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Feeding Records of True Bugs (Hemiptera: Heteroptera) From Wisconsin

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FEEDING RECORDS OF TRUE BUGS (HEMIPTERA: HETEROPTERA) FROM WISCONSIN

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ABSTRACT

Basic to our understanding of any animal and its habitat requirements is knowing what it eats. Reported here are observations of feeding by 49 species of true bugs (Hemiptera: Heteroptera) encountered in Wisconsin over 1992-2002.

Knowing what an animal eats is basic to our understanding of that animal and its habitat requirements. From 1992 through 2002, I accumulated many observations of insects feeding in Wisconsin. Presented here are data from 49 species and subspecies in 11 families including Alydidae, Berytidae, Coreidae, Cydnidae, Lygaeidae, Miridae, Nabidae, Pentatomidae, Reduviidae, Rhopalidae and Scutelleridae.

The data are presented in two tables: Table 1 includes records of feeding on plants, Table 2 includes records of feeding on insects. Some species appear in both tables. *Alydus eurinus* (Say) (Alydidae) and *Slaterobius insignis* (Uhler) (Lygaeidae) were associated with carrion. Unless otherwise noted, all insects listed are adults, all insects were collected in prairies and savannas, and all insects and plants were determined by me. Plant nomenclature follows Gleason and Cronquist (1991). Voucher specimens are deposited in the Insect Research Collection of the Entomology Department at the University of Wisconsin - Madison.

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Table 1. Observations of Heteroptera feeding on plants. Bugs were adults unless otherwise indicated. Repeated insertion of mouthparts into flower openings was assumed to be feeding on nectar (N). An immobile bug with it mouthparts inserted into plant tissue was assumed to be feeding on seeds (S), developing seeds (DS), ripe seeds (RS), ripe seeds of the previous year (PYS), leaves, stems, flowers or fruits. Seeds fed upon were in or just below inflorescences.

Bug Species	Plant Species	Plant Family	Plant Structure and Notes
Alydidae			
Alydus conspersus Montandon	*Solidago speciosa*	Asteraceae	N
	Amorpha canescens	Fabaceae	S
	Astragalus canadensis		DS
	Dalea candida		DS
	Dalea purpurea		S
	Desmodium canadense		S
	Lespedeza capitata		DS
	Lupinus perennis		DS
	Ceanothus herbaceus	Rhamnaceae	DS
Alydus eurinus (Say)	*Eryngium yuccifolium*	Apiaceae	N
	Aster oolentangiensis	Asteraceae	N
	Eupatorium sessilifolium		N
	Chamaecrista fasciculata	Caesalpiniaceae	DS
	Senna hebecarpa		DS
	Amorpha canescens	Fabaceae	DS
	Astragalus canadensis		DS
	Baptisia lactea		RS, with *Megalotomus quinquespinosus*
	Dalea candida		DS
	Dalea purpurea		DS
	Desmodium canadense		DS
	Desmodium illinoense		DS
	Lathyrus venosus		RS
	Lespedeza capitata		DS, RS, PYS

Table 1. Continued

Bug Species	Plant Species	Plant Family	Plant Structure and Notes
	Lupinus perennis		DS
	Strophostyles helvola		RS
	Ceanothus herbaceous	Rhamnaceae	S
Alydus pilosulus Herrich-Schaeffer	*Dalea purpurea*	Fabaceae	S
	Lupinus perennis		DS
Megalotomus quinquespinosus (Say)	*Apocynum cannabinum*	Apocynaceae	N
	Senna hebecarpa	Caesalpiniaceae	DS
	Amorpha canescens	Fabaceae	DS
	Baptisia lactea		RS, with *Alydus eurinus*
	Dalea candida		DS
	Desmodium canadense		S
	Desmodium illinoense		S, also at night
	Lespedeza capitata		DS
	Lupinus perennis		DS
	Ceanothus americanus	Rhamnaceae	DS
Protenor belfragei Haglund	*Elymus canadensis*	Poaceae	DS
Berytidae			
Jalysus wickhami Van Duzee	*Gaura biennis*	Onagraceae	flowers
	Oenothera biennis		flowers
Coreidae			
Anasa armigera (Say)	*Cornus racemosa*	Cornaceae	N
	Echinocystis lobata	Curcurbitaceae	stems

Table 1. Continued

Bug Species	Plant Species	Plant Family	Plant Structure and Notes
Catorhintha mendica Stal	*Pastinaca sativa*	Apiaceae	N
	Apocynum cannabinum	Apocynaceae	N
	Asclepias syriaca	Asclepiadaceae	N
	Asclepias viridiflora		N
	Mirabilis nyctaginea	Nyctaginaceae	S, nymphs, reared
Chariesterus antennator (Fabricius)	*Asclepias tuberosa*	Asclepiadaceae	N
Euthochtha galeator (Fabricius)	*Achillea millefolium*	Asteraceae	stems
	Ambrosia psilostachya		stems
	Ambrosia trifida		stems, adults & nymphs, reared
	Centaurea maculosa		stems
	Cirsium arvense		stems, nymphs, reared
	Cirsium discolor		stems
	Coreopsis palmata		stems
	Echinacea pallida		stems
	Ratibida pinnata		stems
	Solidago gigantea		leaf midveins
	Astragalus canadensis	Fabaceae	developing pods (?DS)
	Oenothera biennis	Onagraceae	stems, nymphs, reared; developing pods (?DS)
	Oenothera clelandii		floral tubes, adults & nymphs
	Geum laciniatum	Rosaceae	stems, leaf midveins
Merocoris distinctus Dallas	*Zizia aurea*	Apiaceae	N
	Apocynum androsaemifolium	Apocynaceae	stems
	Apocynum cannabinum		N
	Asclepias amplexicaulis	Asclepiadaceae	flowers

Table 1. Continued

Bug Species	Plant Species	Plant Family	Plant Structure and Notes
	Asclepias viridiflora		N
	Achillea millefolium	Asteraceae	N
	Lupinus perennis	Fabaceae	flowers
	Ptelea trifoliata	Rutaceae	N
Piezogaster calcarator (Fabricius)	*Coreopsis tripteris*	Asteraceae	stems
	Erigeron annuus		stems
	Eupatorium purpureum		stems
	Ratibida pinnata		stems
	Solidago canadensis		stems
	Desmodium canadense	Fabaceae	DS, nymphs, reared
	Desmodium glutinosum		stems, adults & nymphs, reared; nymphs green & red, resembling pods
Cydnidae[1]			
Corimelaena obscura McPherson & Sailer	*Cryptotaenia canadensis*	Apiaceae	flowers, DS, in woods
	Osmorhiza longistylis		DS, in woods
Lygaeidae			
Kleidocerys resedae (Panzer)	*Oenothera biennis*	Onagraceae	PYS
Ligyrocoris diffusus (Uhler)	*Ratibida pinnata*	Asteraceae	RS
Lygaeus turcicus Fabricius	*Heliopsis helianthoides*	Asteraceae	N
	Solidago canadensis		N
Neacoryphus bicrucis (Say)	*Rhus glabra*	Anacardiaceae	N

Table 1. Continued

Bug Species	Plant Species	Plant Family	Plant Structure and Notes
Neortholomus scolopax (Say)	*Monarda fistulosa*	Lamiaceae	RS, nymphs, reared
	Oenothera biennis	Onagraceae	PYS, nymphs, reared; DS, adults & nymphs
	Oenothera clelandii		PYS, nymphs, reared
	Potentilla arguta	Rosaceae	RS, adults & nymphs, reared
Miridae			
Adelphocoris lineolatus (Goeze)	*Pastinaca sativa*	Apiaceae	N
	Achillea millefolium	Asteraceae	N
	Echinacea pallida		N
	Asclepias ovalifolia	Asclepiadaceae	N
	Dalea villosa	Fabaceae	DS
	Lupinus perennis		DS
Coquillettia mimetica Osborn[2]	*Helianthus pauciflorus*	Asteraceae	N
Hadronema militare Uhler	*Lupinus perennis*	Fabaceae	leaves
Lygus lineolaris (Palisot de Beauvois)	*Apocynum cannabinum*	Apocynaceae	N
	Lithospermum carolinense	Boraginaceae	leaf midveins
Metriorrhynchomiris dislocatus (Say)	*Tradescantia ohiensis*	Commelinaceae	stems, flower buds
	Lupinus perennis	Fabaceae	stems, developing pods
	Smilacina stellata	Liliaceae	leaves
Orthops scutellatus Uhler	*Zizia aurea*	Apiaceae	N

Table 1. Continued

Bug Species	Plant Species	Plant Family	Plant Structure and Notes
Poecilocapsus lineatus (Fabricius)	*Rhus glabra*	Anacardiaceae	leaves
	Cirsium arvense	Asteraceae	leaves
	Cirsium vulgare		leaves
	Eupatorium maculatum		leaves
	Eupatorium perfoliatum		leaves
	Eupatorium rugosum		leaves
	Ratibida pinnata		leaves
	Rudbeckia hirta		leaves
	Silphium perfoliatum		leaves
	Vernonia fasciculata		leaves
	Hackelia virginiana	Boraginaceae	leaves
	Lespedeza capitata	Fabaceae	leaves
	Monarda fistulosa	Lamiaceae	leaves
	Nepeta cataria		leaves
	Stachys sp.		leaves
	Solanum dulcamara	Solanaceae	leaves
	Parietaria pensylvanica	Urticaceae	leaves
	Verbena hastata	Verbenaceae	leaves
Nabidae			
Nabicula subcoleoptrata Kirby	*Amorpha canescens*	Fabaceae	N
	Asclepias syriaca	Asclepiadaceae	N
	Pycnanthemum virginianum	Lamiaceae	N
Pentatomidae			
Acrosternum hilare (Say)	*Gleditsia triacanthos*	Caesalpiniaceae	DS, nymphs, reared
	Senna hebecarpa		DS, nymphs, reared
	Astragalus canadensis	Fabaceae	DS, adults & nymphs, reared
	Verbena hastata	Verbenaceae	DS

Table 1. Continued

Bug Species	Plant Species	Plant Family	Plant Structure and Notes
Apoecilus bracteatus (Fitch)[3]	*Asclepias incarnata*	Asclepiadaceae	N
Chlorochroa persimilis Horvath	*Froelichia floridana*	Amaranthaceae	stems or seeds, nymphs, reared
	Cirsium discolor	Asteraceae	DS
	Opuntia humifusa	Cactaceae	adults & nymphs on ripe fruits, reared
	Lupinus perennis	Fabaceae	DS, nymphs, reared
Coenus delius (Say)	*Asclepias verticillata*	Asclepiadaceae	S
	Onosmodium molle	Boraginaceae	stems
	Amorpha canescens	Fabaceae	DS
	Lespedeza capitata		DS
	Poa compressa	Poaceae	S, nymphs, reared
Cosmopepla bimaculata (Thomas)	*Oxypolis rigidior*	Apiaceae	DS
	Scrophularia lanceolata	Scrophulariaceae	S, nymphs, reared
	Veronicastrum virginicum		DS
	Thalictrum dasycarpum	Ranunculaceae	RS, nymphs, reared
Euschistus ictericus (Linnaeus)	*Asclepias incarnata*	Asclepiadaceae	N
Euschistus servus euschistoides (Vollenhoven)	*Froelichia floridana*	Amaranthaceae	stems
	Oxypolis rigidior	Apiaceae	N
	Apocynum androsaemifolium	Apocynaceae	stems, flowers
	Asclepias tuberosa	Asclepiadaceae	N
	Cirsium discolor	Asteraceae	DS, also at night
	Lactuca canadensis		DS, RS
	Onosmodium molle	Boraginaceae	stems

Table 1. Continued

Bug Species	Plant Species	Plant Family	Plant Structure and Notes
	Senna hebecarpa	Caesalpiniaceae	stems, DS
	Amorpha canescens	Fabaceae	DS
	Dalea purpurea		DS, nymphs, reared
	Desmodium canadense		DS
	Monarda punctata	Lamiaceae	N
	Panicum virgatum	Poaceae	S
	Paspalum setaceum		stems
	Ranunculus hispidus	Ranunculaceae	DS
	Agrimonia sp.	Rosaceae	DS
Euschistus tristigmus luridus Dallas	*Lactuca canadensis*	Asteraceae	DS
	Onosmodium molle	Boraginaceae	stems
	Cornus racemosa	Cornaceae	N
Euschistus variolarius (Palisot de Beauvois)	*Asclepias incarnata*	Asclepiadaceae	DS, nymphs, reared
	Asclepias syriaca		stems at fresh oviposition sites of the weevil *Rhyssomatus lineaticollis* (Say)
	Asclepias verticillata		N
	Cirsium discolor	Asteraceae	DS
	Onosmodium molle	Boraginaceae	stems
	Euphorbia corollata	Euphorbiaceae	DS
	Amorpha canescens	Fabaceae	DS
	Dalea candida		DS, adults & nymphs, reared
	Dalea villosa		RS
	Desmodium canadense		DS
	Lespedeza capitata		DS
	Anemone canadensis	Ranunculaceae	DS
	Agrimonia sp.	Rosaceae	DS

Table 1. Continued

Bug Species	Plant Species	Plant Family	Plant Structure and Notes
	Verbascum thapsus	Scrophulariaceae	leaf midveins
	Verbena stricta	Verbenaceae	N
Holcostethus limbolarius (Stal)	*Conyza canadensis*	Asteraceae	DS
Mormidea lugens (Fabricius)	*Panicum virgatum*	Poaceae	S
Podisus maculiventris (Say)	*Solidago canadensis*	Asteraceae	N
Stiretrus anchorago (Fabricius)	*Solidago gigantea*	Asteraceae	N
Trichopepla atricornis Stal	*Zizia aptera*	Apiaceae	DS
	Zizia aurea		DS
Reduviidae			
Sinea diadema (Fabricius)	*Asclepias verticillata*	Asclepiadaceae	N
Rhopalidae			
Liorhyssus hyalinus (Fabricius)	*Lactuca canadensis*	Asteraceae	DS, nymphs, reared
Scutelleridae			
Eurygaster alternata (Say)	*Koeleria pyramidata*	Poaceae	probing in and about flowers

Table 1. Continued

Bug Species	Plant Species	Plant Family	Plant Structure and Notes
Homaemus aeneifrons (Say)	*Monarda fistulosa*	Lamiaceae	DS
	Oenothera biennis	Onagraceae	DS
Homaemus bijugis Uhler	*Panicum virgatum*	Poaceae	DS
	Paspalum setaceum		S
	Poa compressa		S
	Stipa spartea		S

[1] See too Williams (2000).
[2] Determined by T. J. Henry.
[3] Determined by J. E. McPherson.

Table 2. Observations of Heteroptera feeding on insects. All were adults unless otherwise noted. Killing of prey, denoted (P), was rarely observed.

Feeding Bug	Insect Fed Upon	Insect Order and Family
Nabidae		
Nabicula subcoleoptrata Kirby	*Longitarsus subrufus* LeConte[1]	Coleoptera, Chrysomelidae
	Philaenus spumarius (Linnaeus), nymph	Hemiptera, Cercopidae
	Athysanus argentarius Metcalf[2]	Hemiptera, Cicadellidae
Pentatomidae		
Podisus maculiventris (Say)	*Cisseps fulvicollis* (Hubner)	Lepidoptera, Arctiidae
Podisus placidus Uhler	*Blepharida rhois* (Forster), larva	Coleoptera, Chrysomelidae
Reduviidae		
Acholla multispinosa (DeGeer)	*Lasioglossum rohweri* (Ellis)[3]	Hymenoptera, Halictidae
Phymata americana americana Melin	*Diabrotica barberi* Smith & Lawrence	Coleoptera, Chrysomelidae
	Diabrotica cristata (Harris)	Coleoptera, Chrysomelidae
	Epicauta pensylvanica (DeGeer)	Coleoptera, Meloidae
	Aedes sp.[4]	Diptera, Culicidae
	Stratiomys badia Walker	Diptera, Stratiomyidae
	Eristalis bardus (Say)	Diptera, Syrphidae
	Eristalis tenax (Linnaeus)	Diptera, Syrphidae
	Tabanus quinquevittatus Wiedemann	Diptera, Tabanidae
	Archytas apicifer (Walker) P	Diptera, Tachinidae
	Apis mellifera Linnaeus P	Hymenoptera, Apidae
	Bombus bimaculatus Cresson[5]	Hymenoptera, Apidae
	Bombus impatiens Cresson[5,6]	Hymenoptera, Apidae
	Formica montana Wheeler[7]	Hymenoptera, Formicidae
	Halictus ligatus Say[3]	Hymenoptera, Halictidae
	Lasioglossum rohweri (Ellis)[3]	Hymenoptera, Halictidae

Table 2. Continued.

Feeding Bug	Insect Fed Upon	Insect Order and Family
	Dolichovespula arenaria (Fabricius)	Hymenoptera, Vespidae
	Cisseps fulvicollis (Hubner)	Lepidoptera, Arctiidae
	Euphyes vestris (Boisduval)[8]	Lepidoptera, Hesperiidae
	Anagrapha falcifera (Kirby)[8]	Lepidoptera, Noctuidae
	Feltia jaculifera (Guenee)[8]	Lepidoptera, Noctuidae
	Lacinipolia meditata (Grote)[8]	Lepidoptera, Noctuidae
	Xestia smithii (Snellen)[8]	Lepidoptera, Noctuidae
	Boloria bellona (Fabricius)	Lepidoptera, Nymphalidae
	Nymphalis milberti (Godart)	Lepidoptera, Nymphalidae
	Colias philodice Godart[8]	Lepidoptera, Pieridae
	Panorpa helena Byers	Mecoptera, Panorpidae
Sinea diadema (Fabricius)	*Chauliognathus pensylvanicus* (DeGeer)	Coleoptera, Cantharidae
	Diabrotica barberi Smith & Lawrence	Coleoptera, Chrysomelidae
	Longitarsus subrufus LeConte[9]	Coleoptera, Chrysomelidae
	Harmonia axyridis (Pallas)	Coleoptera, Coccinellidae
	Adelphocoris lineolatus (Goeze)	Hemiptera, Miridae
	Pristocera armifera (Say)[10]	Hymenoptera, Bethylidae

[1] Determined by E. G. Riley.
[2] Determined by C. H. Dietrich.
[3] Determined by M. S. Arduser.
[4] Determined by P. J. Pellitteri.
[5] Determined by R. W. Husband.
[6] Determined by W. E. LaBerge.
[7] Determined by J. C. Trager.
[8] Determined by L. A. Ferge.
[9] Fed upon by fourth and fifth instar nymphs as well as by adults.
[10] Determined by S. J. Krauth.