

# A contribution to the Horse Fly fauna of the Ardèche (France) (Diptera : Tabanidae)

YSEBAERT, T.; DE BRUYN, L.; BACKELJAU, T. & BERVOETS, L.

**Samenvatting.** Bijdrage tot de kennis van de dazenfauna van de Ardèche (Frankrijk) (Diptera : Tabanidae)

Tijdens de zomer van 1986 werd een studie gemaakt van de entomofauna, en meer in het bijzonder de Tabanidae, of dazen, van de Ardèche (Frankrijk). In totaal werden 11 soorten, behorende tot 5 genera gevonden. Twee soorten (*T. exclusus*, *T. regularis*) zijn mediterrane soorten, terwijl twee andere (*T. briani*, *T. tergestinus*) typisch zijn voor Zuid-Europa. Van elke soort wordt een korte bespreking gegeven.

**Abstract.** A contribution to the Horse Fly fauna of the Ardèche (France) (Diptera : Tabanidae)

During the summer of 1986, a study was made of the entomofauna, and in particular of the Tabanidae, or Horse Flies, of the Ardèche (France). In all, 11 species belonging to 5 genera were caught. Two species (*T. exclusus*, *T. regularis*) are typically Mediterranean, while two other (*T. briani*, *T. tergestinus*) are typical species of southern Europe. A short discussion of each species is given.

**Résumé.** Contribution à la connaissance des taons du département de l'Ardèche (France) (Diptera : Tabanidae)

Une étude de l'entomofaune a été effectuée en Ardèche, durant l'été 1986, plus particulièrement au sujet de la famille des Tabanidae. Au total, 11 espèces furent découvertes, appartenant à 5 genres différents. Deux espèces (*T. exclusus*, *T. regularis*) sont des espèces méditerranéennes, tandis que deux autres (*T. briani*, *T. tergestinus*) sont caractéristiques du sud de l'Europe. Un commentaire sommaire est donné pour chaque espèce.

Ysebaert, T. : Sint-Fredegandusstraat 6, B-2100 Antwerpen-Deurne (Belgium)

De Bruyn, L. & Backeljau, T. : Laboratorium voor Algemene Dierkunde, Rijksuniversitair Centrum Antwerpen, Groenenborgerlaan 171, B-2020 Antwerpen, Belgium

Bervoets, L. : Departement Biologie, Universitaire Instelling Antwerpen, Universiteitsplein 1, B-2610 Wilrijk, Belgium

## Introduction

Between 16.VII and 30.VII.1986, the authors visited the «Ardèche» region in S.E.-France. During this excursion, special attention has been paid to the local entomofauna. The present contribution reports on the horse flies (Diptera, Tabanidae). The females of most horse flies are well-known as unpleasant or even dangerous blood-sucking flies. They are equipped with biting mouthparts in the form of dagger-like organs. They only seek blood meal after mating (OLDROYD, 1969). The effect of the bite depends on the species involved and on the individual condition of the victim. Some species may act as a vector of diseases. The males don't feed on blood, but eat flower nectar (COLYER & HAMMOND, 1951; OLDROYD, 1969; CHVALA et al., 1972).

The occurrence and activity of tabanids depends on the presence of the host animals, and also on the presence of water and trees. In the dry southern areas of Europe, they are mostly abundant along rivers or brooklets, fringed with forest or other vegetation. The relative humidity is one of the most important factors influencing the development of the eggs, and the survival of the larvae (CHVALA et al., 1972).

## Material and methods

The study was carried out in a mountainous region (up to 900 m), with a typical maquis vegetation, at Sablière (Joyeuse). The horse flies were mainly collected near the river l'Espinaise (upper course), an affluent of the Ardèche.

To collect the tabanid flies, two major methods were applied :

1. An adequate method is to walk through areas suitable for tabanids, and collect them by simply swinging a net around one's head or legs. In addition, a donkey was used as a second host to attract the horse flies.
2. A considerable number of female horse flies was collected in a tent. Probably, these were attracted by the heat, caused by the sunlight, resulting in a thermal attraction. It is a well-known phenomenon that tabanids are attracted to open motorcar cabs where the inside temperature is much higher than the outside (CHVALA et al., 1972).

During the sample period, also coloured watertraps (white and yellow) were placed to collect insects. However, no horse flies were captured in these traps, which may be explained by the fact that tabanids react rather to dark colours (red, black) (KIRK, 1984).

A disadvantage of the above mentioned methods is that only females were attracted. No males were captured due to their different feeding habits. The sampled specimens were immediately transferred to a 75% alcohol solution. In this way, the eye-colour, with the typical banding pattern, which is an important determination characteristic, is preserved. When dried and pinned, this eye-colour would fade and disappear (COLYER & HAMMOND, 1951; CHVALA et al., 1972).

## Results

In all, 11 species belonging to 5 genera were caught during the present study. The taxonomy and systematics used are according to CHVALA et al. (1972).

Genus *Chrysops* MEIGEN, 1803

*Chrysops (Chrysops) caecutiens* (LINNAEUS, 1758)

An easily to distinguish species, with yellow face with black calli. The wings have a large apical spot occupying three quarters of vein R4. Tergites 1-2 are yellow, tergite 2 at middle with a black pattern in the form of an inverted letter «V». Middle tibiae black (SÉGUI, 1926; CHVALA et al., 1972). It is a very common species in France and throughout Europe, inhabiting various types of biotopes near water (CHVALA et al., 1972). Man, horned cattle, horses and wild living animals are attacked. Bites of *Chrysops* most often occur on the head and neck (OLDROYD, 1969). Only one female was collected during the present study.

Genus *Hybomitra* ENDERLEIN, 1922

*Hybomitra distinguenda* (VERRALL, 1909)

A reddish-brown species with reddish-brown sidemarkings on anterior four tergites. Tergite 2 without black hairs on the sidemarkings : anterior side of tergite 1 with a border of golden-yellow hairs (LECLERCQ, 1966). Difficult to

distinguish from the other species of the *bimaculata*-group due to the variable colloration and the form of the frontal calli. Important for the determination of this species is the morphology of the subgenital plate (OLDROYD, 1969; CHVALA et al., 1972). The lower margin of the subgenital plate is straight, while the upper margin is broader, with a small central excision. The cerci are more or less oval (rectangular). *H. distinguenda* is a common species throughout Europe and in France, inhabiting various types of biotopes (CHVALA et al., 1972). It was also the most abundant species during the present study. In all, 18 females were captured. *H. distinguenda* was found on men, donkey, and in the tent.

Genus *Atylotus* OSTEN-SACKEN, 1876

*Atylotus fulvus* (MEIGEN, 1820)

A yellowish-brown species. The black calli are reduced, almost invisible. Antennal segment very widened, at the small dorsal tooth almost as broad as long (LECLERCQ, 1966; CHVALA et al., 1972). The abdomen is covered with golden-yellow hairs (OLDROYD, 1969). *A. fulvus* is a widely distributed species throughout Europe. It represents a typical forest species (CHVALA et al., 1972). The only specimen collected during the present study was found in the tent.

Genus *Tabanus* LINNAEUS, 1766

This is the largest genus of the family Tabanidae with a very complicated taxonomy. The division in the different groups has been adopted from CHVALA et al. (1972).

*glaucoptis*-group (Eyes naked with three bands. Median callus separated from lower callus.)

*Tabanus glaucoptis* (MEIGEN, 1820)

A larger species (15,8 mm), with the subcallus entirely shining black. The abdomen bears three rows of yellowish-brown patches (LECLERCQ, 1966; CHVALA et al., 1972). A very common species in almost the whole of Europe : especially on steppe and forest-steppe biotopes (CHVALA et al., 1972). The specimens collected during the present study were restricted to the donkey.

*Tabanus exclusus* (PANDELLÉ, 1883)

A rather small species. The very narrow frons is characteristic : the lower callus is almost square, and is distinctly separated from the elongate upper callus as well as from the subcallus. The antennae are reddish-brown. On the abdomen are three rows of patches (LECLERCQ, 1966; CHVALA et al., 1972). A typical Mediterranean species. It is especially known from South France (CHVALA et al., 1972). All sampled specimens were found in the tent.

*bromius*-group (eyes naked, with bands or unbanded, lower callus connected with upper callus, subcallus dusted.)

*Tabanus briani* (LECLERCQ, 1962)

A dark species with little yellow patches on the abdomen and unbanded eyes. The frons is broad (index 1:3,2). The upper frontal callus is elongate and narrowly connected with the lower frontal callus. The palpi are stout

(LECLERCQ, 1966; CHVALA et al., 1972). *T. briani* is an only recently described species, so the area of distribution is still not very well known (CHVALA et al., 1972). It has been found throughout South Europe. In France data are available from Pyrénées-Orientales, Vernet-les-Bains and Basses-Alpes (LECLERCQ, 1966). *T. briani* is a typical species of woodlands in hilly countries, and is known to attack both man and horses (CHVALA et al., 1972). We found the two females in the tent.

***Tabanus regularis* (JAENNICKE, 1866)**

A medium-sized species with unbanded eyes. The frons is very narrow (index 1:5). The antennae are black. The palpi are long and rather thin. The abdomen has large oval, sublateral patches at the sides (LECLERCQ, 1966; CHVALA et al., 1972). *T. regularis* is a typical species of the Mediterranean area. It attacks man, horses and horned cattle (CHVALA et al., 1972). In all three female specimens were trapped.

***Tabanus tergestinus* (EGGER, 1859)**

A medium sized species with three bands on the eyes. The frons is very narrow (index 1:5,5). The abdomen has large sublateral patches, covering tergites 1-4. The legs are bicoloured (LECLERCQ, 1966). It is a southern species, which prefers dry areas. Females are common on pasture-meadows, attacking mainly horses and horned cattle. Three females were captured while attacking the donkey.

***Tabanus bromius* (LINNAEUS, 1758)**

A small, dark species (13,4 - 13,9 mm), with one band on the eyes. The upper frontal callus is elongate. The dorsum of the abdomen has three rows of grey patches (LECLERCQ, 1966; CHVALA et al., 1972). A very common species known throughout Europe. It inhabits a whole series of biotopes; females attack man and both domestic and wild animals, and are known as a vector of several diseases (CHVALA et al., 1972). Two females were captured.

*bovinus*-group (large species, eyes naked and unbanded, frons narrow : frontal calli connected with each other, subcallus dusted.)

***Tabanus sudeticus* (ZELLER, 1842)**

A very large and broad species (25 - 27 mm). The upper frontal callus is linear. Palpi yellowish-brown, and three times as long as broad. Very characteristic is the distinct yellow posterior borders of all tergites and sternites (a 'striped' pattern) (LECLERCQ, 1966; CHVALA et al., 1972). A common species throughout Europe. Females only attack horses and horned cattle. We found several species on the donkey.

**Genus *Haematopota* MEIGEN, 1803**

***Haematopota pluvialis* (LINNAEUS, 1758)**

A small, dark-coloured species (9,5 mm), densely olive-grey dusted. The antennal segment 1 is shining black with a characteristic deep constriction before the tip. The wings are dark brown, with a typical paler pattern (LECLERCQ, 1966; CHVALA et al., 1972). *H. pluvialis* is a very common species throughout Europe, inhabiting a whole series of biotopes, especially near

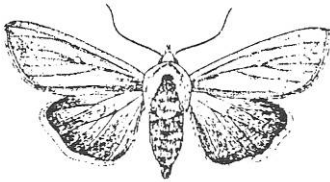
water and on foggy habitats. It attacks men and animals throughout the day. Two females were captured while attacking men.

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### Korte mededelingen

#### Kennismaking met *Mythimna unipuncta* HAWORTH



*Mythimna unipuncta* HAWORTH is een forse, geelgrijze uil die afkomstig is uit Amerika. Daar kan de rups grote schade aanrichten aan de landbouw. Tegenwoordig komt de vlinder ook voor in Australië, Zuid-Azië, Afrika en Zuidwest-Europa. Als migrant werd hij vanaf 1859 geregeld in Groot-Brittannië opgemerkt. Op het Europese vasteland is *unipuncta* pas sinds 1960 echt bekend geworden : Zwitserland (1960, 1961, 1966, 1968 en 1970), Duitsland (1963), Denemarken (1969), Nederland (1962, 1968 en 1969).

In België werd de eerste *unipuncta* gevangen door R. SAUSSUS te Ethe-Bonlieu (Luxemburg) op 29.X.1972. M. DUMONT ving het tweede exemplaar op 4.XI.1972 te Saint-Mard (Luxemburg). Het moet voor de vlinder toen een goed jaar geweest zijn want ook uit Frankrijk werd de soort gemeld (Pontailleur-sur-Saône, 11.XI.1972, 3 ex. op licht, leg. E. DE LAEVER). Alle voorgaande data stemmen mooi overeen met de gegevens van BIRCHLER, die te Reichenburg (Zwitserland) verscheidene *unipuncta*'s ving van 1966 tot 1970, en waarvan de vangdata lagen tussen 8 oktober en 13 november. M. FONTAINE ving op 5.XI.1978 te Marcinelle (Henegouwen) een exemplaar in zijn lichtval. Op 19.XI.1978 volgde een vangst op stroop te Plainevaux-Strivay (Luxemburg) door A. WÉRY. Niet ver over de grens, te Grönnersdorf in het Duitse Eiffelgebied, werden in 1978 ook twee mannetjes *unipuncta* gevangen.

*M. unipuncta* is nu gewoon in Afrika en Spanje. De soort vliegt over de Pyreneeën en trekt langs Rhonevallei noordwaarts. 's Zomers kan zij zich in Europa voortplanten, maar de vlinders die in de herfst ontpoppen, komen om van de vorst. In het zuiden van Engeland, waar het klimaat merkkelijk zachter is, kan *unipuncta* soms de winter doorkomen en wordt dan in de lente waargenomen. De late vangdata moeten een aansporing zijn om tot diep in de herfst door te gaan met trekvlinderwaarnemingen. In Engeland is *unipuncta* zelfs tot in december gevangen!

(W. TROUKENS, Van Souststraat 502, 1070 Anderlecht).

#### Een pijlsnelle kweek van de Wolfsmelkpijlstaart (*Hyles euphorbiae* LINNAEUS)

Op 20.VII.1982 vond ik in de Val d'Hérens (Zwitserland, Wallis) drie rupsen van de Wolfsmelkpijlstaart (*Hyles euphorbiae* LINNAEUS) op cypreswolfsmelk. Ze waren respectievelijk 6, 7 en 8 cm lang. Terug in België kon ik geen wolfsmelk vinden, maar gelukkig aten ze ook jonge blaadjes van Amerikaanse eik. Twee dagen later kropen de rupsen enkele cm diep onder de grond. Ze