Revue suisse de Zoologie (March 2016) 123(1): 21-33 ISSN 0035-418

The type specimens of Orthoptera (Insecta) species described by Ignacio Bolívar and deposited in the Muséum d'histoire naturelle de Genève

John Hollier

Muséum d'histoire naturelle, C.P. 6434, CH-1211 Genève 6, Switzerland. E-mail: john.hollier@ville-ge.ch

Abstract: Definite or probable type specimens of 60 species of Orthoptera described by Ignacio Bolívar have been identified in the collections of the Muséum d'histoire naturelle de Genève. The species are listed alphabetically by suborder and family, and the valid combination is given. Information about the label data and condition of primary type specimens is provided.

Keywords: Acrididae - Pamphigidae - Pyrgomorpidae - Tetrigidae - Gryllidae - Tettigoniidae.

INTRODUCTION

Ignacio Bolívar y Urrutia (1850-1944) was one of the great entomologists of his generation, and also highly influential in the development of Spanish and Mexican education policy. Born in Madrid, Bolívar went into exile in Mexico in 1939 after having taken a high profile role in education policy under the Republican regime. He continued his work in Mexico, founding the Association of Spanish University Lecturers in Exile and the journal *Ciencia*.

Bolívar published numerous books and monographs and described more than a thousand species, almost all of them in the Orthoptera. From early in his career he established links with some of the leading European orthopterists including Carl Brunner von Wattenwyl and Henri de Saussure, and included material from their collections, as well as specimens held by the main European museums, in his studies.

There are several sources of Bolívar type specimens in the Muséum d'histoire naturelle de Genève (MHNG): there was an exchange of specimens in 1879 (accession number 602/42 "Orthoptères; 37; piqué; Espagne, échange = Mr Bolivar"); a number of specimens were lent by Saussure while Bolívar was preparing his monograph on the Tettrigidae (Bolívar, 1887); a number of specimens were studied by Bolívar in around 1908 (Bolívar, 1909); specimens returned to Anton Schulthess having been studied by Bolívar (Bolívar, 1925) and subsequently given to Adolf Nadig who in turn left his collection to the MHNG (Schwendinger & Lienhard, 2001); and a series of specimens collected by Lajos Biro in New Guinea, which were given or exchanged by the Hungarian Natural History Museum (the species concerned have identification labels in a distinctive handwriting, one of which states that they are "cotypes ex Mus. Hung").

It is known that Bolívar exchanged other specimens with Saussure and Jean Carl (curator of arthropods at the MHNG from 1900 to 1944, and an active orthopterist), as well as providing descriptions of specimens. Bolívar also described species based on specimens Saussure had given to Brunner von Wattenwyl, probably without having seen the rest of the series retained by Saussure, meaning that the series in the MHNG, whilst of the same provenance, are probably not types (D. K. McE. Kevan, *in lit*.).

Since the majority of type specimens in the MHNG were not labelled as such in the 19th and early 20th century, types of other species may be present that can no longer be recognised.

A partial type catalogue of Bolívar's species has been published (Paris, 1994), but it does not cover all of the groups studied by Bolivar, and details of specimens in museums other than the Museo Nacional de Ciencias Naturales in Madrid (MNMS) are incomplete.

ARRANGEMENT AND FORMAT

The species are listed alphabetically by suborder and family. The format for each is:

specific epithet Author, publication: page [*Original generic placement*].

Provenance as given in the original description. Number and kind of type specimens.

Specimen: "Label data" [format of label]. Following the recommendations of Ohl & Oswald (2004) the condition of each primary type specimen is noted. Other comments. Location of material in the MHNG Orthoptera collection.

Manuscript accepted 24.07.2015
DOI: 10.5281/zenodo.46284

Currently valid combination following Eades *et al.* (2015).

The following abbreviations are used in the list.
ANSP Academy of Natural Sciences of Philadelphia
MHNG Muséum d'histoire naturelle de Genève
MNMS Museo Nacional de Ciencias Naturales, Madrid
NHMW Naturhistorisches Museum Wien
OSF Orthoptera Species File (Eades *et al*., 2015)

CATALOGUE

Caelifera

Acrididae

carli Bolívar, 1914: 47 [*Oxyaedia*].
Africa oriental alemana, Carl, Allaud y Jeannel. More than one ♂ and ♀.
Three ♂ syntypes and four ♀ syntypes. A ♂ with labels: "Bukoba, Afrique orient. allemande, Dr J. Carl" [printed on white paper]; "Odontomelis Carli Bol." [handwritten on pink paper]; "Syntypus" [printed on red paper]. Most of both antennae are missing. A ♂ with labels: "Busu-Hill, Busoga Uganda, Dr J. Carl" [printed on white paper]; "Odontomelis Carli Bol." [handwritten on pink paper]; "Syntypus" [printed on red paper]. The right antenna and right hind leg are missing. The left hind leg, which lacks two tarsal segments, is detached and secured through the femur on the original pin. A ♂ with labels: "Njargenie, Ruanda central, Dr J. Carl" [printed on white paper]; "Odontomelis Carli Bol." [handwritten on pink paper]; "Syntypus" [printed on red paper]. Most of both antennae, two tarsal segments of the right middle leg and both of the hind legs are lost. The front legs, both lacking two tarsal segments, are detached and glued to a card mount on the original pin. A ♀ with labels: "Kagera, Ruanda orientale, Dr J. Carl" [printed on white paper]; "Odontomelis Carli Bol." [handwritten on pink paper]; "Syntypus" [printed on red paper]. The tarsi of the left front leg and the claws of the right hind leg are missing. The specimen is coming apart between the meso- and meta-thorax where the pin is inserted. A ♀ with labels: "Kagera, Ruanda orientale, Dr J. Carl" [printed on white paper]; "Odontomelis Carli Bol." [handwritten on pink paper]; "Syntypus" [printed on red paper]. The left antenna is missing. A ♀ with labels: "Sultanat Jhangiro, Distr. Bukoba, Dr J. Carl" [printed on white paper]; "Odontomelis Carli Bol." [handwritten (by Bolívar?) on white paper]; "Syntypus" [printed on red paper]. The right middle leg and both hind legs are missing. A ♀ with labels: "Busu-Hill, Busoga Uganda, Dr J. Carl" [printed on white paper]; "Odontomelis Carli Bol." [handwritten on pink paper]; "Syntypus" [printed on red paper]. The left hind leg, which lacks the last tarsal segment, is detached and glued to a card mount on the original pin. There is a specimen in the MNMS which is referred to as the holotype on OSF, but there is no such designation in the original description. Box U9.
Oxyaeida carli Bolívar, 1914.

mlokoziewiztcki Bolívar, 1884: cv-cvi [*Pachytylus*].
Tiflis, leg. Mlokoziewiztck. Unspecified number of ♂ and ♀.
Lectotype ♂, designated by Ritchie (1981: 94), with labels: "Pachyt. (Oedal.) Mlokozieviztci [sic], Boliv. Tiflis, Bolivar" [handwritten on white paper]; "Oedaleus mlokozevitki [sic] Boliv." [handwritten on blue paper]; "Pachytylus (Oedaleus) mlokoziewiztcki Bol., 1884, J. M. Richie, det 1977, LECTOTYPE ♂" [typewritten on white card with "J. M. Ritchie, det. 19" printed]; "Oedaleus senegalensis (Krauss, 1877), J. M. Ritchie det. 1976" [printed on white card]; "LECTOTYPUS" [printed on a disk of white card with a printed purple border]. Specimen set with wings spread. Both antennae and two tarsal segments of both middle legs are lost. There is also a ♀ specimen labelled as a paralectotype. Box V10.
A junior synonym of *Oedaleus senegalensis* (Krauss, 1877).

Pamphigidae

cucullatus Bolívar, 1878: 432-433 [*Eunapius*].
Aranjuez' (Lopez Seoane). Unspecified number of ♂ and ♀.
One possible syntype. A ♀ with labels: "Carthagène, Espagne, M[r] Bolivar" [handwritten on lined white card with "Espagne" printed]; "Pamphigus cucullatus Bol. Type! Carthagène" [handwritten on white paper]; "93" [printed on a square of white paper]; "HOLOTYPUS" [handwritten by Harz on white card with hand coloured red border], "Type series mixed: possible syntype. Hollier 2014" [handwritten on red paper]. The last tarsal segment of the left front leg, the entire left middle leg and two tarsal segments of both hind legs are lost. The writing on the identification label indicating that the specimen is a type is similar to Bolivar's, but it seems unlikely that the specimen is part of the type series as currently understood. This specimen is presumably the neotype referred to on OSF, although Harz (1975:121) did not designate a neotype but merely stated the type depository. Box Y5.
Eumigus cucullatus (Bolívar, 1878).

deceptoria Bolívar, 1878: 431, pl. 4, fig. 5 [*Pamphagus*].
Burgos, leg. Sanz de Diego. Unspecified number of ♂ and ♀.
Among the specimens placed under this name in the MHNG collection are four ♂ and two ♀ from the type locality which had been exchanged with Bolívar, and which may be paralectotypes. The ♂ lectotype, designated by Llorente del Moral & Presa (1983: 286), is in the MNMS. Box Y6.
Acinipe deceptoria (Bolívar, 1878).

festiva Bolívar in Saussure, 1884: 231-232 [*Eremobia*].
Persia (coll. Brunner); Caucasus, Georgia. Unspecified number of ♂ and ♀.
One ♀ syntype with labels: "Emerobia festiva Type Sauss. Georgie, Perse" [handwritten on yellow paper]; "Er. festiva Bol." [handwritten on a strip of blue paper]; "Syntypus" [printed on red paper]. Specimen set with wings spread. Both antennae, the tarsi of the left front leg and the tarsi of the right middle leg are missing. The right hind leg has been reattached with glue. The abdomen has been eviscerated and stuffed, presumable at the time of capture. This species is accredited to Saussure on OSF, but to Bolivar in the original publication. Box W2.
Eremopeza festiva (Bolívar, 1884).

Pyrgomorphidae

capensis Bolívar, 1904: 452, 455-456 [*Pyrgomorpha*].
Cabo de Buena Esperanza (Peringuey). One ♀.
Holotype ♀ with labels: "Cap b Esp. Peringuey" [printed on pink paper]; "Pyrgom. capensis Sss. ♀" [handwritten on red paper]; "TYPE Det. D.K.McE. Kevan, 19560" [printed on white card with "TYPE" and "60" handwritten]; "Holotypus" [printed on red card]. Specimen set with right wings spread and left wings folded. The left antenna and the claws of the right hind leg are missing. Box X5.
A junior synonym of *Tanitella prasina* (Karsch, 1888).

inaequalipennis Bolívar 1904: 452-453 [*Pyrgomorpha*].
Desconozco la procedencia. Unspecified number of ♂.
Holotype ♂ with labels: "Kulu 6755/1" ["Kulu" handwritten and numerals printed on a square of white card]; "1530" [handwritten on a square of white card]; "1530" [handwritten on a square of white card]; "inaequalipennis" [handwritten on white card]; "Pyrgomorpha inaequalipennis Sauss. Ind. or." [handwritten on yellow paper]; "Pyrgomorpha inaequalipennis Bol., HOLOTYPE, Det. D.K.McE. Kevan, 1969" [handwritten on white card with "Det. D.K.McE. Kevan, 19" printed]; "Holotypus" [printed on a disk of white card with a printed red margin]. Specimens set with wings spread. The end of the right antenna, the entire left antenna, the last tarsal segment of the right front leg, the entire left front leg, left middle leg and right middle leg are lost. The hind legs have been reattached with glue, the right lacks the claws. There are two other ♂ and a ♀ with the Kulu label and it is possible that at least some of these were also seen by Bolivar; if this is the case the specimen labelled as holotype can be regarded as the lectotype (designated inadvertently by Kevan, 1970: 851 when he referred to it as the holotype without further comment). Box X5.
Pyrgomorpha inaequalipennis Bolívar, 1904.

insularis Bolivar, 1905: 113, 114-115 [*Tagasta*].
Lombok, 4, 1896, Sapit 2.000 Mai-Juni 1896 (Fruhstorfer). More than one ♂.
One ♂, possibly a syntype, with labels: "Lombok, Sapit 2000', Mai-Juni 1896, H. Fruhstorfer" [printed on white card]; "Tagasta insularis Bol." [handwritten on yellow paper]; "Possible syntype? Hollier 2014" [handwritten on red paper]. Specimen set with left forewing spread, other wings folded. The left antenna, the claws of the right front leg and the last tarsal segment of the left hind leg are missing. Although this specimen is from the same series as the specimens used for the description, it is possible that Fruhstorfer sold part of his material to the MHNG without it having been seen by Bolivar, meaning that this specimen would not be a syntype. Box X4.
Tagasta insularis Bolívar, 1905.

peringueyi Bolívar, 1904: 442-443 [*Plerisca*].
Cap. B. Esp. Museo de Ginebra. Unspecified number of ♀.
One ♀ syntype with labels: "Cap b Esp." [printed on pink paper]; "Pyrgom. Peringueyi Sss. ♀" [handwritten on red paper]; "Plerisca peringueyi I. Bol., V. M. Dirsh det. 1959, Type!" [handwritten on white card with "V. M. Dirsh det. 195" printed]; "Syntypus" [printed on red paper]. The last tarsal segment of the left front leg, right middle leg and left hind leg, and the entire right hind leg are missing. Box X5.
Plerisca peringueyi Bolívar, 1904.

scudderi Bolívar, 1884: 447 [*Prosphena*].
Guatemala, coll. Scudder. Unspecified number of ♂ and ♀.
The MHNG has a pair of specimens under this name, both from Guatemala and apparently labelled in Bolívar's handwriting, which may be paralectotypes. The lectotype, designated by Rehn (1953: 102), is in the ANSP. Box X7.
Prosphena scudderi Bolívar, 1884.

Tetrigidae

africana Bolívar, 1909: 399-400 [*Mazrredia (sic)*].
Camerun. Unspecified number of ♂.
One ♂ syntype with labels: "CAMERUN" [printed on a strip of pink paper]; "Mazarredia africana Bol." [handwritten on white paper]; "Syntypus" [printed on red paper]. The left antenna, the tarsi of the left front leg and right middle leg and the last tarsal segment of the right hind leg are missing. Box Q4.
Mazarredia africana Bolívar, 1909.

apicalis Bolívar, 1909: 394 [*Kraengia*].
S. Celebes, Bua-Kraeng, 5000. Fruhstorfer. Unspecified number of ♂.
Two ♂ syntypes. A ♂ with labels: "S. Celebes, Bua-Kraeng, 5000, Febr. 1896 H. Fruhstorfer" [printed on white card]; "Kraengia apicalis Bol." [handwritten on white paper]; "Syntypus" [printed on red paper]. The

right front and middle legs are missing. A ♂ with labels: "S. Celebes, Bua-Kraeng, 5000, Febr. 1896 H. Fruhstorfer" [printed on white card]; "Kraengia apicalis Bol." [handwritten on yellow paper]; "Syntypus" [printed on red paper]. The right hind leg is missing. Box Q1.
Kraengia apicalis Bolívar, 1909.

bedoti Bolívar, 1909: 395-396 [*Eugavialidium*].
Java occident, Pengalengan, 4000, 1893, Fruhstorfer. Unspecified number of ♂.
One ♂ syntype with labels: "Java occident. Pengalengan, 4000' 1893, H. Fruhstorfer" [printed on white card]; "Eugavalid. Bedoti Bol." [handwritten on white paper]; "Syntypus" [printed on red paper]. Both antennae and the right hind leg are missing. Box Q2.
Falconius bedoti (Bolívar, 1909).

biolleyi Bolívar, 1909: 401 [*Scabritettix* (sic)].
Cariblanca, P. Biolley. Unspecified number of ♀.
One ♀ syntype with labels: "Cariblanca, 600m, P. Biolley" [handwritten on white paper with the top right corner ripped off]; "Syntypus S. biolleyi Bol." [handwritten on red paper with "Syntypus" printed]. Both antennae, both front legs and the last tarsal segment of the right hind leg are lost. Box Q4.
Scabrotettix biolleyi Bolívar, 1909.

carli Bolívar, 1909: 397 [*Systolederus*].
Lombok Sapit 2.000' Mai-Juin 1896. H. Fruhstorfer. Unspecified number of ♂ and ♀.
Ten ♂ syntypes and five ♀ syntypes. A ♂ with labels: "Lombok Sapit 2000', Mai-Juni 1896, H. Fruhstorfer" [printed on white card]; "Systolederus Carli Bol." [handwritten on yellow paper]; "Syntypus" [printed on red paper]. Specimen set with wings folded. Both antennae, the right middle leg and the tibia and tarsi of the left hind leg are missing. A ♂ with labels: "Lombok Sapit 2000', Mai-Juni 1896, H. Fruhstorfer" [printed on white card]; "Systolederus Carli Bol." [handwritten on yellow paper]; "Syntypus" [printed on red paper]. Specimen set with wings folded. Both antennae, the right front and middle legs, the tibia and tarsi of the left front leg and part of the last tarsal segment of the right hind leg are lost. A ♂ with labels: "Lombok Sapit 2000', Mai-Juni 1896, H. Fruhstorfer" [printed on white card]; "Systolederus Carli Bol." [handwritten on yellow paper]; "Syntypus" [printed on red paper]. Specimen set with wings folded. Both antennae, part of the tibia and the tarsi of the left middle leg and the entire right hind leg are missing. A ♂ with labels: "Lombok Sapit 2000', Mai-Juni 1896, H. Fruhstorfer" [printed on white card]; "Systolederus Carli Bol." [handwritten on yellow paper]; "Syntypus" [printed on red paper]. Specimen set with wings folded. A ♂ with labels: "Lombok Sapit 2000', Mai-Juni 1896, H. Fruhstorfer" [printed on white card]; "Systolederus Carli Bol." [handwritten on yellow paper]; "Syntypus" [printed on red paper]. Specimen set with wings folded. The right antenna, the tarsi of both front legs, the entire right middle and hind legs and the tibia and tarsi of the left hind leg are lost. A ♂ with labels: "Lombok Sapit 2000', Mai-Juni 1896, H. Fruhstorfer" [printed on white card]; "Systolederus Carli Bol." [handwritten on yellow paper]; "Syntypus" [printed on red paper]. Specimen set with wings folded. The right antenna, right front leg, both middle legs and both hind legs are lost. A ♂ with labels: "Lombok Sapit 2000', Mai-Juni 1896, H. Fruhstorfer" [printed on white card]; "Systolederus Carli Bol." [handwritten on yellow paper]; "Syntypus" [printed on red paper]. Specimen set with wings roughly folded. The right antenna and left hind leg are missing. A ♂ with labels: "Lombok Sapit 2000', Mai-Juni 1896, H. Fruhstorfer" [printed on white card]; "Systolederus Carli Bol." [handwritten on yellow paper]; "Syntypus" [printed on red paper]. Specimen set with wings folded. The left antenna, the tarsi of the right middle leg and the entire left hind leg are lost. A ♂ with labels: "Lombok Sapit 2000', Mai-Juni 1896, H. Fruhstorfer" [printed on white card]; "Systolederus Carli Bol." [handwritten on yellow paper]; "Syntypus" [printed on red paper]. Specimen set with wings folded. The tarsi of the left middle leg and all of both hind legs are missing. A ♂ with labels: "Lombok Sapit 2000', Mai-Juni 1896, H. Fruhstorfer" [printed on white card]; "Systolederus Carli Bol." [handwritten on yellow paper]; "Syntypus" [printed on red paper]. Specimen set with wings folded. The right antenna, the tarsi of both front legs, part of the tibia and the tarsi of the right middle leg and all of the left middle leg and both hind legs are lost. A ♀ with labels: "Lombok Sapit 2000', Mai-Juni 1896, H. Fruhstorfer" [printed on white card]; "Systolederus Carli Bol." [handwritten on white paper]; "Systolederus Carli Bol." [handwritten on yellow paper]; "Syntypus" [printed on red paper]. Specimen set with wings folded. The right antenna and the tarsi of the right front and middle legs are lost. A ♀ with labels: "Lombok Sapit 2000', Mai-Juni 1896, H. Fruhstorfer" [printed on white card]; "Systolederus Carli Bol." [handwritten on yellow paper]; "Syntypus" [printed on red paper]. Specimen set with wings folded. Part of the tibia and the tarsi of the right middle leg and the entire right hind leg are missing. A ♀ with labels: "Lombok Sapit 2000', Mai-Juni 1896, H. Fruhstorfer" [printed on white card]; "Systolederus Carli Bol." [handwritten on yellow paper]; "Syntypus" [printed on red paper]. Specimen set with wings folded. Both antennae are lost. A ♀ with labels: "Lombok Sapit 2000', Mai-Juni 1896, H. Fruhstorfer" [printed on white card]; "Systolederus Carli Bol." [handwritten on yellow paper]; "Syntypus" [printed on red paper]. Specimen set with wings folded. Both antennae and the tibia and tarsi of the left hind leg are lost. A ♀ with labels: "Lombok Sapit 2000', Mai-Juni 1896, H. Fruhstorfer" [printed on white card]; "Systolederus Carli Bol." [handwritten on yellow paper]; "Syntypus" [printed on red paper]. Specimen set with wings folded. Both antennae and the left

hind leg are lost. The specimen is nearly broken in two where the pro- and meta-thorax join. Box Q3.
Systolederus carli Bolívar, 1909.

dromadaria Bolívar, 1909: 401 [*Xistrella*].
Sikkin, L. M. Unspecified number of ♂ and ♀.
One ♂ syntype and one ♀ syntype. A ♂ with labels: "Xistrella dromadaria Bol." [handwritten on yellow paper]; "Syntypus" [printed on red paper]. Specimen set with wings folded. Both antennae and all the legs are missing. A ♀ with labels: "Sikkin, L. M." [handwritten on a disk of white paper]; "Xistrella dromadaria Bol." [handwritten on white paper]; "Syntypus" printed on red paper]. Both antennae, both front legs and the left middle leg are lost as are the tarsi of the right middle leg and both hind legs. The unusually thick pins used to mount these specimens indicate their common provenance. Box Q4.
Xistrella dromadaria Bolívar, 1909.

feae Bolívar, 1909: 396 [*Eugavialidium*].
Carin Cheba. Unspecified number of ♂ and ♀.
Lectotype ♀, designated inadvertently by Günther (1938a: 418) who referred to the specimen as the holotype (Paris, 1994), with labels: "Carin Cheba, 900-1100m, L. Fea, V-XI 88" [printed on white card]; "Gavalidium Feae Bol. [handwritten on white paper]; "Dr. K. Günther det. 1938: Falconius inaequalis Br. ugl. mit Typus" [handwritten on white card with "Dr. K. Günther det. 1938:" printed]; "Syntypus E. feae Bolivar 1909" [handwritten on red paper]. Specimen set with wings roughly folded. The right antenna, two tarsal segments of the left front leg and two tarsal segments of both hind legs are lost. Box Q2.
A junior synonym of *Falconius inaequalis* (Brunner von Wattenwyl, 1893).

flavopictum Bolívar, 1909: 394-395 [*Eugavialidium*].
Calcutta. Two ♀.
Lectotype ♀, designated inadvertently by Günther (1938a: 373) who referred to the specimen as the holotype (Paris, 1994), with labels: "Calcutta F. S." [handwritten on a disk of white card]; "1097" [handwritten on white card]; "Gavalidium flavopictus Bol." [handwritten on white paper]; "Lectotypus" [printed on red card]. Both antennae, the right front leg, the tarsi of the left front leg and both middle legs, and both hind legs are missing. The second ♀, with an identical data label, has been placed under *I. angulata* (Hancock, 1915), presumably by K. Günther. Box Q2.
Indoscelimena flavopicta (Bolívar, 1909).

freygessneri Bolívar, 1887: 276 [*Paratettix*].
Cuba (Frey-Gessner, Brunner, Gundlach). Unspecified number of ♂ and ♀.
Two ♂ syntypes and two ♀ syntypes. A ♂ with labels: "Cuba, M. H. de Saussure" [handwritten on white paper]; "118 Tettix Frey-Gessneri Boliv. Type." [handwritten on white paper]; "Parat. Frey-Gessneri Boliv." [handwritten on green paper], "Syntypus" [printed on red paper]. Specimen set with wings folded. The right antenna is missing. A ♂ with labels: "Cuba, M. H. de Saussure" [handwritten on white paper]; "Parat. Frey-Gessneri Boliv." [handwritten on green paper], "Syntypus" [printed on red paper]. Specimen set with wings folded. The left antenna, the claws of the left middle leg and the entire left hind leg are missing. A ♀ with labels: "Cuba, M. H. de Saussure" [handwritten on white paper]; "Parat. Frey-Gessneri Boliv." [handwritten on green paper], "Syntypus" [printed on red paper]. Specimen set with wings folded. Both antennae are missing. A ♀ with labels: "Cuba, M. H. de Saussure" [handwritten on white paper]; "Parat. Frey-Gessneri Boliv." [handwritten on green paper], "Syntypus" [printed on red paper]. Specimen set with wings folded. Both antennae, both front legs and the right hind leg are lost. According to Paris (1994) there is another syntype in the MNMS. Box Q6.
Paratettix freygessneri Bolívar, 1887.

indotata Bolívar, 1909: 398 [*Mazarredia*].
Loc.? Probably one ♀.
Lectotype ♀, designated inadvertently by Günther (1939: 59) who referred to the specimen as the holotype (Paris, 1994), with labels: "Palanis [?] 7509/1" [locality handwritten illegibly, numerals printed on white card]; "Mazarredia indotata Bol." [handwritten on white paper]; "Dr K. Günther det. 1938: Mazarredia sculpta Bol. vgl. mit Holotypus" [handwritten on white card with "Dr K. Günther det. 1938:" printed]; "Lectotypus" [printed on red card]. Both antennae, the left front leg, the tarsi of the right front leg and left middle leg and the last tarsal segment of both hind legs are lost. The locality label is in the same style as those of *Pyrgomorpha inaequalipennis* (see above) so the specimen is probably from northern India. Box Q4.
A junior synonym of *Bolivaritettix sculpta* (Bolívar, 1887).

insularis Bolívar, 1887: 329 [*Mazarredia*].
Ceylon (ma collection, communiquée par M. H. de Saussure). Unspecified number of ♂.
There are four specimens collected by Humbert in Sri Lanka under this name in the MHNG. One ♂ has the label "116 Mazarresia insularis Bol. n. sp. Bolivar type" [handwritten on white paper] and is clearly a paralectotype; it is not clear whether Bolivar saw the others. The ♂ lectotype, designated by Paris (1994: 241) is in the MNMS. Box Q4.
A junior synonym of *Criotettix subulatus* Bolívar, 1887.

javanica Bolívar, 1909: 398 [*Mazarredia*].
Java. Unspecified number of ♂ and ♀.
Lectotype ♀, designated inadvertently by Günther (1939: 71) who referred to the specimen as the holotype (Paris, 1994), with labels: "621 19 JAVA" [printed on yellow

card]; “Mazarredia javanica Bol.” [handwritten on yellow paper]; “Mazarredia javanica Bol.” [handwritten on white paper]; “Lectotypus” [printed on red card]. Specimen set with wings folded. Both antennae are missing. There is also a ♂ paralectotype. Box Q4.
Bolivaritettix javanicus (Bolívar, 1909).

laticeps Bolívar, 1909: 399 [*Mazarredia*].
Upper Assam. Unspecified.
Lectotype ♂, designated inadvertently by Günther (1939: 76) who referred to the specimen as the holotype (Paris, 1994), with labels: “Upper Assam 1240/ 9” [handwritten on white card with “1240” printed, the card is broader at the top than at the bottom]; “Mazarredia laticeps Bol.” [handwritten on white paper]; “Mazarredia laticeps Bol.” [handwritten by Günther on white card]; “Typus” [printed on red card]. The specimen, set with wings folded, is mounted on a micro-pin on a piece of cork, supported on a larger pin which also carries the labels. Both antennae and two tarsal segments of the left middle leg are lost. Box Q4.
Bolivaritettix laticeps (Bolívar, 1909).

lombokensis Bolívar, 1909: 396-397 [*Criotettix*].
Lombok Sapit 2.000’ Mai Juin 1896. H. Fruhstorfer. Unspecified number of ♂ and ♀.
Fourteen ♂ syntypes and five ♀ syntypes. A ♂ with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Criotettix lombokensis Bol.” [handwritten on yellow paper]; “Criotettix lombokensis Bol.” [handwritten on white paper]; “Syntypus” [printed on red paper]. Specimen set with wings folded. The antennae are missing. A ♂ with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Criotettix lombokensis Bol.” [handwritten on yellow paper]; “Syntypus” [printed on red paper]. Specimen set with wings folded. The right antenna and both hind legs are lost. A ♂ with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Criotettix lombokensis Bol.” [handwritten on yellow paper]; “Syntypus” [printed on red paper]. Specimen set with wings folded. Both antennae, the tarsi of the right middle leg and all of both hind legs are lost. A ♂ with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Criotettix lombokensis Bol.” [handwritten on yellow paper]; “Syntypus” [printed on red paper]. Specimen set with wings folded. The right antenna, the tarsi of the right middle leg and all of both hind legs are lost. A ♂ with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Criotettix lombokensis Bol.” [handwritten on yellow paper]; “Syntypus” [printed on red paper]. Specimen set with wings folded. The left hind leg and the tarsi of the right hind leg are missing. A ♂ with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Criotettix lombokensis Bol.” [handwritten on yellow paper]; “Syntypus” [printed on red paper]. Specimen set with wings folded. The right antenna and the left hind leg are lost. A ♂ with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Criotettix lombokensis Bol.” [handwritten on yellow paper]; “Syntypus” [printed on red paper]. Specimen set with wings folded. The right antenna and the left hind leg are lost. The abdomen is detached and glued to the edge of the data label. A ♂ with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Syntypus” [printed on red paper]. Specimen set with wings folded. Both antennae are lost. A ♂ with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Syntypus” [printed on red paper]. Specimen set with wings roughly folded. A ♂ with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Criotettix lombokensis Bol.” [handwritten on yellow paper]; “Syntypus” [printed on red paper]. Specimen set with wings folded. Both antennae are missing. A ♂ with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Criotettix lombokensis Bol.” [handwritten on yellow paper]; “Syntypus” [printed on red paper]. Specimen set with wings folded. Both antennae and the tibia and tarsi of the left middle leg are missing. A ♂ with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Criotettix lombokensis Bol.” [handwritten on yellow paper]; “Syntypus” [printed on red paper]. Specimen set with wings folded. Both antennae and two tarsal segments of the right hind leg are missing. A ♂ with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Criotettix lombokensis Bol.” [handwritten on yellow paper]; “Syntypus” [printed on red paper]. Specimen set with wings folded. The left antenna and the tarsi of the right middle leg are lost. A ♂ with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Criotettix lombokensis Bol.” [handwritten on yellow paper]; “Syntypus” [printed on red paper]. Specimen set with wings folded. Both antennae, the left hind leg and part of the tibia and the tarsi of the right hind leg are missing. A ♀ with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Criotettix lombokensis Bol.” [handwritten on yellow paper]; “Syntypus” [printed on red paper]. Specimen set with wings folded. Both antennae, the tarsi of the right middle leg and all of both hind legs are missing. A ♀ with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Criotettix lombokensis Bol.” [handwritten on yellow paper]; “Syntypus” [printed on red paper]. Specimen set with wings folded. The tibia and tarsi of the left middle leg and most of the tibia and the tarsi of the right hind leg are lost. A ♀ with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Criotettix lombokensis Bol.” [handwritten on yellow paper]; “Syntypus” [printed on red paper]. Specimen set with wings folded. Both antennae and the left front leg are lost. A ♀

with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Criotettix lombokensis Bol.” [handwritten on yellow paper]; “Syntypus” [printed on red paper]. Specimen set with wings folded. Both antennae, the right front and middle legs and two tarsal segments of the right hind leg are missing. A ♀ with labels: “Lombok, Sapit 2000’, Mai Juni 1896, H. Fruhstorfer” [printed on white card]; “Criotettix lombokensis Bol.” [handwritten on yellow paper]; “Syntypus” [printed on red paper]. Specimen set with wings folded. The right antenna and left hind leg are lost. Paris (1994) stated that Günther (1938b: 181) had inadvertently designated a lectotype by referring to a ♀ specimen as the “typus”, but since there is no indication of which specimen Günther was referring to the designation is not valid. Box Q3.
Eucriotettix oculatus lombokensis (Bolívar, 1909).

nigellus Bolívar, 1887: 225 [*Criotettix*].
Gabon (Musée de Genève et ma coll.) More than one ♂.
The MHNG collection has a ♂ and two ♀ specimens under this name. The locality on the labels affixed to the specimens is “Camerun”, although the species name label in the insect box has “Gabon” handwritten in the lower left corner. The ♂ has a label reading “Criotettix nigellus Bol. Camerun” in a handwriting similar to those of other Bolivar labels, and may be a paralectotype, although it is more likely that the series was identified by Bolivar at a later date than that he mistook the provenance of his types. The ♂ lectotype, designated by Paris (1994: 244), is in the MNMS. Box Q3.
Afrocriotettix nigellus (Bolívar, 1887).

oculatus Bolívar, 1898: 71-72 [*Criotettix*].
Sumatra: Si-Rambé, Décembre 1890-Mars 1891, E. Modigliani. Je possédais déjà cette espèce de Java (Fruhstorfer). Unspecified number of ♂ and ♀.
The MHNG has eight specimens collected by Fruhstorfer in Java under this name, one of which has an identification label similar to those of some of the Bolivar type specimens in the collection. It is therefore possible that this specimen and some or all of the others are syntypes, but it is more likely that Bolivar made the identification when studying material from the MHNG after the publication of the original description. Box Q3.
Eucriottex oculatus oculatus (Bolívar, 1898)

ophthalmica Bolívar, 1909: 399 [*Mazarredia*].
Sibs S. E. P. Unspecified number of ♂ and ♀? [Description says ♀ and the measurements ♂]
Lectotype ♂, designated inadvertently by Günther (1939: 152) who referred to the specimen as the holotype (Paris, 1994), with labels: “Sibs, S. E. P.” [printed on white card]; “673” [handwritten on white card]; “Mazarredia ophthalmica Bol.” [handwritten on white paper]; “Typus” [printed on red card]. Specimen set with wings folded. Both antennae, the last tarsal segment of the right front leg, the entire right middle and hind legs and the claws of the left hind leg are missing. Box Q4.
Xistrella ophthalmica (Bolívar, 1909).

peruvianus Bolívar, 1887: 272 [*Paratettix*].
Pumamarca (Pérou) Musée de Varsovie. Unspecified number of ♂ and ♀.
One syntype with labels: “PERU CENT, 105” [printed on white paper with numerals handwritten]; “Paratettix peruvianus Bolivar det.” [handwritten on white paper]; “Allotettix peruvianus Bol.” [handwritten on green paper]; “Syntypus” [printed on red paper]. Specimen set with wings folded. Both antennae, the right front leg, the tarsi of the left front leg, both middle legs and the left hind leg, and two tarsal segments of the right hind leg are missing. Box Q5.
Allotettix peruvianus (Bolívar, 1887)

problematicus Bolívar, 1909: 402-403 [*Coptotettix*].
Haut Assam. Unspecified number of ♂ and ♀.
One syntype with labels: “Upper Assam, 1235/9” [handwritten on white card with “1235” printed]; “Coptotettix problematicus Bol.” [handwritten on white card]; “Syntypus” [printed on red paper]. Specimen set with wings folded. Both antennae and the last tarsal segment of the left hind leg are missing. Box Q5.
Hyboella problematica (Bolívar, 1909).

saussurei Bolívar, 1887: 203-205; figure 5 [*Choriphyllum*].
Cuba (coll. Gundlach et Musée de Genève). Unspecified number of ♀.
Two ♀ syntypes. A ♀ with labels: “Cuba M. H. de Saussure” [handwritten on white paper]; “62 Chloriphyllum Saussurei Boliv., Boliv. det.” [handwritten on white paper]; “Chloriphyllum saussurei Bol.” [handwritten on green paper]; “Syntypus” [printed on red paper]. The last tarsal segment of the left hind leg and the entire right hind leg are missing. A ♀ with labels: “Cuba M. H. de Saussure” [handwritten on white paper]; “Chloriphyllum saussurei Bol.” [handwritten on green paper]; “Syntypus” [printed on red paper]. The left antenna and left hind leg are missing. Box Q1.
Chloriphyllum saussurei Bolívar, 1887.

saussurei Bolívar, 1909: 402 [*Nomotettix*].
Santa Cruz, Mojoapan près d’Orizaba. Région des pins. One ♂.
Holotype ♂ with labels: “Sta Cruz, Mojoapan près Orizaba, région des pins” [handwritten on white card]; “Nomatettix Saussurei Bol.” [handwritten on white paper]; “Nomatettix Saussurei Bol.” [handwritten on green paper]; “Holotypus” [printed on red card]. Both antennae, the claws of the right hind leg and the entire left hind leg are missing. Box Q6.
Nomotettix saussurei Bolívar, 1909.

selysi Bolívar, 1887: 306, 307 [*Discotettix*].
Sumatra. Unspecified number of ♂.
One ♂ syntype with labels: "Sumatra, 25 XII 84, Soerian" [handwritten on white card]; "6 Mnesarchus Selysi Bolivar det." [handwritten on white paper]; "Discotettix Selysi Bol." [handwritten on yellow paper]; "Syntypus" [printed on red paper]. Bolivar gave no indication in the original description of where the type material was deposited. Box Q1.
Discotettix selysi Bolívar, 1887.

sikkinensis Bolívar, 1909: 398-399 [*Mazarredia*].
Sikkin. Unspecified number of ♂.
Lectotype ♂, designated inadvertently by Günther (1939: 65) who referred to the specimen as the holotype (Paris, 1994), with labels: "Sikkim, 8999/7" [handwritten on white card with "8999/7" printed, the end of the locality name is smudged, the card is broader at the top than at the bottom]; "Mazarredia sikkinensis Bol." [handwritten on white paper]; "Lectotypus" [printed on red card]. Specimen set with wings folded. Both antennae, the tarsi of both front legs, two tarsal segments of the right middle leg and the entire left hind leg are missing. Box Q4.
Bolivaritettix sikkinensis (Bolívar, 1909).

subulatus Bolívar, 1887: 227 [*Criotettix*].
Indes orientales (ma collection). Reçu de M. H. de Saussure. Unspecified number of ♀.
One ♀ paralectotype. The ♀ lectotype, designated by Paris (1994: 250) is in the MNMS. Box Q3.
Criotettix subulatus Bolívar, 1887.

tricarinatus Bolívar, 1887: 224 [*Criotettix*].
Ceylan (Humbert, Musée de Genève et ma collection). Unspecified number of ♂ and ♀.
Lectotype ♂, designated by Wagan & Kevan (1992: 181), with labels: "41 Criotettix tricarinatus, Bolivar det." [handwritten on white paper]; "Criotettix tricarinatus Bolivar" [handwritten on yellow paper]; "Syntypus" [printed on red paper]. The right antenna, the right middle leg and both hind legs are missing. The lectotype designation refers to "the ♂ in Geneva" but the MHNG collection has a series of seven ♂ and four ♀ collected by Humbert in Sri Lanka. Only one of each sex has a Bolivar identification label however, and the lectotype designation presumably means the ♂ specimen with this label. Box Q3.
Eucriotettix tricarinatus (Bolívar, 1887).

vidali Bolívar, 1887: 227 [*Criotettix*].
Causip Camarines (Philippines) (Mazzaredo, ma coll.). Unspecified number of ♂ and ♀.
One ♂ syntype with labels: "Criotettix Vidali Bolivar, Philippines; Bolivar" [handwritten on yellow paper]; "Syntypus" [printed on red paper]. Specimen set with wings folded. Box Q3.
Criotettix vidali Bolívar, 1887.

Ensifera

Gryllidae

aterrima Bolívar, 1925: 413, 414-416 [*Sciobia* (*Platyblemmus*)].
Tazza (Escalera). ♂ holotype and two ♂ paratypes.
One ♂ paratype. The ♂ holotype and one ♂ paratype are in the MNMS (Paris, 1994). Box Nadig 1012.
A junior synonym of *Sciobia tristis* (Bolívar, 1925).

chevreuxi Bolívar, 1925: 413, 425-427 [*Sciobia* (*Platyblemmus*)].
Maroc: Azrou (Escalera), Ourica (Pallary). ♂ holotype and an unspecified number of ♂ and ♀ paratypes.
One ♂ paratype. The ♂ holotype and 42 paratypes are in the MNMS (Paris, 1994). Box Nadig 1013.
Sciobia chevreuxi Bolívar, 1925.

chopardi parabolica Bolívar, 1925: 409 [*Lissoblemmus* (*Mitroblemmus*)].
Méquinez (Escalera), Azrou (Schulthess & Escalera). Unspecified number of syntypes.
A ♂ syntype with labels: "Marocco, Azrou, 30.2.23, Schulthess" [handwritten on white card]; "15" [handwritten on a strip of white card]; "Mitroblemmus Chopardi Bol. v. parabolicus [sic], type, I. Bol. det." [handwritten on white card]; "Typus" [printed on red card]. Most of both antennae, the claws of the right front leg and the entire left hind leg are missing. There are four further syntypes in the MNMS (Paris, 1994). Box Nadig 1013.
Sciobia chopardi parabolica (Bolívar, 1925).

fragosoi Bolívar, 1885a: 117 [*Gryllomorphus*].
Dos Hermanas (Séville). Unspecified number of ♂.
The single specimen placed under this name in the MHNG has a locality label of a form (white card rectangle with the points of the corners cut off) and handwriting very similar to those of some of the Bolivar lectotypes illustrated on OSF and dissimilar in both senses from the usual MHNG labels. It is therefore possible, if unlikely, that this is a syntype. A ♂ with labels: "Seville Julio" [handwritten on white card]; "Gryllomorphus fragosoi Bol. Seville" [handwritten on white paper]; "Gryllomorphus fragosoi Bol." [handwritten on blue paper]; "Possible syntype? Hollier 2014" [handwritten on red paper]. Two tarsal segments of the right hind leg and the entire left hind leg are missing. Paris (1994) considered the type series lost. Box A19
Petaloptila fragosoi (Bolívar, 1885).

littoreus Bolívar, 1885b: 174 [*Gryllodes*].
Talavera de la Reina. Unspecified number of ♂ and ♀ syntypes.
Five ♂ and one ♀, all possibly syntypes. A ♂ with labels: "Gryllodes littoreus Bol. ♂ Talavera Bolivar" [handwritten on white paper]; "Gryllodes littoreus Boliv." [handwritten on blue paper]; "Possible syntype Hollier

2014" [handwritten on red paper]. Specimen set with wings folded. Most of both antennae are lost. A ♂ with labels: "Gr. littoreus Bol., Talavera Bolivar" [handwritten on white paper]; "Gryllodes littoreus Boliv." [handwritten on blue paper]; "Possible syntype Hollier 2014" [handwritten on red paper]. Specimen set with wings folded. The right hind leg is missing. A ♂ with labels: "Gr. littoreus Bol., Talavera Bolivar" [handwritten on white paper]; "Gryllodes littoreus Boliv." [handwritten on blue paper]; "Possible syntype Hollier 2014" [handwritten on red paper]. Specimen set with wings folded. Most of the left antenna is missing. A ♂ with labels: "Gr. littoreus Bol., Talavera Bolivar" [handwritten on white paper]; "Gryllodes littoreus Boliv." [handwritten on blue paper]; "Possible syntype Hollier 2014" [handwritten on red paper]. Specimen set with wings folded. Most of the right antenna is missing. A ♂ with labels: "Gryllodes littoreus Bol. ♂ Talavera Bolivar" [handwritten on white paper]; "Gryllodes littoreus Boliv." [handwritten on blue paper]; "Eugryllodes littoralis (Bol.) [sic] Det. R. L. Randell, 1963" [handwritten on white card with "Det. R. L. Randell, 19" printed]; "Possible syntype Hollier 2014" [handwritten on red paper]. Specimen set with wings folded. Both antennae and the right hind leg are missing. A ♀ with labels: "Gryllodes littoreus Bol. ♀ Talavera Bolivar" [handwritten on white paper]; "Gryllodes littoreus Boliv." [handwritten on blue paper]; "Possible syntype Hollier 2014" [handwritten on red paper]. The left hind leg is missing. Although it is clear from the original description that Bolivar collected many examples, it is known that he also collected this species at the type locality after the publication of the description (see Holstein & Ingrisch, 2004: 4) and so the specimens cannot be definitely identified as syntypes. There are 11 further syntypes in the MNMS (Paris, 1994). Box A14.
Eugryllodes littoreus (Bolívar, 1885).

schulthessi Bolívar, 1925: 391, 392-393 [*Holoblemmus*].
Maroc: Tazza (Escalera), Fez (Schulthess). ♂ holotype and an unspecified number of ♂ and ♀ paratypes.
At least one ♂ paratype. One specimen has the label "Holloblemmus schulthessi Bol., cotype, I. Bol. det." [handwritten on white card]. There are seven other ♂ from Fez collected by Schulthess, two with identification labels written by Bolivar, but without indication of their type status. The ♂ holotype and 23 paratypes are in the MNMS (Paris, 1994). Box Nadig 1011.
Holoblemmus schulthessi Bolívar, 1925.

tristis Bolívar, 1925: 403-404 [*Lissoblemmus* (*Mesoblemmus*)].
Maroc: Tazza (Escalera). ♂ holotype, one ♂ paratype and one ♀ paratype.
One ♂ paratype. The ♂ holotype and ♀ paratype are in the MNMS (Paris, 1994). Box Nadig 1011.
Sciobia tristis (Bolívar, 1925).

xauensis Bolívar, 1925: 414, 428-430 [*Sciobia* (*Platyblemmus*)].
Maroc: Bas Xauen (Escalara). ♂ holotype and an unspecified number of ♂ and ♀ paratypes.
One ♂ paratype and one ♀ paratype. The ♂ holotype and 42 paratypes are in the MNMS (Paris, 1994). Box Nadig 1012.
A junior synonym of *Sciobia barbara* (Saussure, 1877).

Tettigoniidae

areolarius Bolívar, 1877: 292-293, pl. 4, fig. 6 [*Ephippiger*].
Granada (Brunner); Albarracin (Zapater); Madrid. Unspecified number of ♂ and ♀.
Amongst the specimens placed under this name in the MHNG are five examples exchanged with Bolívar in 1879, one of which is from one of the type localities and may be a paralectotype. This specimen is paler than the others in the MHNG and more carefully set. Paris (1994) states that a ♀ specimen in the MNMS was inadvertently designated as lectotype when Peinado & Mateos (1986b: 356) referred it as the holotype. Box L4.
Ephippigerida areolaria (Bolívar, 1877).

atrospinosa Bolívar, 1903: 164-165 [*Biroa*].
Sattelberg, Golfe Huon (Biro 1899). Unspecified number of ♂ and ♀.
Two ♂ and two ♀, all possible syntypes. A ♂ with labels: "N. Guinea, Biro 1899." [printed on white card]; "Sattelberg, Huon-Golf" [printed on white card]; "Biroa atrospinosa Bol." [handwritten on white card]; "Possible syntype, Hollier 2014" [handwritten on red paper]. Specimen set with wings folded. A ♂ with labels: "N. Guinea, Biro 1899." [printed on white card]; "Sattelberg, Huon-Golf" [printed on white card]; "Biroa atrospinosa Bol." [handwritten on lilac paper]; "Possible syntype, Hollier 2014" [handwritten on red paper]. Specimen set with wings folded. A ♀ with labels: "N. Guinea, Biro 1899." [printed on white card]; "Sattelberg, Huon-Golf" [printed on white card]; "Biroa atrospinosa Bol." [handwritten on lilac paper]; "Possible syntype, Hollier 2014" [handwritten on red paper]. Specimen set with wings folded. The right front leg is missing. A ♀ with labels: "N. Guinea, Biro 1899." [printed on white card]; "Sattelberg, Huon-Golf" [printed on white card]; "Biroa atrospinosa Bol." [handwritten on lilac paper]; "Possible syntype, Hollier 2014" [handwritten on red paper]. Specimen set with wings folded. There is also one ♂ syntype and one ♀ syntype in the MNMS (Paris, 1994) (images on OSF). Box D1.
Biroa atrospinosa Bolívar, 1903.

biroi Bolívar, 1902: 181-182 [*Aphroptera*].
Friedrich-Wilhelmshafen, Stephansort, Erima, Simbang, Sattelberg (Huon Golf) (Biro). Unspecified number of ♂ and ♀.

Two ♀ syntypes. A ♀ with labels: "N. Guinea, Biro 97." [printed on white card]; "Stephansort, Astrolabe Bai" [printed on white card]; "Aphroptera biroi Bol. 2 ex. ex Mus Hongarc." [handwritten on lilac paper]; "Syntypus" [printed on red paper]. Specimen set with wings folded. The last tarsal segment of the left front leg is missing. A ♀ with labels: "N. Guinea, Biro 1899." [printed on white card]; "Sattelberg, Huon-Golf" [printed on white card]; "Aphroptera biroi" [handwritten on white card]; "Syntypus" [printed on red paper]. Specimen set with wings folded. The claws of the left hind leg are missing. There are four ♂ syntypes in the MNMS (Paris, 1994) (images on OSF). Box B11.
Aphroptera biroi Bolívar, 1902.

brunnerii Bolívar, 1877: 272-273, pl. 3, fig. 4 [*Ephippiger*].
Cuenca (Perez); Brunete (Madrid); Madrid (Saenz Hermua); Aranjuez; Escorial. Unspecified number of ♂ and ♀.
Among the specimens placed under this name in the MHNG are five examples that were exchanged with Bolívar in 1879, all from the type localities, that may be paralectotypes. Paris (1994) states that a ♂ specimen in the MNMS was inadvertently designated as lectotype when Peinado & Mateos (1988: 69) referred to it as the holotype. Box L3.
Steropleurus brunnerii (Bolívar, 1877).

dilutus Bolívar, 1878: 442-443, pl. 4, fig. 9 [*Ephippiger*].
Villalba, Matritum circa. Unspecified number of ♂ and ♀.
The three specimens placed under this name in the MHNG were exchanged with Bolívar in 1879; they come from the type locality and may be paralectotypes. Paris (1994) states that a ♀ specimen in the MNMS was inadvertently designated as lectotype when Peinado & Mateos (1988: 68) referred to it as the holotype. Box L6.
Ephippigerida diluta (Bolívar, 1878).

dimidiata Bolívar, 1902: 191-192 [*Paracaedicia*].
Sattelbeg (Huon Golf) (Biro, 1899). Unspecified number of ♂ and ♀.
Two ♀, possibly syntypes. A ♀ with labels: "N. Guinea, Biro 1899." [printed on white card]; "Sattelberg, Huon-Golf" [printed on white card]; "69" [handwritten in pencil on white card]; "Procaecicia dimidiata Bol." [handwritten on white card]; "Possible syntype, Hollier 2014" [handwritten on red paper]. Specimen set with wings folded. A ♀ with labels: "N. Guinea, Biro 1899." [printed on white card]; "Sattelberg, Huon-Golf" [printed on white card]; "Possible syntype, Hollier 2014" [handwritten on red paper]. Specimen set with wings folded. The right middle leg and the claws of the right hind leg are missing. There are three ♀ syntypes in the MNMS (Paris, 1994). (Images on OSF). Box B13.
Procaedicia dimidiata (Bolívar, 1902).

karschi Bolívar, 1903: 170-171 [*Charisoma*].
Sattelberg, Golfe Huon leg. Biro, 1899. Unspecified number of ♂ and ♀.
One ♂ syntype and one ♀ syntype. A ♂ with labels: "N. Guinea, Biro 1899." [printed on white card]; "Sattelberg, Huon-Golf" [printed on white card]; "Charisoma Karschi Bol." [handwritten on white card]; "Syntypus" [printed on red paper]. Specimen set with wings folded. The tarsi of the left front leg are lost. A ♀ with labels: "N. Guinea, Biro 1899." [printed on white card]; "Sattelberg, Huon-Golf" [printed on white card]; "Charisoma Karschi Bol." [handwritten on white card]; "Syntypus" [printed on red paper]. Specimen set with wings folded; the end of the left forewing is split. The end of the tibia and the tarsi of the right hind leg are lost. There are one ♂ syntype and one ♀ syntype in the MNMS (Paris, 1994). Images on OSF. Box D8.
Charisoma karschi Bolívar, 1903.

longipes Bolívar, 1902: 195-196 [*Agnapha*].
Simbang (Biro). Unspecified number of ♂ and ♀.
One ♂ and one ♀, both possibly syntypes. A ♂ with labels: "N. Guinea, Biro 1899." [printed on white card]; "Simbang, Huon Golf" [printed on white card]; "Agnapha longipes Bol. det. Bolivar" [handwritten on white card with "det. Bolivar" printed]; "Possible syntype, Hollier 2014" [handwritten on red paper]. Specimen set with wings folded. A ♀ with labels: "N. Guinea, Biro 1899." [printed on white card]; "Simbang, Huon Golf" [printed on white card]; "Agnapha longipes Bol." [handwritten on white card]; "Possible syntype, Hollier 2014" [handwritten on red paper]. Specimen set with wings folded. The end of the tibia and the tarsi of the right middle leg are missing. There are two ♂ syntypes and two ♀ syntypes in the MNMS (Paris, 1994) (images on OSF). Box B19.
Agnapha longipes Bolívar, 1902.

martinezii Bolívar, 1873: 222-224; plate 9, figure 4 [*Ephippiger*].
Madrid. Unspecified number of ♂ and ♀.
Among the specimens placed under this name in the MHNG are ten examples exchanged with Bolívar in 1879; five are labelled as being from the type locality and might be paralectotypes. The ♀ lectotype, designated by Peinado & Mateos (1986a: 261) is in the MNMS. Paris (1994) questions the validity of the designation because she thinks the specimen designated is not part of the type series, in which case the specimens in the MHNG are possible syntypes. Box L7.
Platystolus martinezii (Bolívar, 1873).

pisifolia Bolívar, 1902 [*Diastellidea*].
Erima, Stephansort, Sattelberg (Biro). Unspecified number of ♂ and ♀.
One ♂, possibly a syntype. A ♂ with labels: "N. Guinea, Biro 1900" [printed on white card with "1900" handwritten over the printed "1899"]; "Stephansort, Astrolabe

Bai" [printed on white card]; "Diastellidea pisifolia Bol." [handwritten on white card]; "Possible syntype, Hollier 2014" [handwritten on red paper]. Specimen set with wings folded. According to OSF the types are lost. Box B13.
Diastellidea pisifolia Bolívar, 1902.

pupulus Bolívar, 1877: 334-335 [*Ctenodecticus*].
Madrid (Saenz Hermual, Ruiz Madrid); Escorial. Unspecified number of ♂ and ♀.
The MHNG collection has four specimens collected by Bolívar, three of them long after the publication of the original description. The fourth was exchanged with the MHNG in 1879, is from one of the type localities and may be a syntype. A ♂ with labels: "Espagne 602-42" [handwritten on a strip of white paper] "Ctenodecticus pupulus ♂ Escorial" [handwritten on white paper]; "Ctenodecticus pupulus Bol. Type! Escorial" [handwritten on pale blue paper]; "Possible syntype Hollier 2014" [handwritten on red paper]. The tarsi of the right front and middle legs, the last tarsal segment of the left hind leg and the claws of the right hind leg are lost. There are seven syntypes in the MNMS (Paris, 1994). Box K6.
Ctenodecticus pupulus Bolívar, 1877.

saussurianus Bolívar,1878: 442, pl. 4, fig. 8 [*Ephippiger*].
Burgos. Unspecified number of ♂ and ♀.
Among the specimens under this name in the MHNG are three ♂ and two ♀ from the type locality exchanged with Bolívar in 1879 which may be paralectotypes. The ♂ lectotype, designated by Peinado (1986: 97), is in the MNMS (images on OSF). Box L6.
Ephippigerida saussuriana (Bolívar, 1878).

stalii Bolívar, 1877: 284-285; plate 3, figure 11 [*Ephippiger*].
Escorial. Unspecified number of ♂ and ♀.
Among the specimens placed under this name in the MHNG are six examples exchanged with Bolívar in 1879, all from the type locality, which may be paralectotypes. Paris (1994) states that a ♂ specimen in the MNMS was inadvertently designated as lectotype when Peinado & Mateos (1988: 70) referred to it as the holotype. Box L3.
Lluciapomaresius stalii (Bolívar, 1877).

surcularius Bolívar, 1877: 273-275, pl. 4, fig. 9 [*Ephippiger*].
Villaverde (Madrid). Unspecified number of ♂ and ♀.
Among the specimens placed under this name in the MHNG are six examples exchanged with Bolívar in 1879, four of which are labelled as coming from the type locality and which may be paralectotypes. The ♂ lectotype, designated by Peinado & Mateos (1986a: 261), is in the MNMS. Box L7.
Platystolus surcularius (Bolívar, 1877).

terminalis Bolívar, 1902: 192 [*Paracaedicia*].
Stephansort, Simbang, Sattelberg (Biro, 1899). Unspecified number of ♂ and ♀.
One ♀, possibly a syntype. A ♀ with labels: "N. Guinea, Biro 1899." [printed on white card]; "Sattelberg, Huon-Golf" [printed on white card]; "69" [handwritten in pencil on white card]; "Procaecicia terminalis Bol." [handwritten on white card]; "Possible syntype, Hollier 2014" [handwritten on red paper]. Specimen set with wings folded. There is one ♂ syntype and one ♀ syntype in the MNMS (Paris, 1994) (images on OSF). Box B13.
Procaedicia terminalis (Bolívar, 1902).

Other names.

Although the original description of *Hedotettix coactus* Bolívar, 1887 states that there are type specimens in the MHNG, no such specimens could be found (as noted by Paris, 1994). There is a syntype in the MNMS.
The species *Acinipe paulinoi* (Bolívar in Saussure, 1887: 77) is ascribed to Saussure on OSF, but he states that he received the description and not the specimen(s) from Bolívar and credits Bolívar as the author; the species name should therefore be regarded as Bolívar's. Bolívar had received the specimen(s) from Paulino d'Oliveira of Coimbra in Portugal, for whom the species was named. There are no specimens in the MHNG and the whereabouts of the type material is unknown.
The MHNG collection has a series of *Chrotogonus saussurei* Bolívar, 1884, a junior synonym of *C. oxypterus* (Blanchard, 1836), with a handwritten note by Kevan saying "This series is part of that from which Ch. saussurei Bol. was described. They are probably not syntypes since none bears Bolívar's determination. D. K. K." The reasoning is faulty, since other Bolívar types do not either, but the conclusion is probably correct because the original description states that the material was in the collection of Brunner von Wattenwyl, to whom Saussure had presumably given part of this series. A similar situation pertains to a series of *Zarytes squalinus* (Saussure, 1884) (see Hollier 2013: 215). The types of both species are in the NHMW.
There is a single specimen in the MHNG collection under the name of *Callimenus ferdinandi* Bolívar, identified by Bolívar and labelled as a syntype. This is one of the specimens mentioned by Uvarov (1934: 70) as having been labelled with this name by Bolívar, although the syntype label is of the characteristic kind used by Malcolm Burr (see Hollier, 2008). Uvarov makes clear that this is a collection name and it is therefore not available, although it would in any case be a junior synonym of *C. latipes* (Stål, 1875). This example is therefore not a type specimen.

ACKNOWLEDGEMENTS

Thanks are due to Anita Hollier, Peter Schwendinger and Bernhard Merz for comments on the layout and text, and to Bernd Hauser for historical information about the MHNG collection.

REFERENCES

Bolívar I. 1873. Ortópteros de España nuevos o poco conocidos. *Anales de la Sociedad Española de Historia Natural* 2: 213-237.

Bolívar I. 1877. Sinopsis de los Ortópteros de España y Portugal. Tercera parte. *Anales de la Sociedad Española de Historia Natural* 6: 249-348.

Bolívar I. 1878. Analecta Orthopterologica. *Anales de la Sociedad Española de Historia Natural* 7: 423-470.

Bolívar I. 1884. Les Orthoptères d'Europe et du bassin de la Méditerranée. *Annales de la Société entomologique de Belgique* 28: cii-cvii.

Bolivar I. 1885a. Diagnoses d'Orthoptères nouveaux. *Le Naturaliste: journal des échanges et des nouvelles* 7: 116-117.

Bolívar I. 1885b. Observations sur le *Gryllodes littoreus* sp. nov. *Le Naturaliste: journal des échanges et des nouvelles* 7: 174.

Bolívar I. 1887. Essai sur les Acridiens de la tribu des Tettigidae. *Annales de la Société entomologique de Belgique* 31: 175-313.

Bolívar I. 1898. Contributions à l'étude des Acridiens. Espèces de la faune Indo- et Austro-Malaysienne du Museo civico de storia naturale de Genova. *Annali del Museo civico di storia naturale di Genova* 39: 66-101.

Bolívar I. 1902. Contributions à l'étude des Phaneropterinae de la Nouvelle-Guinée, appartenant au Muséum National de Budapest. *Természetrajajzi Füzetek* 25: 180-196.

Bolívar I. 1903. Contributions à l'étude des Mecopodinae. *Annales Musei Nationalis Hungarici* 1: 161-178.

Bolívar I. 1904. Notas sobre los Pirgomórfidos (Pyrgomorphidae) VI. Subfam. Poecilocerinae. *Boletín de la Real Sociedad Española de Historia Natural* 4: 432-459.

Bolívar I. 1905. Notas sobre los Pirgomorfidos (Pyrgomorphidae) VIII. Subfam. Desmopterinae. *Boletín de la Real Sociedad Española de Historia Natural* 5: 105-115.

Bolívar I. 1909. Nouvelles espèces d'Acridiens du Musée de Genève. *Boletín de la Real Sociedad Española de Historia Natural* 9: 393-403.

Bolívar I. 1914. Estudios Entomologicos segunda parte. I El Grupo de los Euprepocnemes. II Los Truxalinos de antiguo Mondo. *Trabajos del Museo Nacional de Ciencias Naturales (series Zoologica)* 16: 3-110.

Bolívar I. 1925. Orthoptera Palaearctica critica. I. Contribution à la connaissance des Sciobiae. *Eos, Revista española de entomología* 1(4): 375-440.

Eades D.C., Otte D., Cigliano M.M., Braun H. 2015. Orthoptera species file online. Version 5.0/5.0. Available online at http://Orthoptera.SpeciesFile.org [19 August 2015].

Günther K. 1938a. Revision der Acrydiinae I. Sectiones Tripetalocerae, Discotettigiae, Lophotettigiae, Cleostratae, Bufonidae, Cladonotae, Scelimenae verae. *Mitteilungen aus dem Zoologischen Museum in Berlin* 23: 299-437.

Günther K. 1938b. Revision der Acrydiinae (Orth.), II. Scelimenae spuriae. *Stettiner Entomologische Zeitung* 99: 117-148, 161-230.

Günther K. 1939. Revision der Acrydiinae (Orthoptera), III. Sectio Amorphopi (Metrodorae Bol. 1887, auct.). *Abhandlungen und Berichte des Museums für Tierkunde und Völkerkunde zu Dresden* 1: 16-335.

Harz K. 1975. Die Orthopteren Europas II. *Series Entomologica* 11: 1-939.

Hollier J.A. 2008. An annotated list of Malcolm Burr's Blattodea, Dermaptera and Orthoptera (Insecta) types in the collections of the Muséum d'histoire naturelle in Geneva. *Entomologist's monthly Magazine* 144: 157-162.

Hollier J. 2013. An annotated list of the Orthoptera (Insecta) species described by Henri de Saussure, with an account of the primary type specimens housed in the Muséum d'histoire naturelle de Genève, Part 4: The Acridomorpha excluding the superfamily Acridoidea. *Revue suisse de Zoologie* 120: 203-219.

Holstein J., Ingrisch S. 2004. Catalogue of type specimens of Orthoptera (Insecta) deposited in the Staatliches Museum für Naturkunde in Stuttgart. Part 1: Ensifera. *Stuttgarter Beiträge zur Naturkunde* (Serie A, Biologie) 665: 1-33.

Kevan D.K.M. 1970. Indian Pyrgomorphini other than *Pyrgomorpha* (Orthoptera: Acridoidea : Pyrgomorphidae). *Revue suisse de Zoologie* 77 : 851-866, plates I-IV.

Llorente del Moral V., Presa J.J. 1983. Los Pamphigidae de la Península ibérica. 1 Gen. *Prionotropis* Fieb. y *Acinipe* Ramb. (Orthoptera). *EOS Revista española de entomología* 58: 271-302.

Ohl M., Oswald J.D. 2004. Annotated list of the primary type specimens of Megaloptera and Raphidioptera (Insecta, Neuropterida) in the Museum für Naturkunde der Humbolt-Universität zu Berlin. *Deutsche Entomologische Zeitschrift* (N.S.) 51: 87-96.

Paris M. 1994. Catálogo de tipos de Orthopteroides (Insecta) de Ignacio Bolívar I: Blattaria, Mantodea, Phasmoptera y Orthoptera (Stenopelmatoidea, Rhaphidophoroidea, Tettigonoidea, Grylloidea, Tetragoidea). *EOS Revista española de entomología* 69: 143-264.

Peinado M.V. 1986. Désignation de lectotypes et paralectotypes pour *Ephippigerida saussuriana* (Bolívar, 1878) et *E. pantingana* (Navás, 1904) (Orth. Ephippigerinae). *Nouvelle Revue d'Entomologique* 3: 97.

Peinado M.V., Mateos J. 1986a. Désignation de lectotypes et paralectotypes pour *Platystolus martinezi* (Bolívar, 1873) et *P. surcularius* (Bolívar, 1877) (Orth. Ephippigerinae). *Nouvelle Revue d'Entomologique* 3: 261.

Peinado M.V., Mateos J. 1986b. La colección de efipigerinos del Museo Nacional de Ciencias Naturales (Orthoptera: Tettiginiidae) II. *Actas de las VIII Jornadas de la Asociación Española de Entomología,* pp. 353-362.

Peinado M.V., Mateos J. 1988. *Steropleurus* de la Comunidad Autónoma de Madrid (Orthoptera, Tettigoniidae). Estudia preliminar. *Boletín del Grupo Entomológico de Madrid* 3: 67-84.

Ritchie J.M. 1981. A taxonomic revision of the genus *Oedaleus* Fieber (Orthoptera: Acrididae*). Bulletin of the British Museum (Natural History), Entomology* 42: 83-183.

Saussure H. de 1884. Prodromus Oedipodiorum, Insectorum ex ordine Orthopterorum. *Mémoires de la Société de Physique et d'histoire naturelle de Genève* 28: 1-258.

Saussure H. de 1887. Spicilegia Entomologica Genavensia 2. Tribu des Pamphagiens. *Georg, Genève,* 94 pp.

Schwendinger P., Lienhard C. 2001. La collection d'orthoptères du Dr Adolf Nadig (Coire). *Le Carnet du Muséum* 8: 8-10.

Rehn J.A.G. 1953. Records and descriptions of Pyrgomorphinae (Orthoptera: Acrididae), with critical notes on certain genera. *Transactions of the American Entomological Society* 79: 99-150, 5 plates.

Uvarov B. 1934. Studies in the Orthoptera of Turkey, Iraq and Syria. *EOS Revista española de entomología* 10: 21-119.

Wagan M.S., Kevan D.K.M. 1992. Studies on some Tetrigidae (Orthoptera) from India, Pakistan and Sri Lanka. *Tropical Zoology* 5: 167-194.