

## THE TETTIGONIDAE (ORTHOPTERA) OF TENNESSEE

VERNON N. POWDERS AND JAMES T. GOODWIN  
Georgia Southwestern College, Americus 31709  
and  
Memphis State University, Memphis 38111

### ABSTRACT

Thirty-seven species and eleven genera in five subfamilies of Tettigoniidae are covered in this paper. Keys, synonymy, county records, and brief descriptions are included for each species.

The family Tettigoniidae is a well known family since it comprises the "katydids" or long-horned grasshoppers. Because the antennae exceed the body in length and the tarsi are four-jointed, members of the family are easily recognized. The color of individuals seemingly coincides with habitat, varying from bright green to dull brown. Some species are strictly ground-dwelling; others are arboreal. Some fly; others are wingless.

Adults of the tettigoniids are common from the latter part of June, through July, and August. Only the males stridulate ("sing"). Many species may be identified by their song. In some species the best diagnostic character, and possibly the only one, is their distinctive song. The Tettigoniidae are generally herbivorous; but some prey on other insects, and a few are cannibalistic.

This work includes 11 genera and 37 species in five subfamilies of the Tettigoniidae. County records for 34 of these species are given in this paper. The keys of some genera cover only one sex due to the lack of taxonomic characters for the other sex. Marcovitch (1920) recorded 32 species from Tennessee. The species added in this paper are from the authors' personal collections and from collections in The University of Tennessee Entomological Museum, Memphis State University Entomological Museum, the Great Smoky Mountains National Park Museum, and from pertinent literature. Several species were added through personal correspondence with Dr. T. J. Walker, University of Florida.

Papers not cited in the body of this paper but of great importance in providing information concerning distribution, synonymy, and taxonomic keys are as follows: Caudell (1921), Hebard (1925, 1945), Powders and Drew (1966), and Rehn and Hebard (1914a, 1914b, 1914c, 1915b, 1916a).

### Key to the Subfamilies of Tettigoniidae

1. Wings absent or vestigial; pronotum exceeding five mm in length; general color usually gray or brown ..... Decticinae  
Wings present and well developed; if not, the pronotum never exceeding five mm in length; general color usually green. .... 2
2. Prosternal spines absent ..... 3  
Prosternal spines present ..... 4
3. Vertex not produced forward as a tubercle or cone ..... Phaneropterinae  
Vertex produced forward as a rounded tubercle ..... Conocephalinae

4. Pronotum about as long as wide with two transverse grooves ..... Pseudophyllinae  
Pronotum longer than wide with one transverse groove, or with no transverse groove ..... 5
5. Vertex produced into a long sharp cone ..... Copiphorinae  
Vertex terminated by a rounded tubercle ..... Conocephalinae

### SUBFAMILY (DECTICINAE)

#### *Atlantiscus* Scudder

- Decticus* Burmeister, 1838 (in part). Hand. der Entomol. 2:709  
*Orchesticus* Saussure, 1859 (not of Cabanis, 1851). Rev. Mag. Zool. 11:201.  
*Thyreonotus* Scudder, 1862 (not of Serville, 1839). J. Boston Soc. Nat. Hist. 7:453.  
*Engoniaspis* Brunner, 1893. Ann. Mus. Civ. Stor. Nat. Genova 33:185. (No species described.)  
*Atlantiscus* Scudder, 1894. Can. Entomol. 26:179.  
*Stipator* Rehn, 1900. Tran. Am. Entomol. Soc. 27:90. (To replace the preoccupied genus, *Orchesticus* Saussure.)

Characteristics: Nearly wingless; pronotum prolonged posteriorly over one or more of the basal segments of the abdomen, with the front margin rounded or subtruncate, lateral lobes longer than deep; eyes small, subglobose, separated by at least three times their own diameter; prosternum armed beneath with two erect spines; tegmina short, rarely as long as pronotum; ovipositor straight or very nearly so, sometimes feebly curved downward, its tip acute; lateral carina of pronotum always evident; cercus of male subcylindrical, armed at or behind the middle with a single tooth; subgenital plate of the male either notched or subtruncate.

### Key to Species of *Atlantiscus*

1. Ovipositor with apex tapering both above and below, its tip therefore median; caudal femora of male less than 19 mm long ..... 2  
Ovipositor with apex tapering only on dorsal side, its tip therefore ventral; caudal femora of male more than 19 mm long ..... 3
2. Ovipositor straight; notch of subgenital plate of female very narrowly "V-shaped" ..... *davisi*  
Ovipositor feebly, but distinctly curved; notch of subgenital plate of female "U-shaped" ..... *monticola*
3. Subgenital plate of male never narrowly and deeply cleft, but angularly emarginate; cercus of the male relatively short; notch of the subgenital plate of the female "V- or U-shaped," the projections on each side normally rounded ..... *pachymerus*  
Subgenital plate of the male narrowly and deeply cleft or at least the notch distinctly "V-shaped"; cercus of the male relatively long (at least 3 mm); notch of the subgenital plate of the female generally deep, the projection on each side elongate and narrowly rounded ..... *americanus americanus*, and *a. hesperus*

#### *Atlantiscus davisi* Rehn and Hebard

- Atlantiscus dorsalis* Blatchley 1903. The Orthoptera of Indiana. 394.  
*Atlantiscus davisi* Rehn and Hebard 1916. Trans. Am. Entomol. Soc. 42:58

Characteristics: Length of body, male, 16.8-23 mm, female, 17-26.5 mm; length of pronotum, male, 7.7-9.5 mm, female, 8-10.6 mm; length of caudal femora, male, 15-18 mm, female, 17.5-22 mm; length of ovipositor, 18.4-23 mm; color generally brown. Males of this species are quite difficult to distinguish from males of *A. monticola*.

County record: Montgomery.

#### *Atlantiscus monticola* Davis

- Atlantiscus pachymerus* Rehn and Hebard, 1911 (not *Decticus pachymerus* Burmeister, 1838). Proc. Acad. Nat. Sci. Phila. 63:644.  
*Atlantiscus monticola* Davis, 1915. Bull. Brooklyn Entomol. Soc. 9:104.

Characteristics: Length of body, male, 17.6-19.8 mm, female, 20-23.2 mm; length of pronotum, male and female, 8-9.9 mm; length of caudal femora, male, 14.8-18.8 mm, female, 18.5-20.2 mm; length of ovipositor, 17.6-19.4 mm; color brown; tegmina of the male covering about one-fourth of the abdomen.

County records: Montgomery, and Sevier.

#### *Atlantiscus pachymerus* (Burmeister)

- Decticus pachymerus* Burmeister, 1838, Handb. der Entomol. 2:712.  
*Locusta* (*Ephippigera*) *pachymerus* De Haan, 1842. Verhandl. Naturh. Geschied. p. 178.  
*Atlantiscus pachymerus* Caudell, 1907 (in part). Proc. U. S. Natl. Mus. 32:323.  
*Atlantiscus dorsalis* Sherman and Brimley, 1911 (in part). Entomol. News 22:390.  
*Atlantiscus pachymerus* Sherman and Brimley, 1911. Entomol. News 22:390.

Characteristics: Length of body, male, 23.2-26.7 mm, female, 20-28.2 mm; length of pronotum, male and female, 9.1-11.4 mm; length of caudal femora, male, 19.8-24.2 mm, female 21-24.2 mm; length of ovipositor, 18-24 mm; color brown; tegmina of male exposed approximately the same distance as the width of the pronotum.

County records: Hamilton, and Sevier.

#### *Atlantiscus americanus americanus* (Saussure)

- Orchesticus americanus* Saussure, 1859. Rev. Mag. Zool. 11:201.  
*Thyreonotus dorsalis* Scudder, 1862 (not *Decticus dorsalis* Burmeister, 1838). J. Boston Soc. Nat. Hist. 7:454.  
*Decticus derogatus* Walker, 1869. Cat. Dermaptera Saltatoria, Brit. Mus. 2:260.  
*Atlantiscus dorsalis* Scudder, 1894 (not *Decticus dorsalis* Burmeister, 1838). Can. Entomol. 26:179.  
*Stipator americanus* Rehn, 1900. Trans. Am. Entomol. Soc. 27:90.  
*Atlantiscus dorsalis* Caudell, 1907. Proc. U. S. Natl. Mus. 30:321.  
*Atlantiscus americanus* Rehn and Hebard, 1916. Trans. Am. Entomol. Soc. 42:72.  
*Atlantiscus americanus americanus* Hebard, 1934. Trans. Am. Entomol. Soc. 60:32.

Characteristics: Length of body, male and female, 20-30 mm; length of pronotum, male and female, 9.4-11.3

mm; length of caudal femora, male, 22-28 mm; length of ovipositor, 24-28.3 mm; color brownish-yellow to dark reddish-brown; tegmina of male projecting beyond pronotum a distance about half the length of the front margin of pronotum; subgenital plate of male with a very narrow medio-longitudinal cleft, subgenital plate of female narrowly divided medio-longitudinally, the cleft extending decidedly more than half the distance to the base of the plate, the lateral projections thus formed longer than the width of the base.

County records: Hamilton, Montgomery, and Sevier.

#### *Atlantiscus americanus hesperus* Hebard

- Atlantiscus americanus* Rehn and Hebard, 1916. Trans. Am. Entomol. Soc. 42:78.  
*Atlantiscus americanus hesperus* Hebard, 1934. Trans. Am. Entomol. Soc. 60:31-33.

Characteristics: Length of the body, male, 24 mm, female, 24.3 mm; length of the pronotum, male, 9.3 mm, female, 10.2 mm; length of caudal femora, male, 25-27.3 mm, female, 27-29 mm; length of ovipositor, 26.5-27.6 mm; color mottled brown. This race differs primarily in that the subgenital plate of the male is "V-emarginate." Male specimens examined have had a much more distinct "V-emarginated" subgenital plate than males of *A. pachymerus* or *A. monticola* and also the cercus in *A. a. hesperus* is not as distinctively heavy on the proximal side of the tooth. The female of *A. a. hesperus* does not have the narrow subgenital plate that is found in *A. a. americanus*; however, it is definitely not "U-shaped" and it is deeper than in *A. pachymerus*. Hebard (1934a) points out that this race is generally larger than *A. a. americanus* and that it is the western race of the species, extending eastward to Hamilton County, Tennessee. The authors feel that this race could easily be mistaken for *A. pachymerus* and that one should refer to Rehn and Hebard (1916b), Blatchley (1920), and Hebard (1934a).

County records: Davidson, Fentress, Hamilton.

### SUBFAMILY (PHANEROPTERINAE)

Characteristics: General color usually bright green; head short; face vertical; vertex either a blunt deflexed attenuation or broadly rounded; eyes small, situated close to basal joint of antennae; pronotum short, flat or concave; median carina absent or faint; lateral carina usually distinct, usually narrowed in front, caudal margin usually rounded; prosternal spines absent; tegmina shorter than hind wings; ovipositor and male genitalia vary in shape and form with genus and species.

### Key to Genera

1. Tegmina long, narrow; fastigium little if at all wider than proximal antennal segment ..... 2  
Tegmina broad, distinctly wider at middle than at apex; fastigium very wide ..... 4
2. All femora spinulose beneath; subgenital plate of male with apical notch broad and round; eye elongate oval ..... *Montezumina*  
Cephalic and middle femora unarmed beneath; subgenital plate of male with apical notch usually "V-shaped" ..... 3
3. Tegmina generally no wider than length of pronotum; first branch of median vein joining ulnar vein *Inscudleria*  
Tegmina generally wider than length of pronotum;

- first branch of median vein forked, the forks reaching the sutural margin ..... *Scudderia*  
 4. Caudal femora reaching to or beyond apical fourth of tegmina ..... *Amblycorypha*  
 Caudal femora not reaching beyond apical third of tegmina ..... *Microcentrum*

*Montezumina* Hebard

*Montezumina* Hebard, 1925. Trans. Am. Entomol. Soc. 51:296.

Characteristics: These are given with the species description.

*Montezumina modesta* (Brunner)

*Symmetropleura modesta* Brunner, 1878. K. K. Zool. Bot. Gesells. p. 246.

*Montezumina modesta* Hebard, 1934. Ill. Nat. Hist. Surv. 20:205.

Characteristics: Length of body, male and female, 15-20 mm; length of pronotum, male and female, 3.8-4.5 mm; length of ovipositor, 5 mm; general color pale green, pronotum often fringed with reddish brown; tegmina approximately 4 times longer than greatest width; disk of pronotum flat; ovipositor upcurved near base.

County records: Dyer, Jefferson, and Shelby.

*Inscudderia* Caudell

*Inscudderia* Caudell, 1921. J. Wash. Acad. Sci. 11:489.

Characteristics: These are given with the species description.

*Inscudderia taxoidii* Caudell

*Inscudderia taxoidii* Caudell, 1921. J. Wash. Acad. Sci. 20:490.

Characteristics: Length of body, male, 16 mm; length of pronotum, male, 3.4-4 mm; general color green with traces of brown and black on legs and tegmina; pronotum rounded into lateral lobes without distinct lateral carinae except in the posterior fourth, where the disk is distinctly flattened and where the lateral carinae are sharp and distinct; lateral lobes of pronotum about as wide as long, the humeral notch deep; legs slender, the posterior femora just reaching the tips of the tegmina; subgenital plate greatly prolonged and upcurved; supraanal plate elongate triangular, about twice as long as the basal width, sides straight and tapering to a narrowly rounded apex. No females of this species have been seen by the authors.

County records: Shelby.

*Scudderia* Stal

*Phaneroptera* Serville, 1831. Ann. Sci. Nat. 22:416.

*Scudderia* Stal, 1873. Ofv. Akad. Forhandl. 30(4):41.

Characteristics: Color green with traces of yellow on face and ventral surface; vertex compressed into narrow fastigium; pronotal disk flat, hind margin broadly rounded; caudal femora almost as long as tegmina; supraanal plate of male usually with a long decurved spine notched apically; ovipositor broad, arcuate. The females are not included in the key. They are very difficult to identify unless taken with the male (Blatchley 1920).

Key to Males of *Scudderia*

- Supraanal plate subtriangular, not notched or forked at tip ..... *septentrionalis*  
 Supraanal plate notched or forked at tip ..... 2
- Notch of supraanal plate fork-like and lateral processes much swollen ..... *f. furcata* and *fasciata*  
 Notch of supraanal plate not fork-like, and lateral processes not swollen ..... 3
- Notch of supraanal plate square with a minute median tooth, lateral processes slender and laterally compressed ..... *texensis*  
 Notch of supraanal plate acute, without median tooth, lateral processes broad ..... *c. curvicauda* and *c. laticauda*

*Scudderia septentrionalis* (Serville)

*Phaneroptera septentrionalis* Serville, 1839. Hist. Nat. Ins. Orth., p. 416.

*Scudderia truncata* Beutenmuller, 1894. Bull. Am. Mus. Nat. Hist. 6:252.

*Scudderia septentrionalis* Rehn and Hebard, 1914. Trans. Am. Entomol. Soc. 40:277.

Characteristics: Length of body, male, 16-18.5 mm, female, 20 mm; length of pronotum, male and female, 4.7-5 mm; length of ovipositor, 8.7 mm; general color pale green; pronotum narrower in front; ovipositor gently curved.

An unlabeled specimen was recorded by Marcovitch (1920) as probably having been collected in East Tennessee.

*Scudderia furcata furcata* Brunner

*Scudderia furcata* Brunner, 1878. K. K. Zool. Bot. Gesell. p. 279.

*Scudderia furcata furcata* Rehn and Hebard, 1914. Trans. Am. Entomol. Soc. 40:275.

Characteristics: Length of body, male, 14-20 mm, female, 18-21 mm; length of pronotum, male and female, 4.6-5 mm; length of ovipositor, 5-7 mm; color green and greenish-yellow, antennae green basally; pronotal disk with parallel or nearly parallel sides; lateral carinae sharply elevated with no yellow color present; tegmina reticulate.

County records: Hamblen, Hamilton, Hardeman, Jefferson, Knox, Montgomery, and Sevier.

*Scudderia fasciata* Beutenmuller

*Scudderia fasciata* Beutenmuller, 1894. Bull. Mus. Nat. Hist. 6:251.

Characteristics: Length of body, male, 18 mm, female, 19 mm; length of pronotum, male, 4 mm, female, 4.5 mm; length of caudal femora, male, 19.5 mm, female, 20 mm; length of ovipositor, 8 mm; general color grass green, yellow carinae, yellow vertical stripe in fastigium. For many years this species was considered to be synonymous with *Scudderia f. furcata* and morphologically they are extremely difficult to separate. Walker (1966) reports both *S. fasciata* and *S. furcata* from eastern Tennessee and he reports that song features are the most reliable characteristics for separating the species. The authors have not attempted to separate the two species in this paper.

This species was reported as possibly occurring in upper and east Tennessee by Walker (1966).

*Scudderia texensis* Saussure and Pictet

*Scudderia texensis* Saussure and Pictet, 1897. Biol. Cent. Am. 1:330.

*Scudderia curvicauda* Rehn and Hebard, 1905. Proc. Acad. Nat. Sci. Philadelphia 57:42.

Characteristics: Length of body, male, 21-25 mm, female, 24-28 mm; length of pronotum, male and female, 5.5-6.5 mm; length of ovipositor, 7-8 mm; body and face pale green, extremities grass green; pronotum narrower in front with distinct yellow lines on lateral carinae.

County records: Jefferson, Knox, and Montgomery.

*Scudderia curvicauda curvicauda* (DeGeer)

*Locusta curvicauda* DeGeer, 1773. Mem. Hist. Inst. 3:446.

*Phaneroptera angustifolia* Harris, 1841. Rept. Ins. New England Inj. Veg. 1st ed. p. 129.

*Scudderia curvicauda* Brunner, 1878. K. K. Zool. Bot. Gesell. p. 240.

*Scudderia furculata* Lugger, 1898. Orthoptera of Minnesota. Bull. 55:217.

*Scudderia texensis* Rehn, 1904. Entomol. News 15:330.

*Scudderia curvicauda curvicauda* Rehn and Hebard, 1914. Trans. Am. Entomol. Soc. 40:275.

Characteristics: Length of body, male, 18-23 mm, female, 19-25 mm; length of pronotum, male and female, 5-6 mm; length of ovipositor, 7-8 mm; differs from *S. texensis* by the absence of yellow carinal lines and in the shape of the supraanal plate of the males, as stated in the key.

County records: Montgomery.

*Scudderia curvicauda laticauda* Brunner

*Scudderia laticauda* Brunner, 1878. Monogr. Phaner. p. 238.

*Scudderia curvicauda* Rehn and Hebard, 1910. Proc. Acad. Nat. Sci. Philadelphia 62:636.

*Scudderia curvicauda laticauda* Rehn and Hebard, 1914. Trans. Am. Entomol. Soc. 40:285.

Characteristics: Length of body, male, 21-23 mm, female, 23-27 mm; length of pronotum, male and female, 6-8 mm; length of ovipositor, 9.5-11 mm; differs from *S. c. curvicauda* in being larger and more robust. Refer to Blatchley (1920, p. 464) for separation.

County records: Hamilton, and Knox.

*Amblycorypha* Stal

*Orophus* Saussure, 1859 (in part). Rev. Mag. Zool. 11:204.

*Amblycorypha* Stal, 1873. Ofv. Vet. Forhandl. 30:41.

Characteristics: General color green; fastigium rounded; pronotum with disk flat, narrowed in front; tegminal apices broadly rounded, may exceed apices of hind wings; supraanal plate short, broad and truncate; ovipositor broad. Key to species modified from Hebard (1934b).

Key to Species of *Amblycorypha*

- Lateral lobes of pronotum with humeral sinus weak ..... *rotundifolia*  
 Lateral lobes of pronotum with humeral sinus decided ..... 2
- Male subgenital plate with distal margin "V-emarginate"; tegmina always more than 30 mm long ..... *oblongifolia*  
 Male subgenital plate with distal margin truncate; tegmina not over 28 mm ..... *uhleri*

*Amblycorypha rotundifolia* (Scudder)

*Phylloptera rotundifolia* Scudder, 1862. J. Boston Soc. Nat. Hist. 7:445.

*Amblycorypha rotundifolia rotundifolia* Rehn and Hebard, 1914. Trans. Am. Entomol. Soc. 40:335.

Characteristics: Length of body, male and female, 19-20 mm; length of pronotum, male and female, 5-6.4 mm; length of ovipositor, 9-11 mm; color bright green. County records: Sevier.

*Amblycorypha oblongifolia* (DeGeer)

*Locusta oblongifolia* DeGeer, 1773. Mem. Hist. Inst. 3:445.

*Gryllus oblongifolius* Harris, 1833. Catalogue of Animals and Plants in Massachusetts. In Hitchcock's Rept. on Geol. p. 582.

*Phylloptera oblongifolia* Scudder, 1862. J. Boston Soc. Nat. Hist. 7:444.

*Amblycorypha oblongifolia* Brunner, 1878. K. K. Zool. Bot. Gesell. p. 266.

*Amblycorypha scudderiae* Bruner, 1891. Canadian Entomol. 23:73.

*Amblycorypha oblongifolia oblongifolia* Blatchley, 1920. Orth. of N. E. Am. p. 277.

Characteristics: Length of body, male, 19-23 mm, female, 22-25 mm; length of pronotum, male, 6-6.5 mm, female, 7 mm; length of ovipositor, 11.5-13 mm; color bright green.

County records: Hamilton, Jefferson, Knox, Montgomery, and Shelby.

*Amblycorypha uhleri* Stal

*Amblycorypha uhleri* Stal, 1876. Bihang. Svensk Akad. 4:40.

Characteristics: Length of body, male, 14-15 mm, female, 16-17.5 mm; length of pronotum, male, 4.8-6 mm, female, 5.5-7 mm; length of ovipositor, 7.5-10 mm; color pale green.

County records: Hamilton, Hardin, Jefferson, Knox, Montgomery, Putnam, and Shelby.

*Microcentrum* Scudder

*Phylloptera* Burmeister, 1838. Handbuck der Entomol. 2:692.

*Orophus* Saussure, 1859. Rev. Mag. Zool. 11:204.

*Microcentrum* Scudder, 1862. J. Boston Soc. Nat. Hist. 7:446.

Characteristics: Color green to pale green; fastigium obtuse; eyes prominent; disk of pronotum flat; tegmina broad, not reaching apices of wings; supraanal plate of males oblong-triangular; ovipositor strongly arcuate.

Key to Species of *Microcentrum*

- Pronotum with anterior margin sinuate and with a median tooth of variable size ..... *rhombifolium*  
 Pronotum with anterior margin squarely truncate and without median tooth ..... *retinerve*

*Microcentrum rhombifolium* (Saussure)

*Gryllus laurifolius* Linnaeus, 1758. Syst. Nat. p. 126.

*Locusta laurifolia* Fabricius, 1793. Entomol. Syst. 2:34.

*Phylloptera (Orophus) rhombifolia* Saussure, 1859. Rev. Mag. Zool. 11:204.

*Microcentrum affiliatum* Scudder, 1862. J. Boston Soc. Nat. Hist. 7:447.

*Microcentrum laurifolium* Stal, 1874. Recensio Orthopterorum. Revue Critique des Orthopteres decrites par Linne, DeGeer et Thunberg 2:42.

*Microcentrum retinerve* Riley, 1874. Sixth Ann. Rept. Ins. Missouri p. 155.

*Microcentrum rhombifolium* Kirby, 1906. Syn. Cat. Orthoptera 2:518.

Characteristics: Length of body, male, 25-28 mm, female, 28-30 mm; length of pronotum, male and female, 6-7 mm; length of ovipositor, 4.5-5 mm; color dark green; tegmina broad, greatly exceeding apices of caudal femora.

County records: Franklin, Jefferson, Knox, Montgomery, and Shelby.

*Microcentrum retinerve* (Burmeister)

*Phylloptera retinervis* Burmeister, 1838. Handbuck der Entomol. 2:692.

*Phylloptera salicifolia* Saussure, 1859. Rev. Mag. Zool. 11:204.

*Microcentrum retinervis* Scudder, 1862. J. Boston Soc. Nat. Hist. 7:446.

Characteristics: Length of body, male 20-22 mm, female, 24-26 mm; length of pronotum, male and female, 5-6.5 mm; length of ovipositor, 5.5-6.5 mm; color pale green; tegmina broad, with tips more broadly rounded than in *M. rhombifolium*, exceeding apices of caudal femora.

County records: Jefferson, Knox, Montgomery, and Shelby.

SUBFAMILY (CONOCEPHALINAE)

Characteristics: Color green to pale brown; vertex projected to form a blunt rounded tubercle; eyes large; pronotum saddle shaped; prosternum usually with two slender spines; tegmina usually well developed; legs variable in length; ovipositor and male genitalia vary with genera and species.

Key to Genera

1. Male with subgenital plate almost truncate; ovipositor straight and slender ..... *Conocephalus*  
Male with subgenital plate "U" or "V" shaped; ovipositor upcurved and broad ..... *Orchelimum*

*Conocephalus* Thunberg

*Conocephalus* Thunberg, 1815. Mem. Acad. Imp. Soc. 5:271.

*Anisoptera* Latreille, 1829. Regne Animal 2d ed. 5:184.

*Xiphidium* Serville, 1831. Ann. Sci. Nat. 22:159.

*Palotta* F. Walker, 1869. Cat. Dermaptera Saltatoria Brit. Mus. 2:249.

Characteristics: Slender; color green, tinged with brown; caudal margins of pronotum rounded; tegmina narrow, may be abbreviated in length; subgenital plate of male truncate; ovipositor slender, straight.

Key to Males of *Conocephalus*

1. Hind tibiae armed with one pair of spines at apices; prosternal spines wanting ..... *saltans*  
Hind tibiae armed with three pairs of spines at apices; prosternal spines short ..... 2
2. Subgenital plate strongly produced meso-distad in two sharp straight spikes ..... *allardi*  
Subgenital plate not produced distad ..... 3
3. Cerci with distal portions depressed and with apices broad and rounded ..... 4  
Cerci with distal portions not depressed and with apices acuminate ..... 5
4. Cerci with distal portions moderately produced; the depressions of the same being general; macropteryous ..... *fasciatus* *fasciatus*  
Cerci with distal portions more decidedly produced and very strongly depressed; usually brachypterous ..... *brevipennis*

5. Cerci with distal portions short, bluntly conical

Cerci with distal portions very elongate, apices strongly acuminate ..... *nemoralis* ..... *strictus*

*Conocephalus saltans* (Scudder)

*Xiphidium brevipenne* Scudder, 1862 (in part). Canadian Nat. and Geol. 7:285.

*Xiphidium saltans* Scudder, 1872. Final Rept. U. S. Geol. Survey p. 249.

*Xiphidium modestum* Bruner, 1891. Canadian Entomol. 23:56.

*Xiphidium taenitatum* Redtenbacher, 1891. Verhandl. K. K. Zool. Bot. Gesell. 41:316.

*Conocephalus saltans* Rehn and Hebard, 1915. Trans. Entomol. Soc. 41:169.

Characteristics: Length of body, male and female, 11-15.5 mm; length of pronotum, male and female, 3-3.5 mm; length of ovipositor, 13.5-15.5 mm; slender; general color dull reddish brown, sides of abdomen with narrow yellow stripe; tegmina and hind wings usually abbreviated and covering about one fourth of the abdomen; cerci incurved with teeth bent downward and inward; ovipositor at least as long as body and much longer than the body in the long-winged forms.

County records: Knox, Montgomery, and Shelby.

*Conocephalus allardi* (Caudell)

*Xiphidium allardi* Caudell, 1910. Entomol. News 21: 58.

*Conocephalus allardi* Rehn and Hebard, 1915. Trans. Am. Entomol. Soc. 41:169.

Characteristics: Length of body, male and female, 12-15 mm; length of pronotum, male and female, 3-3.4 mm; length of ovipositor, 15-17 mm; robust; green, head and pronotum with a dark stripe extending from the vertex to hind margin of metazona; tegmina covering three-fourths of the abdomen in males, one-half in females; ovipositor straight and longer than caudal femur.

Blatchley (1920) reported this species from Rabun County, Georgia and Wythe County, Virginia, and Walker (1966) reported its song from east Tennessee.

*Conocephalus fasciatus fasciatus* (DeGeer)

*Locusta fasciata* DeGeer, 1773. Mem. Hist. Inst. 3:458.

*Orchelimum gracile* Harris, 1841. Rept. Inst. New England Inj. Veg. 1st ed. p. 131.

*Conocephalus fasciatus fasciatus* Rehn and Hebard, 1915. Trans. Am. Entomol. Soc. 41:170.

Characteristics: Length of body, male and female, 11-15.5 mm; length of pronotum, male and female, 2.8-3.5 mm; length of ovipositor, 7.3-9.5 mm; slender; color brown dorsally, green laterally, tegmina reddish brown; tegmina not exceeding apices of hind wings; apical portion of cerci more or less depressed, its apex broad and rounded.

County records: Dyer, Knox, and Obion.

*Conocephalus brevipennis* (Scudder)

*Xiphidium brevipennis* Scudder, 1862. Can. Nat. and Geol. 7:285.

*Xiphidium ensifer* Scudder, 1862. J. Boston Soc. Nat. Hist. 7:285.

*Xiphidium ensiferum* F. Walker, 1869. Cat. Dermaptera Saltatoria Br. Mus. 2:270.

*Xiphidium gossypii* Scudder, 1875. Proc. Boston Soc. Nat. Hist. 17:462.

*Conocephalus brevipennis* Rehn and Hebard, 1915. Trans. Am. Entomol. Soc. 41:182.

Characteristics: Length of body, male and female, 11-14 mm; length of pronotum, male and female, 3-4 mm; length of ovipositor, 9-14 mm; robust; generally pale reddish brown, face and sides of pronotum green; tegmina usually reaching bases of cerci in male, covering two-thirds of abdomen in female; usually brachypterous; ovipositor straight.

County records: Knox, and Montgomery.

*Conocephalus nemoralis* (Scudder)

*Xiphidium nemorale* Scudder, 1875. Proc. Boston Soc. Nat. Hist. 17:462.

*Xiphidium curtipenne* Redtenbacher, 1891. Verh. Zool.-botan. Gessell. Wien. 41: 498, 522.

*Conocephalus nemoralis* Rehn and Hebard, 1915. Trans. Am. Entomol. Soc. 41:189.

Characteristics: Length of body, male and female, 13-15 mm; length of pronotum, male and female, 3.7-4.2 mm; length of ovipositor, 8-9.2 mm; robust; dark greenish brown; tegmina covering two-thirds of abdomen in male, and one-half in female; ovipositor about three-fourths the length of the hind femur.

County records: Knox, and Montgomery.

*Conocephalus strictus* (Scudder)

*Xiphidium strictum* Scudder, 1875. Proc. Boston Soc. Nat. Hist. 17:460.

*Conocephalus strictus* Rehn and Hebard, 1915. Trans. Am. Entomol. Soc. 41:193.

Characteristics: Length of body, male and female, 14-19 mm; length of pronotum, male and female, 3.5-4.5 mm; length of ovipositor, 18-32 mm; slender; sides of head, body and femora green, occiput, pronotum reddish brown, dorsum of abdomen dark brown; pronotum with distinct lateral carina; tegmina no more than one-half the length of the abdomen, always much shorter than caudal femora; ovipositor slender, longer than the body.

County records: Knox, and Montgomery.

*Orchelimum* Serville

*Orchelimum* Serville, 1839 Hist. Nat. des Ins. p. 522.

*Xiphidium* (in part) Redtenbacher, 1891. Verhandl. der K. K. Zool. Bot. Gesell. 41:493.

Characteristics: Color variable, may be green, reddish brown, or brown; pronotum saddle shaped, caudal margin broadly rounded, lateral lobes usually deeper than long; tegmina narrow, tapering, shorter than hind wings; supraanal plate of male with apex emarginate, subgenital plate apically "U" or "V" shaped; ovipositor arcuate.

Key to Males of *Orchelimum*

1. Cerci each with median tooth distinctly longer than apical portion ..... *silvaticum*  
Cerci each with tooth not longer than apical portion ..... 2
2. Cercus with distal portion beyond insertion of median tooth longer than proximal portion ..... *campestre*  
Cercus with distal portion beyond insertion of median tooth not longer than proximal portion ..... 3
3. Cercus with dorsal surface with distinct sinuate carination ..... *nigripes*  
Cercus with dorsal surface without sinuate carination ..... 4
4. Cercus with median tooth flattened at base ..... *agile*  
Cercus with median tooth thickened at base ..... 5
5. Cercus without a rounded tubercle or node above and between the tooth and apex ..... *glaberrimum*  
Cercus with a rounded tubercle or node above on

6. Humeral sinus of lateral lobes distinct; tooth of cercus shorter than apical half of cercus ..... *vulgare*  
Humeral sinus scarcely evident; tooth of cercus as long as apical half of cercus ..... *gladiator*

*Orchelimum silvaticum* McNeill

*Orchelimum silvaticum* McNeill, 1891. Psyche. 6:266.

*Orchelimum calcaratum* Rehn and Hebard, 1915. Trans. Am. Entomol. Soc. 41:46.

Characteristics: Length of body, male and female, 17-23 mm; length of pronotum, male and female, 5.2-6.2 mm; length of ovipositor, 9-9.6 mm; color pale green; lateral lobes of pronotum longer than deep; tegmina surpassed by hind wings and usually exceeded by caudal femora.

County records: Montgomery.

*Orchelimum campestre* Blatchley

*Orchelimum campestre* Blatchley, 1893. Canad. Entomol. 25:91.

*Orchelimum concinnum* Rehn and Hebard, 1915. Trans. Am. Entomol. Soc. 41:60.

*Orchelimum concinnum campestre* Blatchley, 1920. Orth. N.E. Am. p. 556.

*Orchelimum concinnum* Hebard, 1934. Ill. Nat. Hist. Surv. 20:114.

Characteristics: Length of body, male and female, 17.5-19 mm; length of pronotum, male and female, 4.2-5 mm; length of ovipositor, 7-7.5 mm; general color pale green with the face translucent dull amber; dorsal and ventral carinae are weakly developed on cercus; ovipositor definitely upcurved from about the middle and is less than one-half as long as caudal femora.

This species is closely related to *O. concinnum* and *O. delicatum*. Refer to Thomas (1951), Thomas and Alexander (1962), and Powders and Drew (1966).

County records: Knox, and Montgomery.

*Orchelimum nigripes* Scudder

*Orchelimum nigripes* Scudder, 1875. Proc. Boston Soc. Nat. Hist. 17:459.

*Orchelimum robustum* Redtenbacher, 1891. Verhandl. der K. K. Zool. Bot. Gesell. 41:499.

Characteristics: Length of body, male and female, 18-21 mm; length of pronotum, male and female, 4.3-5 mm; length of ovipositor, 9-10.5 mm; general color green, tibiae and tarsi black; tegmina almost equalling hind wings and exceeding apices of hind femora.

County records: Knox, and Montgomery.

*Orchelimum agile* (DeGeer)

*Locusta agilis* DeGeer, 1773 Mem. Hist. Inst. 3: 457.

*Orchelimum glaucum* Serville, 1839. Hist. Nat. des Ins. p. 524.

*Orchelimum silvaticum* McNeill, 1891. Psyche 6:26.

*Xiphidium* (*Orchelimum*) *nitidum* Redtenbacher, 1891. Ver. handl. der K. K. Zool. Bot. Gesell. 41:494.

*Orchelimum molossum* Rehn and Hebard, 1907. Proc. Acad. Nat. Sci. Philadelphia 59:307.

*Orchelimum agile* Rehn and Hebard, 1915. Trans. Am. Entomol. Soc. 41:29.

Characteristics: Length of body, male and female, 21.5-22.5 mm; length of pronotum, male and female, 5-5.6 mm; length of ovipositor, 7-8 mm; color dull reddish brown dorsally, green ventrally; pronotum often

with pair of dark brown diverging stripes; length of tegmina approximately equal to caudal femora; hind wings extending beyond tegmina.

County records: Hamilton, Knox, and McMinn.

*Orchelimum glaberrimum* (Burmeister)

*Epitholium glaberrimum* Burmeister, 1838. Handbuck der Entomol. 2:707.

*Orchelimum catellare* Serville, 1839. Hist. Nat. Ins. Orth. p. 523.

*Orchelimum erythrocephalum* Davis, 1905. Can. Entomol. 37:280.

*Orchelimum glaberrimum* Rehn and Hebard, 1915. Trans. Am. Entomol. Soc. 41:34.

Characteristics: Length of body, male and female, 20-27 mm; length of ovipositor, 9-10 mm; color green or greenish yellow; tegmina exceeding tips of caudal femora and hind wings by 2-4 mm.

Blatchley (1920) refers to this insect as *O. erythrocephalum* Davis. Later work refers to this insect as *O. glaberrimum*. Rehn and Hebard (1915a) point out that Redtenbacher reports this insect from Tennessee and that this could be in error.

*Orchelimum vulgare* Harris

*Orchelimum vulgare* Harris, 1841. Rept. Ins. New England Inj. Veg. 1st ed. p. 131.

*Orchelimum glaberrimum* Blatchley, 1903. Orthoptera of Indiana p. 98.

Characteristics: Length of body, male and female, 18-23 mm; length of pronotum, male and female, 5-6.5 mm; length of ovipositor, 7.5-8.5 mm; robust; color green or pale reddish brown; lateral lobes of pronotum nearly as long as deep; caudal femora may exceed tips of tegmina.

County records: Carter, Dyer, Hamilton, Jefferson, McMinn, Montgomery, and Shelby.

*Orchelimum gladiator* Bruner

*Orchelimum gladiator* Bruner, 1891. Canad. Entomol. 23:71.

*Orchelimum maintobense* E. M. Walker, 1910. Canad. Entomol. 42:351.

Characteristics: Length of body, male and female, 17-20 mm; length of pronotum, male and female, 4.3-4.7 mm; length of ovipositor, 10 mm; color transparent grass-green; lateral lobes of pronotum nearly as long as deep; tegmina may exceed apices of hind femora; ovipositor almost two-thirds as long as hind femora.

County records: Knox.

SUBFAMILY (PSEUDOPHYLLINAE)

*Pterophylla* Kirby

*Pterophylla* Kirby, 1828. Introd. Entomol. 5th ed. p. 218.

*Cryptophyllus* Burmeister, 1838. Handbuck der Entomol. 2:697.

*Thilboacelus* Serville, 1839. Hist. Nat. des Ins. p. 83.

Characteristics: These are given with descriptions of species.

*Pterophylla camellifolia camellifolia* (Fabricius)

*Locusta camellifolia* Fabricius, 1775. Syst. Entomol. p. 283.

*Locusta perspicillata* Fabricius, 1775. Loc. cit.

*Pterophyllus ovocorum* Harris, 1831. Encycl. Am. 8:62.

*Pterophyllus zimmermanni* Saussure, 1859. Rev. Mag. Zool. 11:216.

*Cryptophyllus elongatus* Caudell, 1906. I. New York Entomol. Soc. 14:41.

*Pterophylla camellifolia* Morse, 1920. Orth. of New England p. 350.

*Pterophylla camellifolia camellifolia* Hebard, 1941. Trans. Am. Entomol. Soc. 67:200.

Characteristics: Length of body, male, 25-30 mm, female, 26-34 mm; length of pronotum, male and female, 5.5-6 mm; length of ovipositor, 13-15 mm; robust; color green; vertex terminating in a sharp flat tubercle; eyes small; pronotum saddle shaped, front margin truncate, hind margin rounded, lateral lobes deeper than long, disk crossed by two distinct transverse sulci; prosternum armed with two spines; tegmina broad, leaf-like, completely enclosing abdomen and hind wings, and exceeding the apices of the caudal femora; cerci broad at base, widely forked; subgenital plate long, narrow, spear shaped; ovipositor more than twice as long as pronotum.

County records: Dyer, Knox, Sevier, and Shelby.

SUBFAMILY (COPIPHORINAE)

Characteristics: Color generally green; fastigium produced into a long, usually sharp cone; prosternum with two slender spines; pronotum with one transverse groove; eyes small; tegmina narrow; front and middle femora spinulose beneath; tegmina and wings fully developed.

Key to Genera

1. Fastigium triquetrous or three-sided, ending in a decurved spine *Pyrgocorypha*  
Fastigium usually conical, not ending in a decurved spine *Neoconocephalus*

*Pyrgocorypha* Stal

*Pyrgocorypha* Stal, 1873. Öfv. Vet. Ak. Forh. 30:50.

Characteristics: These are given with descriptions of species.

*Pyrgocorypha uncinata* (Harris)

*Conocephalus uncinatus* Harris, 1841. Ins. Injur. Veget. p. 132.

*Pyrgocorypha uncinata* Redtenbacher, 1891. Monographie der Conocephaliden. Verhand. der. K. K. Zool. Bot. Gesell. Wein. p. 372.

Characteristics: Length of body, male, 32-34 mm, female, 35-42 mm; length of fastigium beyond eyes, 3.5-4.5 mm; length of pronotum, male and female, 9.5-10 mm; length of ovipositor, 19-21.5 mm; color green or reddish brown; fastigium prolonged bearing a prominent basal tooth on lower side; cerci of male curved inward, each ending in two claw-like appendages; ovipositor slender, not reaching tips of tegmina.

County records: Knox, Lewis, Montgomery, and Shelby.

*Neoconocephalus* Karney

*Conocephalus* Thunberg, 1815 (in part). Me. Acad. Imp. Soc. 5:271.

*Conocephaloides* Kirby, 1906 (in part). Syn. Cat. Orthoptera 2:241.

*Neoconocephalus* Karney, 1907. Abhandl. K. K. Zool. Bot. Gesell. 4:22.

Characteristics: Color pale green to brown; fastigium projected forward and upward into a cone, bearing below a pointed basal tooth or blunted tubercle; pronotal disk much longer than wide, truncate anteriorly, rounded posteriorly, lateral carinae distinct; male with supraanal and subgenital plates emarginate; ovipositor narrow, straight, very long. Key to species has been modified from Blatchley (1920) and Hebard (1934b).

Key to Species of *Neoconocephalus*

1. Fastigium with length approximating width, its ventral surface dark or with a dark band \_\_\_\_\_ 2  
Fastigium longer than wide \_\_\_\_\_ 3
2. Fastigium large and usually wider than long; ovipositor approximately same length as caudal femora \_\_\_\_\_ *triops*  
Fastigium small and usually slightly longer than wide; ovipositor much longer than caudal femora \_\_\_\_\_ *retusus*
3. Fastigium never more than 1.5 times as long as its basal width \_\_\_\_\_ 4  
Fastigium approximately 1 1/2 to twice as long as its basal width \_\_\_\_\_ 5
4. Fastigium narrowing to an acute apex; pronotum elongate, expanding evenly caudad \_\_\_\_\_ *palustris*  
Fastigium with apex broad; pronotum not elongate, not expanding evenly caudad. *r. robustus* and *r. crepitans*
5. Undersurface of fastigium with only sides and tip black \_\_\_\_\_ *ensiger*  
Undersurface of fastigium almost completely black \_\_\_\_\_ 6
6. Fastigium more than 5 mm long, basal tooth very prominent \_\_\_\_\_ *exiliscanorus*  
Fastigium not as long (< 4.5 mm), basal tooth not prominent \_\_\_\_\_ *nebrascensis*

*Neoconocephalus triops* (Linnaeus)

*Gryllus (Tettigonia) triops* Linnaeus, 1758. Syst. Nat. p. 439.

*Conocephalus obtusus* Burmeister, 1838. Handbuck der Entomol. 2:705.

*Conocephalus dissimilis* Serville, 1839. Hist. Nat. des Ins. p. 518.

*Conocephalus mexicanus* Saussure, 1859. Rev. Mag. Zool. 11:208.

*Conocephalus triops* Stal, 1874. Recensio Orthopterorum. Revue Critique des Orthopteres desertiques par Linne. De-Geer et Thunberg 2:110.

*Conocephalus hebes* Scudder, 1879. Proc. Boston Soc. Nat. Hist. 20:92.

*Conocephalus fusco-straitus* Redtenbacher, 1891. Verhandl. K. K. Zool. Bot. Gesell. 41:399.

*Neoconocephalus mexicanus* var. *tibialis* Karny, 1907. Abhandl. K. K. Zool. Bot. Gesell. 4:33.

*Neoconocephalus triops* Rehn and Hebard, 1915. Trans. Am. Entomol. Soc. 40:405.

Characteristics: Length of body, male and female, 27.5-36 mm; length of fastigium, male and female, 2.1-2.6 mm; length of pronotum, male and female, 8.7-9.7 mm; length of ovipositor, 21-25 mm; color green to brown.

County records: Knox, and Montgomery.

*Neoconocephalus retusus* (Scudder)

*Conocephalus retusus* Scudder, 1879. Proc. Boston Soc. Nat. Hist. 20:93.

*Conocephalus atlanticus* Bruner, 1899. Entomol. News 10:38.

*Neoconocephalus retusus* Rehn and Hebard, 1914. Trans. Am. Entomol. Soc. 40:410.

Characteristics: Length of body, male, 26-28 mm, female, 29-31 mm; length of fastigium, male and female, 1.8-2.2 mm; length of pronotum, male and female, 5.3-7.8 mm; length of ovipositor, 27-39 mm; color usually green; basal tooth obtuse; ovipositor much surpassing the tegmina. Rehn and Hebard (1914a) state that this species has often been identified as *Conocephalus triops* and *Conocephalus dissimilis* by American authors.

County records: Hamblen, Jefferson, Knox, Montgomery, and Shelby.

*Neoconocephalus palustris* (Blatchley)

*Conocephalus palustris* Blatchley, 1893. Can. Entomol. 25:89.

*Neoconocephalus palustris* Rehn and Hebard, 1914. Trans. Am. Entomol. Soc. 40:399.

Characteristics: Length of body, male, 24-26 mm, female, 27-35 mm; length of fastigium, male, 2.3-3 mm, female, 2.6-4 mm; length of pronotum, male and female, 5.6-8.7 mm; length of ovipositor, 16-21 mm; color bright grass green to brownish; basal tooth represented as a small blunt tubercle.

County records: Montgomery.

*Neoconocephalus robustus robustus* (Scudder)

*Gryllus (Tettigonia) acuminata* Stoll, 1813 (not *G. acuminata* Linnaeus, 1758). Natur. Afbeeld. Besch. der Spook. Zabelsp. p. 18.

*Conocephalus robustus* Scudder, 1862. J. Boston Soc. Nat. Hist. 7:449.

*Neoconocephalus robustus robustus* Rehn and Hebard, 1914. Trans. Am. Entomol. Soc. 40:387.

Characteristics: Length of body, male, 30 mm, female, 31-37 mm; length of fastigium, male and female, 2.7-3.7 mm; length of pronotum, male and female, 7.3-9.9 mm; length of ovipositor, 25-31 mm; color pale green; pronotum with lateral carinae divergent.

County records: Knox, and Shelby.

*Neoconocephalus robustus crepitans* (Scudder)

*Conocephalus crepitans* Scudder, 1862. J. Boston Soc. Nat. Hist. 7:450.

*Neoconocephalus robustus crepitans* Rehn and Hebard, 1914. Trans. Am. Entomol. Soc. 40:370.

Characteristics: Length of body, male, 38 mm, female 40 mm; length of fastigium, male and female, 2.7-3.8 mm; length of pronotum, male and female, 8.2-10.8 mm; length of ovipositor, 27-37 mm; color as *r. robustus*; carinae of pronotum nearly parallel. Refer to Blatchley (1920) and Hebard (1934b) for further differences and separation of *N. r. robustus* and *N. r. crepitans*.

County records: Carroll, and Shelby.

*Neoconocephalus ensiger* (Harris)

*Conocephalus ensiger* Harris, 1841. Rept. Ins. Mass. Inj. Veget. p. 131.

*Conocephalus attenuatus* Scudder, 1872. Final Rept. U. S. Geol. Surv. Nebr. p. 249.

*Neoconocephalus ensiger* Rehn and Hebard, 1914. Trans. Am. Entomol. Soc. 14:384.

Characteristics: Length of body, male, 24-26 mm, female, 28-30 mm; length of fastigium, male and female, 3-3.5 mm; length of pronotum, male and female, 7-7.5 mm; length of ovipositor, 27.5-33 mm; color green; fastigium slender; carinae of pronotum feebly divergent.

County records: Carter.

*Neoconocephalus exiliscanorus* (Davis)

*Conocephalus exiliscanorus* Davis, 1887. Can. Entomol. 19:57.

*Conocephalus bruneri* Blatchley, 1903. Orth. of Indiana p. 267.

*Neoconocephalus exiliscanorus* Rehn and Hebard, 1914. Trans. Am. Entomol. Soc. 40:371.

Characteristics: Length of body, male, 33-37 mm, female, 38-44 mm; length of fastigium, male and female, 4.2-7.5 mm; length of pronotum, male and female, 7.6-9 mm; length of ovipositor, 35-47 mm; color pea-green; tegmina reaching just beyond middle of ovipositor; wings equalling tegmina in length.

County records: Jefferson, and Montgomery.

*Neoconocephalus nebrascensis* (Bruner)

*Conocephalus nebrascensis* Bruner, 1891. Can. Entomol. 23:72.

*Neoconocephalus nebrascensis* Rehn and Hebard, 1914. Trans. Am. Entomol. Soc. 40:376.

*Neoconocephalus nebrascensis nebrascensis* Blatchley, 1920. Orth. of N. E. Am. p. 517.

Characteristics: Length of body, male, 27-30 mm, female, 32-33 mm; length of fastigium, male and female, 3.2-4 mm; length of pronotum, male and female, 7.2-8 mm; length of ovipositor, 29-33 mm; color either a bright grass-green or a yellowish brown.

County records: Montgomery.

We wish to acknowledge the help received from Drs. A. B. Gurney, and T. J. Walker. Thanks are extended to Mr. W. J. Cloyd and Miss Judy Kincaid for making certain species available for our use. We also thank the following institutions: The University of Tennessee, The University of Michigan Museum of Zoology, Memphis State University, The American Museum of Natural History, The Great Smoky Mountains National Park, and the United States National Museum for the use of facilities and the loan of specimens.

LITERATURE CITED

- Blatchley, W. S. 1920. *The Orthoptera of Northeastern America*. Nature Publishing Company, Indianapolis, Indiana, 1-784.
- Caudell, A. N. 1921. On the Orthopteran group Phaneropterae (*Scudderiae*), with descriptions of a new genus and species. J. Wash. Acad. Sci. 21:487-493.
- Hebard, M. 1925. Dermaptera and Orthoptera from the state of Sinaloa, Mexico. Part II. Trans. Am. Entomol. Soc. 51: 265-310.
- \_\_\_\_\_. 1934a. Studies on Orthoptera which occur in North America north of the Mexican boundary. III. Revisionary data and new North American Decticinae. Trans. Am. Entomol. Soc. 60:31-35.
- \_\_\_\_\_. 1934b. The Dermaptera and Orthoptera of Illinois. Ill. Nat. Hist. Surv. 20:125-279.
- \_\_\_\_\_. 1945. The Orthoptera of the Appalachian mountains in the vicinity of Hot Springs, Virginia, and notes on other Appalachian species and recent extensions of the known range of still other southeastern species. Trans. Am. Entomol. Soc. 71:77-97.
- Marcovitch, S. 1920. Grasshoppers of Tennessee. Tenn. St. Bd. of Entomol. Bull. 33, 9(2):1-112.
- Powders, V. N. and W. A. Drew. 1966. The Tettigoniidae (Orthoptera) of Oklahoma. Proc. Okla. Acad. Sci. 47:87-98.
- Rehn, J. A. G. and M. Hebard. 1914a. A synopsis of the genus *Scudderia*. Trans. Am. Entomol. Soc. 40:271-314.
- \_\_\_\_\_. 1914b. A synopsis of the species of *Amblycorypha* found in America north of Mexico. Trans. Am. Entomol. Soc. 40:315-344.
- \_\_\_\_\_. 1914c. A synopsis of the species of the genus *Neoconocephalus* found in North America north of Mexico. Trans. Am. Entomol. Soc. 40:365-413.
- \_\_\_\_\_. 1915a. A synopsis of the species of the genus *Orchelimum*. Trans. Am. Entomol. Soc. 41:11-83.
- \_\_\_\_\_. 1915b. A synopsis of the species of the genus *Conocephalus* found in North America north of Mexico. Trans. Am. Entomol. Soc. 41:155-224.
- \_\_\_\_\_. 1916a. Studies in the Dermaptera and Orthoptera of the coastal plain and piedmont region of the southeastern United States. Proc. Acad. Nat. Sci. Phila. 68:87-153.
- \_\_\_\_\_. 1916b. A revision of the species of the genus *Atlanticus*. Trans. Am. Entomol. Soc. 42:33-100.
- Thomas, E. S. 1951. Distribution of Ohio Animals. Ohio J. Sci. 51:153-167.
- Thomas, E. S. and R. D. Alexander. 1962. Systematic and behavioral studies on the meadow grasshoppers of the *Orchelimum concinnum* group (Orthoptera: Tettigoniidae). Occas. pap. Mus. Zool., Univ. Mich. 626-1-31.
- Walker, T. J. 1966. Personal communication.