EOS, T. EXT., 119-247, (1950).

REVISION OF THE GROUP *TRUXALES* (*ORTHOPTERA, ACRIDIDAE*)

BY

V. M. DIRSH

London

The original aim of this revision was the genus *Truxalis* Fabr. 1775, but during the work it became necessary to include all related genera, which form one well defined group named *Truxales*.

All materials of the British Museum (Natural History) and from almost all the main museums in Europe, some in Africa and from certain private collections were used for this work. The names of these museums are abbreviated as follows:

British Museum (Natural History).—(B. M.)
Oxford Museum.—(O. M.)
Madrid Museum.—(M. M.)
Paris Museum.—(P. M.)
Vienna Museum.—(V. M.)
Museum of the Belgian Congo. Tervuren.—(M. C.)
Geneva Museum.—(Geneva M.)
Genoa Museum.—(Genoa M.)
Stockholm Museum.—(St. M.)
Uppsala Museum.—(U. P.)
Basel Museum.—(Bas. M.)
Coryndon Museum, Nairobi.—(C. M.)
Pretoria Museum.—(Pr. M.)
Indian Museum, Calcutta.—(I. M.)
Dr. R. Ebner collection.—(E. C.)
Dr. C. Willemse collection.—(W. C.)

BIOTA / Atlantis
ACA992

Truxalis nasuta (Linné).

(Figs. 139-149, 217.)

1758. *Gryllus* (*Acrida*) *nasutus* Linné, Syst. Nat. (ed. X): 427, no. 11.
1775. *Truxalis nasutus* Fabricius, Syst. Ent.: 279.
1830. *Truxalis obsoleta*, ♀, Klug, Symb. Phys., no. 3, pl. 16, fig. 1.
1830. *Truxalis scalaris*, ♀, Klug, Symb. Phys., no. 5, pl. 15, figs. 3,
1830. *Truxalis variabilis*, ♂, Klug, Symb. Phys., no. 8, pl. 17, fig. 5.
1839. *Truxalis unguiculata* Rambur, Faun. Andal., 2: 72. no. 1.
1853. *Truxalis klugii* (Partim) Fieber, Lotos, 3: 97, no. 1.
1873. *Acrida nasuta* Stål, Rec. Orth., 1: 99, no. 10.
1893. *Tryxalis* (*Acridella*) *unguiculata* I. Bolívar, Feuil. Jeun. Nat., 23
63, 64, no. 11.
1910. *Acridella nasuta* (Partim) Kirby, Cat. Orth., 3: 95, no. 3.
1941. *Truxalis nasutus* Radclyffe-Roberts. Trans. Amer. Ent. Soc., 67: 21
1943. *Acridella nasuta* Uvarov, Proc. Linn. Soc., 155 sess.: 21.

♀. Antenna as long as head and pronotum together mode
rately widened. The 3rd, 4th and 5th basal segments incom
pletely divided. Sides of fastigium of vertex parallel, or slightly
convergent to the apex, which is broadly rounded.

Pronotum saddle-shaped; the lateral carinae in prozona, pa
rallel, straight or slightly incurved; in metazona excurved and
divergent; posterior margin of metazona straight or acutangulate,
with more or less incurved sides. Ratio of metazona to prozona
1-1.8. Mesosternal interspace elongated with incurved lateral
margins and broadened apex. Metasternal interspace as long as
broad or slightly longer.

Elytron projecting well beyond the hind knee; its anterior
margin slightly excurved, oblique to the apex, and narrowed,
apex weakly obtuse. Ratio of length to width — 8.3-8.9.

Hind femur well produced beyond the apex of the abdomen;
hind knee with short lateral lobes; lower lobe is longer and more
acute than upper one. Arolium very small, four times shorter
than the length of claw.

General colouration greenish, yellowish or yellow-brownish;
elytron with the characteristic pattern of the type 5. Metanotum,
first and partly second, sometimes third abdominal tergites bluish.
Basal disc of wing and its internal part dark pink with slightly

violettish shade, the tessellate pattern slight: apical part colourless or weakly greenish, pellucid and lustrous.

♂. Of medium size.

Antenna as long as head and pronotum together. The 3rd and 4th basal segments incompletely divided. Fastigium of vertex narrowed to the apex, which is rounded.

Pronotum saddle-shaped; the lateral carinae in prozona incurved, in metazona excurved and divergent; posterior margin of metazona acutangulate, with more or less incurved sides; ratio of metazona to prozona — 1.2-1.3. Mesosternal interspace elongated, with incurved lateral margins and widened apex. Metasternal interspace sligthly longer than broad

Elytron projecting well beyond the hind knee, ratio of length to width — 8.2-8.7, its anterior margin excurved, oblique to the apex: apical part narrow, slightly obtuse at the apex.

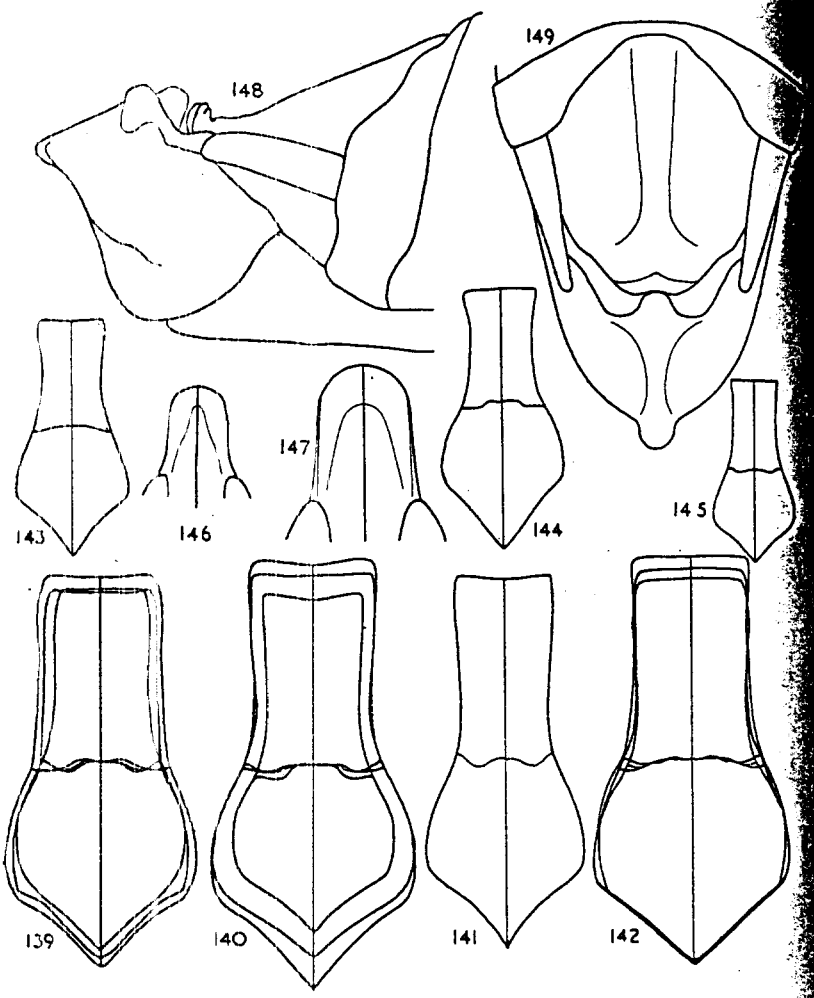
Hind femur produced beyond the apex of the abdomen. The hind knee with short lateral lobes, lower lobe longer and more acute than upper one. Arolium very small, four times shorter than the length of claw.

Subgenital plate short subconical, its external margin, in profile, concave: apex well projecting; from above with rounded apical projection.

General colouration green, yellowish or yellow-brownish. Lateral carina of pronotum and parallel folds on the lateral lobe pale; disc of pronotum with two dark stripes along the lateral carinae or without them. Elytron with more or less distinct pattern of the type 5, which sometimes disappears: basal disc of wing light yellowish-green, internal side weakly bluish; tessellate pattern light brownish. Three or four of the last abdominal tergites and supra-anal plate with diffused dark spots or without them.

Length of body ♂ 40-49, ♀ 62-78; frons ♂ 9-11.3, ♀ 15.5-18.5; pronotum ♂ 6-7.7, ♀ 11.3-12.9; elytron ♂ 35-41, ♀ 58-66; hind femur ♂ 23.5-26.5, ♀ 37.5-45.

Truxalis nasuta was described by Linné from Africa. Later Stål in his revision of species of Linné, Thunberg and De Geer, on the basis of studying Thunberg's collection, quoted for *T. nasuta* «Patria Algeria, Tunisia». The typical locality of this species, most probably, appears to be North Algeria. Re-



Figs. 139-149.—*Truxalis nasuta*. 139) Pronotum and its varieties of female (var. typical). 140) Ditto (of var. 2). 141) Ditto (var. 3 from Sahara). 142) Ditto (of var. 4). 143) Pronotum of male (var. 1 typical). 144) Ditto of var. 2). 145) Ditto (of var. 3 from Sahara). 146) Fastigium of vertex of male. 147) Ditto of female. 148) Subgenital plate of male in profile. 149) Ditto, apex from above.

description of this species is made on the specimen from North Algeria.

T. nasuta L. is distributed on the Canary Islands, South Europe, islands of the Mediterranean Sea, North Africa and Palestine (See Map. 9) All old records regarding *T. nasuta* from other countries refer to other species.

T. nasuta is a very variable species and even with specimens from the same locality and the same date there is an enormous range of variation (see Figs. 139-145).

There are the following varieties of *Truxalis nasuta.*

1. (Typical) Moderate size of body, lateral carina of pronotum in prozora slightly incurved, in metazona moderately excurved, posterior margin of metazona acutangulate, but not pointed, with slightly incurved sides (Fig. 139).

Distributed in North-Western Africa, Europe and isles of the Mediterranean.

2. (= *Truxalis scalaris* Klug). Differs by bluish or purplish colouration of basal disc of wing in the females (but there are all intermediate to typical forms); size of body larger than in typical form; lateral carina of pronotum in prozona slightly incurved, in metazona strongly excurved; posterior angle of metazona strongly elongated and mostly pointed. (Fig. 140.)

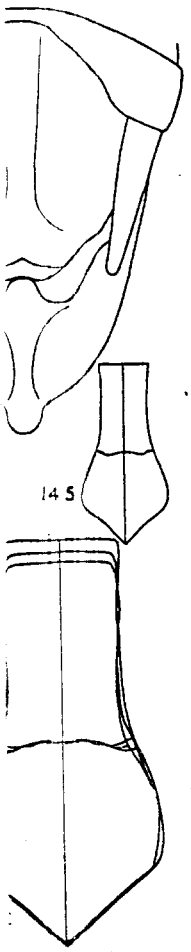
Distributed in the Siwa oasis (see Uvarov, 1943) and Suez.

3. Differs by very slender body; incurved in prozona and strongly excurved in metazona lateral carina. Posterior angle of metazona acute (Fig. 141). Basal disc of wing in female light coloured dirty pinkish.

Distributed in the southern part of the area in Sahara.

4. (= *Truxalis obsoleta* Klug.) Differs by the large size, pale general colouration and small coloured spot of the basal disc of wing in the females, which is pinkish to brownish, sometimes purplish. Pronotum comparatively robust: posterior angle of metazona approaches to the right or obtuse with obtuse apex. (Fig. 142.)

Distributed in Palestine.



eties of female
n Sahara). 142)
. 144) Ditto of
n of vertex of
in profile. 149)

All these variations fluctuate strongly and there are all intermediate forms between them. Taxonomic value of these variations remains indefinite.

CANARY ISLANDS: Gran Canaria, 2.V.1895, 1 ♀ (*P. M.*). Canarias, 1 ♀ (Calderón) (*M. M.*). Gr. Canaria, Ginamar, 1903, 1 ♀ (P. Lesne) (*P. M.*).

SPAIN: P. de Greda, 22.IX.1935, 1 ♀. P. de Torrevieja, 21.IX.1935, 2 ♀♀ (M. Burr). Granada, 19.VI.1901, 1 ♀ (*B. M.*). Málaga, 1 ♂, 3 ♀♀ (Ed. Pictet) (*Geneva M.*). Málaga, 1 ♂, 1 ♀ (E. Gros). Málaga, 1 ♀ (E. Marvier). San Fernando, Cádiz, 1 ♂, 1 ♀ (A. Benítez). Barajas, Madrid, VI.1935, 1 ♂, 1 ♀ (Abajo). Madrid, 1 ♀ (C. Bolívar). Brunete, Prov. Madrid, VI.1938, 1 ♂, 1 ♀ (E. Morales). Torrecilla, Lorca, Murcia, VII.1932, 1 ♀ (J. Espín). Almería, 1 ♀ (J. Gómez-Menor). La Cava, Tarragona, VII.1926, 1 ♀ (J. Gil). Valencia, Alcántara, 1 ♂ (E. Brenil) (*M. M.*). Granada, 1 ♂, 1 ♀ (*W. M.*). Madrid, 1 ♀ (I. Abajo). Brunete, Prov. Madrid, 20.VI.1938, 1 ♂, 1 ♀ (E. Morales). Valencia, 1 ♀ (*W. C.*). Prov. Granada, Estepona, 19.VI, 2 ♂♂, 1 ♀. Málaga, Marbella, 18.VI, 1 ♂ (O. Lundblad) (*St. M.*). Aguilas, Murcia, 1 ♂, 1 ♀ (Weiers). Madrid, 1 ♀ (Bolívar). Portimao, Algarve, 14.V.1910, 1 ♀ (Jordan) (*O. M.*).

SARDINIA: Cagliari, V. 1873, 1 ♀ (R. Gestro) (*Genoa M.*). 14.VI.1947, 1 ♀ (F. B. Boselli).

SICILY: Alcamo, 1 ♀ (F. Wagner) (*W. C.*). Biccoca, 1 ♀. «Sicile», 2 ♂♂, 1 ♀. Agnone, 1 ♂. Marais de Lantini, 1 ♂. Motta, 1 ♂ (*Geneva M.*). Siracto, 25.V, 1 ♂. Agnone Station, 1 ♀ (*W. M.*). «Sicilia», 1914, 1 ♀. Sirakus, 21.V.1914, «Sicilia», 1 ♂ (W. Trautman) (*St. M.*).

ITALY: Calabria, Capo Spartivento, 27.VI.1929, 1 ♀ (C. Confalonieri) (*Genoa M.*).

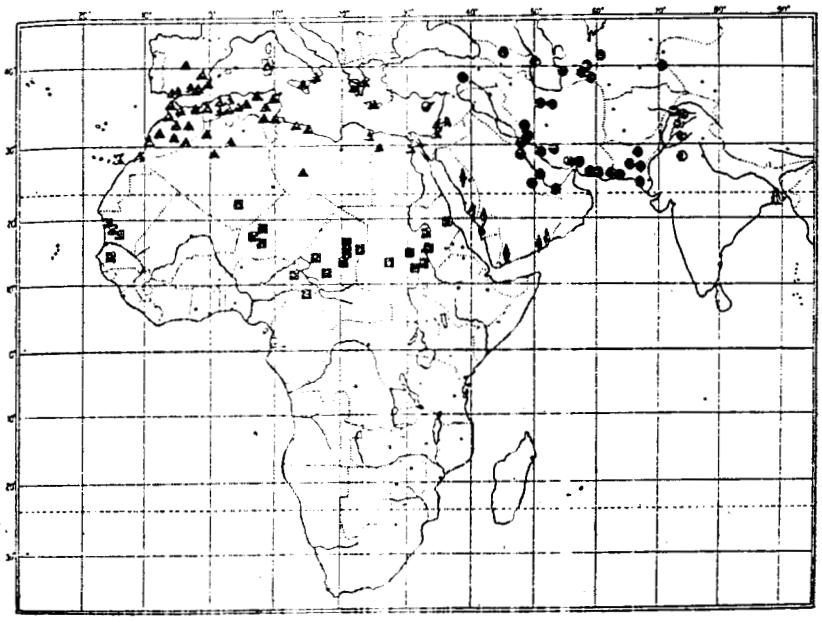
GREECE: Athens, 2.VI.1866, 1 ♀ (Merlin Coll.) (*B. M.*). Moree, 1833, 1 ♂ (Brullé) (*P. M.*).

CRETE: Sphakia, Frankocastelli, 25.V.1938, 1 ♀ (R. E. Gathorne-Hardy) (*B. M.*). St. Nicolo, V.1904, 2 ♀♀ (*W. M.*). «Crete», 1845, 1 ♀ (Raulin) (*P. M.*).

IFNI: Tilinin, VI.1934, 1 ♂ (F. Escalera) (*M. M.*).

MOROCCO: Rabat, V.1921, 1 ♂. Marrakesh, 4.VII.1927, 1 ♀. Great Atlas Mts., Tjoukar (about 30° N., 8° W.), 3,000 ft., VI.1936, 7 ♂♂, 4 ♀♀. Great Atlas Mts., Mouldirt, 3,060 ft.,

VI.1936, 1 ♀. Middle Atlas Mts., Azrou, 4.400 ft., VI.1936, 1 ♂ (K. H. Chapman & G. A. Bisset). Rou-Denib, 1 ♂ (Théry). Volubilis, 400 m., 1 ♂ (Allu.ud) (B. M.). Fez, 25.V.1930, 1 ♀ (*St. M.*). Gr. Atlas. Goundafa (34,10 N., 05,03 W.), 1,200 m.,



Map. 9.—Distribution of species: ▲ — *Truxalis nasuta*. ■ — *T. johnstoni*. ◔ — *T. eximia*. ◆ — *T. phillbyi*.

29.VI.1933, 1 ♀ (Zerny) (W. M.). Amismiz, 1 ♂, 1 ♀ (Escalera). Uad Lucus, Larashe, 1 ♂ (J. Gil Collado). Tanger, VI.1905, 1 ♂ 1 ♀. Xauen bajo (sp. Morocco) 1 ♀ (M. Escalera). Sidi Salem, Melilla. V.1930. 1 ♀. Segangan, Melilla, 1 ♂. Melilla. 7.IX.1930, 1 ♀; V.1930, 1 (B. Cardel). Larache, 1 ♀ (A. Nombela). Lixus. El Tchemmich VI. 1923, 1 ♀ (J. Gil) (M. M.). Tarfaia, (28° N., 13° W.). 1 ♂ (A. Théry). Agadir, IV.1939, 1 ♀ (L. Berland). Gt. Atlas. Sinis. S. Talekjount, 800 m., 7.V.1927, 1 ♀. Gr. Atlas, Tinmel, Goundafa. 17-24.V. 1927, 1 ♀. Goundafa. Tagubndaft. 1,800-2,100 m., 16.V.1927, 1 ♂ Tenfecht, Takeljount, 1,000-1,200 m., IV-VI.1927, 1 ♂ (Le Cerf & Talbot). Dart Goundafa. V.1914. 1 (P. Polary). Tanger, 1 ♀ (Goudot) (P. M.). Agadir, 1 ♂ (Escalera) (M. M.).

ALGERIA: Biscra, 20.VI.1934, 2 ♂♂. Hassi Bahbah, (35,10 N., 03,00 E.), X.1938. 1 ♀. Boghari, 28.IX.1937, 1 ♂, 1 ♀. Bou-Saada, 18.VI.1934, 1 ♀ (M. N. Korsakoff). Mascara, 1922, 3 ♂♂, 3 ♀♀ (A. Cros). Hamman-es-Salahia, 35 m. W. of Biscra, 12.V.1903, 1 ♀ (Waslingham). Ain Sefra, S. Oran, 1.V.1913, 1 ♂ (Rothschild) (*B. M.*). Oran, 3 ♀♀. Algerie, 1 ♀ (*Geneva M.*). Oran, VI. 1 ♂, 1 ♀. Biscra, 1 ♂, 1 ♀ (*V. M.*). Boyen, Kabylia, 1 ♀. Ain Sefra, 1 ♀. Oran, 1 ♀ (*M. M.*).

TERR. DU SUD: El Golea, 1934, 2 ♂♂, 1 ♀ (L. Chopard). Timimoun, X. 1937, 3 ♂♂, 4 ♀♀ (M. Volkonsky) (*P. M.*). El Golea, 20.V.1912, 1 ♂, 1 ♀ (Hartert & Hilg) (*B. M.*).

TUNISIA: Near Sfax, III.1904, 1 ♀ (de Boerio). Sfax, 18.V. 1922, 1 ♀. Gafsa, 15.V.1917, 2 ♀♀ (*B. M.*). «Tunisi», 1882, 1 ♂ (G. & L. Doria) (*Genoa. M.*). Maxnassy, 1929, 6 ♂♂, 2 ♀♀ (C. Dumont). Feriana, X.1894. 1 ♀ (Roben). Sfax, VI.1922, 1 ♂ (G. Babault). El Aiaicha, 3.IV.1884, 1 ♂ (*P. M.*). Kebili, 1932, 1 ♂, 1 ♀ (d'Hartet) (*M. C.*).

TRIPOLITANIA: Misurata, 1913, 1 ♂; XI.1912, 1 ♀. Homs, 1913, 3 ♀♀ (A. Andreini). Tripoli, 1928, 1 ♀. Tripoli, V. 1926, 1 ♀ (F. Invrea) (*Genoa. M.*). Castel Benito, 2.V.1946, 1 ♂. Coast W. of Tripoli, 27.III.1946, 1 ♂. Nr. Naint, 150 m. S. W. of Tripoli, 24.IV.1946, 1 ♂ (E. S. Brown) (*B. M.*).

CYRENAICA: Bardia, IV.1927, 1 ♂ (C. Confalonieri). Golfo di Bomba, VII.1927, 1 ♀ (R. N. Magnaghi) (*Genoa M.*). Dernah, VIII.1906, 2 ♀♀ (*V. M.*).

LIBYA: Fezzan, Murzuk, 16.VIII.1933, 2 ♀♀; VIII.1931, 1 ♀ (E. Zavattari). Gat. Fezzan, X. 1932, 1 ♀ (Cipriani) (*Genoa. M.*).

EGYPT: Marquet, 3 ♂♂ (ex Borman's Coll.) (*O. M.*). Khairouan. VII.1883, 1 ♂. Ismailia, IV.1907, 1 ♂ (Ch. Alluaud) (*P. M.*). Ghizeh. III.1902, 1 ♂ (F. Morey). Siwa, IV-VII.1935, 10 ♂♂, 25 ♀♀ (Omer-Cooper) (*B. M.*). Suez, 1868, 2 ♀♀ (*P. M.*).

PALESTINE: Lake Hula, 10.V.1945, 1 ♂. Degania, 8.IV. 1945, 1 ♀ (R. A. Crosby). Roued nr. Tiberias, 2.VI.1945, 1 ♀ (*B. M.*).

SYRIA: Soueida, 21.VI.1945, 1 ♀ (F. Wells) (*B. M.*).