornell insect collection.

A.D. Hopkins, the first forest entomologist in the United States and a West Virginia native, collected a few mirids, which are housed in the University of West Virginia insect collection. A small collection of plant bugs was made during the summer of 1930 by the well-known Cornell biologist and entomologist J.G. Needham. He collected at Millwood and Ripley in Jackson Co.; nearly all his specimens are labeled as taken in "lightrap."

THIS STUDY

Our intensive studies on the Miridae of West Virginia started with a short collecting trip in mid-April 1977 by Mason and



FIGURE 1. Map showing the 55 counties of West Virginia.

Wheeler. Since then, Mason has collected nearly throughout the season. Wheeler made 14 additional trips to the state to collect mirids, mainly with Mason, from June 1977 to August 1980. They were joined on 4 occasions by Henry, who also made or confirmed all species identifications.

Although records are available for all 55 counties of West Virginia (Fig. 1), we collected extensively only in the northeastern counties of the Eastern Panhandle, in the Cranberry Glades in Pocahontas Co., and in the shale barrens in Grant Co. We also made several trips to Greenbrier Co., and to Tucker Co. to collect in the area of Blackwater Falls State Park, the Canaan Valley, and

Dolly Sods. We obtained host records by tapping branches of woody plants over a small tray and aspirating all dislodged specimens. We sampled both native plants and ornamentals growing in cemeteries and parks and on college campuses. General sweeping of herbaceous vegetation and hand collecting from specific plants provided a few additional records.

Our collecting was supplemented by records obtained from the insect collections of West Virginia University, Morgantown (WVU), and the West Virginia Department of Agriculture, Charleston (WVDA). Of particular interest were specimens collected by Linda Butler, Professor of Entomology, WVU, in the southwestern counties. We also used records of collections made by WVU graduate students J.W. Begley and Pamela Custer, and by J.D. Hacker in surveys for the WVDA. The collection at the U.S. National Museum of Natural History, Washington, D.C. (USNM), was scanned for West Virginia records, and the Cornell University collection was examined for West Virginia Miridae taken by Otto Heidemann.

HABITAT AND HOST ASSOCIATIONS

Cranberry Glades Botanical Area. — As described by Core (1955), this unique habitat of about 750 acres lies at 3,400 feet in a high mountain valley of southwestern Pocahontas Co. Biologically, the most interesting area is the open bog or peatland, which is surrounded by alder thickets and a bog forest (Fig. 2). These glades, or "muskegs," are the southernmost sphagnum bogs in the United States. During the Pleistocene glaciations, the Cranberry Glades served as a refugium for a northern biota. Several species of birds and mammals are known to have their southern breeding limits in the area, and several plant species also reach their southernmost limits in the Glades.

During our 4 trips to the Cranberry Glades, we collected 2 species whose distributions are primarily northern. A disjunct population of *Mecomma gilvipes* was found along a trail above the open bogs. Nymphs and adults were common near ground level among grasses and *Ranunculus* spp. Another species characteristic of more northern regions is *Phytocoris junceus*, which was taken at the Visitor Center.

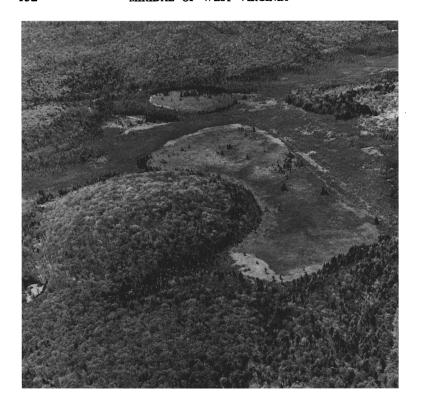


FIGURE 2. Aerial view of open bogs (glades) and bog forest, Cranberry Glades Botanical Area, Pocahontas County, West Virginia.

The thickets of alder, Alnus rugosa, surrounding the bogs yielded Diaphnocoris provancheri, Lygocoris alni, Pilophorus brunneus, Psallus alnicola, and P. fuscatus. Native red spruce, Picea rubens, harbored large numbers of Orthotylus pennsylvanicus, Phytocoris buenoi, Pilophorus piceicola, and Psallus piceicola.

Few interesting mirids were found in the open bogs except for the ant mimic *Sericophanes heidemanni*, of which a large population (averaging about 1/sweep with a standard insect net) was associated with the sedge *Carex rostrata* (Fig. 3). Early instars were



FIGURE 3. Carex rostrata, a sedge dominating much of an open bog in the Cranberry Glades Botanical Area. Red spruce, an alder thicket, and mountains are visible in the background.

hidden among sphagnum at the base of sedges; later instars were observed on sedge stems, where they were difficult to distinguish from the ant *Dolichoderus taschenbergi* Mayr var. *aterrimus* Wheeler. In sweep-net samples, macropterous males of *S. heidemanni* outnumbered brachypterous females by 3 or 4:1. This mirid has been reported only from much drier habitats, e.g., pasture land (Knight 1941).

Shale Barrens. — "Exposed bare slopes composed of fragments of shale and siltstone" (Keener 1970) occur in the southern Appalachians. These shaly outcrops of steep, southern exposure are generally referred to as "shale barrens." According to Keener, they are either of post-Pleistocene origin, or they may have persisted as a specialized ecological niche throughout the Pleistocene. Because of their rich endemic flora the shale barrens are important in the study of phytophagous insects.

One of the most interesting mirids found in the shale barrens near Petersburg, Grant Co., was a striking orange-red species of *Polymerus* associated with *Phlox subulata*. Henry (1979) described this new species as *P. wheeleri*, based solely on specimens from the Grant Co. barrens. An interesting species of *Lopidea* found developing on phlox was *L. phlogis*, a mirid previously known only from the type-locality, Raleigh, North Carolina (Knight 1965). Other mirids that we collected only in the shale barrens near Petersburg were *Labopidicola allii*, a specialist on garlic and onion (*Allium* spp.) (Henry 1982), and *Melanotrichus catulus*, which appeared to be associated with composites of the genus *Antennaria*.

Other Interesting Distributions and Hosts. — In addition to the northern species found in the Cranberry Glades, we have some of the most southern records available for Orthotylus necopinus, a birch-feeding mirid collected at Olson Bog, and Platylygus luridus, found developing on Pinus pungens on Dolly Sods. Another interesting record, the southernmost for the eastern U.S., was Lygus nubilus, collected on Clematis virginiana in Kanawah Co.

Several mirids known mainly from states to the south also were collected. West Virginia records for *Keltonia sulphurea*, *Lepidopsallus miniatus*, *Oncerometopus nitens*, and *Neocapsus cuneatus* are among the most northern for those species.

Four seldom-collected species were common at higher elevations of the central region, particularly in Tucker Co. Nymphs and adults of *Taedia heidemanni* were abundant on a shrubby St. Johnswort, *Hypericum densiflorum*, in Olson Bog and Blackwater Falls State Park. At the latter site, a new species of *Neurocolpus* (to be described by Henry) was common on *Viburnum cassinoides*. Characteristic mirids of the Canaan Valley were *Plagiognathus fuscosus* on pipestem, *Spiraea alba*, and *P. brevirostris* on meadowrue, *Thalictrum polygamum*. Meadowrue appears to be the first host record for *P. brevirostris*. The West Virginia record for the recently described *Saileria irrorata* is the only one except for Monticello, Indiana, the type-locality (Henry 1976), and Gainesville, Florida (Henry 1980).

LIST OF WEST VIRGINIA MIRIDAE

We record 247 species of plant bugs from West Virginia, including 3 species listed for the state by Carvalho (1957-60) but not taken during our survey. The 19 species Carvalho recorded from West Virginia are marked with an asterisk. Carvalho did not include the isometopines or jumping tree bugs, now considered a subfamily of the Miridae, but West Virginia material was included in the original descriptions of *Corticoris pulchellus* and *Myiomma cixiiforme*. Nearly all remaining species represent new state records, although a few common mirids like the ubiquitous tarnished plant bug, *Lygus lineolaris*, probably have been mentioned from the state in economic literature.

We use a higher classification similar to that employed in the recent list of Georgia Miridae (Henry and Smith 1979). It combines the more traditional scheme of Knight (1941) with certain modifications proposed by Schuh (1976). The reader should keep in kind that mirid higher classification is undergoing revision and that the placement and recognition of several subfamilies and tribes is in dispute.

For each species (except the 3 listed in the Carvalho catalogue but not confirmed by us), we give the West Virginia distribution (alphabetically by county) and seasonal range (earliest and latest collection dates of adults). Host plants observed in West Virginia also are listed, but we do not cite hosts recorded in the literature. In general, "hosts" are plants on which we observed nymphs, or those that have been well documented as host plants of particular mirids: slightly less rigid definitions of hosts were allowed for predacious species, especially those of the large genera Deraeocoris and Phytocoris. Authors and common names for West Virginia hosts are given in Appendix 1. For a few species, taxonomic and other comments are included under "Remarks." Voucher specimens of nearly all species are found in the insect collection of the Pennsylvania Department of Agriculture, Harrisburg, and the personal collection of T.L. Mason. Additional material is in the collections of USNM, WVU, and WVDA, and a few species are represented in the Cornell University collection.

SUBFAMILY ISOMETOPINAE

Tribe Diphlebini

Diphleps unica Bergroth

Distribution. — Greenbrier

Seasonal Range. — 16 July

WV Host. - Acer pseudoplatanus

Tribe Isometopini

Corticoris pulchellus (Heidemann)

Distribution. - Preston

Seasonal Range. — 8 Aug.

Remarks. — The only known West Virginia record is Aurora, Preston Co., the one Heidemann (1908) used in his original description of

this species.

Corticoris signatus (Heidemann)

Distribution. - Mineral, Wood

Seasonal Range. — 10 June to 14 July WV Host. — *Malus* sp. (crabapple)

Myiomma cixiiforme (Uhler)

Distribution. — Grant, Mineral Seasonal Range. — 10 June to 10

July
WV Host Overeus consines

WV Host. — Quercus coccinea

SUBFAMILY PHYLINAE Tribe Phylini

Amblytylus nasutus (Kirschbaum)
 Distribution. — Berkeley, Grant,
 Jefferson, Mineral, Monongalia
 Seasonal Range. — 30 May to 10

June
WV Host. — grasses

Atractotomus magnicornis (Fallén)

Distribution. — Berkeley, Harrison, Jefferson, Randolph

Seasonal Range. — 27 May to 3 July

WV Host. - Picea abies

Campylomma verbasci (Meyer)

Distribution. — Berkeley

Seasonal Range. — 25 Aug.

WV Host. — Verbascum thapsus

Chlamydatus associatus (Uhler)

Distribution. — Grant

Seasonal Range. — 4 June

Criocoris saliens (Reuter)

Distribution. — Berkeley, Jefferson,

Mineral, Preston

Seasonal Range. — 30 May to 25

June

WV Hosts. — Galium aparine, G.

mollugo

Keltonia sulphurea (Reuter)

Distribution. — Wood

Seasonal Range. — 22 Aug.

Lepidopsallus claricornis Knight Distribution. — Jefferson

Seasonal Range. — 15-16 May

WV Host. — Pinus virginiana

Lepidopsallus miniatus Knight

Distribution. — Jefferson

Seasonal Range. — 17 May

WV Host. — Quercus alba

Lepidopsallus rostratus Knight

Distribution. - Berkeley, Grant,

Hampshire

Seasonal Range. — 31 May to 4

July

WV Hosts. — Pinus mugo, P. virginiana

Lepidopsallus rubidus (Uhler)

Distribution. — Tucker

Seasonal Range. — 12 Aug.

WV Host. — Salix sp.

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Lopus decolor (Fallén)
  Distribution. - Monongalia, Pres-
  Seasonal Range. - 2 July to 3 Aug.
Megalocoleus mollici lus (Fallén)
  Distribution. - Braxton, Gilmer,
    Greenbrier, Preston, Ritchie,
    Tucker
  Seasonal Range. - 4 June to 12 Aug.
  WV Host. - Achi'lea millefolium
Microphylellus mode itus Reuter
  Distribution. - Kanawha, Mineral,
    Pendleton
  Seasonal Range. - 31 May to 23
    June
  WV Host. — Quei cus stellata
Microphylellus tsuga: Knight
  Distribution. - Brooke, Monon-
    galia, Ohio, Poc ahontas, Tucker
  Seasonal Range. - 9-25 June
  WV Host. — Tsug a canadensis
Microphylellus tumic ifrons Knight
  Distribution. - Hurrison, Kanawha,
    Jefferson, Pocal ontas, Preston
  Seasonal Range. - 1 June to 15
    July
  WV Hosts. — Picea abies, P. glauca
Plagiognathus albatus (Van Duzee)
  Distribution. - Nicholas, Upshur
  Seasonal Range — 24 June
  WV Host. — Platanus occidentalis
Plagiognathus annulatus Uhler
  Distribution. - Greenbrier, Kana-
    wha, Mineral, Randolph, Upshur
  Seasonal Range. — 7 June to 18
Plagiognathus atricornis Knight
  Distribution. — Braxton
  Seasonal Range. — 23 June
  WV Host. - Betula nigra
Plagiognathus blatchleyi Reuter
  Distribution. - Jefferson
  Seasonal Range. — 23 Aug.
Plagiognathus brevirostris Knight
  Distribution. — Greenbrier, Tucker
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Seasonal Range. — 26 June to 17 WV Host. - Thalictrum polygamum Plagiognathus carneolus Knight Distribution. - Jefferson, Kanawha. Ritchie Seasonal Range. — 22 April to 15 WV Host. — Pinus virginiana Plagiognathus cornicola Knight Distribution. - Greenbrier, Hancock, Jefferson, Nicholas Seasonal Range. — 1-25 June WV Hosts. - Cornus amomum, C. florida, C. racemosa, C sericea Plagiognathus cuneatus Knight Distribution. - Monongalia, Randolph, Ritchie, Wetzel Seasonal Range. — 18 June to 8 Aug. Plagiognathus delicatus (Uhler) Distribution. - Berkeley Seasonal Range. - 2 June WV Host. — Gleditsia triacanthos Plagiognathus dispar Knight Distribution. - Mineral, Monongalia, Ohio, Pocahontas, Preston Seasonal Range. - 9-25 June WV Hosts. - Carya sp., Fagus grandifolia, Juglans nigra Plagiognathus sp. near flavicornis Knight Distribution. - Mineral Seasonal Range. - 10 June Plagiognathus fulvidus Knight Distribution. - Favette Seasonal Range. — 10 July Plagiognathus fuscosus (Provancher) Distribution. - Tucker Seasonal Range. — 17 July to 12 WV Host. - Spiraea alba Plagiognathus laricicola Knight Distribution. — Brooke, Ohio Seasonal Range. - 25 June WV Host. — Larix sp.

WV Hosts. - Picea abies, Pseudo-Plagiognathus obscurus Uhler Distribution. - Jefferson, Tucker Seasonal Range. — 2-23 Aug. Plagiognathus politus Uhler Distribution. - Berkeley, Braxton, Grant, Gilmer, Greenbrier, Jefferson, Kanawha, Mineral, Monongalia, Nicholas, Preston, Randolph, Ritchie, Tucker, Upshur Seasonal Range. - 10 June to 3 Sept. WV Hosts. - Achillea millefolium, Carduus acanthoides. Chrysanthemum leucanthemum, Echium vulgare. Oenothera biennis, Verbascum thapsus Plagiognathus punctatipes Knight Distribution. - Berkeley, Greenbrier, Hampshire, Pocahontas Seasonal Range. - 31 May to 25 June WV Host. - Physocarpus opuli-Plagiognathus rosicola Knight Distribution. - Putman Seasonal Range. - 29 June WV Host. — Rosa sp. Plagiognathus similis Knight Distribution. - Braxton, Kanawha Seasonal Range. - 23 June WV Host. - Betula nigra Plagiognathus suffuscipennis Knight Distribution. - Greenbrier, Harrison, Kanawha, Pendleton, Randolph Seasonal Range. - 9-25 June WV Hosts. - Picea abies, P. glauca Plagiognathus tinctus Knight Distribution. - Clayton Seasonal Range. — 23 June WV Host. - Salix sp. Plagiognathus vitellinus (Scholtz) Distribution. - Berkeley, Hampshire, Jefferson, Preston

Seasonal Range. - 27 May to 12

June

tsuga menziesii Plesiodema sericeum (Heidemann) Distribution. - Kanawha Seasonal Range, - 23 June WV Host. — Tilia americana Psallus alnicola Douglas & Scott Distribution. - Pocahontas Seasonal Range. — 15-30 July WV Host. - Alnus rugosa Psallus fuscatus Knight Distribution. — Pocahontas Seasonal Range. — 15 July WV Host. - Alnus rugosa Psallus piceicola Knight Distribution. — Hancock, Harrison, Jefferson, Pendleton, Pocahontas, Preston Seasonal Range. - 10 June to 16 WV Host. - Picea abies, P. glauca, P. rubens Psallus strobicola Knight Distribution. - Greenbrier, Hampshire, Pendleton Seasonal Range. — 31 May to 25 June WV Host. — Pinus strobus Reuteroscopus ornatus (Reuter) Distribution. - Jefferson, Kanawha, Monongalia, Morgan, Preston, Wayne, Wood Seasonal Range. — 11 June to 7 Rhinocapsus vanduzeei Uhler Distribution. — Greenbrier, Hardy Seasonal Range. - 25 June to 3 July WV Host. - Rhododendron sp. (azalea) Spanagonicus albofasciatus (Reuter) Distribution. — Berkeley Seasonal Range. — 25-27 Aug.

SUBFAMILY ORTHOTYLINAE

Tribe Ceratocapsini

Ceratocapsus barbatus Knight Distribution. — Berkeley, Grant Seasonal Range. - 26 June to 20 July WV Hosts. - Pinus sylvestris, P. virginiana Ceratocapsus complicatus Knight Distribution. - Ritchie Seasonal Range. — 3 Sept. WV Host. — Carva ovata Ceratocapsus fasciatus (Uhler) Distribution. - Morgan Seasonal Range. — 11-20 Aug. Ceratocapsus fuscinus Knight Distribution. - Jackson, Marion Seasonal Range. - 28 June to 16 Aug. Ceratocapsus incisus Knight Distribution. — Greenbrier, Nicholas, Preston Seasonal Range. — 24 June to 17 WV Hosts. — Carpinus caroliniana, Fagus grandifolia *Ceratocapsus luteus Knight Distribution. — Hancock, Preston, Wood Seasonal Range. — 9-22 Aug. WV Host. — Pinus sylvestris Ceratocapsus modestus (Uhler) Distribution. - Berkeley, Morgan, Preston Seasonal Range. — 6 July to 20

Ceratocapsus nigellus Knight Distribution. - Kanawha, Ritchie Seasonal Range, - 13 June to 8 July WV Host. - Carva ovata Ceratocapsus pumilus (Uhler) Distribution. - Jefferson, Monongalia, Preston, Tucker Seasonal Range. — 3 July to 16 WV Hosts. — Alnus serrulata, Cotoneaster sp. Ceratocapsus sp. near quadrispiculus Knight Distribution. — Morgan, Ritchie Seasonal Range. — 20 Aug. to 11 Sept. Ceratocapsus rubricornis Knight Distribution. - Monongalia, Wood Seasonal Range. — 3-18 Aug. WV Hosts. — Quercus palustris, Q. phellos Ceratocapsus setosus Reuter Distribution. — Hancock, Wood Seasonal Range. — 9-22 Aug. *Ceratocapsus uniformis Knight Distribution. — Jackson, Jefferson Seasonal Range. — 12 July to 6 Aug. WV Host. - Juglans nigra Ceratocapsus vicinus Knight Distribution. - Tucker Seasonal Range. — 12 Aug.

WV Hosts. — Quercus alba, Vitis sp.

Tribe Halticini

Halticus bractatus (Say)
Distribution. — Berkeley, Hardy,
Jefferson, Lewis, Monongalia,
Preston

Seasonal Range. — 9 June to 15 Sept.

WV Host. - Glycine max

Halticus intermedius Uhler Distribution. — Upshur Seasonal Range. — 18 July

Tribe Orthotylini

Diaphnocoris chlorionis (Say)
Distribution. — Berkeley, Gilmer
Seasonal Range. — 31 May to 2 June
WV Host. — Gleditsia triacanthos
Diaphnocoris provancheri (Burque)
Distribution. — Greenbrier, Jefferson, Monongalia, Nicholas, Ohio,
Pocahontas, Preston, Tucker
Seasonal Range. — 24 June to 26

WV Hosts. — Alnus rugosa, Fagus grandifolia, Fraxinus sp., Juglans nigra, Quercus palustris, Q. prinus, O. rubra

Sept.

Remarks. — Kelton (1980a synonymized D. pellucida (Uhler under D. provancheri. West Virginia specimens having pale, second antennal segments previously would have been referred to pellucida; they were collected mainly from hosts other than Alnus.

*Heterocordylus malinus Reuter
Distribution. — Greenbrier,

Kanawha, Monongalia, Pocahontas

Seasonal Range. — 25 May to 25 June

WV Host. — Crataegus punctata Ilnacora malina (Uhler)

Distribution. — Berkeley, Kanawha, Lincoln, Pocahontas

Seasonal Range. — 1-23 June
WV Hosts. — Ambrosia trifida,
Helianthus sp.

Ilnacora stalii Reuter
 Distribution. — Kanawha, Monongalia, Morgan, Summers, Wood
 Seasonal Range. — 27 Apr. to 1
 Sept.

WV Host. — Helianthus sp. Labopidicola allii (Knight)

Distribution. — Grant Seasonal Range. — 29 May to 4 June WV Host. — Allium sp.

Lopidea confluenta (Say)

Distribution. — Jackson, McDowell, Monongalia, Preston, Ritchie Seasonal Range. — 3 July to 11 Aug.

Lopidea cuneata Van Duzee Distribution. — Mineral Seasonal Range. — 10 June *Lopidea davisi Knight

Distribution. — Tucker Seasonal Range. — 2 Aug. WV Host. — *Phlox* sp.

Lopidea heidemanni Knight

Distribution. — Boone, Braxton, Grant, Greenbrier, Jefferson, Kanawha, Lincoln, Marion, Marshall, Mineral, Monongalia, Preston, Summers

Seasonal Range. — 10 May to 16 Aug.

Lopidea incurva Knight
Distribution. — Monongalia
Seasonal Range. — 3 Aug.
WV Host. — Gleditsia triacanthos

Lopidea instabilis (Reuter) Distribution. — Morgan Seasonal Range. — 20 Aug. Lopidea marginalis (Reuter) Distribution. - Grant, Ritchie Seasonal Range. - 21 June to 17 July Lopidea media (Say) Distribution. - Greenbrier, Hancock, Monongalia, Pocahontas, Raleigh, Ritchie, Tucker, Wayne Seasonal Range, - 13 June to 13 Sept. WV Host. — Achillea millefolium Lopidea phlogis Knight Distribution. — Grant Seasonal Range. — 29 May to 4 June WV Host. - Phlox subulata *Lopidea reuteri (Knight) Distribution. - Recorded from the state by Carvalho (1958b) Lopidea robiniae (Uhler) Distribution. - Berkeley, Greenbrier, Hancock, Hardy, Harrison, Jefferson, Logan, McDowell, Marshall, Monongalia, Morgan, Preston, Tucker Seasonal Range. — 12 May to 22 WV Host. — Robinia pseudoacacia Lopidea salicis Knight Distribution. — Berkelev Seasonal Range. — 26 July WV Host. — Salix sp. Lopidea staphyleae Knight Distribution. — Jefferson Seasonal Range. — 23 Aug. WV Host. — Staphylea trifolia Mecomma gilvipes (Stål) Distribution. — Pocahontas Seasonal Range. — 25 June to 30 WV Hosts. — Ranuculus spp.,

Distribution. — Grant Seasonal Range. — 28 May to 4 June WV Hosts. — Antennaria spp. Melanotrichus flavosparsus (Sahlberg) Distribution. - Jefferson, Monongalia Seasonal Range. — 10 July to 7 Aug. Orthocephalus coriaceus (F.) Distribution. - Berkeley, Jefferson, Mineral Seasonal Range. - 31 May to 10 June WV Hosts. - Achillea millefolium, Potentilla recta Orthotylus modestus Van Duzee Distribution. - Berkeley, Clay, Greenbrier, Hancock, Morgan, Tucker, Upshur Seasonal Range. - 23 June to 18 July WV Host. — Salix nigra Orthotylus necopinus Van Duzee Distribution. - Tucker Seasonal Range. — 29 June Orthotylus pennsylvanicus Henry Distribution. - Hampshire, Harrison, Mineral, Pendleton, Pocahontas, Randolph Seasonal Range. — 8-25 June WV Hosts. - Picea abies, P. glauca, P. rubens Orthotylus ramus Knight Distribution. - Jefferson Seasonal Range. — 30 May WV Host. — Carya illinoensis Orthotylus serus Van Duzee Distribution. - Greenbrier, Pocahantas Seasonal Range. — 25 June WV Host. - Crataegus sp.

Melanotrichus catulus (Van Duzee)

grasses

Orthotylus submarginatus (Say) Distribution. - Berkeley, Marshall, Monongalia, Tucker Seasonal Range. - 26 June to 21 WV Host. — Robinia pseudoacacia Orthotylus viridis Van Duzee Distribution. — Greenbrier Seasonal Range. — 16 July WV Host. — Salix sp. Paraproba capitata (Van Duzee) Distribution. - Berkeley, Brooke, Greenbrier, Kanawha, Morgan, Ritchie Seasonal Range. — 25 June to 10 Sept. WV Hosts. - Carya sp. Juglans nigra, Quercus alba, Ulmus americana, U. rubra *Parthenicus juniperi (Heidemann) Distribution. — Grant, Harrison, Jefferson, Kanawha, Mineral, Pendleton, Wood Seasonal Range. — 1 June to 9 WV Hosts. — Juniperus chinensis, J. virginiana Pseudoxenetus regalis (Uhler) Distribution. - Berkeley Seasonal Range. - 27 May Pseudoxenetus scutellatus (Uhler)

Reuteria irrorata (Sav) Distribution. — Jefferson, Morgan Seasonal Range. — 3 July to 20 Aug. WV Host. - Ulmus americana Saileria irrorata Henry Distribution. - Grant Seasonal Range. — 13 July Semium hirtum Reuter Distribution. - Taylor Seasonal Range. — 3 Aug. WV Host. — Euphorbia maculata Sericophanes heidemanni Poppius Distribution. - Berkeley, Braxton, Hardy, Kanawha, Mason, Monongalia, Pendleton, Pocahon-Seasonal Range. — 26 May to 10 WV Host. — Carex rostrata Slaterocoris atritibialis (Knight) Distribution. — Monongalia, Preston, Ritchie, Tucker Seasonal Range. — 19 May to 17 July Slaterocoris breviatus (Knight) Distribution. — Grant, Preston Seasonal Range. — 8-13 July Slaterocoris stygicus (Say) Distribution. — Berkeley, Boone, Harrison, Tucker Seasonal Range. — 1 June to 17 July

Tribe Pilophorini

*Alepidia gracilis (Uhler)

Distribution. — Grant, Greenbrier,
Hancock, Kanawha, Preston
Seasonal Range. — 23 June to 22

Aug.

WY Hosts. — Pinus nigra P. syl-

Distribution. - Berkeley, Jefferson,

Monongalia, Morgan, Tucker Seasonal Range. — 17 May to 15

July

WV Hosts. — Pinus nigra, P. sylvestris, P. virginiana

Pilophorus amoenus Uhler
Distribution. — Berkeley, Braxton,
Greenbrier, Monongalia, Morgan,
Preston
Seasonal Range. — 27 June to 20
Aug.
WV Hosts. — Pinus sylvestris, P.
virginiana

WV Host. - Ambrosia trifida

Pilophorus brunneus Poppius Distribution. - Hancock, Pocahontas Seasonal Range. — 25 June to 30 WV Hosts. - Alnus rugosa, Salix SD. Pilophorus crassipes Heidemann Distribution. - Berkeley, Brooke, Grant, Hancock, Pleasants, Wood Seasonal Range. — 17 July to 22 Aug. WV Hosts. — Pinus sylvestris, P. virginiana *Pilophorus heidemanni Poppius Distribution. - Recorded from the state by Carvalho (1958b) Pilophorus juniperi Knight Distribution. — Greenbrier Seasonal Range. - 16 July WV Host. — Juniperus virginiana Pilophorus laetus Heidemann Distribution. - Braxton, Hancock, Morgan, Wood Seasonal Range. — 30 June to 15 Sept. WV Hosts. - Pinus sylvestris, P.

Pilophorus piceicola Knight Distribution. — Brooke, Greenbrier. Hampshire, Harrison, Jefferson, Kanawha, Nicholas, Pendleton, Pocahontas, Preston, Randolph, Taylor, Tucker Seasonal Range. — 31 May to 11 WV Hosts. — Picea abies, P. glauca, P. rubens Pilophorus strobicola Knight Distribution. - Greenbrier, Jefferson, Pocahontas, Preston, Tucker, Wood Seasonal Range. - 25 June to 9 Sept. WV Host. - Pinus strobus Pilophorus uhleri Knight Distribution. — Preston Seasonal Range. — 11 Aug. WV Host. — Pinus sylvestris Pilophorus walshii Uhler Distribution. - Berkeley, Monongalia Seasonal Range. — 3 Aug. WV Host. - Gleditsia triacanthos

SUBFAMILY CYLAPINAE

Tribe Cylapini

Cylapus tenuicornis Say
Distribution. — Berkeley, Monongalia
Seasonal Range. — 21 July to 7 Aug.

Tribe Fulviini

Fulvius imbecilis (Say)
Distribution. — Berkeley
Seasonal Range. — 12 July

virginiana

SUBFAMILY DERAEOCORINAE

Tribe Deraeocorini

Deraeocoris albigulus Knight
Distribution. — Ohio, Preston,
Tucker
Seesonal Pance 25 lune to

Seasonal Range. — 25 June to 11 Aug.

WV Hosts. — Pinus pungens, P. sylvestris

Deraeocoris aphidiphagus Knight
Distribution. — Jefferson, Kanawha, McDowell, Mineral

Seasonal Range. — 20 May to 17 June

WV Host. — Ulmus americana

Deraeocoris davisi Knight

Distribution. — Berkeley, Tucker Seasonal Range. — 27 May to 29 June

WV Host. — Populus tremuloides Deraeocoris fasciolus Knight

Distribution. — Kanawha, Nicholas, Tucker

Seasonal Range. — 23 June to 12 Aug.

WV Host. — Fagus grandifolia Deraeocoris nebulosus (Uhler)

Distribution. — Berkeley, Jefferson, Kanawha, Lewis, Monongalia, Ohio, Pocahontas, Preston, Tucker

Seasonal Range. — 2 Apr. to 11 Aug. WV Hosts. — Alnus rugosa, Castanea mollissima, Juglans nigra, Quercus palustris, Q. prinus, Tilia americana

Deraeocoris nigritulus Knight
Distribution. — Berkeley, Grant,

Greenbrier, Hampshire, Jefferson, Kanawha, Mineral, Preston, Tucker

Seasonal Range. — 26 May to 11 Aug.

WV Hosts. — Pinus sylvestris, P. virginiana

Deraeocoris nitenatus Knight
Distribution. — Berkeley, Jefferson,
Lincoln, Ritchie, Tucker
Seasonal Range. — 2 June to 26

Aug.

WV Hosts. — Celtis occidentalis, Juglans nigra

Deraeocoris nubilus Knight

Distribution. — Greenbrier, Hancock, Kanawha, Monongalia, Morgan, Ohio, Preston, Taylor, Tucker, Wetzel

Seasonal Range. — 23 June to 21 Oct.

WV Hosts. — Larix sp., Pinus strobus, P. sylvestris

Deraeocoris pinicola Knight

Distribution. — Preston

Seasonal Range. — 11 Aug.

WV Host. — Pinus strobus

*Deraeocoris poecilus (McAtee)
Distribution. — Braxton, Lincoln,
Wood

Seasonal Range. — 26 July to 8 Aug. WV Hosts. — Betula nigra, B. papyrifera

Deraeocoris quercicola Knight

Distribution. — Brooke, Kanawha, Pendleton, Wayne

Seasonal Range. — 26 June to 9 Aug. WV Hosts. — Carya sp., Quercus

alba, Q. ilicifolia, Tilia americana Eurychilopterella luridula Reuter

Distribution. — Jefferson

Seasonal Range. — 23 June

WV Host. — "Predator on Pseudococcus comstocki" (USNM collection)

Eustictus grossus (Uhler)

Distribution. — Berkeley, Grant, Morgan

Seasonal Range. — 17 July to 20 Sept.

WV Host. — Pinus virginiana

Tribe Hvaliodini

Hyaliodes harti Knight Distribution. - Berkeley, Greenbrier, Hancock, Marshall, Monongalia, Preston, Wood Seasonal Range. - 26 June to 16 Sept.

WV Hosts. - Cornus sp., Juglans nigra, Ouercus alba, O. rubra, Viburnum recognitum, Vitis sp.

Hyaliodes vitripennis (Say) Distribution. — Berkeley, Jackson, Monongalia

Seasonal Range. - 10 July to 14

WV Hosts. — Aesculus sp., Vitis sp.

SUBAMILY MIRINAE

Tribe Resthenini

Oncerometopus nitens Knight Distribution. - Lincoln Seasonal Range. - 26 July Prepops fraterculus (Knight) Distribution. — Monongalia Seasonal Range. — 28 July *Prepops fraternus (Knight)

Distribution. — Mason, Monongalia Seasonal Range. — 8 July to 28 Aug.

Prepops insignis (Say) Distribution. — Braxton Seasonal Range. - 8 July Prepops insitivus (Say)

Distribution. - Greenbrier, Kanawha, Monongalia, Pocahontas, Upshur

Seasonal Range. — 29 May to 27

Prepops nigricollis (Reuter) Distribution. — Preston Seasonal Range. - 27 June

Tribe Mirini

Adelphocoris lineolatus (Goeze) Distribution. - Braxton, Grant, Greenbrier, Hardy, Harrison, Jefferson, Kanawha, Lincoln, McDowell, Mason, Mercer, Mineral, Monongalia, Pendleton, Pocahontas, Preston, Ritchie, Summers Seasonal Range. - 30 May to 28

WV Hosts. - Coronilla varia.

Medicago sativa

Adelphocoris rapidus (Say) Distribution. - Boone, Cabell, Grant, Hardy, Jackson, Jefferson, Kanawha, Marion, Mason, Monongalia, Morgan, Pocahontas, Preston, Summers, Taylor, Seasonal Range. - 21 May to 16 Oct. WV Host. - Medicago sativa Agnocoris pulverulentus (Uhler) Distribution. - Clay, Hancock, Morgan, Ohio Seasonal Range. — 25 June to 4 July

WV Host. - Salix nigra

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Bolteria luteifrons Knight Distribution. — Hampshire, Kanawha, Marion, Monongalia, Pocahontas, Raleigh Seasonal Range. - 13 May to 24 WV Hosts. — Juniperus chinensis, J. horizontalis, J. virginiana Capsus ater (L.) Distribution. — Berkeley, Grant, Greenbrier, Jackson, Jefferson, McDowell, Marion, Mason, Monongalia, Morgan, Pendleton, Pocahontas, Summers, Wetzel Seasonal Range. — 30 Apr. to 25 June WV Hosts. - Hordeum vulgare, Medicago sativa Coccobaphes sanguinarus Uhler Distribution. - Monongalia Seasonal Range. — 26 May to 24 Aug. Dichrooscytus elegans Heidemann Distribution. — Grant. Hampshire. Mineral, Ohio, Pendleton, Pocahontas, Preston, Randolph Seasonal Range. — 31 May to 16 Sept. WV Hosts. — Juniperus chinensis, J. virginiana *Dichrooscytus repletus (Heidemann) Distribution. - Grant, Greenbrier, Hampshire, Jefferson, Kanawha, Mineral, Monongalia, Morgan, Ohio, Preston, Randolph, Tucker Seasonal Range. — 29 May to 16

WV Hosts. - Juniperus chinensis, J.

Distribution. - Hampshire, Preston

Seasonal Range. — 31 May to 9 June WV Hosts. — Pinus sylvestris, P.

virginiana

virginiana, Thuja occidentalis Dichrooscytus suspectus Reuter

Garganus fusiformis (Say) Distribution. - Berkeley, Lewis, Monongalia, Preston, Summers, Tucker Seasonal Range. — 24 June to 12 Oct. Lygidea mendax Reuter Distribution. - Preston Seasonal Range. - 25 June Lvgidea obscura Reuter Distribution. — Tucker Seasonal Range. - 25 June WV Host. — Salix sp. Lygidea salicis Knight Distribution. — Upshur Seasonal Range. — 18 July WV Host. - Salix sp. Lygidea viburni Knight Distribution. - Tucker Seasonal Range. — 26 June WV Host. - Viburnum sp. Lygocoris alni (Knight) Distribution. — Pocahontas Seasonal Range. — 30 July WV Host. — Alnus rugosa Lygocoris atrinotatus (Knight) Distribution. - Hancock, Monongalia, Nicholas, Pendleton Seasonal Range. — 25 June to 16 July WV Host. - Hydrangea arborescens *Lygocoris belfragii (Reuter) Distribution. — Preston, Tucker Seasonal Range. — 25 June to 16 Lygocoris caryae (Knight) Distribution. - Berkeley, Mineral, Seasonal Range. — 14 May to 10 WV Hosts. — Carya cordiformis, C. ovata

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Lygocoris communis (Knight)
                                         *Lygocoris pabulinus (L.)
  Distribution. - Pendleton, Poca-
                                           Distribution. — Grant. Greenbrier.
    hontas, Preston, Tucker, Upshur
                                             Kanawha, McDowell, Mineral,
  Seasonal Range. — 9 June to 11 Aug.
                                             Pendleton, Preston, Randolph.
  WV Hosts. — Cornus racemosa, Ilex
                                             Tyler
    ambigua, Salix humilis
                                           Seasonal Range. — 18 May to 16
Lygocoris fagi Knight
                                             Sept.
  Distribution. - Greenbrier, Kana-
                                           WV Host. - Impatiens sp.
    wha, Nicholas, Preston, Tucker
                                        Lygocoris quercalbae (Knight)
  Seasonal Range. — 23 June to 23
                                           Distribution. - Berkeley, Hamp-
    Aug.
                                             shire. Jefferson
  WV host. — Fagus grandifolia
                                           Seasonal Range. — 17-31 May
Lygocoris geneseensis (Knight)
                                           WV Host. — Ouercus alba
  Distribution. — Mineral, Preston
                                        Lygocoris tiliae (Knight)
                                           Distribution. - Hampshire,
  Seasonal Range. — 31 May to 11
                                             McDowell, Pocahontas, Preston
    Aug.
  WV Host. - Quercus alba
                                           Seasonal Range. — 31 May to 11
Lygocoris hirticulus (Van Duzee)
                                             Aug.
  Distribution. - Kanawha, Nicholas,
                                        Lygocoris tinctus (Knight)
    Pocahontas, Preston, Tucker,
                                           Distribution. — Berkeley
    Wetzel
                                           Seasonal Range. — 31 May
  Seasonal Range. — 17 June to 16
                                           WV Host. — Gleditsia triacanthos
                                        Lygocoris viburni (Knight)
  WV Hosts. — Acer saccharinum,
                                          Distribution. — Greenbrier, Tucker
    Betula sp., Fagus grandifolia,
                                          Seasonal Range. — 25 June to 17
    Gleditsia triacanthos. Hamamelis
                                             July
    virginiana
                                          WV Host. - Viburnum cassinoides
*Lygocoris laureae (Knight)
                                        Lygocoris vitticollis (Reuter)
  Distribution. — Greenbrier, Preston.
                                          Distribution. - Berkeley, Poca-
    Tucker
                                            hontas, Preston, Tucker
  Seasonal Range. — 4 June to 24 Aug.
                                          Seasonal Range. — 2 June to 15
  WV Hosts. - Kalmia latifolia.
                                            July
    Rhododendron calendulaceum, R.
                                          WV Host. - Acer saccharinum
    maximum
                                        Lygus lineolaris (Palisot de Beauvois)
Lygocoris nyssae (Knight)
                                          Distribution. - 29 counties: un-
  Distribution. - Kanawha
                                            doubtedly occurs statewide
  Seasonal Range. — 11 June
                                          Seasonal Range. — 4 Apr. to 10
Lygocoris omnivagus (Knight)
                                            Sept.
  Distribution. — Berkeley, Harrison,
                                          WV Host. — Solidago sp.
    McDowell, Pocahontas, Preston.
                                        Lygus nubilus Van Duzee
    Tucker
                                          Distribution. — Kanawha
  Seasonal Range. — 2 June to 11 Aug.
                                          Seasonal Range. — 25 Sept.
  WV Hosts. — Castanea pumila.
                                          WV Host. — Clematis virginiana
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Fagus grandifolia, Quercus alba.

O. rubra

Lygus plagiatus Uhler Distribution. — Mingo, Preston. Summers, Wyoming Seasonal Range. - 20 July to 18 Aug. Lygus rubroclarus Knight Distribution. - Berkeley, Braxton. Mingo, Pocahontas, Randolph, Summers, Tucker Seasonal Range. — 14 May to 24 Oct. WV Hosts. - Aster sp., Hieracium pratense, Solidago sp. Lvgus vanduzeei Knight Distribution. - Boone, Braxton, Fayette, Hardy, Lincoln, Pendleton, Raleigh, Tucker Seasonal Range. — 27 Apr. to 8 WV Hosts. - Achillea millefolium, Solidago sp. Metriorrhynchomiris dislocatus (Say) Distribution. — 18 counties; probably occurs statewide Seasonal Range. — 28 May to 19 July WV Host. — Trifolium sp. Metriorrhynchomiris fallax (Reuter) Distribution. - Hampshire Seasonal Range. - 4 June Neocapsus cuneatus (Distant) Distribution. - Jefferson Seasonal Range. — 17 May WV Host. — Quercus alba Neurocolpus jessiae Knight Distribution. - Marshall, Monongalia, Summers, Tucker

Seasonal Range. — 24 June to 21

WV Host. - Sambucus canadensis

Neurocolpus nubilus (Sav) Distribution. - Jefferson, Monongalia, Nicholas, Pleasants, Preston, Wood Seasonal Range. — 1 June to 5 Oct. WV Host. - Rhus glabra, Rubus allegheniensis Neurocolpus n. sp. Distribution. — Tucker Seasonal Range. — 17 June to 12 Aug. WV Host. — Viburnum cassinoides Orthops scutellatus (Uhler) Distribution. - Jefferson, Tucker Seasonal Range. — 1 June to 2 Aug. WV Hosts. - Cicuta maculata, Pastinaca sativa, Thaspium trifolia-*Phytocoris americanus Carvalho Distribution. - Grant, Morgan, Nicholas, Tucker Seasonal Range. - 24 June to 16 Aug. WV Host. — Tsuga canadensis Phytocoris breviusculus Reuter Distribution. - Kanawha Seasonal Range. — 17 June Phytocoris buenoi Knight Distribution. — Jefferson, Mercer, Pocahontas, Preston Seasonal Range. — 25 June to 11 WV Hosts. - Picea abies, P. glauca, P. rubens Phytocoris canadensis Van Duzee Distribution. — Greenbrier, Jefferson, Lincoln, Tucker, Upshur Seasonal Range. — 16 July to 16 WV Hosts. - Acer pseudoplatanus, Alnus sp., Cornus sp., Crataegus

sp., Hamamelis virginiana, Salix

sp.

Phytocoris confluens Reuter Distribution. - Berkeley, Greenbrier, Kanawha, Monongalia, Wood Seasonal Range. — 23 June to 20 WV Hosts. - Carva sp., Castanea mollissima Phytocoris conspersipes Reuter Distribution. - Berkeley, Braxton, Clay, Greenbrier, Jackson, Monongalia, Morgan, Pleasants, Wood Seasonal Range. — 4 July to 17 Sept. WV Hosts. - Pinus rigida, P. virginiana Phytocoris conspurcatus Knight Distribution. — Monongalia Seasonal Range. — 1 Sept. Phytocoris diversus Knight Distribution. - Berkeley, Greenbrier, Hancock, Preston, Raleigh Seasonal Range, - 7 July to 17 Sept. WV Host. - Pinus strobus Phytocoris dreisbachi Knight Distribution. — Berkeley Seasonal Range. — 26 May Phytocoris erectus Van Duzee Distribution. - Hancock, Marion, Pocahontas, Preston Seasonal Range. — 30 July to 22 WV Hosts. - Alnus rugosa, Catalpa sp., Ilex ambigua, Malus sp. Phytocoris fenestratus Reuter Distribution. - Berkeley, Jefferson, Kanawha Seasonal Range. — 26-29 May WV Host. — Pinus virginiana Phytocoris fulvus Knight Distribution. — Preston Seasonal Range. — 13 Aug.

Phytocoris husseyi Knight Distribution. - Morgan, Preston Seasonal Range. - 11 Aug. to 1 WV Host. - Viburnum sp. Phytocoris infuscatus Reuter Distribution. - Kanawha Seasonal Range, - 23 June WV Hosts. — Carya spp. Phytocoris junceus Knight Distribution. - Pocahontas, Preston, Randolph, Tucker Seasonal Range. — 24 June to 13 Phytocoris junipericola Knight Distribution. - Berkeley, Greenbrier Seasonal Range. — 16 July WV Host. - Juniperus virginiana Phytocoris minutulus Reuter Distribution. — Berkeley Seasonal Range. — 16-20 July WV Host. — Vitis sp. Phytocoris mundus Reuter Distribution. — Greenbrier Seasonal Range. - 16 July WV Host. — Pinus sylvestris Phytocoris neglectus Knight Distribution. - Berkeley, Fayette, Greenbrier, Jefferson, Monongalia, Wood Seasonal Range. — 15 July to 22 Phytocoris obtectus Knight Distribution. — Preston Seasonal Range. — 11 Aug. WV Host. - Quercus velutina Phytocoris onustus Van Duzee Distribution. — Tucker Seasonal Range. — 12 Aug. Phytocoris pinicola Knight Distribution. — Pleasants Seasonal Range. — 20 Aug.

WV Host. - Pinus virginiana

Phytocoris puella Reuter Poecilocapsus lineatus (F.) Distribution. - Kanawha, Preston, Distribution. — 18 counties; prob-Ritchie ably occurs statewide Seasonal Range. — 11 Aug. to 4 Seasonal Range. — 31 May to 2 Aug. WV Hosts. - numerous species; for WV Hosts. — Quercus alba, Q. records, see Wheeler and Miller palustris (1981)Phytocoris purvus Knight Polymerus basalis (Reuter) Distribution. - Berkeley, Kanawha Distribution. - Berkeley, Hardy, Seasonal Range. - 27 May to 28 Jefferson, Marion, Mason, June Mineral, Monongalia, Wood Phytocoris salicis Knight Seasonal Range. — 27 May to 28 Distribution. - Berkeley, Kanawha. Nicholas, Pocahontas, Preston. WV Host. - Chrysanthemum leu-Tucker canthemum Seasonal Range. - 14 June to 11 Polymerus fulvipes Knight Distribution. - Braxton, Lincoln WV Hosts. - Alnus rugosa, Cornus Seasonal Range. - 7-27 June sp., Crataegus sp., Tilia Polymerus proximus Knight americana Distribution. - Mineral Phytocoris spicatus Knight Seasonal Range. — 31 May Distribution. - Berkeley, Ritchie WV Host. - Galium aparine Seasonal Range. — 23 June to 22 Polymerus punctipes Knight Sept. Distribution. - Braxton Phytocoris tibialis Reuter Seasonal Range. — 27 May Distribution. - Preston, Tucker, Polymerus venaticus (Uhler) Distribution. - Braxton, Grant, Wood Seasonal Range. — 11 Aug. to Oct. Monongalia, Summers, Tucker Phytocoris uniformis Knight Seasonal Range. — 1 June to 12 Distribution. — Berkeley, Grant Aug. Seasonal Range. — 4-17 July WV Host. - Solidago sp. WV Host. - Pinus virginiana Polymerus wheeleri Henry Phytocoris venustus Knight Distribution. — Grant Distribution. - Kanawha, Monon-Seasonal Range. - 29 May to 4 June galia, Tucker Wood WV Host. - Phlox subulata Seasonal Range. — 23 June to 20 *Stenotus binotatus (F.) Distribution. — 16 counties; prob-Sept. WV Host. - Carya sp. ably occurs statewide *Pinalitus approximatus (Stål) Seasonal Range. - 30 May to 18 Distribution. - Recorded from the WV Hosts. - Avena sativa, grasses state by Carvalho (1959) Platylygus luridus Reuter Taedia casta (McAtee) Distribution. — Tucker Distribution. - Ritchie Seasonal Range. - 26 June Seasonal Range. — 15 July WV Host. - Pinus pungens WV Host. - Parthenosissus quin-

quefolia

Taedia colon (Say) Distribution. - Preston Seasonal Range. — 18 Aug. Taedia gleditsiae (Knight) Distribution. — Berkeley Seasonal Range. — 31 May WV Host. — Gleditsia triacanthos *Taedia heidemanni (Reuter) Distribution. - Grant, Monongalia, Preston, Tucker Seasonal Range. — 17 July to 22 WV Host. - Hypericum densi-

florum Taedia multisignata (Reuter)

Distribution. - Kanawha Seasonal Range. — 23 June Taedia scrupea (Say)

Distribution. - Berkeley, Wyoming Seasonal Range. — 4-18 July

Tropidosteptes amoenus Reuter Distribution. - Marshall, Monongalia, Ritchie

Seasonal Range. — 11 July to 3 Sept. WV Host. - Fraxinus sp.

Tropidosteptes cardinalis Uhler Distribution. - Berkeley, Monongalia

Seasonal Range. - 31 May to 7 June WV Host. - Fraxinus americana

Tropidosteptes geminus (Say)

Distribution. - Hancock, Monongalia, Summers

Seasonal Range. — 25 May to 25 June

WV Host. — Fraxinus americana Tropidosteptes palmeri (Reuter)

Distribution. — Berkeley Seasonal Range. - 2 June

Tropidosteptes pubescens (Knight) Distribution. - Nicholas Seasonal Range. - 24 June

WV Host. - Fraxinus americana

Tribe Stenodemini

*Collaria meilleurii Provancher Distribution. — Grant, Monongalia, Preston, Tucker Seasonal Range. — 25 June to 12 WV Host. - Panicum sp. Collaria oculata (Reuter) Distribution. — Boone, Fayette, Grant, Jefferson, Kanawha, Monongalia, Preston, Wayne Seasonal Range. - 14 June to 6 Sept. WV Host. - Panicum sp.

Leptopterna dolabrata (L.) Distribution. — 23 counties; probably occurs statewide Seasonal Range. — 9 May to 5 Aug.

WV Hosts. — grasses

Megaloceroea recticornis (Geoffroy) Distribution. - Berkeley, Lewis, Morgan, Pocahontas, Tucker Seasonal Range. — 31 May to 17 July WV Hosts. - grasses Stenodema trispinosa Reuter Distribution. — Clay, Fayette, Kanawha, Monongalia, Morgan, Preston, Tucker, Wood Seasonal Range. - 12 May to 20 Aug. WV Hosts. - grasses

Stenodema vicina (Provancher)

Distribution. - Greenbrier, Monongalia, Morgan, Pendleton, Pocahontas, Preston, Randolph,

Tucker

Seasonal Range, - 8 Apr. to 24 Sept.

WV Hosts. - grasses

Trigonotylus coelestialium (Kirkaldy)

Distribution. — 13 counties: probably occurs statewide

Seasonal Range. - 29 May to 17

WV Hosts. - Poa pratensis, other grasses

Tribe Herdoniini

Paraxenetus guttulatus (Uhler)

Distribution. - Greenbrier, Jefferson. Monongalia

Seasonal Range. - 16 July to 23 Aug.

WV Hosts. - Acer pseudoplatanus, Staphylea trifolia, Viburnum recognitum

SUBFAMILY BRYOCORINAE

Tribe Eccritotarsini

Monalocoris americanus Wagner &

Slater

Distribution. - Grant, Jefferson, Morgan, Preston, Tucker

Seasonal Range. - 26 May to 20

WV Host. - Dennstaedtia punctilobula

Sixeonotus tenebrosus (Distant) Distribution. — Berkeley

Seasonal Range. — 2 Sept.

WV Host. - Nasturtium officinale

SUBFAMILY DICYPHINAE

Dicyphus agilis (Uhler)

Distribution. - Preston, Randolph,

Seasonal Range. — 26 June to 9 Aug.

WV Host. - Rubus odoratus

Remarks. — This is the species often referred to as D. cucurbitaceus (Spinola), which is Neotropical in

distribution (Kelton 1980b).

Dicyphus famelicus (Uhler)

Distribution. - Pendleton, Tucker Seasonal Range. - 9-26 June

WV Host. - Rubus odoratus

Dicyphus rhododendri Dolling

Distribution. - Greenbrier, Pendleton, Tucker

Seasonal Range. — 26 June to 15

WV Hosts. - Rhododendron maximum. R. periclymenoides

Macrolophus tenuicornis Blatchley

Distribution. - Pocahontas, Preston Seasonal Range. - 24 June to 23

WV Host. - Dennstaedtia punctilohula

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APPENDIX 1. Host plants of West Virginia Miridae.

Scientific	Common
name	name
Acer pseudoplatanus L.	sycamore maple
A. saccharinum L.	silver maple
Achillea millefolium L.	yarrow
Aesculus sp.	buckeye
Allium sp.	garlic, onion
Alnus sp.	alder
A. rugosa (DuRoi) Spreng.	speckled alder
A. serrulata (Ait.) Willd.	hazel alder
Ambrosia trifida L.	giant ragweed
Antennaria spp.	pussy-toes
Aster sp.	aster
Avena sativa L.	oats
Betula sp.	birch
B. nigra L.	river birch
B. papyrifera Marsh.	paper birch
Carduus acanthoides L.	plumeless thistle
Carex rostrata Stokes	sedge
Carpinus carolinianum Walt.	American hornbeam
Carya spp.	hickory
C. cordiformis (Wangenh.) K. Koch	bitternut hickory
C. illinoensis (Wangenh.) K. Koch	pecan
C. ovata (Mill.) K. Koch	shagbark hickory
Castanea mollissima Bl.	Chinese chestnut
C. pumila (L.) Mill.	Allegheny chinkapin
Catalpa sp.	catalpa
Celtis occidentalis L.	hackberry
Chrysanthemum leucanthemum L.	oxeye daisy
Cicuta maculata L.	spotted cowbane, water hemlock
Clematis virginiana L.	virgin's bower, woodbine
Cornus sp.	dogwood

Scientific	Common
name	name
C. amomum Mill.	silky dogwood
C. florida L.	flowering dogwood
C. racemosa Lam.	panicled dogwood
C. sericea L. (= stolonifera Michx.)	red-osier dogwood
Coronilla varia L.	crownvetch
Cotoneaster sp.	cotoneaster
Crataegus spp.	hawthorn
C. punctata Jacq.	dotted hawthorn
Dennstaedtia punctilobula (Michx.) Moore	hayscented fern
Echium vulgare L.	blueweed
Euphorbia maculata L. (= supina Raf.)	prostrate spurge
Fagus grandifolia Ehrh.	American beech
Fraxinus sp.	ash
F. americana L.	white ash
Galium aparine L.	catchweed bedstraw
G. mollugo L.	smooth bedstraw
Gleditsia triacanthos L.	honeylocust
Glycine max (L.) Merr.	soybean
Hamamelis virginiana L.	witch-hazel
Helianthus sp.	sunflower
Hieracium pratense Tausch	yellow hawkweed
Hordeum vulgare L.	barley
Hydrangea arborescens L.	smooth hydrangea
Hypericum densiflorum Pursh	glade St. John's-wort
Ilex ambigua (Michx.) Torr. (= montana	
Torr. & Gray)	mountain holly
Impatiens sp.	jewelweed, snapweed
Juglans nigra L.	black walnut
Juniperus chinensis L.	Chinese juniper
J. horizontalis Moenchh.	creeping juniper
J. virginiana L.	eastern red-cedar
Kalmia latifolia L.	mountain laurel
Larix sp.	larch
Malus sp.	crabapple
Medicago sativa L.	alfalfa
Nasturtium officinale R. Br.	watercress
Oenothera biennis L.	common evening-primrose
Panicum sp.	panicgrass
Parthenocissus quinquefolia (L.) Planch.	Virginia-creeper
Pastinaca sativa L.	wild parsnip
Phlox sp.	phlox
P. subulata L.	moss pink
Physocarpus opulifolius (L.) Maxim.	ninebark

Scientific	Common
name	name
Picea abies (L.) Karst.	Norway spruce
P. glauca (Moench.) Voss	white spruce
P. rubens Sarg.	red spruce
Pinus mugo Turra	Swiss mountain pine
P. nigra Arnold	Austrian pine
P. pungens Lamb.	table mountain pine
P. rigida Mill.	pitch pine
P. strobus L.	eastern white pine
P. sylvestris L.	Scotch pine
P. virginiana Mill.	Virginia pine
Platanus occidentalis L.	American sycamore
Poa pratensis L.	Kentucky bluegrass
Populus tremuloides Michx.	quaking aspen
Potentilla recta L.	upright cinquefoil
Pseudotsuga menziesii (Mirbel) Franco	Douglas-fir
Quercus alba L.	white oak
Q. coccinea Muenchh.	scarlet oak
Q. ilicifolia Wangenh.	scrub oak
Q. palustris Muenchh.	pin oak
Q. phellos L.	willow oak
Q. prinus L.	chestnut oak
Q. rubra L.	northern red oak
Q. stellata Wangenh.	post oak
Q. velutina Lam.	black oak
Ranunculus spp.	buttercup
Rhododendron sp.	azalea
R. calendulaceum (Michx.) Torr.	flame azalea
R. maximum L.	rosebay rhododendron
R. periclymenoides (Michx.) Shinn.	·
(= nudiflorum (L.) Torr.)	pinxter flower
Rhus glabra L.	smooth sumac
Robinia pseudoacacia L.	black locust
Rosa sp.	wild rose
Rubus allegheniensis Porter	Allegheny blackberry
R. odoratus L.	purple-flowering raspberry
Salix spp.	willow
Salix humilis Marsh.	gray willow
S. nigra Marsh.	black willow
Sambucus canadensis L.	American elderberry
Solidago spp.	goldenrod
Spiraea alba Du Roi	meadowsweet, pipestem
Staphylea trifolia L.	American bladdernut
Thalictrum polygamum Muhl.	tall meadowrue

Scientific name	Common name
Thuja occidentalis L.	arbor-vitae
Tilia americana L.	American basswood
Trifolium sp.	clover
Tsuga canadensis (L.) Carr.	eastern hemlock
Ulmus americana L.	American elm
U. rubra Muhl.	slippery elm
Verbascum thapsus L.	mullein
Viburnum sp.	viburnum
V. cassinoides L.	wild raisin, swamp haw
V. recognitum Fernald	smooth arrowwood