

Notes on crane-flies (*Tipulidae*) collected by Dr. Axel M. Hemmingsen in the Canary Islands.

By Axel M. Hemmingsen, B. Mannheims,
and Peder Nielsen.

1. Introduction.

An annotated list of *Tipulinae* and *Limoniinae* from the Canary Islands was published by Lackschewitz on p. 5—8 in Frey's paper of 1936, which also (on p. 2) contains references to earlier authors.

Of the species listed in the present paper three (*Phyllobasis hemmingseni*, *Gonomyia* (*Gonomyia*) *lunulata* and *Gonomyia* (*Gonomyia*) *minae*) were described as new to science in the preceding paper by Peder Nielsen. Perhaps an *Austrolimnophila* sp. is also new. Apart from these, judging from Lackschewitz (1936), *Austrolimnophila ochracea* Meigen and an *Erioptera* sp. are new to the Canary Islands; *Limonia* (*Dicranomyia*) *canariensis* Becker, new to Lanzarote; and *Limonia* (*Dicranomyia*) *hamata* Becker, new to Gran Canaria.

The adaptations to the dry climate of Gran Canaria of *Tipula* (*Lunatipula*) *lesnei* Pierre, considered a dubious species by Lackschewitz (1936), were studied in a special paper by Hemmingsen (1958 b).

2. Biological remarks.

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I stayed in the Canary Islands 6/XII 1956—19/VI 1957. I was in Tenerife 6/XII—6/II, 2/VI and 12/VI; in Gran Canaria 12/II—19/V, 1/VI and 13/VI—19/VI; in Lanzarote 21—28/V and 31/V; in Fuerteventura 28—31/V; and in La Palma 3—11/VI.

Further details of localities visited may be found in two other publications (Hemmingsen, 1958 a and b). Especial attention was directed to humid spots, of which many did not carry visible water at the time.

From Tenerife, to which after 6/II I paid only two short visits, I have only a specimen of *Limonia* (*Dicranomyia*) *chorea* Meigen collected 12/VI in Barranco del Rio, situated at Camino de las Carboneras (a village), twenty minutes' walk from Cruz del Carmen in the Mercedes Forest. This is one of the few barrancos in the islands which carry water all the year round.

The area of observation in Gran Canaria has been described in detail and mapped in a special paper on the biology of *Tipula* (*Lunatipula*) *lesnei* Pierre (Hemmingsen 1958 b).

In La Palma, which I visited 3/VI—11/VI, numerous flies were seen flying in the rain and spray from the waterfall at Los Tiles (10/VI), and here 8 ♀♀ and 2 ♂♂ of *L. (D.) canariensis* Becker, 1 ♀ of *L. (D.) hamata* Becker, and 1 ♀ of *Austrolimnophila ochracea* Meigen were collected. Flies of the first two species afterwards laid pink eggs in wet cotton. At a place called El Pozo at Barranco de la Herradura (6/VI), where water was seeping down the steep, rocky road side about one km north-west of Los Sauces, 6 ♀♀ and 10 ♂♂ of *L. (D.) canariensis*, 1 ♀ of *Limonia* (*Geranomyia*) *maculipennis* Macq. and 1 ♂ of *Gonomyia* (*Gonomyia*) *lunulata* Nielsen were taken, the latter new to science. At two minor moist side creeks tributary to Barranco de las Angustias, one of the few barrancos that carry water rather copiously all the year around 2 ♀♀ of *L. (D.) chorea* were taken (4/VI).

I had not expected to find any tipulids in the two eastern arid islands and actually found none in Fuerteventura (28—31/V), though I searched thoroughly 5 barrancos at Betancuria said to carry some water; which however turned out to be extremely scarce there at the

time. More water was carried by Barranco de la Torre (= B. de Antigua, south of Puerto del Rosario, earlier called Puerto de Cabras), but though there were other insects, e. g. many anisopterid and zygopterid dragonflies, there were no tipulids. In Lanzarote, however, 1 ♂ of *L. (D.) canariensis* was collected at Arrecife (30/V), and (26/V) 12 ♀♀ and 8 ♂♂ at a hygropetric biotope, where water came out of a gallery at Chafaris in the valley of Temisa near Haría. Here also numerous larvae, possibly of the same species, lived hygropetrically in frail cases on the water-soaked, steep rock wall (fig. 1).

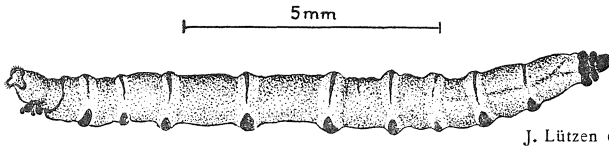


Fig. 1. Hygropetric larva, possibly of *Limonia (Dicranomyia) canariensis* Becker. Chafaris in the valley of Temisa near Haría in Lanzarote. From preserved material.

The bobbing movements so often seen in *L. (D.) chorea* elsewhere, e. g. in Denmark (cf. Hemmingsen, 1952, p. 410) was observed several times in both sexes of this species in the Canary Islands, and a little bobbing was also noted in the female of *L. (D.) hamata* at Los Tiles.

Swarming was observed in *L. (D.) chorea* in the evening 27/II in Barranquillo de Atalaya.

Copulation was observed in several pairs of *Tipula lesnei* (see Hemmingsen, 1958 b) and in *L. (D.) hamata* 28/II in Barranquillo de Atalaya. The cerci stood out freely in both species.

Females of the following species placed over wet cotton gave off eggs: *L. (D.) canariensis* (pink), *L. (D.) hamata* (pink), *Austrolimnophila* sp. (light), *Phyllolabis hemmingseni* Nielsen (yellow) and *Erioptera (Irimicra) pilipes*.

3. Tipulinae.

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Tipula (Tipula) mediterranea Lacksch. Gran Canaria: Barranquillo de Atalaya 500—600 m 28/II (1 ♀) and 10/III (1 ♂); Barranquillo de Fuente Fria II, 1600 m 14/V (1 ♂). Only very few other individuals seen in these localities and none elsewhere.

Tipula (Lunatipula) lesnei Pierre. Gran Canaria: Barranco de Bandama, 500—600 m, 10/III—8/IV (11 ♀♀, 101 ♂♂ of which 5 ♀♀ and 6 ♂♂ hatched 15/III—7/IV from 10 larvae and 6 pupae collected 13/III. Besides: 2 not fully hatched ♂♂. Out of a total of 27 pupae, including pupal skins found in the surface of the soil, 11 were females; 14, males; and 2 (defective) of uncertain sex); Barranquillo de Atalaya, 500—600 m, 12/IV (4 ♂♂); Barranco de Merdejo (= B. de Pino Santo), ca. 500 m, 23/III (1 ♀, 8 ♂♂); Acequia de Marrero, 730 m, 18/III (9 ♂♂) and 4/V (1 ♂); Barranco de la Lechucilla—Barranco de los Viñátigos, 1000—1300 m, 25/III (12 ♂♂); Barranco de los Gatos, 1400 m, 15/V (4 ♂♂); Barranquillo de Fuente Fria I, 1600 m, 25/IV (5 ♂♂); Barranquillo de Fuente Fria II, 1600 m, 14/V (15 ♂♂); Montañon Negro, 1500 m, 26/IV (1 ♂); Cruz de los Llanos, 1800 m, 9/V (1 ♂). Without locality, March (2 ♂♂).

I have checked the type specimens of *Tipula lesnei* in the Muséum National d'Histoire Naturelle, Paris. Beside the specimens labelled by Pierre and designated as cotypes I have seen further one female and one male without labels of determination or designation as cotypes, but labelled: "Museum Paris, Grande Canarie, P. Lesne, 5. 2. 1903". Possibly this pair had been retained in the private collection of Lesne and later transferred to the Museum.

Tipula (Oreomyza) rufina Meigen. Gran Canaria: 1 ♀ hatched later in 1957 from a larva taken in spring in the ground rather high in the western slope of Barranco de Bandama.

4. Limoniinae.

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Species not previously recorded from the Canary Islands, and islands not recorded as localities in Lackshewitz' survey in Frey's paper of 1936 are marked*.

A. Data grouped according to species.

Limonia (Dicranomyia) canariensis Becker. Endemic species. Gran Canaria: Barranco de Bandama, 10/III (1 ♂) and 14/III (1 ♂); Barranquillo de Atalaya or Barranco de Bandama, March (1 ♂); Acequia de Marrero in Barranco de la Higuera, 18/III (1 ♀); Barranco de los Gatos, 14/VI (2 ♀♀). La Palma: Los Tiles, 10/VI (8 ♀♀, 2 ♂♂); El Pozo near Los Sauces, 6/VI (6 ♀♀, 10 ♂♂). Lanzarote*: Arrecife 30/V (1 ♂); Chafaris, 26/V (12 ♀♀, 18 ♂♂).

Limonia (Dicranomyia) chorea Meigen. Tenerife: Barranco del Rio, 12/VI (1 ♀). Gran Canaria: Valle Angostura, beg. Febr. (1 ♀); Barranquillo de Atalaya, 27/II (4 ♂♂); Barranco de Bandama, 12/III (3 ♂♂); Barranco de los Laureles, 20/III (1 ♀); Acequia de Marrero, 18/III (2 ♂♂); Barranco de la Lechucilla, 25/III (1 ♂). La Palma: Barranco de las Angustias, 4/VI (2 ♀♀).

Limonia (Dicranomyia) hamata Becker. Gran Canaria*: The barranco at Hotel Los Frailes, Tafira Alta, 23/II (1 ♂); Barranquillo de Atalaya, 28/II (3 ♀♀, 9 ♂♂) and 10/III (1 ♀, 3 ♂♂); Barranco de Bandama, 11 & 14/III (3 ♂♂); Barranco de los Laureles, 20/III (1 ♀, 1 ♂); Acequia de Marrero, 18/III (5 ♀♀, 21 ♂♂); Barranco de la Lechucilla, 25/III (17 ♀♀, 53 ♂♂); Barranco de la Mina, 28/III (1 ♀, 6 ♂♂). La Palma: Los Tiles, 10/VI (1 ♀).

Limonia (Geranomyia) maculipennis Macq. Endemic species. La Palma: El Pozo near Los Sauces, 6/VI (1 ♀).

**Austrolimnophila ochracea* Meigen. La Palma: Los Tiles, 10/VI (1 ♀).

**Austrolimnophila* sp. Gran Canaria: Barranco de la Lechucilla, 25/III (1 ♀).

**Phyllolabis hemmingseni* Peder Nielsen. Endemic species? Gran Canaria: Barranquillo de Atalaya, 28/II (1 ♀, 1 ♂); Acequia de Marrero, 18/III (1 ♂); Barranco de la Lechucilla—Barranco de los Viñátigos, 25/III (3 ♀♀, 2 ♂♂).

**Gonomyia* (*Gonomyia*) *lunulata* Peder Nielsen. Endemic species? La Palma: El Pozo near Los Sauces, 6/VI (1 ♂).

**Gonomyia* (*Gonomyia*) *minae* Peder Nielsen. Endemic species? Gran Canaria: Barranco de la Mina, 28/III (2 ♀♀, 1 ♂).

**Erioptera* sp. Gran Canaria: Barranco de la Mina, 28/III (3 ♀♀).

Erioptera (*Trimicra*) *pilipes* Fabr. f. *andalusiaca* Strobl. Gran Canaria: Creek at Barranco de los Dragonales, 22/II (1 ♀); Barranco Alonso, 3/III (1 ♀).

B. Data grouped according to localities.

Lanzarote. Arrecife: *L. (D.) canariensis* (1 ♂). Chafaris: *L. (D.) canariensis* (12 ♀♀, 18 ♂♂).

La Palma. Los Tiles: *L. (D.) canariensis* (8 ♀♀, 2 ♂♂), *L. (D.) hamata* (1 ♀), *Austrolimnophila ochracea* (1 ♀). El Pozo at Barranco de la Herradura 1 km north-west of Los Sauces: *L. (D.) canariensis* (6 ♀♀, 10 ♂♂), *L. (G.) maculipennis* (1 ♀), *G. (G.) lunulata* (1 ♂). Barranco de las Angustias: *L. (D.) chorea* (2 ♀♀).

Tenerife. Barranco del Rio: *L. (D.) chorea* (1 ♀).

Gran Canaria. Valle Angostura: *L. (D.) chorea* (1 ♀). Barranco de los Dragonales: *Erioptera* (*Trimicra*) *pilipes* Fabr. f. *andalusiaca* Strobl (1 ♀). Barranco Alonso: *Erioptera* (*Trimicra*) *pilipes* Fabr. s. *andalusiaca* Strobl (1 ♀). Near Hotel Los Frailes, Tafira Alta: *L. (D.) hamata* (1 ♂). Barranquillo de Atalaya, 500—600 m: *L. (D.) chorea* (4 ♂♂).

L. (D.) hamata (4 ♀♀, 12 ♂♂), *Phyllolabis hemmingseni* (1 ♀, 1 ♂). Barranco de Bandama, 500—600 m: *L. (D.) canariensis* (2 ♂♂), *L. (D.) chorea* (3 ♂♂), *L. (D.) hamata* (3 ♂♂). Barranquillo de Atalaya or Barranco de Bandama: *L. (D.) canariensis* (1 ♂). Barranco de los Laureles: *L. (D.) chorea* (1 ♀), *L. (D.) hamata* (1 ♀, 1 ♂). Acequia de Marrero, 700—800 m: *L. (D.) canariensis* (1 ♀), *L. (D.) chorea* (2 ♂♂), *L. (D.) hamata* (5 ♀♀, 21 ♂♂), *Phyllolabis hemmingseni* (1 ♂). Barranco de la Lechucilla: *L. (D.) chorea* (1 ♂), *L. (D.) hamata* (17 ♀♀, 53 ♂♂), *Austrolimnophila* sp. (1 ♀). Barranco de los Viñátigos, 1000—1300 m: *Phyllolabis hemmingseni* (3 ♀♀, 2 ♂♂). Barranco de la Mina: *L. (D.) hamata* (1 ♀, 6 ♂♂), *G. (G.) minae* (2 ♀♀, 1 ♂), *Erioptera* sp. (3 ♀♀). Barranco de los Gatos, 1400 m: *L. (D.) canariensis* (2 ♀♀).

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5. References.

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