

black, tibiae and tarsi luteous. Abdomen blackish at the sides and along the posterior edges of the segments, and blackish fuscous in the middle. Length of pronotum, .05 in.; of tegmina, .11 in.; of hind femora, .12 in. One specimen (with forceps broken) was taken between Quito and Napo.

40. *Labia bilineata* nov. sp.

Piceous, with infrequent, short, decumbent, lustrous hairs; head minutely punctured; basal joints of antennae luteous; palpi blackish fuscous. Pronotum quadrate with a slight median furrow, not attaining either margin; the sides faintly bordered with dull luteous. Tegmina smooth, with a broad, pale luteous, humeral stripe reaching neither the outer border nor the humerus nor apex; exposed portion of wings marked indistinctly with luteous on the inner edge at the tip and near the outer border. Basal half of femora black, outer half luteous; tibiae brownish fuscous, the apex paler; tarsi dull fusco-luteous, the basal joints paler; abdomen blackish, densely punctured, the hinder edges above fusco-rufous. Forceps straight, parallel, incurved a little at the tip, under surface flat, the inner, inferior edge denticulate. Length of body including forceps, .34 in.; of tegmina, .05 in.; of forceps, .06 in. One ♀, the hind legs of which are lost and the antennae broken, was taken between Quito and Napo.

The following paper was also presented:—

A STUDY OF THE GIGANTIC LOBE-CRESTED GRASSHOPPERS OF SOUTH AND CENTRAL AMERICA. BY SAMUEL H. SCUDDER.

An examination of the gigantic crested grasshoppers, mentioned in the previous paper, has induced me to review the whole group. Some errors have been detected in the work of preceding authors, showing that they have given but comparatively slight attention to these insects or to their representation by earlier writers;¹ in consequence, the synonymy of several well known species, as will be seen beyond, has become greatly confused.²

¹For instance, Serville and Burmeister, in quoting Drury's description and figure of *Gryllus dux*, copy the mistake which Fabricius makes and repeats in all his works, of referring to the first instead of the second volume of the Illustrations of Natural History.

²This seems the more remarkable, since an examination of many scores of specimens has shown that the variability of these huge Orthoptera is comparatively slight. I have compared over fifty specimens of a single species, *Tropidacris cristata*, occurring in many different localities from Surinam to Rio, and find the variation to be insignificant,—a fact which has given me greater confidence in the opinions I had formed concerning the different species.

This section of the old genus *Acridium* is divisible into three groups, represented respectively by the familiar species, *Acridium dux* (Drury), *A. carinatum* (Stoll'), and *A. Olfersii* Burm. *A. cristatum* (Linné) falls into the first group, although the almost total absence of a median crest on the posterior prolongation of the pronotum, as well as several minor characters, separate it from other members of the same division.

These three groups seem to be of generic value, and since *A. tataricum* (Linn.) Oliv., ought to be taken as the type of the genus *Acridium* proper, they must all be separated from that genus and may be called respectively *Tropidacris*, *Titanacris* and *Lophacris*.

TROPIDACRIS (*τροπις, ἀκρίς*).

Head large, compressed; space between eyes equal to the shorter diameter of the eye;¹ median frontal ridge broader than the length of the first joint of the antennæ; the breadth of the labrum is equal to the distance from the upper edge of clypeus to the upper limit of the median frontal ridge, or one and one half times the longer diameter of the eye (see previous note), or fully one and one half times broader than long; the lateral angles of the front are distinct divergent. Pronotum tapering moderately,—the breadth anteriorly being to that posteriorly as 1:1.2; the angle of the posterior border is a right angle or less; the median crest is much more prominent anteriorly than posteriorly, sometimes obsolete behind; the prosternal thorn rather slender, barely compressed laterally, inclined backward a little, the tip curved slightly backwards and pointed. Tegmina fully five and one half times longer than broad, the costal edge narrow; secondary veins very prominent; internommedian vein furcate; basal branch of the externommedian vein simple, but united by distinct cross veins to the internommedian vein. Wings long and broad, largely spotted with dusky colors; cross veining at tip scarcely more frequent than in other parts of the wing, and perfectly regular; the area between the first and second branches of the anal vein not noticeably broad, broken by cross veins into spaces not more than half as long again as broad (♀), or noticeably broader than the adjoining areas, broken by cross veins into spaces twice as long as broad (♂); second branch of anal vein regular, sending downward one primary

¹ The eyes in the male of *T. Fabricii* are very large, and hence the space between them is a little less than the shorter diameter of the eye; and the breadth of the labrum is equal to only one and one fourth times the longer diameter of the eye.

shoot and sometimes more than one secondary shoot, but usually only forking close to the tip (♀) or irregular, deflected from a regular course (♂); intercalary longitudinal veins of anal area extending fully half way toward the base of the wings. Abdomen comparatively slender; outer surface of hind femora flat or barely convex; terminal segment of the male nearly as narrow at base as at tip, greatly produced and tapering, compressed into a dull carina along the lower edge.

1. T. dux (Drury) Scudder.

Gryllus dux Drury, Illustr. Nat. Hist., II, pl. 40.

“ “ Fabr., Sp. Ins., I, 362 (in part?).

“ “ “ Ent. Syst., II, 47 (in part?).

“ “ “ Mant. Ins., 235 (in part?).

“ “ Gœtze, Ent. Beitr., II, 102.

Gryllus (*Locusta*) *dux* Stoll', Repr. des Spectres, etc., Saut. d. Pass., 6, 7, pl. 1^b, fig. 1.

Acridium dux Oliv., Encycl. Méth., VI, 215, pl. CXXVI, fig. 1.

“ “ Latr., Gen. Crust. et Ins., III, 105.

“ “ Flor, v. Sivers, Antill. xii.

Locusta dux Dunc., Introd. Entom., 257, pl. xv, fig. 2.

“ (*Rutidoderes*) *dux* Westw., Drury, Exot. Ent., II, 92, pl. XLIV (in part).

Gryllus cristatus Thunb., Mém. Acad. St. Petersb., V, 224; IX, 402.

Acrydium Latreillei Fitch, Trans. N. Y. St. Agric. Soc., XVI, 507. Third Rep. Nox. Ins., 172, pls. III, IV.

Pronotal crest tipped with black (perhaps greenish black in life); first and second lobes as distinct as the others; on the posterior half of the pronotum the crest anteriorly is elevated considerably,—more than in the allied species. Tegmina greenish griseous, the veins luteous and luteo-fulvous, variegated with pale blotches, small and frequent on the basal half, confluent about the middle and apically, forming very irregular, rather broad and distant, zigzag bands parallel with the outer border. Wings brick red, rather broadly bordered with black at the hind margin, and furnished with multitudinous black spots over the whole wing; these spots are ordinarily quadrate, transverse, but near the middle of the outer border they become confluent, forming wavy bands along the longitudinal veins; and toward the inner border they form confluent or broken bands subparallel to the hinder border; these spots are less frequent, and often very indistinct in the ♂. Hind femora externally ornamented with a double row of roundish or oval spots, merging into one toward the apex; hind tibiae

furnished with greenish black spines; claws of tarsi tipped with black. Expanse of tegmina, ♀ 215–236 mm., average 227 mm. ♂ 130 mm.

Bay of Honduras (Drury), Surinam (Stoll), Panama (Fitch).

Panama, Texas (Mus. Comp. Zool.), Aspinwall (Smith. Inst.), Nicaragua, Guatemala, Tehuantepec (my coll.).

It is evident that the ordinary application of Drury's name of *dux* to the Brazilian species which I have characterized under the name of *Fabricii* is incorrect. These pages prove that there are two distinct species in Brazil and on the Isthmus, and that Drury's figure and description of *Gryllus dux*, as well as the locality given by him, apply only to the species from the Isthmus.

Specimens from the Isthmus, which I consider to belong to the *A. Latreillei* of Fitch, differ from the description and figures of *A. Latreillei* by Perty, in the following particulars: the tegmina are brownish fuscous and not violaceous; the tarsi are obscure red and not blood-red; the crest resembles that of *T. Fabricii*, only it is more elevated, while in *T. Latreillei* the second and third lobes of the crest are elevated above the others, and the first is much more prominent anteriorly than behind; the spines of the hind tibiae are black throughout, instead of being merely black tipped.

They differ also from Serville's description of *A. Latreillei* in having the spots in the vicinity of the anterior border quadrate and not rounded and punctiform.

Thunberg's descriptions apply best to this species; "postice vix rugosus, crista minori serrulata," or "posticus planus, carina minori, serrulata," spoken of the thorax, cannot apply to the true *cristatus*.

Stoll's figure seems to apply to this species rather than to *T. Latreillei*, the only other one to which it could refer.

2. *T. rex* Scudder.

First and second lobes of pronotum nearly connate, elevated posteriorly more than anteriorly; posteriorly with a mixture of dull and sharp serrulations. Tegmina brownish fuscous, obscure apically, tinged with olivaceous basally; on the basal half the secondary veins are bordered with pale greenish yellow, broadening into spots and irregular blotches in the middle field; on the apical half the spots are paler, more obscure, become dirty white at the apex, and show a tendency to group themselves into narrow distant bands, which (excepting at the extreme apex) cross the tegmina at right angles to the lower border, or even incline a little toward the base. Wings brick red, with a very broad black outer margin and rows of black spots over the whole wing, often confluent, and arranged much as in the

next species. Hind femora externally with a row of quadrate bluish white spots, decreasing regularly in size toward the apex; spines of hind tibiae black; claws of tarsi tipped with black.

Expanse of tegmina, ♀ 228 mm.

Ecuador. Prof. Orton.

3. *T. Latreillei* (Perty) Scudder.

Acridium Latreillei Perty, Delect. Anim. Artic., 123, pl. xxiv, fig. 4.

Acridium Latreillei Serv., Orthopt., 652.

“ “ De Haan, Verh. Nat. Gesch. Ned. Bezitt., Zool., 144, 151.

Not *A. Latreillei* Fitch.

Crest of pronotum considerably elevated, the anterior two lobes merged into one, which is elevated abruptly in front and slopes gradually away behind; the two succeeding higher, angular, parted and deeply cleft; the posterior portion of the crest at once depressed, of nearly uniform height, bluntly serrulate. Tegmina violaceous, varied with pale and yellow spots; wings brick red, with a broad black margin along the whole posterior border, and black quadrate and rounded spots interspersed over the whole wing, forming near the anal border narrow, wavy or irregular, transverse, parallel and approximate bands of black. Hind femora spotted externally with white. After Perty.

An alcoholic specimen (♀, no locality) in the Society's Museum has a pronotal crest, the anterior portion of which agrees altogether in form with that of *T. rex*, but posteriorly the serrulations are blunt; the posterior surface of the pronotum is furnished with irregular tubercles, which are independent, distant, rounded,—not confluent, approximate, linear, as in *T. rex*; the crest and posterior border of the pronotum are not edged with black as in the latter; and the spines of the hind tibiae are only tipped with black, instead of being wholly black; the pale bands on the apical half of the tegmina of *T. Latreillei* are broad and diagonally disposed, not narrow and transverse, as in *T. rex*.

Expanse of tegmina, ♀ 212–222 mm.

Amazons (Perty, Serville); Rio, Para, Bahia (De Haan).

Brazil (Peab. Acad.)

4. *T. Fabricii* Scudder.

Gryllus dux Fabr., Ent. Syst., II, 47 (in part?).

“ “ “ Spec. Ins., I, 362 (in part?).

“ “ “ Mant. Ins., I, 235 (in part?).

Gryllus dux Thunb., Mem. Acad. St. Petersburg, IV, 225; IX, 393, 402.

Acridium dux Oliv., Encyl. méth., VI, 215?

“ “ Serv., Ann. d. Sc. nat., XXII, 283.

“ “ “ Orthopt., 653.

“ “ Burm., Handb. d. Ent., II, 628.

“ “ Brullé, Hist. nat. d. Ins., IX, 225, pl. xx.

“ “ De Haan, Verh. Nat. Gesch. Ned. Bezitt., Zool., 144, 151.

Locusta (Rutidoderes) dux Westw., Drury, Exot. Ent., II, 92, pl. XLIV (in part).

Gryllus (Locusta) cristatus (var. *alæ in aliis antice rubræ*) Linn. Mus. Lud. Ulr. Reg., 137, No. 28.

Not *A. dux* Drury.

The front lobe of crest shorter than the others; the three following equal, rounded, not greatly but regularly arched; posteriorly the crest diminishes rapidly, consisting, as it were, of a single posteriorly elongated lobe, elevated anteriorly and slightly tubercular on the ridge. Tegmina dark green with paler veins. Wings brick red, greenish at the apex in the ♀, with a narrow posterior margin of black and recurrent rows of quadrate and rounded spots following up the principal vein, and especially that along the upper edge of the anal area, growing smaller, and fading out before reaching the base; the spots are generally seated upon the principal veins, but are seldom cut by the cross veins; in the ♀ the black is absent from all but the anal area, excepting at the outer margin. Hind femora ornamented externally with a double row of quadrate whitish spots usually united into one at an angle; hind tibiæ pale greenish, the spines greenish with black tips.

The descriptions cited from Fabricius apply best to this species because he speaks of the tegmina and prothorax as greenish; in all other particulars, the description would answer equally well for this and for *T. dux*. It is also more likely that he saw specimens from Brazil, the home of *T. Fabricii*, than from Central America, the home of *T. dux*. He speaks of his specimen or specimens as coming from meridional America, and as seen in the Banksian Museum; may it not then have been Drury's original specimen? or were there other specimens of this species and of *T. dux*, or of this species only, and were the two confounded by Fabricius? Neither seems unlikely.

Expanse of tegmina, ♀ 182–187 mm. ♂ 130 mm.

Rio, Para, Bahia (De Haan); Brazil (Serville); S. America (Burmeister); Meridional America (Serville, Fabricius).

Rio (Mus. Comp. Zool., Peab. Acad., my coll.); Para (Peab. Acad.).

5. *T. cristata* (Linn.) Scudder.

Gryllus crista thoracis quadrifida Linn., Amœn. Acad., I, 513, No. 21, fig. 4.

Gryllus (Locusta) cristatus Linn., Mus. Lud. Ulr. Reg., 137, No. 28.

“ “ “ Linn., Syst. Nat., 12th Ed., II, 699.

“ *cristatus* Stoll', Repr. d. Spectr., etc., Saut. d. Pass., 21, 22, pl. x^b, figs. 30, 33.

Gryllus cristatus Fabr., Syst. Ent., 288; Ent. Syst., II, 46; Spec. Ins., I, 362; Mant. Ins., I, 235.

Gryllus cristatus Thunb., Mem. Acad. St. Petersb., V, 224, IX, 402.

Locusta cristata Dunc., Introd. Entom., 257, pl. xvi, fig. 1.

Acridium cristatum Oliv., Encycl. Méthod., VI, 215.

“ “ Latr., Gen. Crust. et Ins., III, 105.

“ “ Burm., Handb. d. Entom., II, 627.

“ “ Serv., Ann. d. Sc. Nat., xxii, 283.

“ “ “ Orthopt., 650.

Acridium cristatum DeHaan, Verh. Nat. Gesch. Ned. Bezitt., Zool., 141, 151.

Acridium cristatum Lam., Hist. nat. Anim. sans Vert., IV, 241.

? *Gryllus grandis* Thunb., Mem. Acad. St. Petersb., IX, 403.

“ *collaris* Stoll', loc. cit., 99, pl. xxi^b, fig. 80.

On either side of the pronotum the lobes of the pronotal crest are separated by much deeper constrictions than in any other species; posteriorly the prothorax is deeply and irregularly punctured with but a faint and equal indication of a median carina. Tegmina fuscous, blotched faintly with griseous. Wings pale greenish blue, very faint on the upper half of the wing, tessellated with blackish fuscous spots, and furnished with a broad blackish border, fuliginous toward the apex, the cross veins traversing which are frequently bordered narrowly with pale. Hind femora externally with a double row of distant rounded spots, merged into one toward the apex; spines of hind tibiæ yellowish, tipped with black.

Expanse of tegmina, ♂ 136–158 mm., average 149 mm.; ♀ 170–203 mm., average 184 mm.

Asia, Africa (Linné); Arabia (Fabricius, Stoll', Thunberg, Linné); America (Stoll', Serville, Linné); S. America (Burmeister); Meridional America, principally Cayenne (Serville); Rio, Para, Bahia (De Haan).

Para, Santarem, Rio, Tajapouru, Manaos, Pernambuco, Hyauary, Villa Bella, Bahia, Tapajos, Surinam (Mus. Comp. Zoöl.); Rio (Peab. Acad.); Surinam (my coll.).

Thunberg makes no mention of a dark outer border to the wings.

TITANACRIS (*Τίταν, ἀκρίς*).

Head small, compressed; space between eyes less than the shorter diameter of the eye; median frontal ridge as broad as the length of the first joint of the antennæ; breadth of labrum equal to the distance from upper edge of clypeus to the middle of the median frontal ridge, or barely more than the longer diameter of the eye, or as broad as long; lateral angles of front distinct but slight, divergent. Pronotum tapering considerably,—the difference between the breadth anteriorly and posteriorly, being as 1:1.32. Angle of posterior border less than a right angle; median crest forming a regular curve from front to hind border, but rather more prominent anteriorly; prosternal thorn stout, straight, rather long, slightly compressed laterally, neither pointed nor blunt. Tegmina nearly five and one half times as long as broad, the costal edge broad; secondary veins indistinct; internommedian vein furcate; basal branch of externommedian vein simple. Wings long and broad, immaculate; cross veins at tip regular, though much more frequent than in other parts of the wing; area between first and second branches of the anal vein not noticeably broad, broken by cross veins into spaces not more than half as long again as broad (♀), or unusually broad and broken by cross veins into spaces three times as long as broad (♂); second branch of anal vein regular, sending out from under surface one primary shoot and two secondary ones; intercalary longitudinal veins of anal area extending fully half way toward the base of the wing. Abdomen comparatively slender; outer surface of hind femora flat or even hollowed; terminal segment of male not greatly produced, compressed beneath into a sharp carina throughout its length.

1. *T. carinata* (Stoll') Scudder.

Gryllus carinatus Stoll', Repr. d. Spectr., etc., Saut. d. Pass., 12, pl. v^b, fig. 16.

Acridium albipes Burm., Handb. d. Entom., II, 628.

“ “ De Haan, Verh. Nat. Gesch. Ned. Bezitt., Zool., 141, 151.

Anteriorly the crest of pronotum is quadrilobed, each lobe well

rounded, the edge covered with spinules. Wings violaceous purple posteriorly, dull purple anteriorly, the apex green. After Stoll'.

Expanse of tegmina, ♀ 187 mm. (Stoll').

West Indies, America (Stoll'); S. America (Burmeister, De Haan).

I place the reference to Burmeister here because in his description he says, "*loborum fastigio serrulato*."

2. *T. albipes* (De Geer) Scudder.

Acridium albipes De Geer, Mem., III, tab. 40, fig. 7.

? " " Goeze, Ent. Beitr., II, 113.

" " Latr., Gen. Crust. et Ins., III, 105.

Gryllus (Locusta) cristatus var. ♂ Linn., Mus. Ulr. Reg., 137.

Not *Acridium albipes* Burm.

Anteriorly the crest of the pronotum is quadrilobed, each lobe well rounded, smooth. Wings of a dark "solferino" color, or crimson purple; the whole of the apex, and a narrow band running thence to the base of the wing along the upper branch of anal vein, green, the band tinged with purplish.

Expanse of tegmina, ♀ 185 mm.; ♂ 130 mm.

Surinam (De Geer).

Para, Rio (Peab. Acad.); Lago Alexo (Mus. Comp. Zool.).

LOPHACRIS (λόφος, ἀκρίς).

Head large, full; space between eyes equal to or surpassing the shorter diameter of the eye; median frontal ridge broader than the length of the first joint of antennæ; breadth of labrum equal to the distance from the edge of clypeus to the upper limit of the median frontal ridge, or one and one half times the longer diameter of the eye, or broader than long; lateral angles of front not very distinct, barely divergent. Pronotum tapering but little, the anterior breadth being to the posterior as 1:1.13; angle of posterior border a right angle; median crest forming a regular curve from front to hind edge, but rather more prominent anteriorly; prosternal thorn stout, straight, blunt, rather short, not compressed laterally. Tegmina a little more than four times as long as broad, costal edge narrow, outer border not so obliquely docked as in *Tropidacris* and *Lophacris*; secondary veins indistinct; internomedian vein simple; basal branch of externomedian vein furcate. Wings short and broad, immaculate; cross veins at tip degenerating into an irregular anastomosis; area between first and second branches of anal vein noticeably broader than in the adjoining areas, and divided by cross veins into

spaces twice as long as broad (δ ♀); second branch of anal vein irregular; intercalary longitudinal veins of anal area extending not more than one third of the way to the base of the wing. Abdomen heavy; outer surface of hind femora swollen; terminal segment of male somewhat produced, broad, swollen beneath at the base, much broader at base than at tip, compressed on the apical half into a dull carina.

1. L. Olfersii (Burm.) Scudder.

Acridium Olfersii Burm., Handb. d. Ent., II, 628.

“ *semirubrum* Serv., Orthopt., 653.

Gryllus (*Locusta*) *flavicornis* Stoll', Repr. d. Spectr., etc., Saut. d. Pass., 19, pl. VIII^b, fig. 16.

Crest of pronotum green, not high, the anterior four lobes well rounded, the portion behind serrulate. Wings brilliant carmine red posteriorly as far as the second branch of the anal vein; above that hyaline, tinged with green, especially toward apex, and on basal half faintly washed with carmine. Hind femora ornamented outside with a single row of roundish or quadrate white spots; hind tibiae green above and below, the spines rosy, green at extreme base, black at extreme tip.

Expanse of tegmina, ♀ 137–145 mm.; ♂ 96 mm.

China (De Geer); Cayenne (Serville); Rio (Burmeister).

Rio (Peab. Acad., my coll.).

2. L. Velasquezii (Nieto) Scudder.

Acridium Velasquezii Nieto, Rev. et Mag. de Zool., 1857, 360; Nouv. Orth. de Mex., 2.

Acridium Olfersii Sauss., Rev. et Mag. de Zool., 1861, 162, 163; Orth. nov. amer., II, 13.

Crest of pronotum green, tipped with red, pretty high, the four anterior lobes rounded, the part behind serrulate, but anteriorly forming a fifth lobe. Wings much as in *L. Olfersii*. Hind femora ornamented externally with small white roundish spots arranged on the basal half in a double, and on the apical half in a single row; hind tibiae roseate above, greenish beneath, the spines green, their tips blackish. After Nieto.

Expanse of tegmina 141 mm. (Nieto).

Vera Cruz, Mexico (Nieto).

Saussure refers this species, but I think incorrectly, to the preceding species.

3. L. Humboldtii Scudder.

Crest of pronotum very high; the four anterior lobes greatly com-

pressed, well rounded, the portion posterior to them sharply serrulate. Wings pea green, with roseate veins on the posterior half, and perhaps slightly washed with roseate in this same portion. Outer side of the hind femora ornamented with a row of (apparently) quadrate whitish spots; spines on the upper half of the hind tibiae tipped very slightly with black; those on the lower portion more distinctly.

Expanse of tegmina, ♀ 194 ^{mm.}

Guayaquil. Prof. Orton.

We can give but slight credence to the statements of the earlier authors concerning the home of the insects which they describe; and the same uncertainty and confusion of habitat, on a lesser scale, seems to have clung to these up to the present time. The species of the genus *Tropidacris* were indiscriminately located over the whole of northern South America, whereas it appears, by the sifting of evidence, that, with the exception of one (*T. cristata*), which is somewhat unique in its characters, and extends over the whole Brazilian coast, and to a certain degree into the interior, they are each characteristic of a separate zoölogical province, *T. Fabricii* being found on the Brazilian coast from Rio to Para, *T. Latreillei* in the interior, *T. dux* upon the isthmus of Panama and the surrounding region, and *T. rex* on the west coast. With the exception of the interior of Brazil, each of these provinces also harbors one species of *Lophacris*, viz.: *L. Olfersii* on the Brazilian coast, *L. Velasquezii* in Mexico, and *L. Humboldtii* in Ecuador. The genus *Titanacris* does not seem to follow the same rule; the special habitat of *T. carinata* has never been given, while that of *T. albipes* is on the Brazilian coast, specimens having been quoted from Rio, Lago Alexo, Para and Surinam.

I am indebted to the Museum of Comparative Zoölogy, the Peabody Academy of Science and this Society, for most of the material used in this study.

Mr. Edward Burgess stated that while collecting insects at Key West, Fla., at about noon of Jan. 31st, he found a ♀ larva of *Anisomorpha buprestoides* (Stoll') Gray, under a small piece of coral, and shortly afterwards, in a similar situation a ♂ and ♀ in coitu. On Feb. 3d, a friend found a large number of these insects under a log; and on the afternoon of the 5th, after a rainy morning, he discovered under a log another large family, about twenty in number, of all



Scudder, Samuel Hubbard. 1869. "A study of the gigantic lobe-crested grasshoppers of South and Central America." *Proceedings of the Boston Society of Natural History* 12, 345–355.

View This Item Online: <https://www.biodiversitylibrary.org/item/37039>

Permalink: <https://www.biodiversitylibrary.org/partpdf/31563>

Holding Institution

MBLWHOI Library

Sponsored by

MBLWHOI Library

Copyright & Reuse

Copyright Status: NOT_IN_COPYRIGHT

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.