species is associated with a particular mountain or hill complex in Ghana, Ivory Coast, Guinea or Liberia. Lastly a new species belonging to the genus *Lobopoma* is described, the type specimens being part of a very useful collection made for me by Mr. and Mrs. Pat Carter on a recent overland excursion from Accra to the Ruwenzori via Chad.

Bibliography.

BOOTH, A. H.

1958a. The zoogeography of West African Primates: A review *Bull. I. F. A. N. A.*, **20** (2): 588-622, 21 figs., tables.

1958b. The Niger, the Volta, and the Dahomey gap as geographical barriers. *Evolution*, **12** (1), 48-62, 4 figs., tables.

CHAPMAN, R. F.

1961. Some new and little kown Acridoidea (Orthoptera) from West Africa. *Ent. mon. Mag.*, **116**, 240-242, 9 figs. (paper dated 1960, published 1961).

1962. The ecology and distribution of grasshoppers in Ghana. *Proc. Zool. Soc. Lond.*, **139** (1), 1-66, 20 tables, 55 figs.

CHOPARD, L.

1958. La réserve naturelle intégrale du Mont Nimba. III Acridiens. *Mém. Inst. Fr. Afr. Noire*, **53**, 127-153, 7 figs.

DIRSH, V. M.

1962. Synonymic notes on African *Acridoidea* (Orthoptera). *Rev. Zool. Bot. Afr.*, **65**, (1-2), 81-89, 3 figs.

1963. La réserve naturelle intégrale du Mont Nimba. VI Orthoptera, Acridoidea (second contribution). *Mém. Inst. Fr. Afr. Noire*, **66**, 207-220.

JAGO, N. D.

1962. New species and new records of Acrididae (Orthoptera) from West Africa. *Proc. R. ent. Soc. Lond.*, **31** (11-12), 137-150, 37 figs.

1963. A revision of the genus *Calliptamus* Serville (Opthoptera, Acrididae). *Bull. Brit. Mus. (Nat. Hist.) Ent.*, **13** (9), 287-350, 26 figs., 1 table.

KARSCH, F.

1896. Neue Orthopteren aus dem tropischen Afrika. *Stettin. ent. Ztg.*, **57**, 242-359, 38 figs.

RAMME, W.

1929. Afrikanische Acrididae, Revisionen und Beschreibungen wenig bekannter und neuer Gattungen und Arten. *Mitt. Zool. Mus. Berl.*, **15**, 247-492, 16 pls., 106 figs.

ROY, R.

1960. Importance écologique des Orthoptères dans l'Ouest africain. *Bull. I. F. A. N.*, A., **22** (1), 198-206, 3 figs.

A new species of *Canariola* Uvarov from Spain

(Orth. Tettigoniidae)

BY

PATRICIA M. NEWMAN.

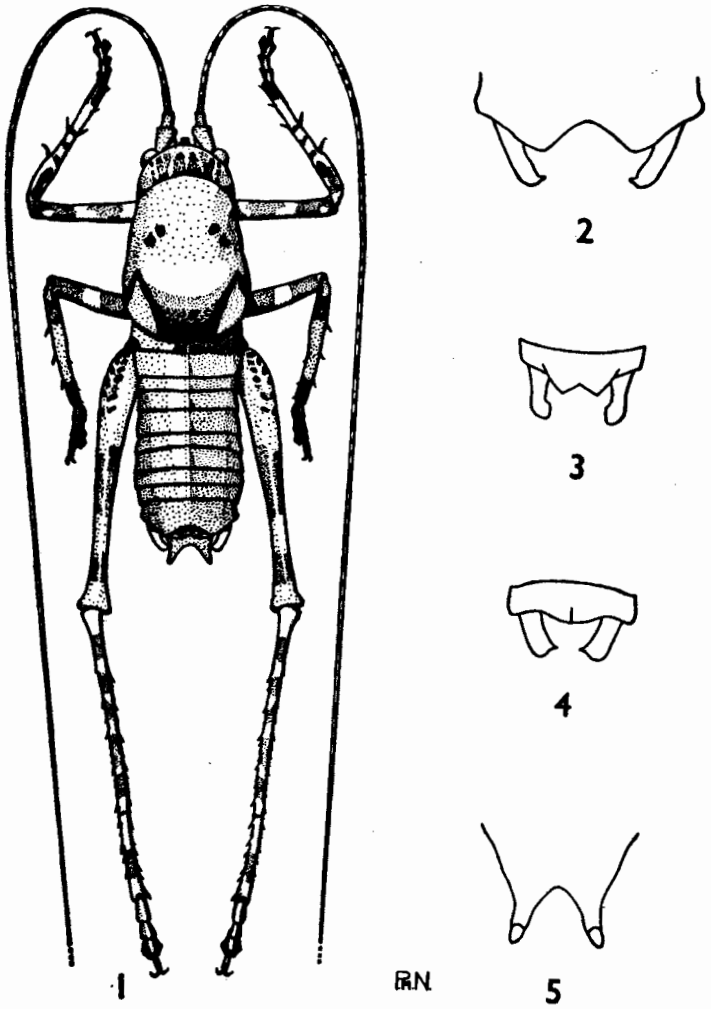
London.

In August 1962 a collecting expedition visited the Sierra de Cazorla, the interesting mountainous region of the Province of Jaen in southern Spain. Among the specimens collected was a male Meconematine, taken at night by sweeping. The shape of the tibiae and cerci of this specimen differed so much from those of males of the two previously known European genera of Meconematinae, *Meconema* Serville and *Cyrtaspis* Fischer, that it was at first thought to belong to a new genus.

Sr. E. Morales Agacino of the Instituto Español de Entomología, Madrid, suggested that this species might be associated with the genus *Canariola* Uvarov, 1940, which was known only from the Canary Islands. Accordingly he kindly lent me material of the two known species of that genus (including the holotype of *C. willemsei* Morales), and after comparing the male from Cazorla with them I have no hesitation in regarding it as a new species of *Canariola* Uvarov. It is of interest that a species of this flightless genus should be found in Europe.

During a second visit to the same area of the Sierra de Cazorla, in September 1963, I collected a further adult male, an adult female and a female nymph from bushes of *Crataegus* L. (hawthorn). It is on these three specimens and on the male collected in 1962 that the description of *Canariola* sp. nov. is based.

The genus *Canariola* Uvarov differs from other Meconematinae in the shape and dorsal armature of the fore and mid tibiae. The mid tibiae and the basal half of the fore tibiae are laterally compressed, each having one dorsal and two ventral edges. The dorsal edge has two or three spurs, but no apical one, and each ventral edge has three spurs, including an apical one.



Figs. 1-5.—*Canariola* Uvarov. (1) Dorsal view of *C. emarginata* sp. nov., male. (2) Dorsal view of the male tenth abdominal tergite of *C. emarginata* sp. nov. (3) Ditto of *C. willemsei* Morales. (4) Ditto of *C. nubigena* (Krauss). (5) Ventral view of the male subgenital plate of *C. emarginata* sp. nov.

Canariola emarginata sp. nov.

Holotype ♂, SPAIN: Jaén, Sierra de Cazorla, E. of Nava del Espino, c. 1,500 m., 29.viii-6.ix.1963, by beating hawthorn *(Newman & Bown)*. In the British Museum (Natural History), London.

Diagnosis. ♂. Tenth abdominal tergite with large subtriangular emargination, as in fig. 2. Subgenital plate with triangular incision, as in fig. 5. Metazona of pronotum with two pale-coloured triangular patches bordering hind margin; femora, tibiae and antennae banded with dark brown or black.

♀. Tenth abdominal tergite with deep, triangular incision, as in fig. 9. Ovipositor gently curved upwards in apical half, as in fig. 6. Metazona of pronotum with two small pale-coloured triangular patches bordering hind margin; femora, tibiae and antennae banded with dark brown or black.

Description. ♂. Pronotum smooth, shiny, not particularly inflated. Fore wings reduced to inflated stridulatory organs, entirely covered by pronotum. Hind wings absent. Femora unarmed. Fore tibiae with two, mid tibiae with three, dorsal spurs; hind tibiae unarmed below except for apical spine on each side, armed above with internal spur, and about 16-18 external, 21-24 internal, irregularly arranged large and small spines.

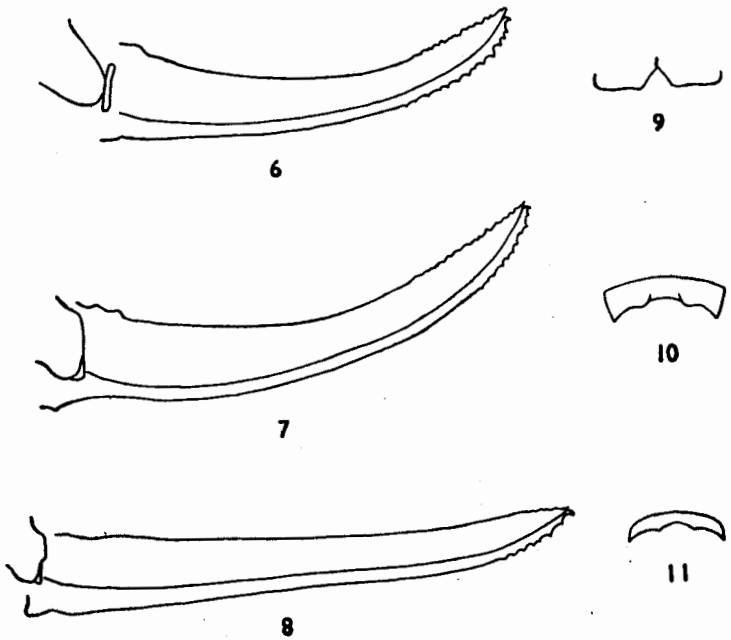
Abdomen of uniform width, tenth tergite almost as wide as first tergite. Tenth abdominal tergite with large subtriangular emargination, as in fig. 2. Supra-anal plate very small, fused to underside of tenth abdominal tergite. Cerci cylindrical, bluntly rounded apically, terminating in small internal tooth, as in fig. 2. Subgenital plate with triangular incision, as in fig. 5.

General coloration pale brown to cream, with dark brown speckles. Metazona of pronotum black except for two large, pale-coloured, triangular patches bordering hind margin. Femora and tibiae banded with dark brown or black; mid tarsi completely, fore and hind tarsi partially, dark brown or black. Antennae pale-coloured with dark brown or black rings; apex of each segment dark brown.

♀. As male except for the following characters. Pronotum not inflated, somewhat saddle-shaped, slightly elevated posteriorly. Fore wings absent. Hind femora armed above with about 20-22 external, 24-26 internal spines.

Tenth abdominal tergite with deep, triangular incision, as in fig. 9. Ovipositor gently curved upwards in apical half, dorsal and ventral edges crenulate in apical third, as in fig. 6.

Metazona of pronotum only partially black; pale-coloured triangular patches smaller.



Figs. 6-11.—*Canariola* Uvarov. (6) Lateral view of the ovipositor of *C. emarginata* sp. nov. (7) Ditto of *C. willemsei* Morales. (8) Ditto of *C. nubigena* (Krauss). (9) Dorsal view of the female tenth abdominal tergite of *C. emarginata* sp. nov. (10) Ditto of *C. willemsei* Morales. (11) Ditto of *C. nubigena* (Krauss).

Measurements. Males: total length (from vertex to hind margin of tenth abdominal tergite) (2): 11·7-11·8; median length of pronotum (2): 5·0-5·1; median length of hind femur: 7·9-8·3.

Female: total length (from vertex to hind margin of tenth abdominal tergite) 13·9; median length of pronotum: 4·5; median length of hind femur: 9·4; length of ovipositor: 7·6.

Material examined. ♂ holotype. 1 ♂ paratype, SPAIN: Sierra de Cazorla, W. of Nava del Espino, c. 1,600 m., 1-3.ix.1962, at night, by sweeping *(Newman)*. 1 ♀ paratype, SPAIN: Sierra de Cazorla, E. of Nava del Espino, c. 1,500 m., 29.viii-6.ix.1963, by beating hawthorn, nr. stream *(Newman & Bown)*.

All in the British Museum (Natural History), London.

KEY TO THE SPECIES OF "CANARIOLA" UVAROV.

1. Abdomen of male tapering posteriorly; tenth tergite about half width of first tergite, shaped as in fig. 3 or 4. Hind margin of tenth abdominal tergite of female without deep median incision, shaped as in fig. 10 or 11. Antennae unicolorous ..... 2.
—. Abdomen of male not tapering posteriorly; tenth tergite about as wide as first tergite, shaped as in fig. 2. Hind margin of tenth abdominal tergite of female with deep median incision, as in fig. 9. Antennae with dark brown or black rings ..... **C. emarginata** sp. nov.
2. Pronotum shiny, smooth. Tenth abdominal tergite of male as in fig. 3, of female as in fig. 10. Ovipositor curved, as in fig. 7. .... **C. willemsei** Morales, 1959.
—. Pronotum dull, verrucose. Tenth abdominal tergite of male as in fig. 4, of female as in fig. 11. Ovipositor straight, as in fig. 8. .... **C. nubigena** (Krauss, 1892)

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References.

KRAUSS, H.
1892. Systematisches Verzeichnis der canarischen Dermapteren und Orthopteren mit Diagnosen der neuen Gattung und Arten. *Zool. Anz.* 15: 163-171.

MORALES AGACINO, E.
1959. Sobre una nueva especie del género *Canariola* Uvarov. *Eos* 35: 269-277.

UVAROV, B. P.
1940. Twenty-four new generic names in Orthoptera. *Ann. Mag. nat. Hist.* (11) 6: 112-117.