

THE ACRIDIDÆ, TETTIGONIDÆ AND GRYLLIDÆ COLLECTED BY
DR. A. DONALDSON SMITH IN NORTHEAST AFRICA.

BY JAMES A. G. REHN.

As a portion of this collection has been previously reported on,¹ it is not necessary to repeat any of the preliminary remarks then made.

Family ACRIDIDÆ.

Subfamily Acridinæ (*Tryxalinæ* auct.).

Acrida nasuta (Linnæus).

1758. *Gryllus* (*Acrida*) *nasuta* Linnæus, Syst. Nat., X ed., I, p. 427.

Ten specimens, four males, two females, four immature.

Gorgora, Gallaland, September 13, 1894. ♂.

Near Hargeisa, Somaliland, July 21, 1894. ♂, ♀.

Sheikh Husein, Gallaland, September 21, 1894. ♂, 3 immature.

Near Lake Abaya, country of the Amara, western Gallaland, May 9, 1895. ♂.

No data. ♀ and 1 immature.

Acrida unguiculata (Rambur).

1838. *Tryxalis unguiculata* Rambur, Faune de l'Audal., p. 72.

Four specimens, two males, one female, one immature.

Tug Berka, Somaliland, August 23, 1894. ♂.

Sheikh Husein, Gallaland, October 6, 1894. Immature.

Daro Mountains, Gallaland, November 19, 1894. ♀.

Le, southern Gallaland, March 29, 1895. ♂

The single female resembles the specimen figured by Klug² as *T. conspurcata*.

Machæridia bilineata Stål.

1873. *Machæridia bilineata* Stål, Recensio Orthopterorum, I, p. 100.

Two females; near Lake Abaya, country of the Amara, western Gallaland, May 9, 1895.

¹ *Proc. Acad. Nat. Sci. Phila.*, 1901, pp. 273-288.

² *Symbolæ Physicæ*, II, tab. xvii, fig. 1.

These specimens lack the black on the lower surface of the posterior femora.

Phlæoba mossambicensis Brancsik?

1895. *Phlæoba mossambicensis* Brancsik, Jahresh. Naturw. Ver. Trencsén, XVII, p. 249, tab. VIII, fig. 1.

One female; Luku, Gallaland, September 17, 1894.

This specimen very likely belongs to Brancsik's species. It is clearly not *P. antennata* Schulthess, which was described from Somaliland, and with the other species of the genus it exhibits no affinity.

Locusta sp.

One ♀; Sheikh Husein, Gallaland, September 23, 1894.

This specimen is so badly distorted and discolored that it is not possible to determine more than the genus. For the use of this generic name in place of *Stenobothrus* Fischer, see *Canadian Entomologist*, XXXIII, p. 121.

Epacromia thalassina (Fabricius).

1793. *Gryllus thalassinus* Fabricius, Ent. Syst., II, p. 57.

One female; Sheikh Husein, Gallaland, September 27, 1894.

The collection contains six immature specimens of *Acridinæ*, which it is hardly possible to determine. They were collected at the following localities and dates:

Near Lake Abaya, country of the Amara, western Gallaland, May 9, 1895 (2).

Sheikh Husein, Gallaland, October 5, 1894 (2).

Sheikh Mahomet, Gallaland, November 6, 1894.

No data.

Subfamily *Ædipodinæ*.

Gastrimargus verticalis (Saussure).

1884. *Edaleus verticalis* Saussure, Prodr. *Ædipod.*, p. 111.

Two specimens, one ♀, one immature.

Daror, Gallaland, September 15, 1894.

Budda, west of Sheikh Mahomet, Gallaland, November 11, 1894.

The adult has the maculations of the elytra decidedly blackish.

Gastrimargus marmoratus (Thunberg).

1815. *Gryllus marmoratus* Thunberg, Mém. Acad. St. Petersb., V, p. 232.

One ♂; Sheikh Husein, Gallaland, October 5, 1894.

Edaleus instillatus Burr.

1900. *Edaleus instillatus* Burr, Proc. Zool. Soc. London, p. 39.

One ♂; near Hargeisa, Somaliland, July 21, 1894.

It is interesting to note that the specimen before me has a general pinkish suffusion.

Pachytylus migratoroides (Reiche and Fairmaire).

1847. *Edipoda migratoroides* Reiche and Fairmaire, in Ferret and Galinier, Voy. en Abyss., III, p. 430.

Four specimens, two males, two females.

Sheikh Mahomet, Gallaland, November 6, 1894.

Between Luku and Dago Tulo, Gallaland, September 18, 1894.

To one specimen is attached the following data: "Caught from swarm. Migrating flocks of predaceous birds following them."

Cosmorhyssa fasciata (Thunberg).

1815. *Gryllus fasciatus* Thunberg, Mém. Acad. St. Petersb., V, p. 230.

Two males; Tug Terfa, eastern Gallaland, August 21, 1894.

Sheikh Husein, Gallaland, September 30, 1894.

Dittopternis couloniana Saussure.

1884. *Dittopternis couloniana* Saussure, Prodr. *Ædip.*, p. 125.

One ♂; near Tug Lomo, between Lefkei and Bodele, Somaliland, August 12, 1894.

This species was previously known from West Africa.

Chlæbora gracilis Schulthess.

1895. *Chlæbora gracilis* Schulthess-Rechberg, Zoolog. Jahrbuch, Syst. Th., VIII, p. 74.

Two females; Hargeisa, Somaliland, July 21, 1894.

The Haud, between Hargeisa and Gagaap, Somaliland, July 25, 1894.

Pycnodictya galinieri (Reiche and Fairmaire).

1847. *Edipoda galinieri* Reiche and Fairmaire, in Ferret and Galinier, Voy. en Abyss., III, p. 432, Pl. 28, fig. 3.

Two females, one immature; Tug Dado, near Laga, Gallaland, December 2, 1894 (1).

No data (1).

Acrotylus longipes (Charpentier).

1845. *Edipoda longipes* Charpentier, Orthop. descr., tab. 54.

Two females, one immature; Berbera, Somaliland, July 3, 1894.

Sheikh Husein, Gallaland, September 30, 1894.

The collection contains a number of specimens of *Edipodinae*,

which I have not attempted to determine. They were collected as follows:

Sheikh Husein, Gallaland, September 30, 1894 (1).

Sheikh Husein, Gallaland, October 1, 1894 (1).

Sheikh Husein, Gallaland, October 5, 1894 (5).

Northern end of Lake Stephanie, western Gallaland, June 5, 1895 (1).

No data (1).

Subfamily Pyrgomorphinæ.

Atractomorpha aurivillii Bolivar.

1884. *Atractomorpha aurivillii* Bolivar, Ann. Soc. Esp. Hist. Nat., XIII, Cuad. I, p. 67.

One ♀; Dabuli, Gallaland, September 16, 1894.

Ochrophlebia subcylindrica Bolivar.

1881. *Ochrophlebia subcylindrica* Bolivar, Journ. de Sc. Math. Lisboa, XXX, p. 109.

One female; between Berbera and Hargeisa, Somaliland, July 14, 1894.

Except for a few discrepancies in color, this is essentially the same as Bolivar's specimens.

Cawendia gallæ n. sp.

Type, ♂; Sheikh Husein, Gallaland, September 30, 1894.

Differing from *C. glabrata* Karsch³ in the absence of pubescence, the subequal vertex, the presence of lateral carinæ and the greater length of the tegmina.

General outline fusiform. Head fairly elongate; face sharply retreating, concave; vertex horizontal, anteriorly subtruncate, the apex equal to the interspace between the eyes; frontal costa very strongly compressed from the vertex to between the antennæ, the sulcus below this point being fairly broad, slightly ampliate at the ocellus; eyes subspherical, moderately prominent; postocular line of tubercles very marked, extending downward as well as backward; antennæ filiform, as long as the head and pronotum. Pronotum strongly punctate posteriorly, the dorsum well rounded and with very insignificant traces of a median carina; anterior margin truncate with a shallow central emargination, posterior margin with a central emargination which divides the border into two rounded

³ *Ent. Nachr.*, XIV, p. 345.

lobes; lateral carinæ consisting of broken callous ridges, only slightly marked on the metazona, each cut by two sulci; lateral lobes with the lower margin sinuate with a post-median lobule, this section of each lobe having a longitudinal series of large tubercles, thus forming a continuation of the line on the head. Tegmina elongate, not appreciably expanded. Abdomen with the basal segments strongly punctate; subgenital plate large, the posterior portion produced and superiorly forming a keel which extends from the tip to the genital aperture; supraanal plate and cerci elongate, acuminate. Posterior femora with all the carinæ well marked, genicular lobes rather small; tibiæ with eight spines on the external and nine spines on the internal margin.

General color brownish olivaceous varied with ochraceous, under parts yellowish. Posterior portion of the pronotum and a median line on the abdomen dull reddish. Tubercles on the head, lower part of the lateral lobes, metapleuræ and four lines (two superiorly and two laterally) on the abdomen ochraceous. Posterior femora with a dull ochraceous bar on the lower portion of the external face; tibiæ tinged with purplish, the spines tipped with reddish black.

Length of body,	24	mm.
Length of head,	5	"
Length of pronotum,	5.5	"
Length of hind femora,	12.5	"

Pæcilocerus vittatus (Klug).

1829. *Decticus vittatus* Klug, Symbol. Physicæ, t. XXV, figs. 6 and 7.

Two males; between Berbera and Hargeisa, Somaliland, July 14, 1894.

Phymateus ægrotus (Gerstæcker).

1869. *Pæcilocerus ægrota* Gerstæcker, Archiv. f. Naturg., XXXV, p. 216.

One ♀; Sheikh Husein, Gallaland, October 15, 1894.

Phymateus morbillosus (Linnaeus).

1758. *Gryllus (Locusta) morbillosus* Linnaeus, Syst. Nat., X ed., p. 431.

Seven specimens, one male, six females:

Feji, near the Darde, eastern Gallaland, September 7, 1894 (♀).

Duror, Gallaland, September 15, 1894 (♂, ♀).

No data (4 ♀).

Phymateus sp.

Eight immature specimens:

Dabuli, Gallaland, September 16, 1894 (2).

Daga Tula, near Sheikh Husein, Gallaland, September 19, 1894 (5).

No data (1).

Taphronota thælephora (Stoll).

1789. *Gryllus* (*Locusta*) *thælephora* Stoll, Represent., Pl. XVII B, fig. 59.

One ♀; Dumbola Kalta, country of the Boran, east of Lake Stephanie, western Gallaland, April 20, 1895.

Petasia grisea Reiche and Fairmaire.

1847. *Petasia grisea* Reiche and Fairmaire, in Ferret and Galinie, Voy. en Abyss., III, p. 428, Pl. 28, figs. 2 and 2a.

Two specimens; Sheikh Husein, Gallaland, October 8, 1894; Ginea, Gallaland, October 28, 1894.

These specimens show a decided approach to *P. anchietæ* Bolivar, in the markings and form of the posterior part of the pronotum, though their closest affinity is with *grisea*.

Petasia sp.

One immature specimen; Sheikh Mahomet, Gallaland, November 6, 1894.

Subfamily Pamphaginæ.

Xiphocera brunneriana Saussure.

1887. *Xiphocera brunneriana* Saussure, Spicil. Ent. Genav., 2, p. 43.

Three females; Daga Tula, near Sheikh Husein, Gallaland, September 20, 1894; Sheikh Husein, Gallaland, September 29, 1894; no data.

Xiphocera ensicornis Saussure.

1893. *Xiphocera ensicornis* Saussure, Entom. Month. Mag., XXIX, p. 152.

One ♀; no data.

Xiphocera sp.

One ♂; Daga Tula, near Sheikh Husein, Gallaland, September 20, 1894.

Owing to the great difficulty of satisfactorily determining specimens of this genus without a series of others for comparison, I have not attempted to determine this specimen, which is badly crushed and twisted. It is quite evident that it is not *brunneriana*.

Subfamily Calopteninæ (*Acridinæ* auct.).*Anthermus cephalicus* Bolivar?

1890. *Anthermus cephalicus* Bolivar, Journ. Scienc. Math. Phys. Nat., Lisboa, (II) I, p. 157.

Two immature females; Sheikh Husein, Gallaland, October 1 and 7, 1894.

Cyrtacanthacris tataricus (Linnaeus).

1758. *Gryllus (Locusta) tataricum* Linnaeus, Syst. Nat., X ed., I, p. 432. The use of the name *Cyrtacanthacris* is preferable to *Acrydium*, the status of which is rather uncertain.

Three specimens, one male, two females:

Luku, Gallaland, September 17, 1894.

Sheikh Husein, Gallaland, September 29, 1894.

No data (1).

Cyrtacanthacris ruficornis (Fabricius).

1793. *Gryllus ruficornis* Fabricius, Entom. Syst., II, p. 54.

Six specimens, one male, three females.

No data.

Near Bodele, eastern Gallaland, August 15, 1894.

Grorgora, eastern Gallaland, September 13, 1894.

Sheikh Husein, Gallaland, September 25, 1894 (2).

Sheikh Husein, Gallaland, October 10, 1894.

Acrostegastes affinis Schulthess.

1898. *Acrostegastes affinis* Schulthess, Ann. Mus. Civ. Genova, XXXIX, p. 192.

One female; no data.

This specimen differs from the one described by Schulthess in having ten spines on the external margin of the posterior tibiae.

Exochoderes aurantiacus Bolivar.

1881. *Exochoderes aurantiacus* Bolivar, Journ. Scienc. Math. Phys. Nat., Lisboa, XXX, p. 114.

Two females; Sheikh Husein, Gallaland, October 1, 1894; Kurava Wells, between Aimola and Le, southern Gallaland, March 25, 1895.

Sauracris lacerta Burr.

1900. *Sauracris lacerta* Burr, Proc. Zool. Soc. London, p. 41.

Four females.

Tug Berka, eastern Gallaland, August 23, 1894.

Near Lefkei, Somaliland, August 7, 1894.

Tulu, between Ginea and Laga, Gallaland, November 23, 1894.
No data.

The specimen from Tulu is much larger, more deeply colored and more coarsely scabrous on the vertex than the other specimens, and the spines on the outer border of the hind tibiæ number eight against six in the others, though Burr says, "tibiæ posticæ spinis extus 6-8." On the whole, the large specimen may represent a geographical race. As comparative measurements might be of interest, I have taken some of the dimensions.

	Average of 3 small sp.		Large sp.	
Total length,	32	mm.,	41	mm.
Width across eyes,	5.8	"	6.8	"
Length of pronotum,	6.1	"	7.8	"
Greatest width of pronotum,	7.1	"	8.25	"
Length of hind femora,	12.2	"	15	"

Catantops melanostictus Schaum.

1862. *Catantops melanostictus* Schaum, in Peter's Reise nach Mossambique, Zool., V, p. 134.

Eight specimens, three males, five females (two immature).

Duror, Gallaland, September 15, 1894.

Sheikh Husein, Gallaland, September 21, 1894.

Sheikh Husein, Gallaland, October 1, 1894, (2)

Sheikh Husein, Gallaland, October 7, 1894.

No data (3).

Stenocrobylus festivus Karsch.

1892. *Stenocrobylus festivus* Karsch, Berlin Ent. Zeitsch., XXXVI, p. 190.

One female; Rassa Allah, western Gallaland, September 6, 1894.

This specimen agrees very well with Karsch's description of the structural characters of *festivus*, but the color shows a marked difference. As to whether the specimen in the collection is faded or represents a race distinguished by a more uniform coloration remains to be seen.

Eyprepocnemis somalicus n. sp.

Types; one male and two females; Gagap, Somaliland, July 30, 1894; Berbera, Somaliland, July 3, 1894; near Lefkei, Somaliland, August 6, 1894.

This new form evidently belongs to the section of the genus con-

taining *herbaceus* Serville and *charpentieri* Stal, though it shows a rather close relationship to *E. guineensis* Krauss.

Form rather elongate. Head with the face somewhat declivent; the frontal costa broad, slightly expanded inferiorly, not sulcate; vertex broad, rounded; eyes rather elongate. Antennæ filiform, longer than head and pronotum. Pronotum slightly expanding posteriorly, median carina well marked, cut by two transverse sulci; anterior and posterior margins very slightly rounded; lateral lobes sharply deflected, the lower margins sinuate, angles obtuse-angulate. Tegmina long, rounded at the tips which reach the extremities of the hind femora. Pleuræ strongly punctate. Hind femora robust, elongate, genicular lobes well developed; tibiæ with 12-15 spines on the external and 10-12 on the internal margins. Tarsi with the areolæ large. Subgenital plate of the male large and spatulate, the apex with a subelliptical fissure; supraanal plate broad and flat, the apex angulate; cerci apically expanded, flabellate, the tips decurved.

General color ochraceous-rufous (Ridgway's *Nomenclature*, Pl. V, No. 5), marked with brownish-black, as follows: a median stripe on the pronotum, the upper margin of the prozona and the posterior region of the metazona, a line of spots on the anal field of the tegmina, and the regular subcircular spots on the radial field of the same. Upper surface of the hind femora pinkish, the outer face of the same with two superior blackish blotches; genicular arches blackish.

	♂	♀
Length of body,	40 mm.	47.5 mm.
Length of pronotum,	7 "	9 "
Length of tegmina,	32 "	43 "
Length of hind femora,	26 "	30 "

Euryphymus erythropus (Thunberg).

1815. *Gryllus erythropus* Thunberg, Mém. Acad. St. Petersb., V, p. 248.

One immature female; Sheikh Husein, Gallaland, September 21, 1894.

This immature specimen agrees with the descriptions of Thunberg's *erythropus*, a species apparently known only from South Africa.

Euryphymus sp.

One immature female; Berbera, Somaliland, July 3, 1894.

Sphodromerus sanguiferus n. sp.

Type; ♂; no data.

Closely allied to *S. inconspicuus* Schulthess⁴, but differing in the number of spines on the external margin of the hind tibiæ (*inconspicuus* 9, *sanguiferus* 7), and the absence of a black fasciation on the same. A close relationship also exists with *S. decoloratus* Finot,⁵ but several characters are quite at variance.

Form thickset and robust. Head with the vertex declivent, posteriorly with a slight carina; frontal costa expanding inferiorly, sulcate except immediately around the ocellus; eyes prominent, globose; antennæ depressed, longer than head and pronotum. Pronotum rugose, posteriorly expanding, median carina well developed, cut by three sulci; anterior margin subtruncate, posterior rectangulate, the border somewhat sinuate; lateral lobes separated from the dorsum by well-marked lateral carinæ, posterior angle subrotundate, the matazona punctate. Tegmina short, not reaching the tip of the femora. Anterior and median femora robust, slightly bowed. Posterior femora very robust, the superior and inferior margins well developed, the former serrate; tibiæ stout, armed with seven spines on the external and internal margins. Subgenital plate bowl-shaped, the posterior portion very slightly produced; supraanal plate subtriangular with two median ridges, subobsolete anteriorly; cerci very heavy, with an external blunt denticle.

General color ferruginous; lower part of head, outer face of posterior femora and lower surface yellowish, the head very pale. Pronotum and tegmina washed with dull reddish. Tegmina with four longitudinal rows of blackish spots. Lateral and superior surfaces of the hind femora with two obsolete blackish bars, the inferior internal face of the same sanguineous. Posterior tibiæ sanguineous, the spines ochraceous with black tips.

Measurements.

Length of body,	26	mm.
Length of pronotum,	5.5	"
Length of tegmina,	13	"
Length of hind femora,	13	"

⁴ *Zool. Jahrb., Syst. Abth.*, VIII, p. 78.

⁵ *Ann. Soc. Ent. France*, LXIII, p. xiii.

The collection contains six specimens of the *Calopteninae* too immature to be identified.

Erer river, eastern Gallaland, August 18, 1894.

Sheikh Husein, Gallaland, October 1, 3 and 7, 1894.

Family TETTIGONIDÆ.

The greater part of the material belonging to this family is so badly broken and crushed that I am unable to determine fifteen specimens, collected as follows:

East of Milmil, Somaliland, July 25, 1894.

Sheikh Mahomet, Gallaland, October 30, 1894.

Sheikh Mahomet, Gallaland, November 9, 1894.

Sheikh Husein, Gallaland, September 30, 1894.

Sheikh Husein, Gallaland, September 29, 1894.

Sheikh Husein, Gallaland, October 7, 1894.

Sheikh Husein, Gallaland, October 1, 1894.

Between Tulu and Abdula, Gallaland, November 24, 1894.

Near Lake Abaya, country of the Amara, western Gallaland, May 9, 1895.

Cymatomera hyperborea n. sp.

Types; two males, one female; Higo, country of the Boran, Gallaland, April 8, 1895 (2); near the Galena Amara, between Lenja Amara and El Re, Gallaland, May 25, 1895.

This species is allied to *C. modesta*, from which it differs in numerous particulars, as the truncate anterior margin of the pronotum, the different development of the metazona of the same, besides the almost total absence of black in the coloring. The new form also exhibits a close affinity to *C. brunneri* Brancsik,⁶ but it differs from that species in the much lower metazonal crest and the absence of any foliaceous development of the superior margins of the posterior femora.

General form elongate. Head with the vertex produced, the apex narrowly truncate, the lateral margins being sinuate; front broad and flattened, finely punctate; eyes very prominent, spherical; antennæ exceeding the total length. Pronotum with the anterior margin truncate, posterior subrotundate; prozona with a central lamellate ridge, the margin being dentate, the exact number of teeth (3-7) being

⁶ *Jahresb. Naturw. Ver. Trencsen*, XVII, p. 257.

variable, the anterior lateral angle with a spine followed after a short space by another; central metazonal ridge lamellate, the margin crenulate, in one case decidedly bidentate, the postero-lateral angle occupied by a bifid process which roofs the humeral sinus; lateral lobes with the lower margin centrally emarginate, the median area of the lobes occupied by three spines arranged longitudinally, the central one smaller than the others. Tegmina with the apex subacute, the cross veins of the discoidal area very prominent. Femora of all the limbs with both margins with foliaceous extensions, except the superior surfaces of the anterior and posterior femora, the extensions with the margins crenulate; foramina on the anterior femora very prominent; posterior femora feebly spined below on both margins. Sternal plate with very large foveolæ. Ovipositor considerably longer than the pronotum.

General color pale ferruginous (probably green in life, as one specimen bears traces of that color), varied with whitish on the head, pronotum and limbs, and sienna on the transverse veins of the discoidal area of the tegmina. Lower surface pale yellow. Antennæ whitish, annulated with umber; head and pronotum laterally dusted with whitish. Costal area of the tegmina anteriorly blackish.

Measurements.

Length of head and body,	26	mm.
Length of pronotum,	5.5	"
Length of tegmina,	36.5	"
Length of hind femora,	12.5	"

Conocephalus mandibularis (Charpentier).

1825. *Locusta mandibularis* Charpentier, *Horæ entom.*, p. 106.

One female; Daga Tula, Gallaland, September 19, 1894.

Pornotrips horridus (Burmeister).

1838. *Hetrodes horridus* Burmeister, *Handb. d. Ent.*, II, p. 679.

One female; no data.

Family GRYLLIDÆ.

Gryllotalpa africana Palis. d. Beauv.

1821. *Gryllotalpa africana* Palis. d. Beauv., *Ins. d'Afr. et d'Amer.*, p. 229, Pl. IIc, fig. 6.

One male; near Tug Berka, east of Finik, Gallaland, December 18, 1894.

Gryllus ater Saussure.

1877. *Gryllus ater* Saussure, *Mélanges Orthoptérologiques*, V, p. 327.

Two specimens. ♂ and ♀; Sheikh Husein, Gallaland, September 23, 1894.

Gryllus sp.

Three immature specimens.

Hargeisa (Argassa), Somaliland, July 18, 1894.

Dubuli, Gallaland, September 16, 1894.

Between Budesä and Guo Soti, country of the Borau, western Gallaland, May 17, 1895.

Phæophyllacris abyssinica Saussure.†

1878. *Phæophyllacris abyssinica* Saussure, *Mélanges Orthoptérologiques*, VI, p. 587.

One female; Sheikh Husein, Gallaland, September 21, 1894.

Æcanthus pelluceus (Scopoli).

1763. *Gryllus pelluceus* Scopoli, *Ent. Carn.*, p. 32.

One male; Sheikh Husein, Gallaland, September 30, 1894.

Brachytrupes membranaceus (Drury).

1773. *Gryllus membranaceus* Drury, *Illust. Ms.*, II, tab. 43, fig. 2.

One immature male; Sheikh Husein, Gallaland, September 29, 1894.

Heterotrypus africanus Saussure.

1878. *Heterotrypus africanus* Saussure, *Mélanges Orthoptérologiques*, VI, p. 680.

Two specimens, ♂ and immature ♀.

East of Tug Berka, near Finik, Gallaland, December 19, 1894.

Near Abdula, between Tulu and Laga, Gallaland, November 26, 1894.



Rehn, James A. G. 1901. "The Acrididae, Tettigonidae and Gryllidae collected by Dr. A. Donaldson Smith in Northeast Africa." *Proceedings of the Academy of Natural Sciences of Philadelphia* 53, 370–382.

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