

Melanoplus furcatus Scudder

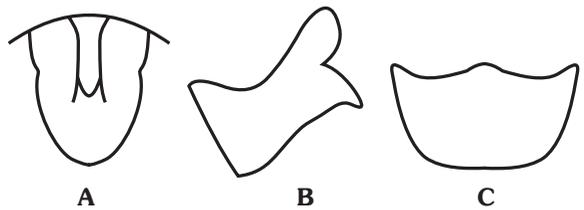
Larger forktailed grasshopper

Identification. This is a large, robust, long-winged species. It is brownish in general coloration, but frequently with reddish or dark brown, especially dorsally. The dark bar commonly found behind the eye of *Melanoplus* species extending along the lateral lobe of the pronotum, may be present or absent. The forewing is darker basally and lighter distally. Small dark spots may be present or absent centrally on the forewing. The hind femora may bear a dark bar. The hind tibiae are dull red. The males measure about 31 mm in length, the females about 39 mm.

In males, the furcula is not visible. The cerci are stout and forked, providing the basis for the common name of this grasshopper. The cerci taper from the base to about the midpoint, then expand into dorsal and ventral, bluntly pointed triangular structures.

Similar Species. *Melanoplus furcatus* is closely related to *M. symmetricus*, and may eventually be shown to be a form of that species.

Distribution and Ecology. This species is found in northeast Florida and southern Georgia. Its habitat is dense shrubbery near streams and swamps.



Supra-anal plate and furcula (A), cercus (B) and subgenital plate (C) of male *M. furcatus*.



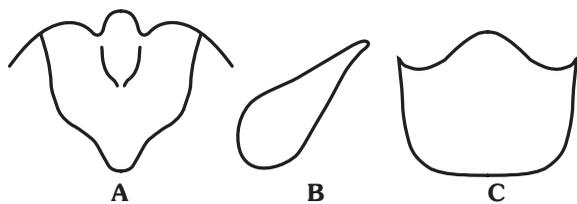
Gurney's spurthroat grasshopper (male)

Melanoplus gurneyi

Strohecker

Gurney's spurthroat grasshopper

Identification. This rare, small, short-winged species is closely related to *Melanoplus puer*, and very similar in appearance to *M. apalachicola*. The forewings are shorter than the pronotum, elongate-oval, and widely separated dorsally. The general color is reddish brown or purplish gray above, and yellowish below. The males have behind the eye a shiny black stripe that extends across the pronotum, but this pattern is indistinct in females. This black stripe is narrow and has parallel sides on the anterior portion of the pronotum, widening slightly on the posterior region of the pronotum. The hind femora are brownish, sometimes with black spots but not complete bands. The lower edge of the hind femora is whitish. The hind tibiae are



Supra-anal plate and furcula (A), cercus (B) and subgenital plate (C) of male *M. gurneyi*.

purplish green. The males measure 13–14 mm in length, the females 17–20 mm.

In males, the furcula is short and rounded, but well developed. The cerci are symmetrically tapered throughout their length, ending in a point. The cerci are about twice as long as wide.

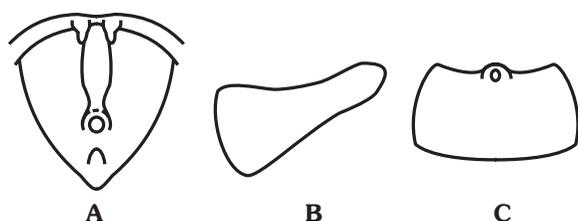
Similar Species. The widening of the black stripe at the posterior region of the lateral lobe of the pronotum is important in distinguishing *M. gurneyi*, *M. apalachicola*, *M. ordwayae* and *M. tequestae* from *M. puer* and *M. adelogyrus*. The presence of a furcula in this species serves to distinguish *M. gurneyi* from *M. tequestae* and *M. ordwayae*, which lack visible furcula. The symmetrical shape of the cerci serves to distinguish *M. gurneyi* from *M. apalachicola*, in which

the ventral margin tapers evenly throughout its length, but the dorsal margin tapers abruptly at the base, leaving the remainder of the dorsal margin almost straight.

Distribution and Ecology. This species is known only from the coastal area of Bay and Okaloosa counties in western Florida. It inhabits xeric sand areas among oak and rosemary plants.



Immodest spurthroat grasshopper (male)



Supra-anal plate and furcula (A), cercus (B) and subgenital plate (C) of male M. impudicus.

Melanoplus impudicus Scudder

Immodest spurthroat grasshopper

Identification. This is an indistinct long-winged species, hardly deserving of its common name. It is of medium size and bears long wings, grayish brown above and yellowish below. The stripe behind the eye varies from strong to weak. The forewings are marked with a modest row of small spots centrally. The outer face of the hind femora is marked with incomplete dark bands. The hind tibiae are reddish. The males measure 19–21 mm, the females 23–27 mm.

In males, the furcula consists of small structures. The cerci narrow at the middle and are only slightly expanded distally, tending to end in a blunt point. The outer face of the tip of the cerci is marked with a weak groove or depression.

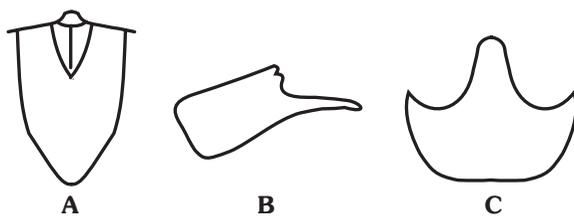
Distribution and Ecology. Immodest grasshopper occurs through most of the eastern states, north to about New York. In Florida it is known only from northern areas. Its habitat is dry open woodlands.

Melanoplus indicifer Hubbell Spinecercus spurthroat grasshopper

Identification. This small short-winged species is very similar in appearance to other *Melanoplus* species in the *puer* group. The forewings are shorter than the pronotum, truncate-oval, and widely separated above. The general color is reddish brown or gray above, and yellowish below. The males have behind the eye a shiny black stripe that extends across the pronotum, and is nearly equal in width from the anterior to the posterior edge of the lateral lobe. This pattern is indistinct in females. The hind femora are dull yellow, sometimes with black spots but not complete bands. The hind tibiae are purplish green. The males measure 13–14.5 mm in length, the females about 20 mm.

In males, the furcula is not visible. The cerci are distinctive but similar to that of *M. forcipatus* Hubbell. The cerci are broad basally, with the upper and lower margins nearly parallel. Beyond the middle, however, the cerci fork into a short stubby dorsal projection and a long, tapering ventral projection that curves downward only slightly. The supra-anal plate is less broad and less shield-like than in many species, with the plate tapering rapidly in the basal half, and less so in the distal half.

Similar Species. *Melanoplus indicifer* closely resembles *M. forcipatus* Hubbell. However, the cerci of *M. forcipatus* bear a relatively prominent,



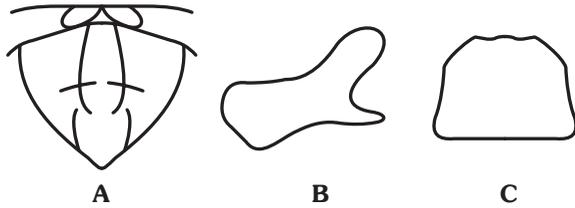
Supra-anal plate and furcula (A), cercus (B) and subgenital plate (C) of male M. indicifer.

broad, and strongly curved ventral projection. The cerci of *M. forcipitatus* also curve markedly inward. In contrast, the ventral projection on the cerci of *M. indicifer* is less prominent, narrow, and not strongly curved. Although these two species are closely related, they do not occur in the same geographic areas of Florida, with *M. indicifer* restricted to the east coast of Florida near Palm Beach.

Distribution and Ecology. This species is found only in sandy areas along the southeastern coast of Florida, north of West Palm Beach. This portion of the state is populous, with little habitat preserved for scrub-inhabiting species; thus, this grasshopper may soon become extinct.



Keeler's spurthroat grasshopper (male)



Supra-anal plate and furcula (A), cercus (B) and subgenital plate (C) of male *M. keeleri*.

Melanoplus keeleri (Thomas)

Keeler's spurthroat grasshopper

Identification. Keeler's spurthroat is moderately large for the genus *Melanoplus*, and long-winged. It is grayish brown or reddish brown in general color, and yellowish ventrally. A dark bar extends from the back of the eye onto the lateral lobe of the pronotum. The forewings bear a series of small brown spots centrally. The forewings extend to the tip of the abdomen or beyond. The hind femora are marked with diffuse dark transverse bars. The hind tibiae are coral red. The males of this species measure 23–29 mm in length, the females 27–34 mm.

In males, the furcula is reduced to very small lobes. The cerci are distinctively shaped, resembling a “boot” with a

rounded “toe” directed dorsally and a pointed “heel” directed ventrally.

Distribution and Ecology. Keeler's spurthroat occurs widely in Florida, and is found throughout North America east of the Rocky Mountains. Its habitat is pasture and open woods.

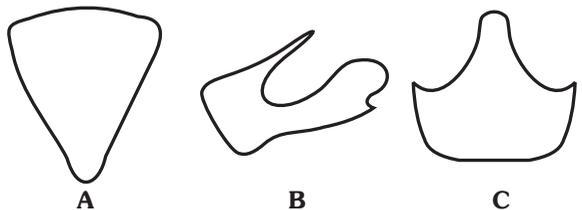
Melanoplus nanciae Deyrup

Ocala clawcercus grasshopper

Identification. This small short-winged species was first described in 1996. It is fairly typical of the short-winged, scrub-inhabiting Florida species of *Melanoplus*. It is grayish brown, but lighter below. The forewings are shorter than the prothorax, and widely separated dorsally. A black stripe extends from the back of the eye across the prothorax, with the stripe equal in width or slightly wider at the posterior region of the prothorax. The hind femora are brown, with a large dark brown spot centrally. The hind tibiae are yellowish brown at each end but bluish gray centrally. Length of males is about 14.5 mm; females measure about 19 mm.

In males, the furcula is absent. The cerci are unique and diagnostic: The cerci are broad basally, dividing into a long pointed spine dorsally, and a rounded lobe with a tooth ventrally. The tip of the subgenital plate is elongate and curved anteriorly over the tip of the supra-anal plate.

Similar Species. Although this species superficially resembles many short-winged *Melanoplus* species, the cerci of



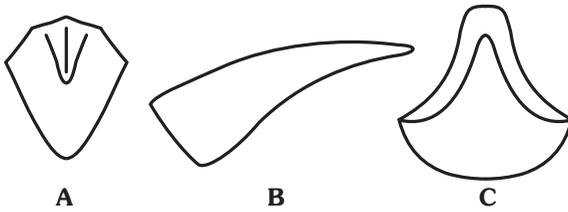
Supra-anal plate and furcula (A), cercus (B) and subgenital plate (C) of male *M. nanciae*.

the males are diagnostic. Interestingly, the female of this species also has a projection on the cercus, a feature that does not occur on other Florida short-winged *Melanoplus*.

Distribution and Ecology. This species is known only from the Ocala National Forest in Lake County, Florida. Its habitat is poorly known, but it has been collected only from regrowth in clearcut forest following harvest of pines.



Trail Ridge scrub grasshopper (male)



Supra-anal plate and furcula (A), cercus (B) and subgenital plate (C) of male *M. ordwayae*.

Melanoplus ordwayae Deyrup

Trail Ridge scrub grasshopper

Identification. This small short-winged *Melanoplus* was not discovered until 1993. It is named after the Ordway Preserve, the location of its discovery. It is very similar in appearance to the numerous high pine and scrub-inhabiting *Melanoplus* species found in Florida. It is brownish dorsally and lighter ventrally. The forewings are shorter than the pronotum, and widely separated dorsally. It bears behind the eye a dark stripe that extends across the lateral lobe of the pronotum. The stripe is not significantly wider at either the anterior or posterior regions of the pronotum, although there may be a hint of widening at the posterior margin. The hind femora bear a dark spot centrally. The hind tibiae are blue-gray centrally, and brownish at each end.

Males measure about 15 mm in length, females about 18 mm.

In males, the furcula is not apparent. The cerci taper gradually to a point, but because the ventral edge is more arched than the dorsal edge, the cerci point ventrally.

Similar Species. Based only on the morphology, *M. ordwayae* is easily confused with *M. tequestae*. This latter species, however, occurs only from Orlando south to Lake Okeechobee. *Melanoplus ordwayae* occurs well north of the area supporting *M. tequestae*. Positive identification can also be made by examination of the internal genitalia. If the tip of the male abdomen in *M. tequestae* is pulled down to reveal the penis, a small forked appendage is revealed near the apex on the posterior side of the penis. In *M. ordwayae*, the appendage is long, originates basally, and is not forked.

Distribution and Ecology. This poorly known species has been collected only from Putnam and Clay counties, in northcentral Florida. It inhabits scrub areas, particularly edges of scrub oak thickets and open, white sand areas supporting herbaceous plants.

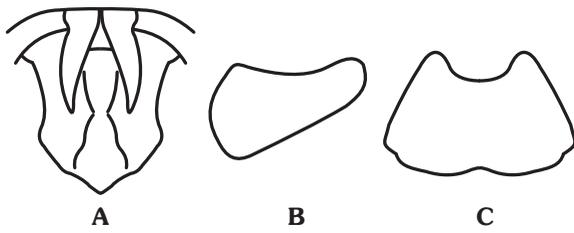
Melanoplus propinquus Scudder

Southern redlegged grasshopper

Identification. This long-winged species is grayish brown or yellowish brown, with a yellow abdomen. A black bar extends from the eye onto the lateral lobe of the pronotum. The forewings are brownish with a row of faint spots centrally. The forewings extend to the tip of the abdomen or beyond. The hind femora are yellowish brown or greenish



Southern redlegged grasshopper (male)



Supra-anal plate and furcula (A), cercus (B) and subgenital plate (C) of male *M. propinquus*.

tip is oriented dorsally. The subgenital plate terminates with a U-shaped apex.

Distribution and Ecology. Southern redlegged grasshopper is abundant in weedy pastures, crop fields, along roadsides, and in other disturbed areas. Although it has been detected in most of the state, it is abundant only in northern Florida. It also is found in the coastal plain region of other southeastern states, but replaced by *M. femurrubrum* (DeGeer) in northern areas of these states, and elsewhere in North America.

yellow, and lack distinct bands. The hind tibiae almost always are red, though bluish tibiae are sometimes observed. The male measures 19–26 mm in length, the female 20–29 mm.

In males, the furcula is narrow and at least one-half the length of the supra-anal plate. The cerci are wide at the point of attachment, narrow markedly in the basal region, and are narrow distally. The

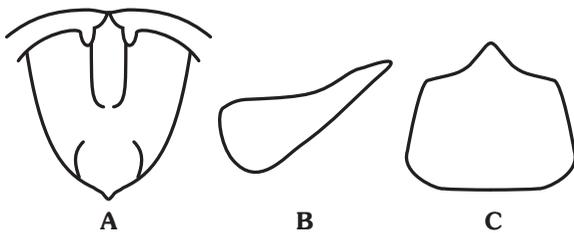


Florida least spurthroat grasshopper (male)

Melanoplus puer (Scudder)

Florida least spurthroat grasshopper

Identification. This is the smallest member of the genus *Melanoplus*, and like many of Florida's species, its wings are short. The forewings are shorter than the pronotum, elongate-oval, and widely separated dorsally. The general color is reddish brown or purplish gray above, and yellowish below. The males display behind the eye a shiny black stripe that extends across the pronotum to the first abdominal segments, but this pattern is indistinct in females. This black stripe is very wide on the anterior portion of the pronotum, narrowing markedly on the posterior region of the pronotum. The hind femora are dull yellow, sometimes with black spots but not complete bands. The hind tibiae are purplish green. The males measure 10–16 mm, the females 16–21 mm.



Supra-anal plate and furcula (A), cercus (B) and subgenital plate (C) of male *M. puer*.

In males, the furcula is very short. The slender cerci taper gradually to a blunt tip, but are not completely symmetrical; the dorsal edge is slightly concave. The tip of the cercus is not flattened. The subgenital plate is only weakly elongated.

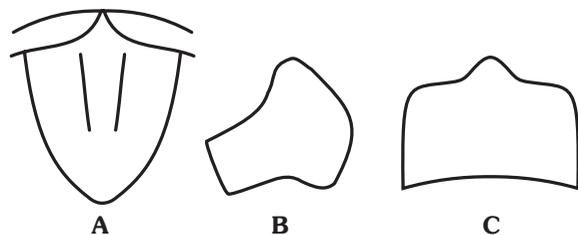
Similar Species. The narrowing of the black stripe on the posterior portion of the lateral lobe of the pronotum is an important character in distinguishing *Melanoplus puer* from *M. apalachicola*, *M. gurneyi*, *M. ordwayae* and *M. tequestae*. The tip of the cerci is not flattened, as in *M. adelogyrus*.

Melanoplus puer has at least three, and perhaps five, geographic races or subspecies in Florida. By virtue of being short-winged, and inhabiting discontinuous "islands" of scrub habitat, there is little opportunity for genetic blending of the isolated populations. Therefore, they are evolving different structural characteristics that will eventually result in recognition as separate species. The races may, in fact, be sexually incompatible now because of their isolation, but have yet to evolve strongly different appearances. See the discussion on "What is a Species" in the introductory section of this book for further discussion on this topic.

Distribution and Ecology. This species is found throughout the Florida peninsula, but not elsewhere. It inhabits wiregrass patches in open woods, particularly scrub and high pine habitats.



Pinetree spurthroat grasshopper (male)



Supra-anal plate and furcula (A), cercus (B) and subgenital plate (C) of male *M. punctulatus*.

Melanoplus punctulatus Scudder

Pinetree spurthroat grasshopper

Identification. This large grayish species is unusual in that its body and forewings bear numerous dark brown or black spots of a moderate size. The underside is reddish or yellowish. It is long-winged. The dark bar behind the eye is indistinct. The outer face of the hind femora is marked with alternating blackish and grayish bands. The hind tibiae are reddish or gray. The males are 27–31 mm in length, the females 37–45 mm.

In males, the furcula is barely visible. The cerci are large and markedly expanded beyond the middle. The sub-genital plate ends with an upward extension.

Distribution and Ecology. Pinetree spurthroat grasshopper is found throughout the eastern states and west to Arizona.

In Florida it is found in northern portions

of the state. This poorly known species apparently inhabits coniferous trees, and may be nocturnal. It is most often observed resting on the trunks of trees, where it blends in well with mottled bark and the moss and lichens growing on tree trunks. The female reportedly deposits her eggs within holes or crevices of dead tree trunks, a relatively uncommon habit among grasshoppers.

Melanoplus pygmaeus Davis

Pygmy spurthroat grasshopper

Identification. This small short-winged species is poorly known. It is reddish brown above, and yellowish below. The abbreviated forewings are elongate-oval, and widely separated dorsally. As is the case with most *Melanoplus* species, a dark stripe is found behind the eye, extending onto the pronotum. The stripe is about equal in width from the anterior to the posterior margin of the lateral lobe of the pronotum, but sometimes expands slightly posteriorly. The hind femora are yellowish brown with three dark blotches dorsally. The hind tibiae are purplish blue. The male of *M. pygmaeus* measures about 14 mm in length, the female about 23 mm.

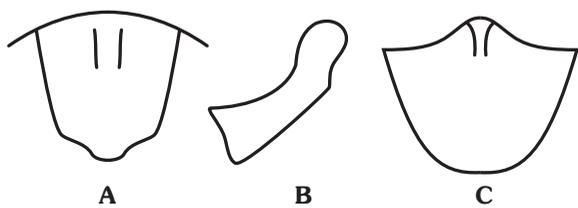
In males, the furcula is not visible. The cerci are constricted near the middle and elbowed, with the tip turned dorsally. The tip is broadly rounded and flattened, and slightly concave or grooved.

Similar Species. The presence of a recessed or grooved area on the tip of the cerci cause *M. pygmaeus* to resemble *M. rotundipennis*. The absence of a furcula and a pallium serve to distinguish this species from *M. rotundipennis*.

Distribution and Ecology. This species has been collected only in western Florida. It is found in high pine and scrub habitats.



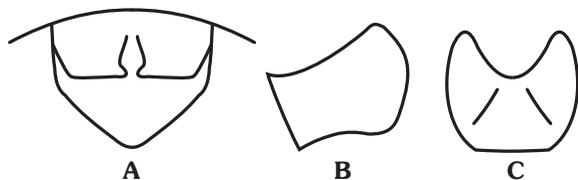
Pygmy spurthroat grasshopper



Supra-anal plate and furcula (A), cercus (B) and subgenital plate (C) of male *M. pygmaeus*.



Oak spurthroat grasshopper (male)



Supra-anal plate and furcula (A), cercus (B) and subgenital plate (C) of male *M. querneus*.

Melanoplus querneus Rehn and Hebard

Oak spurthroat grasshopper

Identification. This heavy-bodied *Melanoplus* with forewings of intermediate length is flightless. The forewings normally extend two-thirds to three-fourths the length of the abdomen. The body and forewings are brown with yellowish or grayish markings above, yellowish green below. A dark stripe extends from the eye onto the pronotum, but sometimes is relatively indistinct. The outer face of the hind femora is marked with two dark bands. The hind tibiae are reddish. The males measure 22–27 mm in length, the females 28–40 mm.

In males, the furcula is greatly reduced or not apparent. The cerci are large and expanded beyond the middle, especially dorsally.

Distribution and Ecology. Found in northern Florida and adjacent states, this grasshopper inhabits the undergrowth and margins of woodlands. It seems to prefer moist areas or taller vegetation.

Melanoplus rotundipennis (Scudder)

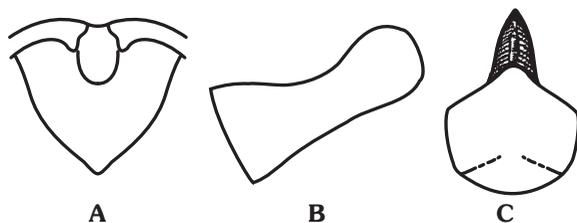
Roundwinged spurthroat grasshopper

Identification. This is the most common of the short-winged *Melanoplus* species in Florida. It is a small grasshopper, but about average in size for the short-winged species. It is reddish brown dorsally and yellowish ventrally. A dark stripe is found behind the eye, and it extends over the pronotum and onto the abdomen in males, but only to about the middle of the pronotum in females. The hind femora are yellowish or brownish, with two transverse bars often evident. The hind tibiae are bluish. The forewings are not really round, despite the common name, but they are only slightly elongate-oval. The forewings are widely separated dorsally. Males of this grasshopper measure about 13.5–17.5 mm in length, females 17–23 mm.

In males, the furcula is very short, consisting of rounded lobes. The cerci are constricted near the middle, and slightly widened and flattened or shallowly grooved at the tip. The most striking feature in the male of this species is the enlarged pallium, an erect conical structure at the tip of the supra-anal plate. This structure protrudes dorsally from the tip of the abdomen, and is an important character for distinguishing this species from the other short-winged *Melanoplus*.



Roundwinged spurthroat grasshopper (male)



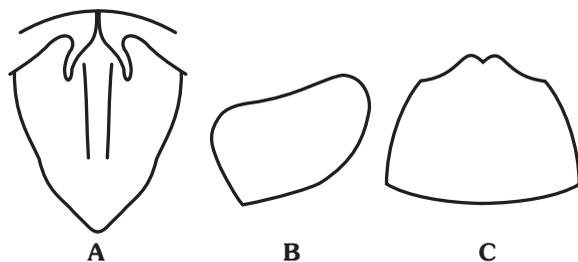
Supra-anal plate and furcula (A), cercus (B) and subgenital plate (C) of male *M. rotundipennis*.

Similar Species. The presence of a pallium, an erect conical structure at the tip of the supra-anal plate, distinguishes this species from most other short-winged *Melanoplus* species. Only *M. withlacoocheensis* also possesses the enlarged pallium, but *M. withlacoocheensis* is easily distinguished because the tips of the cerci have a small ventral tooth and are swollen, appearing bulbous when viewed from above.

Distribution and Ecology. This species occurs only in northern Florida and southern Georgia. Within Florida it occurs south to about Orlando and Lakeland. It is common in a number of xeric and mesic habitats, including dry hammocks, flatwoods, high pine, and scrub oak. It is particularly common along edges of woods, and sometimes ventures out in old fields.



Migratory grasshopper (male)



Supra-anal plate and furcula (A), cercus (B) and subgenital plate (C) of male *M. sanguinipes*.

Melanoplus sanguinipes (Fabricius)

Migratory grasshopper

Identification. Migratory grasshopper is grayish brown. A black stripe usually extends from the eye onto the lateral lobe of the pronotum. The forewings are long, brownish, and bear a row of dark brown spots centrally. The forewings extend to the tip of the abdomen or beyond. The hind femora usually have two oblique broad dark bands. The hind tibiae normally are red, but sometimes blue. The male measures 19–24 mm, the female 18–29 mm.

In males, the furcula is slender, diverging, and measures about one-fourth to one-third the length of the supra-anal plate. The cerci are compact, about twice as long as broad, and rounded at the tip. The apical margin of the subgenital plate is extended; when viewed from above it is clearly notched in the middle.

Distribution and Ecology. Migratory grasshopper occurs throughout North America. In western states it sometimes attains very high and damaging densities. At high densities a behavioral change occurs wherein the grasshoppers become gregarious, moving as a group. During such times the grasshoppers may disperse long distances, resulting in the common name “migratory grasshopper.” In Florida, migratory grasshopper does not become excessively abundant, and causes little damage. Its distribution is restricted to northern Florida. The favored habitat of migratory grasshopper is weedy pastures, crops, and similar disturbed areas where annual weeds are abundant.

Melanoplus scapularis Rehn and Hebard

Lesser forktailed grasshopper

Identification. This short-winged species is not unlike the very common *Melanoplus rotundipennis* in general appearance. It is reddish brown above and yellowish below. The black bar behind the eye extends across the pronotum onto the abdomen in both sexes. The bar is equal in width, or expanding slightly at the posterior margin of the pronotum.



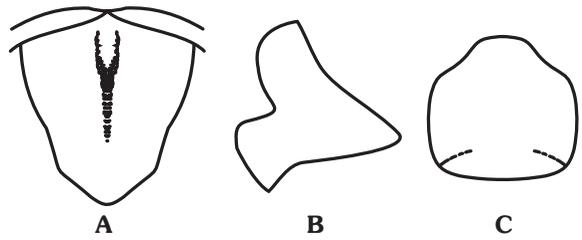
Lesser forktailed grasshopper (male)

The short oval forewings overlap, or are only narrowly separated dorsally. The outer face of the hind femora is generally brown, without transverse bars. The hind tibiae are bluish gray or brownish. The males measure 15–17.5 mm in length, the females 19–22 mm.

In males, the furcula is not visible. The most distinguishing characteristic of this species is the shape of the cerci. The cerci are enlarged, expanding markedly from the base and usually into a broadly rounded dorsal projection and a more pointed ventral projection. Sometimes the dorsal projection is also pointed.

Similar Species. The overlapping forewings of this species cause it to resemble *M. davisii*, *M. scudderii*, and *M. strumosus*. Although similar to these other small *Melanoplus* species, *M. scapularis* is easily distinguished based on the shape of the forked cerci.

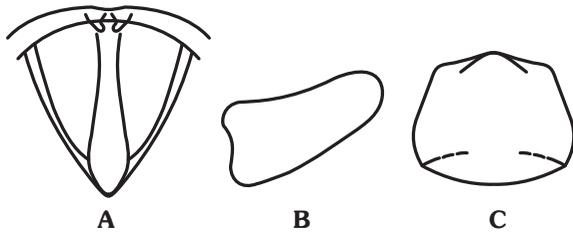
Distribution and Ecology. This species is known from northern Florida and adjacent states. Its habitat is scrub oak woods or among low-growing bushes among pines on sandy soil.



Supra-anal plate and furcula (A), cercus (B) and subgenital plate (C) of male *M. scapularis*.

Melanoplus scudderii (Uhler) Scudder's spurthroat grasshopper

Identification. This short-winged species is of medium size, and brownish or reddish brown in general body color. The oval or elongate-oval forewings overlap, or are only slightly separated, dorsally. In length, the forewings vary from less than the length of the pronotum to slightly longer. The dark stripe normally found behind the eye in *Melanoplus* species may be present or weak in both sexes. The hind femora lack transverse bands on the outer face, but two dark spots may be present dorsally. The hind tibiae are red. The males measure 14–18.5 mm in length, females 22–24 mm.



Supra-anal plate and furcula (A), cercus (B) and subgenital plate (C) of male *M. scudderii*.

In males, the furcula consists of minute triangular structures, and sometimes is not apparent. The cerci taper from the base to a broadly rounded point, usually curving dorsally. The distal half of the cerci are slightly concave or grooved.

Similar Species. *Melanoplus scudderii* is similar to *M. davisii*, with both species having cerci that turn upward distally into a blunt tip. However, the furcula of *M. davisii* appears to be minute rounded appendages, whereas in *M. scudderii* they are pointed. Also, the tip of the cerci is much wider in *M. scudderii* than in *M. davisii*. Other short-winged species that have overlapping forewings include *M. scapularis* and *M. strumosus*, but these are easily distinguished by the markedly different shape of their cerci.

Distribution and Ecology. Scudder's short-winged grasshopper is widely distributed in the eastern United States, west to Nebraska and Texas. In Florida its distribution is limited to northern areas of the state. Its habitat is among low-growing oaks and grasses in oak and longleaf pine woods growing on sandy soil.