RECOGNITION OF SEVEN UHLER MANUSCRIPT NAMES, WITH NOTES ON THIRTEEN OTHER SPECIES USED BY HEIDEMANN (1892) (HEMIPTERA: MIRIDAE)

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INTRODUCTION

In the course of our studies on the mirid fauna of Pennsylvania conifers, we noted that one of the few papers associating mirids with specific coniferous hosts in North America was Heidemann's (1892) "Note on the Food-Plants of Some Capsidae from the Vicinity of Washington, D.C." In that paper he listed 7 species from scrub pine, *Pinus virginiana* Mill., and 3 species from eastern red cedar, *Juniperus virginiana* L. Our original interest in the Heidemann paper was to associate the forms listed from red cedar and scrub pine under Uhler's manuscript names with the species we found breeding on the same 2 hosts. We had difficulty in making these associations because of our unfamiliarity with certain nomenclatorial combinations used by Heidemann, e.g., *Lygus repletus* reported from red cedar. Our knowledge of the mirid fauna of that plant, coupled with Heidemann's description of *repletus* as green, allowed us tentatively to associate the name *L. repletus* with *Dichrooscytus viridicans* Knight. Subsequent examination of Heidemann's specimens in the U.S. National Museum and Cornell University collections enabled us to verify this association.

Added interest in the Heidemann paper developed from discussions with C. W. Sabrosky and J. L. Herring at the U.S. National Museum. They indicated that Heidemann had included descriptive notes sufficient to validate several of the Uhler manuscript names. Heidemann had not intended to validate these names because he noted that Uhler probably would soon publish descriptions of his manuscript species in a monograph on North American Miridae. This work, however, was never completed.

Further evidence that Heidemann did not intend to describe Uhler's species is shown by his redescription of *Psallus juniperi* as new in 1905.

Although the International Commission on Zoological Nomenclature does not specify what constitutes an adequate description, our opinion that Heidemann validated several Uhler manuscript names is supported by Opinion 52 rendered by the Commission in 1913. In that decision the Commission ruled that the description of *Cyprinus corporalis* as a "splendid silvery fish" along with the type locality was sufficient to recognize the species and to establish its priority over the later name *bullaris* applied to the same species.

Later we discovered that Knight and McAtee (1929:24) had recognized Heidemann's validation of 5 Uhler manuscript names when they stated: ". . . some are accompanied by descriptive matter sufficient to validate them." However, several of these names have not appeared in print since the Knight and McAtee paper. Knight may not have concurred with the decision to accept the 5 Heidemann names, or later changed his opinion, because in nearly all of his subsequent papers he used his own names rather than those of Heidemann. Kelton (1974) also accepted Heidemann's (1892) description of *Lygus repletus*.

Carvalho, in his "Catalogue of the Miridae of the World," recognized 5 of Heidemann's names but also listed as valid several species that should be regarded as junior synonyms of the Heidemann names. We also found that the Heidemann names are used in the U.S. National Museum collection. The specimens bear R. I. Sailer's labels referring to unpublished lectotypes in the Museum's type collection.

Although it is unfortunate that species published under manuscript names should be recognized, we feel that primarily because of inconsistency in usage of the Heidemann names and also because of precedent established by the International Commission, acceptance of these names is justified. Therefore, we are establishing the identity of forms associated with Uhler's manuscript names, and hence, Heidemann's species. This should make Heidemann's seasonal and host plant data more valuable but should not disrupt stability. The 3 Heidemann species we are giving new status

are conifer inhabitants that have been mentioned infrequently in the literature. Of the other species described by Heidemann, *sericeus* (described in the genus *Psallus*) has been accepted since 1941 when Knight synonymized his *Plagiognathus tiliae* under *sericeus* Heidemann; *Pilophorus laetus* generally has been credited to Van Duzee 1918 rather than Heidemann 1892; *Parthenicus juniperi* (described in the genus *Psallus*) generally has been credited to Heidemann 1905 rather than 1892; and *Orthotylus delicatus* is a primary homonym.

In the following section the 20 species listed from coniferous and deciduous trees by Heidemann (1892) and identified by Uhler will be discussed in the order presented by Heidemann. First we will list the name we consider valid, and then in parentheses beneath, we will give the name as cited in the 1892 paper. We will list new synonymy, correct Uhler's misidentifications, establish the validity of 6 Uhler manuscript names used by Heidemann (a seventh name validated is a primary homonym), and designate lectotypes for these species. We will provide a new name as a replacement name for *Dichrooscytus elegans* Uhler 1904 and elevate the name *Pilophorus americanus* Poppius 1914 for *P. crassipes* Poppius 1914.

Species Listed From Scrub Pine, Pinus Virginiana

1. **Phytocoris conspersipes** Reuter 1909:22

(*Phytocoris eximus* [sic] Reut.)

We have examined Heidemann's specimens from the Washington area and have found that the species he listed from scrub pine was not Reuter's *eximius,* but an undescribed species, later described as *P. conspersipes.*

2. **Phytocoris mundus** Reuter 1909:18

(*Phytocoris mundus* Uhl. MS)

Uhler recognized this species as new and assigned to it but never validated the name *mundus.* Heidemann's notes on *mundus* were not sufficient to validate the name. Reuter later described this species.

3. **Eustictus grossus** (Uhler) 1887b:70

(*Megacoelum grossum* Uhl.)

This species was correctly identified by Uhler. Knight and McAtee (1929) listed Heidemann's specimens from Washington and vicinity under the name *E. filicornis* Walker.

4. **Pilophorus amoenus** Uhler 1887a:30

(*Pilophorus amoenus* Uhl.)

We have seen Heidemann's specimens collected from the Washington area during 1887-92. Uhler's determination was correct.

5. **Pilophorus crassipes** Heidemann 1892:225, new status

(*Pilophorus crassipes* Uhl. MS)

Pilophorus crassipes, Felt 1906:686 (incorrectly credited to Uhler); Moore 1907:163 (incorrectly credited to Stål); Smith 1910:162 (credited to Uhler); Van Duzee 1917:380 (in part; Uhler MS name); Knight and McAtee 1929:14.

Pilophorus crassipes Poppius 1914:242 (in part); Carvalho 1958:146 (in part).

Pilophorus crassipes Van Duzee 1918:293.

Pilophorus vanduzeei Knight 1923:540; 1926a:19; Blatchley 1926:809; Knight 1928:123; 1941:120; Froeschner 1949:173; Carvalho 1958: 149; Akingbohungbe et al. 1972:12; Knight 1973:135. **[NEW SYNONYMY].**

Heidemann validated this Uhler manuscript name when he stated: "Allied to the former [*P. amoenus* Uhler], but more robust, and darker in color . . . ." Van Duzee, however, believed that Heidemann had not validated Uhler's manuscript name and in 1918 redescribed this species as *crassipes,* using Heidemann's specimens. Knight and McAtee (1929:14), however, recognized Heidemann's description of *P. crassipes* and (p. 27) noted that *crassipes* Van Duzee 1918 was a primary homonym.

In 1914 Poppius described *P. crassipes* from Colorado and included a specimen from Washington, D.C. in the type series. Knight (1923) described *P. vanduzeei* from New York and Massachusetts but apparently was not aware that Heidemann's *crassipes* was the same species. Later, he stated that the Washington speci-

men listed by Poppius (1914) was not the same species as Poppius' holotype from Colorado but was *P. vanduzeei* (Knight 1926a). We have examined some of Heidemann's specimens from scrub pine that bear his determination as *P. crassipes* MS Uhl. and Knight's subsequent identification of them as *P. vanduzeei.* Blatchley (1926) noted that *P. crassipes* Van Duzee nec. Poppius was a synonym of *P. vanduzeei* Knight.

We are recognizing *P. crassipes* Heidemann 1892 as the senior synonym of *P. vanduzeei* Knight 1923. Mention of *crassipes* by Knight and McAtee (1929) prevents the Heidemann name from being a *nomen oblitum,* although the 50-year rule is not generally followed by entomologists and workers in other groups with a less active literature (see Sabrosky (1967) for comments on the application of this rule in entomology).

Type. — Lectotype, male, here designated, with labels: "Wash-[i]ngt[o]n, DC, 11/7. 90"; *"Philophorus* [sic] *crassipes* (Uhl.)"; "O. Heidemann"; "Lectotype, *Pilophorus crassipes* Heidemann" (red label); "Lectotype 62619" (red label) (number assigned by R. I. Sailer).

With recognition of Heidemann's *crassipes, P. crassipes* Poppius 1914 becomes preoccupied and requires a replacement name. We are elevating the name *P. americanus* Poppius 1914, synonymized under *P. crassipes* Poppius by Knight (1968).

5a. **Pilophorus americanus** Poppius 1914:243, new status

Pilophorus crassipes Poppius (1914:242; Van Duzee 1917:380 (in part); Carvalho 1958:146 (in part); Knight 1968:167; 1973:137. [Name preoccupied by *P. crassipes* Heidemann 1892].

6. **Pilophorus laetus** Heidemann 1892:225
(*Pilophorus laetus* Uhl. [MS])

This was a Uhler manuscript name, but the notation "MS" was omitted, an omission that resulted in the crediting of authorship to Uhler by Poppius (1914). Van Duzee (1918) redescribed *laetus* because he believed that Heidemann's notes did not form a proper description. Authorship generally has been credited to Van Duzee, including Knight and McAtee (1929), even though they recog-

nized other species described by Heidemann (1892). Carvalho (1958) gave credit to Heidemann. We agree that Heidemann validated the name *laetus* by stating it is: "Smaller, and easily recognized by the form of the antennae, the second joint being abruptly enlarged at the tip . . . ."

Type. — Lectotype, female, here designated, with labels: "Wash-[i]ngt[o]n, DC, 11/7. 90"; "Heideman [sic] Collector"; *"Pilophorus laetus* Uhl."; "Lectotype *Pilophorus laetus* Heid." (red label); "Lectotype 62620" (red label) (number assigned by R. I. Sailer).

7. **Ceratocapsus barbatus** Knight 1927b:150
(*Melinna modesta* Uhl.)

Uhler (1887b) applied the name *modesta* to a pine-inhabiting species common in the Baltimore, MD. vicinity, and his description, although not entirely accurate, appears to be of this species. In his type series, however, Uhler included specimens of a second species that had been sent to him from other states and Ontario, Canada. We have examined a Uhler specimen in the USNM type collection and have found it to be of this second species, which must take Uhler's name *modesta. Ceratocapsus modestus* (Uhler) occurs on various deciduous trees and grape (Knight 1941), and according to our observations, especially on oaks. Wirtner (1904), in his list of Hemiptera from western Pennsylvania, reported *Melinna modesta* Uhler from pine and mentioned also that a "dark variety" had been taken on oak.

Blatchley (1926) alluded to a possible problem when he noted that specimens of *C. modestus* determined by Knight did not fit Uhler's description of pronotum "coarsely unevenly punctate." In describing *C. barbatus,* Knight (1927b) stated that the species keyed to *modestus* in Knight (1923). He must have been aware that the pine-inhabiting species was without a name and therefore described *barbatus* as a species apparently restricted to breeding on scrub pine. He included as paratypes specimens collected by Heidemann in the Washington area from 1892 to 1909. We feel it is clear that Heidemann (1892) was reporting from pine a species now known as *C. barbatus.*

SPECIES LISTED FROM EASTERN RED CEDAR, JUNIPERUS VIRGINIANA

8. **Parthenicus juniperi** (Heidemann) 1892:225 (*Psallus juniperi* Uhl. MS)

Heidemann validated this name in 1892, but not realizing this, redescribed *juniperi* in 1905. Carvalho (1958) recognized Heidemann's earlier description; we agree with this interpretation.

Type. — Lectotype, female, here designated, with labels: "Wash-[i]ngt[o]n, DC, 19/6. 91"; "PR Uhler Collection"; "Heidemann Collector"; *"Psallus juniperi,* Uhl., D.C."; *"Psallus juniperi* Uhler, D.C. Det. UHLER"; "Lectotype *Psallus juniperi* Heidemann 1892" (red label); "Lectotype 62621" (red label) (number assigned by R. I. Sailer).

9. **Dichrooscytus repletus** (Heidemann) 1892:225, new status (*Lygus repletus* Uhl. MS)

Lygus repletus, Carvalho 1959:127.

Dichrooscytus elegans var. *viridicans* Knight 1918:114. **[NEW SYNONYMY].**

Dichrooscytus viridicans Knight 1923:597; Blatchley 1926:742; Knight 1928:130; Watson 1928:33; Knight 1941:165; Moore 1944:41; Froeschner 1949:179; Moore 1950:18; Wray 1950:12; Carvalho 1959:85; Wray 1967:27; Kelton 1972:1035; Akingbohungbe et al. 1972:4; 1973:6; Kelton 1974:379. **[NEW SYNONYMY].**

Dichrooscytus repletus, Knight and McAtee 1929:19.

Heidemann validated this name by stating: "This pretty insect is quite hard to detect on account of its green color matching exactly that of the leaves of its food-plant . . . ." Knight and McAtee (1929) used the Heidemann name, and Carvalho (1959) likewise listed Heidemann's *repletus* but then also recognized *D. viridicans* Knight. Kelton (1974) also accepted Heidemann's description of *repletus* and pointed out that the species should be transferred to *Dichrooscytus* Fieber. He noted that *D. viridicans* Knight is thus a junior synonym of the Heidemann name, but invoked the 50-year rule as an argument for retaining the Knight name. Apparently he overlooked Knight and McAtee's (1929) paper. We regard *D. viridicans* as a junior synonym of *D. repletus* (Heidemann) 1892.

Type. — Lectotype, female, here designated, with labels: "Berkeley [Springs] W Va, 20-8, 91"; "PR Uhler Collection"; "*Lygus repletus* Uhler"; "*Lygus repletus* Uhler, Det. UHLER"; "Lectotype *Lygus repletus* Heidemann" (red label); "Lectotype 62622" (red label) (number assigned by R. I. Sailer).

10. **Dichrooscytus elegans** Heidemann 1892:225, new status (*Dichroscytus* [sic] *elegans* Uhl. MS)

Dichrooscytus elegans, Knight and McAtee 1929:19; Carvalho 1959:82 (in part).

Dichrooscytus elegans Uhler 1904:356 (in part); Heidemann 1905:49; Van Duzee 1905:552; Reuter 1909:38 (in part?); Banks 1910:43; Van Duzee 1916a:39; 1917:333 (in part); Parshley 1919:71; Knight 1923:597; Blatchley 1926:742 (in part); Knight 1928:129; Brimley 1938:77; Moore 1950:18.

Dichrooscytus tinctipennis Knight 1927a:15; Watson 1928:33; Knight 1941:165; Froeschner 1949:179; Moore 1950:18; Carvalho 1959:84; Kelton 1972:1037; Akingbohungbe et al. 1972:4. [**NEW SYNONYMY**].

By noting the "dark-red color of the corium," Heidemann validated the name *elegans.* This validation was accepted by Knight and McAtee (1929) and by Carvalho (1959). However, Heidemann's *D. elegans* generally has been referred to as *D. elegans* Uhler or *D. tinctipennis* Knight.

Confusion arose when Uhler (1904) described *D. elegans* based on a single specimen collected at Las Vegas Hot Springs, N. M.[1] He believed that his species was identical to the one Heidemann reported breeding on red cedar in the Washington, D.C. vicinity. It is not clear whether Uhler had Heidemann's specimens before him when describing *elegans* and designated them as cotypes, or whether Heidemann later designated the Washington specimens as cotypes (Kelton and Schaffner, 1972). It seems obvious that Uhler believed Heidemann had not validated the manuscript name *elegans* and that now he was validating that

[1] Uhler (1904) indicated he had only 1 New Mexico specimen by stating: "one specimen was secured August 16." Kelton and Schaffner (1972) redescribed *D. elegans* based on a type specimen (♂) in poor condition (No. 6850, USNM Collection). However, we recently found a specimen (♀) in perfect condition in the USNM Type Collection bearing the type No. 6850 and the other data cited by Uhler.

name for a species that occurred in New Mexico in addition to Washington, D.C. and elsewhere in eastern North America.

The series of specimens from the eastern U.S. designated as cotypes of *elegans* Uhler contained both Heidemann's *D. repletus* (= *viridicans* Knight) and *D. elegans* (= *tinctipennis* Knight). In 1918 Knight recognized *viridicans* as a new variety of *elegans* Uhler, then raised *viridicans* to specific rank in 1923. In that year he reported *D. elegans* Uhler from New York, but later realized that this species was not the *elegans* of Uhler and described *D. tinctipennis* (Knight, 1927a). Kelton and Schaffner (1972) listed *elegans* Heidemann as a synonym of *elegans* Uhler, but the *elegans* of Heidemann refers to the eastern species; the *elegans* of Uhler, to a western species. We recognize Heidemann's validation of *elegans* and regard *tinctipennis* Knight as a junior synonym.

Type. — Lectotype, female, here designated, with labels: "Wash-[i]ngt[o]n DC, 15/6. 91"; "PR Uhler Collection"; "*Dichrooscytus elegans,* Uhl., O. H."; "Lectotype *Dichrooscytus elegans* Heidemann" (red label); "Lectotype 62623" (red label) (number assigned by R. I. Sailer).

We are renaming *D. elegans* Uhler 1904 which is preoccupied by *D. elegans* Heidemann 1892.

10a. **Dichrooscytus uhleri,** new name

Dichrooscytus elegans Uhler 1904:356 (in part); Van Duzee 1916a:39 (in part?); 1916b:237; 1917:333 (in part); Reuter 1909:38; Banks 1910: 43; Blatchley 1926:742 (in part); Carvalho 1959:82 (in part); Knight 1968:194, Kelton 1972:1033; Kelton and Schaffner 1972:1439 (in part). [Name preoccupied by *Dichrooscytus elegans* Heidemann 1892].

Species Listed From Black Willow, Salix Nigra

11. **Orthotylus** sp.
(*Orthotylus alternatus* Uhl. MS)

Heidemann did not validate this Uhler manuscript name. In the Cornell and USNM collections we have found specimens of *O. modestus* Van Duzee and *O. viridis,* both common on *Salix* spp., collected by Heidemann in the Washington, D.C. area during 1887-1891. A single specimen of *O. modestus* var. *immaculatus* Knight bears the label "found on willow." A single specimen of

O. viridis collected in 1893, after publication of the Heidemann paper, bears the label "MS Uhl./*O. alternatus.*" It seems likely that either or both species could have been represented in Heidemann's series of *O. alternatus.*

12. **Pilophorus brunneus** Poppius 1914:244
(*Pilophorus confusus* Kirschb.)

Heidemann's species from willow was not *P. confusus,* a Palearctic species (Carvalho 1958), but a species later described by Poppius as *P. brunneus,* using a Heidemann specimen from Washington, D.C.

13. **Ceratocapsus pumilus** (Uhler) 1887b:69
(*Melinna pumila* Uhl.)

We have seen several Heidemann specimens of *pumilus* (without host labels) that were collected in Washington during 1890. There are, however, several other species of *Ceratocapsus* associated with *Salix nigra,* some undescribed at the time, that could have been represented in Heidemann's series of specimens.

SPECIES LISTED FROM LINDEN, TILIA SPP.

14. **Plesiodema sericea** (Heidemann) 1892:226
(*Psallus sericeus* Uhl. MS)

Heidemann described this species when he stated: "it is easily overlooked, as its straw-yellow color does not offer the slightest contrast with the faded blossoms." Knight (1941) recognized the validity of this description because he synonymized his own *Plagiognathus tiliae* (Knight 1926b) under *Plagiognathus sericeus* (Heidemann). Carvalho (1955) followed Knight's synonymy, and transferred *sericeus* to the genus *Plesiodema.*

Type. — Lectotype, female, here designated, with labels: "Washington, DC"; "PR Uhler Collection"; "*Psallus sericeus,* Uhler, Md."; "*Psallus sericeus* Uhler, Md., Det. Uhler"; "Lectotype *Psallus sericeus* Heidemann" (red label); "Lectotype 62624" (red label) (number assigned by R. I. Sailer).

15. **Microphylellus modestus** Reuter 1909:76
(*Phylus modestus* Uhl. [MS.])

This was a Uhler manuscript name but the "MS" was omitted. In the Cornell University collection we found specimens collected by Heidemann on linden blossoms in Washington and labeled as *Phylus modestus* Uhl. MS. These were determined later by Knight as *Microphylellus modestus* Reuter.

16. **Deraeocoris nitenatus** Knight 1921:141
(*Camptobrochis grandis* Uhl.)

We found a specimen of *D. nitenatus* among undetermined material in the Cornell University collection bearing the labels: "D.C., 20/6. 88," "found on Linden Blossom." There is a second specimen with the same data but no host label. Since Knight (1921) showed Uhler's type series of *grandis* to be a composite of at least 4 species, it is possible that other species of *Deraeocoris* could have been represented in Heidemann's series from linden. However, only the single specimen of *nitenatus* among many Heidemann specimens of *Deraeocoris* spp. examined in the Cornell and USNM collections bore a *Tilia* host label.

SPECIES LISTED FROM ASH, FRAXINUS SP.

17. **Xenoborus pettiti (Reuter)** 1909:50
(*Neoborus pettitii* [sic] Uhl. MS)

Heidemann did not validate this name; Reuter (1909) described this species.

18. **Brachynotocoris heidemanni** (Knight) 1927a:13
(*Orthotylus delicatus* Uhl. MS)

Heidemann validated this name by describing *delicatus* as: "A very delicate capsid of a light green color." Knight (1927a) described *Diaphnidia heidemanni* and included as holotype, allotype, and several paratypes specimens collected by Heidemann before 1892 (his holotype bears the label "*Orthotylus delicatus*, Uhler, D.C."). Knight noted that Heidemann had given the host as

Fraxinus excelsior L. [European ash]. These specimens are those referred to by Heidemann (1892) from *F. excelsior.*

If Knight (1927a) did not accept Heidemann's description of *delicatus,* then this treatment appears contrary to that given Heidemann's *Psallus sericeus.* However, Knight may have realized that *O. delicatus* Heidemann was preoccupied by *O.* (*Psallus*) *delicatus* Cook 1891.[2] We would regard Knight's *D. heidemanni* as a junior synonym of Heidemann's *O. delicatus,* but because Heidemann's *delicatus* is a junior primary homonym, Knight's *heidemanni* must be recognized. Kelton (1961) transferred *heidemanni* to the genus *Brachynotocoris.*

Species Listed From Black Birch, Betula Nigra

19. **Reuteria irrorata** (Say) 1832:25
(*Malacocoris irroratus* Say)

We have examined Heidemann's specimens collected from black birch in the Washington area. Uhler's identification was correct.

20. **Phytocoris** sp.
(*Phytocoris puella* Reut.)

We have found a Heidemann specimen collected in Washington during 1891 that was determined as *Phytocoris puella* var. *confluens. P. confluens* was described as a variety of *puella* by Reuter (1909) using Heidemann specimens from Washington and was given specific rank by Knight (1923). We have not found any Heidemann specimens of *puella.* However, since both *confluens* and *puella* are known from birch (Knight 1941) and from the Washington area (Knight and McAtee 1929), either or both species could have been represented in Heidemann's series from birch.

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[2] Cook's name also was preoccupied and his species was renamed *O. altheae* by Hussey (1924).

script in various stages of its development and making suggestions for its improvement. We also thank Drs. Froeschner, Herring, and C. W. Sabrosky for discussing with us their views on the Heidemann names and Drs. Herring and Pechuman for allowing us to examine Heidemann specimens in the U.S. National Museum and Cornell University collections.

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