

Synopsis of Florida Grasshopper Species

Stridulating Slantfaced Grasshoppers Subfamily Gomphocerinae

Grasshoppers in this subfamily tend to have slender bodies and long, slender legs. Their heads are elongate and often cone-shaped, usually having a highly slanted face. They usually lack a ventral spine between the front legs (the prosternal spine), as is found in the lubber grasshoppers (subfamily Romaleinae) and the spurthroated grasshoppers (subfamily Cyrtacanthacridinae). Gomphocerine grasshoppers tend to be green or brown; sometimes distinctly brown or green forms occur within the same species. The hind wings are not colorful.

Gomphocerines often have relatively short wings, rendering them incapable of sustained flight. When disturbed these grasshoppers leap and use their wings, but their wings often do little more than increase the distance jumped. They do not make sounds during flight, called crepitation, as occurs in the bandwinged grasshoppers (subfamily Oedipodinae). This does not mean that these grasshoppers are silent, because they can make noise by rubbing the inner surface of the hind femur on the edges of the forewing. They create this sound, called stridulation, while resting, not while flying. Because the males of this subfamily usually have a row of stridulatory pegs on the inner surface of the hind femora, they are also known as toothlegged grasshoppers.

The habitat of gomphocerines tends to be tall grasses in open fields. The form and color of many species allows them to blend in with stems and blades of grass, making them difficult to detect until they move. Most species feed predominantly on grasses.

There are 10 species in 7 genera of Gomphocerinae in Florida:

Achurum

A. carinatum (F. Walker)

Amblytropidia

A. mysteca (Saussure)

Dichromorpha

D. elegans (Morse)

D. viridis (Scudder)

Eritettix

E. obscurus (Scudder)

Mermiria

M. bivittata (Serville)

M. intertexta Scudder

M. picta (F. Walker)

Orphulella

O. pelidna (Burmeister)

Syrbula

S. admirabilis (Uhler)



Longheaded toothpick grasshopper (male)

***Achurum carinatum* (F. Walker)** Longheaded toothpick grasshopper

Identification. The common name of this slender grasshopper accurately describes its general body form. It is pale brown or grayish brown, often with the forewings and legs partly green. Thus, it easily blends in with grasses and pine needles, and is difficult to detect. The forewings of this flightless species are small, averaging about the length of the head in north Florida and shorter than the head in south Florida. The face is extremely slanted, the antennae large and sword-shaped. Some individuals bear numerous black dots. The length of males is 24–36 mm; females are 33–40 mm.

Similar Species. The short wings and absence of a spine between the front legs serve to differentiate longheaded toothpick grasshopper from the similar cyrtacanthacridine species, *Leptysmia marginicollis* and *Stenacris vitreipennis*.

Distribution and Ecology. Longheaded slender toothpick grasshopper is found throughout Florida, and the southeastern states from South Carolina to Mississippi. It can be found throughout the year, with nymphs overwintering in north

Florida and adults farther south. It is commonly found in grass of open woodlands such as high pine and pine flatwoods, and areas with tall grasses such as old fields and pond margins.

Amblytropidia mysteca **(Saussure)**

Brown winter grasshopper

Identification. This yellowish brown to brownish black grasshopper is robust in form. Although the face is strongly slanted, the top of the head is broadly rounded. The antennae are relatively short. The top of the head, thorax, and sometimes a portion of the forewings are yellowish brown or gold. The junction of the dorsal and lateral surfaces often is marked by a narrow but distinct line. The forewings are darker brown or blackish distally. The hind femora are light brown or gold, sometimes with a longitudinal black line. The hind tibiae are light brown basally and brownish black distally. The length of this insect is 19–24 mm in males and 24–30 mm in females.

Distribution and Ecology. Brown winter grasshopper is known from throughout Florida, and is found widely in the southern United States from North Carolina to Arizona. It can be found in Florida during the winter in both nymphal and adult stages, but also is collected through most of the summer. It occurs amongst short and moderately high grasses, usually in open woodlands. When disturbed *A. mysteca* flies short distances, dives into vegetation, and burrows out of sight among the foliage and debris. This constitutes an unusual and easily recognizable behavior that aids in field identification.



Brown winter grasshopper (male)



Elegant grasshopper (female)

Dichromorpha elegans (Morse)

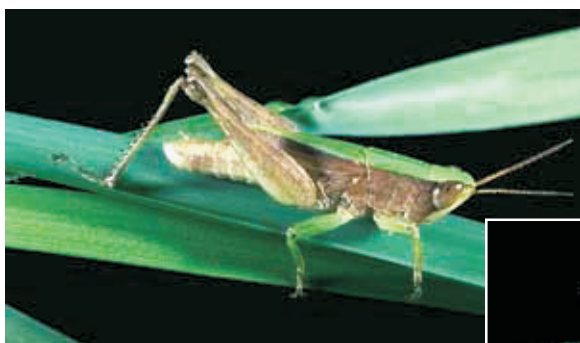
Elegant grasshopper

Identification. This grass-green or brownish green grasshopper is attractive, but hardly warrants its common name; there are many other more elegant species. It has a slanted face, but broadly rounded, slightly enlarged head. It usually is marked by a narrow black line extending from behind the eye, across the

prothorax, and onto the forewings. The forewings are variable in length, ranging from about one half the length of the abdomen to the tip of the abdomen. The males are much smaller and more slender than the females. The hind tibiae are brownish. The length of this grasshopper is 17–21 mm in males and 19–28 mm in females.

Similar Species. This species is easily confused with *Dichromorpha viridis*. Close examination of the dorsal surface of the pronotum will differentiate the two species. *Dichromorpha elegans* has a single, narrow, line-like transverse crevice (sulcus) that bisects the median and lateral pronotal ridges. *Dichromorpha viridis* has, in addition, another crevice that bisects the lateral pronotal ridges but not the middle ridge. *Dichromorpha elegans* also has a larger head than *D. viridis*.

Distribution and Ecology. Elegant grasshopper is found throughout Florida in grassy, moist areas such as freshwater swamps and salt marshes. It does not inhabit the dryer areas frequented by *D. viridis*. It also occurs elsewhere in the eastern and southern United States along both the Atlantic and Gulf coasts.



Shortwinged green grasshopper
(Above: male. Right: female.)

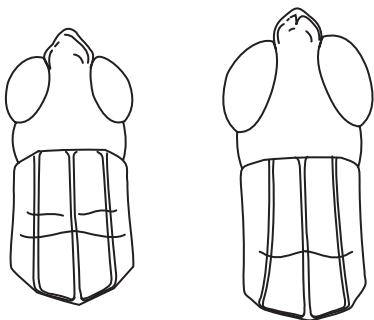
Dichromorpha viridis (Scudder)

Shortwinged green grasshopper



Identification. Although this common name may not seem unique or descriptive, it actually is appropriate, because this is the most abundant short-winged green grasshopper species in Florida. The dorsal and lateral surfaces of male grasshoppers sometimes are contrasting colors. The common forms are a green dorsal surface and pale or dark brown lateral surfaces, or light brown dorsal surface and dark brown lateral surfaces. Females are uniformly colored, but may be either green or brown. The forewings of this species are, as the common name suggests, usually short, but occasional long-winged individuals occur. In males, the forewings often are about three fourths the length of the abdomen, whereas in females the forewings often extend just half the length of the abdomen. The males measure 14–17 mm in length, the females 23–27 mm.

Similar Species. This species is very similar in form to *Dichromorpha elegans*. As previously noted, *D. viridis* can be distinguished by the presence of two crevices or cuts in the lateral pronotal ridges. Also, *D. elegans* has a larger head than *D. viridis*, but of course this character



Dichromorpha viridis

Dichromorpha elegans

is useful only if individuals of both species are available to compare.

Distribution and Ecology. This is a common species in grassy areas, including edges of ponds and woods, low areas of pastures, and along roadsides. It also feeds readily in improved pastures and on lawn grasses, which accounts for its wide distribution and abundance. In many grassy habitats it is the most abundant grasshopper. Shortwinged green grasshopper can be found throughout the year in Florida, although it is infrequent in north Florida during the winter. Males are reported to stridulate.



Obscure slantfaced grasshopper (female)

Eritettix obscurus (Scudder)

Obscure slantfaced grasshopper

Identification. This small brownish, flightless grasshopper is usually distinguishable by the broad whitish or yellowish stripe that extends from the top of the head to the tip of the abdomen. Unfortunately, this character is sometimes absent, making recognition more difficult. The forewings are always shortened,

covering about one-half to three-fourths the length of the abdomen. The antennae are slightly flattened and sword-shaped. The face is markedly slanted. The dorsal surface of the pronotum bears a small ridge along each side, and the ridges are constricted near the middle of the pronotum. These lateral ridges may be black or white. Males measure 13–15 mm in length, females 21–24 mm.

Distribution and Ecology. Obscure slantface grasshopper occurs only in Florida, and widely in the peninsular region from Live Oak to Miami. Its preferred habitat is scrub oak forest, where it occurs amongst wiregrass and low-growing oak. Obscure slantface grasshopper is not uncommon in such habitat, but never is abundant.

Mermiria bivittata (Serville)

Twostriped mermiria grasshopper

Identification. This narrow-bodied species is quite large. Though variable in color, it is marked with a dark stripe originating behind the eye and running across the pronotum. The stripe extends weakly onto the forewings, where a narrow white streak also may be found basally. Generally the body is brownish or greenish dorsally and yellow ventrally.

The face is strongly slanted. The antennae are sword-shaped. The hind tibiae are reddish. Body length is 28–38 mm in males and 39–56 mm in females.

Similar Species. Twostriped mermiria grasshopper is separated from *Mermiria intertexta* by the lack of a median dark stripe along the dorsal portion of the body; this stripe is apparent in *M. intertexta*. Twostriped mermiria grasshopper is distinguished from *Mermiria picta* by the absence of distinct lateral ridges on the dorsal surface of the pronotum; the lateral ridges are evident in *M. picta*.



Twostriped mermiria grasshopper (female)

Distribution and Ecology. Twostriped grasshopper is reported from nearly everywhere in the United States except the northwestern and northeastern states. It also is known from southern Canada and northern Mexico. It is most common in the Great Plains region, however. In Florida it is known from the northernmost counties, but is not generally common. Twostriped mermiria grasshopper inhabits areas of tall grass, including coastal salt marsh habitats. It feeds exclusively on grasses.

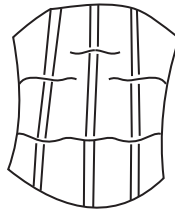
Mermiria intertexta
Scudder

Eastern mermiria grasshopper

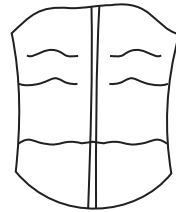
Identification. This species is long and narrow in general appearance, and fairly large in size. The face is strongly slanted, and the antennae sword-shaped. The general color is yellowish or greenish, but a reddish or dark brown stripe often is present dorsally, especially in males, from the tip of the head to the posterior margin of the pronotum. Another distinct dark brown or black stripe extends from the posterior margin of the eye onto the base of the front wings, and merges into the brown forewings. The stripe in the basal region of the forewings contains a narrow white streak. The long, thin hind tibiae are reddish. The males measure 32–38 mm in length, the females 33–58 mm.



Eastern mermiria grasshopper (female)



Mermiria picta



***Mermiria intertexta*
and *bivittata***

Similar Species. The narrow white streak found at the base of the forewing is a character that is lacking from the similar *Mermiria picta*. Also serving to distinguish *M. intertexta* from *M. picta*, but much more difficult to see, is the absence of distinct lateral ridges on the dorsal surface of the pronotum; these lateral ridges are present in *M. picta*. The dorsal medial stripe on the head and thorax of *M. intertexta* is absent from *M. bivittata*.

Distribution and Ecology. Eastern mermiria grasshopper inhabits the coastal region of the eastern United States from New Jersey to Florida. In Florida, it occurs throughout the state, usually in tall grasses and in wet habitats. Despite its ability to blend in well with its grassy environment, *M. intertexta* flies freely when disturbed. It is not a strong flier.



Lively mermiria grasshopper (male)

***Mermiria picta* (F. Walker)**

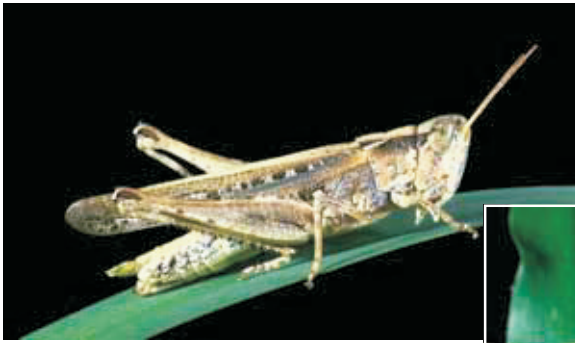
Lively mermiria grasshopper

Identification. This large, thin species greatly resembles *Mermiria intertexta*, long and narrow in general appearance, and greenish or brownish in general color. The face is strongly slanted, and the antennae sword-shaped. A reddish or dark brown stripe often is present dorsally, especially in males, from the tip of the head to the posterior margin of the pronotum. Another distinct dark

brown or black stripe extends from the posterior margin of the eye onto the base of the front wings, and merges into the brown forewings. The antennae of lively mermiria grasshopper are sword-shaped. The hind tibiae are reddish. The males measure 28–41 mm in length, the females 41–57 mm.

Similar Species. This species does not have a narrow white streak at the base of the forewing, a character that is found in the similar *Mermiria intertexta*, and usually in *M. bivittata*. Serving to distinguish *M. picta* from both *M. intertexta* and *M. bivittata*, but much more difficult to see, is the presence of distinct lateral ridges on the dorsal surface of the pronotum in *M. picta*. Also, the dorsal stripe found on the head and thorax of lively mermiria is normally absent from *M. bivittata*.

Distribution and Ecology. Lively mermiria grasshopper is found throughout the eastern United States north to Virginia and South Dakota, and west to Arizona. It also is known from Mexico. In Florida it occurs widely in habitats containing tall grasses, including wooded environments. It tends to inhabit drier areas than *M. intertexta*, and is less frequently encountered.



Spottedwinged grasshopper (females)

Orphulella pelidna (Burmeister)

Spottedwinged grasshopper



Identification. This slender species is variable and indistinct in appearance. Under most conditions, spottedwinged grasshopper is brown or green and bears both black and white accents. Large

black triangular marks are found dorsally along the posterior margin of the pronotum. The lateral ridges on the dorsal surface of the pronotum are markedly compressed near the midpoint of the pronotum. A series of small, dark, rectangular spots is present along the center of the forewings, and is the basis for the common name of this species, but numerous speckles are also generally present. A broad dark stripe usually extends from the back of the eye to the base of the forewing. In some coastal locations larger forms appear. They may be completely green, or bear only some of the aforementioned stripes and marks. On dark soils or in burned forests, blackish forms may occur. Also, although the forewings normally extend well beyond the tip of the abdomen, individuals with shorter wings are sometimes observed. The hind tibiae are usually brown, but sometimes bluish. The antennal segments are not markedly flattened, appearing threadlike. The males measure 18–25 mm in length, the females 18–28 mm.

Similar Species. Although this species superficially resembles *Syrbula admirabilis*, it usually can be separated easily based on its overall smaller size. The strongly compressed lateral ridges also are diagnostic, although in *S. admirabilis* they are slightly compressed. Also, the forewings are usually spotted and speckled, characteristics usually absent from *S. admirabilis*.

Distribution and Ecology. This is the most widespread grasshopper in Florida. It is found in all habitats except those that are very shaded. Despite its adaptable nature, it rarely is numerous in any habitat, or at any location. When disturbed it flies swiftly, but fairly short distances, before diving to the soil or vegetation and seeking shelter. Upon landing it often runs a short distance to hide. In addition to being found throughout Florida, *O. pelidna* occurs throughout the United States, and even into southern Canada and northern Mexico.

Syrbula admirabilis (Uhler)

Handsome grasshopper

Identification. This slender species deserves its common name; it is a strikingly attractive insect. The face is quite slanted, the hind legs especially long and slender. The antennae, though generally threadlike, in males are slightly expanded at the tip. The hind tibiae are



Handsome grasshopper
(Above: male. Right: female.)



brownish. The pronotum bears small ridges laterally, which are marked by white stripes. The lateral ridges are constricted slightly near the middle of the pronotum. A dorsal broad brown stripe usually extends from the front of the head

to the posterior margin of the pronotum. The general body color ranges from mostly brown to mostly green, but some individuals tend toward blackish, especially males. The most distinctive feature is the pattern on the forewings. The leading edge of the forewing (ventral surface when wings are closed) is green or grayish, whereas the trailing edge is brown to black. These contrasting colors meet in a wavy, or crenulate, pattern that immediately distinguishes most individuals. Some males, however, have the forewings almost entirely dark. The sexes differ markedly in size. Males measure about 22–28 mm in length, females 35–42 mm.

Similar Species. Although usually distinct, this species sometimes resembles *Orphulella pelidna*. Usually it can be separated easily by its overall larger size. The lateral ridges on the dorsal surface of the pronotum are compressed near the midpoint, but not as markedly as in *O. pelidna*. Also, the forewings are not spotted and speckled.

Distribution and Ecology. Handsome grasshopper is found throughout the state, although it appears more common in northern regions. It also is found widely in the United States west to the Rocky Mountains and south into Mexico. This species is commonly associated with dry grasses of short to moderate height. The males fly readily when disturbed, the females fly awkwardly and often escape by leaping. Both sexes stridulate.