

Bull. Inst. r. Sci. nat. Belg. Bull. K. Belg. Inst. Nat. Wet.	Bruxelles Brussel	31-XII-1983
55	ENTOMOLOGIE	5

A NOTE ON *PLATYPALPUS* MACQUART (DIPTERA : EMPIDIDAE)  
FROM AUVERGNE (FRANCE)

BY

Patrick GROOTAERT

(With 4 text-figures)

The present note deals with the species of *Platypalpus* MACQUART collected near the center of the Massif Central at altitudes ranging from 820 to 1,400 m covering the period from 29 June to 3 Juli 1981. Two species are reported for the first time since their description and additional descriptions are given on them : *Platypalpus vegrandis* FREY, hitherto only known from the female, and *P. cruralis* (COLLIN).

LIST OF LOCALITIES

1. Besse-en-Chandesse : 29-VI-1981; alt. 1,018 m; sweeping of herbs and trees around the biological station.
2. Besse-en-Chandesse : 29-VI-1981; alt. 1,018 m; sweeping of herbs and trees (especially *Salix* sp.) upstream the river Couze Pavin including swamps and rocks.
3. Besse-en-Chandesse : 29-VI/3-VII-1981 : Malaise trap placed on the border of a meadow near the Couze Pavin.
4. Lac Pavin : 30-VI-1981; alt. 1,162-1,197 m; sweeping along the road D978 leading to the lake and sweeping in the forest around Lac Pavin.
5. Besse, le bois des Tailladis : 30-VI-1981; alt. 1,164 m sweeping of herbs and trees.

6. Lac Chambon : 1-VI-1981; alt. 880 m; sweeping of herbs and trees around the lake.
7. Lac d'Aydat : 1-VI-1981; alt. 825 m; sweeping of herbs and trees.
8. Lac de Servières : 1-VI-1981; alt. 1,203 m; sweeping of herbs.
9. Lac de Bourdouze : 2-VI-1981; alt. 1,129 m; sweeping of 2 isolated *Salix* sp. trees in a large meadow; intensive sweepings of the herbs around the trees and in the meadow did not contain *Platypalpus* sp.
10. Lac Montcineyre : 2-VI-1981; alt. 1,140 m; sweeping in a little wood (Escoufort-Bas).
11. Montcineyre : 2-VI-1981; alt. 1,182 m; sweeping of herbs and trees on the border of a wood on the slope of the hill Montcineyre.
12. Lomprat : 3-VI-1981; alt. 783 m; sweeping of herbs and trees in the forests along the roads and the river Couze Pavin (Ourcière; le col de Feuille).
13. Le Verdier : 3-VI-1981; alt.  $\pm$  1,160 m; sweeping in the forest on « Montagne du Verdier ».
14. Col de la Croix St. Robert : 3-VI-1981; alt. 1,451 m; sweeping of herbs and bushes. The site is above the tree limit and patches of snow were still present on the northern slopes.
15. Le Verdier : 3-VI-1981; alt.  $\pm$  1,140 m; sweeping of herbs along the road near the river « Ruisseau de Malvoissière ».

#### RESULTS

The species composition of the various localities is represented in Table 1. Except for the Col de la Croix St. Robert, most localities were at comparable altitudes so that no clear differences can be seen in the species composition. *P. verralli* was the dominant species being present in almost all localities in large numbers. *P. clarandus* was the second in dominancy, followed by *P. cruralis* and *P. notatus* which were present in many localities.

During the captures it appeared that *Platypalpus*, which is predominantly a leaf runner, showed a preference to sit on leaves of *Salix* trees where it awaits its prey. Though it can fly very quickly, it generally prefers to run on the downside of the leaf on approach of danger. It is supposed that the hairy surface of the downside of *Salix* leaves provides a firm hold for its claws since its pulvilli are generally small. The behaviour was clearly shown in a very large meadow near Lac Bourdouze. 58 *Platypalpus* were caught during a 10 min sweep on two isolated *Salix* while intensive sweeps of herbs in the neighbourhood did not contain any *Platypalpus*. Also in woods, the isolated *Salix* trees contained generally the highest densities of *Platypalpus*.

*Platypalpus vegrandis* FREY, 1943

Not. Ent. 23, p. 12

A small black species with 2 pairs of vertical bristles and dusted mesonotum. Antennae short, yellowish on basal segment, third segment black. Legs yellow and tibial spur very small. Black spines on the posterior trochanters in male, absent in female.

## Male

Head greyish dusted. Face as deep as second antennal segment, silvery dusted. Frons broad, anteriorly as deep as face but widening towards ocellar triangle. 2 pairs of long brownish vertical bristles. Occiput dusted. Antennae short. Basal segments yellowish. First joint reduced to a very small ring. The black third segment ovoid, hardly 1.5 times as long as deep. Arista 1.5 times as long as third segment. Palpi yellow, pointed with a long subterminal bristle. The black proboscis as long as head is high.

Thorax black greyish dusted except for the shining patch on sternopleura. The long bristles on mesonotum yellowish-brown. Acrostichals broadly separated bi-to triserial dorsocentrals biserial ending in 2 pairs of long prescutellars. A long humeral bristle with a short hair in front, 2 notopleural bristles (the anterior one placed forward), 1 postalar and 2 scutellars with a short hair near each.

Legs yellow. Posterior four coxae brown. Three stout black spines present on the posterior trochanters. Anterior femora slightly swollen as deep as the mid femora (Fig. 1 a), ventral bristles short. Middle femora with 2 brownish anterior bristles near tip. Anterior row of ventral spines very small, those from the posterior row longer. No posteroventral bristles. Spur to the middle tibiae very small (Fig. 1 b, d). Tip of the hind femora darkened in some specimens. Front tarsi yellow, posterior tarsi somewhat darkened but not annulated.

Abdomen shining black. First and second tergites may be brownish. The white pubescence on the sides short. The hypopygium is represented in Fig. 2 a-c.

Wings very pale. The crossveins nearly contiguous. Vein  $R_{4+5}$  and M both straight but diverging. Vein  $R_{4+5}$  shortly upcurved before ending in the costa.

## Female

In most respects identical to the male. The black spines on the posterior trochanters are absent. The yellowish legs are generally somewhat darkened: tarsi more brownish and the tips of the posterior femora and tibiae may be brown.

TABLE

	Besse en Chandesse	Besse, Couze Pavin	Besse Malaise trap	Lac Pavin	Besse, Tailladis	Lac Chambon
<i>alpinus</i> CHVÁLA ... ..	1 ♂	—	—	3 ♂, 2 ♀	—	—
<i>annulipes</i> (MEIGEN) ... ..	—	—	—	—	—	—
<i>calceatus</i> (MEIGEN) ... ..	—	1 ♂, 6 ♀	—	—	—	1 ♀
<i>candicans</i> (FALLÉN) ... ..	—	1 ♀	—	—	—	2 ♀
<i>ciliaris</i> (FALLÉN) ... ..	—	—	—	—	—	—
<i>clarandus</i> (COLLIN) ... ..	3 ♂, 5 ♀	26 ♂, 20 ♀	2 ♂, 2 ♀	1 ♂, 1 ♀	—	—
<i>cruralis</i> (COLLIN) ... ..	1 ♂, 5 ♀	1 ♂, 6 ♀	1 ♀	1 ♂, 1 ♀	—	1 ♀
<i>cryptospina</i> (FREY) ... ..	—	—	1 ♂, 2 ♀	—	—	—
<i>cursitans</i> (FABRICIUS) ...	—	—	—	—	—	1 ♀
<i>difficilis</i> (FREY) ... ..	—	—	—	1 ♂	—	—
<i>ecalceatus</i> (ZETTERSTEDT)	—	—	—	—	—	—
<i>exilis</i> (MEIGEN) ... ..	—	—	—	1 ♂, 1 ♀	—	—
<i>longicornis</i> (MEIGEN) ...	—	—	—	1 ♂, 1 ♀	—	—
<i>longiseta</i> (ZETTERSTEDT)	—	1 ♀	—	—	—	—
<i>luteus</i> (MEIGEN) ... ..	—	—	—	—	—	—
<i>mikii</i> (BECKER) ... ..	—	—	—	—	—	—
<i>minutus</i> (MEIGEN) ... ..	1 ♀	3 ♂, 1 ♀	1 ♀	—	—	—
<i>nigritarsis</i> (FALLÉN) ... ..	—	—	—	1 ♀	1 ♀	—
<i>notatus</i> (MEIGEN) ... ..	1 ♀	1 ♂, 2 ♀	1 ♀	—	—	3 ♂, 3 ♀
<i>optimus</i> (COLLIN) ... ..	—	—	—	—	—	—
<i>pallidiventris</i> (MEIGEN) ...	4 ♂, 1 ♀	—	1 ♀	—	—	—
<i>pectoralis</i> (FALLÉN) ... ..	—	—	—	—	—	—
<i>pseudociliaris</i> (STROBL) ...	—	—	—	1 ♂, 3 ♀	—	1 ♀
<i>vegrandis</i> FREY ... ..	1 ♂, 1 ♀	1 ♂, 1 ♀	46 ♂, 29 ♀	—	—	—
<i>verralli</i> (COLLIN) ... ..	2 ♂, 7 ♀	5 ♂, 22 ♀	3 ♀	6 ♂, 15 ♀	1 ♂, 4 ♀	—

1

Lac d'Aydat	Lac de Servières	Lac Bourdouze	Lac Montcineyre	Montcineyre	Lomprat	Le Verdier (forest)	Col Croix St. Robert	Le Verdier (road)
—	—	—	—	9 ♂, 3 ♀	—	—	—	—
—	—	—	—	—	1 ♂, 2 ♀	—	—	—
—	—	—	—	—	6 ♀	2 ♀	—	2 ♀
—	—	—	—	—	1 ♀	1 ♀	—	—
—	—	—	—	—	1 ♂	—	—	—
1 ♂	1 ♂	—	—	3 ♀	1 ♀	—	—	1 ♀
—	—	—	—	1 ♀	—	1 ♀	—	1 ♀
—	—	—	—	—	2 ♂, 3 ♀	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	5 ♀	—	—	—	—
—	—	—	—	2 ♂, 3 ♀	3 ♂, 9 ♀	1 ♂	—	—
—	—	—	—	—	—	—	2 ♂, 1 ♀	—
—	—	—	—	—	—	—	—	—
—	—	—	1 ♀	—	1 ♀	1 ♀	—	—
—	—	—	—	—	—	—	—	1 ♀
—	—	1 ♀	—	—	—	—	—	—
2 ♀	—	—	—	—	—	—	—	—
7 ♂, 4 ♀	—	1 ♀	—	—	1 ♂	—	—	—
—	—	—	—	—	1 ♀	—	—	—
—	—	—	—	—	1 ♂, 1 ♀	—	—	—
—	—	—	—	—	—	—	—	1 ♂
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
3 ♀	—	18 ♂, 38 ♀	3 ♂, 11 ♀	1 ♂, 3 ♀	—	1 ♂, 5 ♀	1 ♂, 1 ♀	—

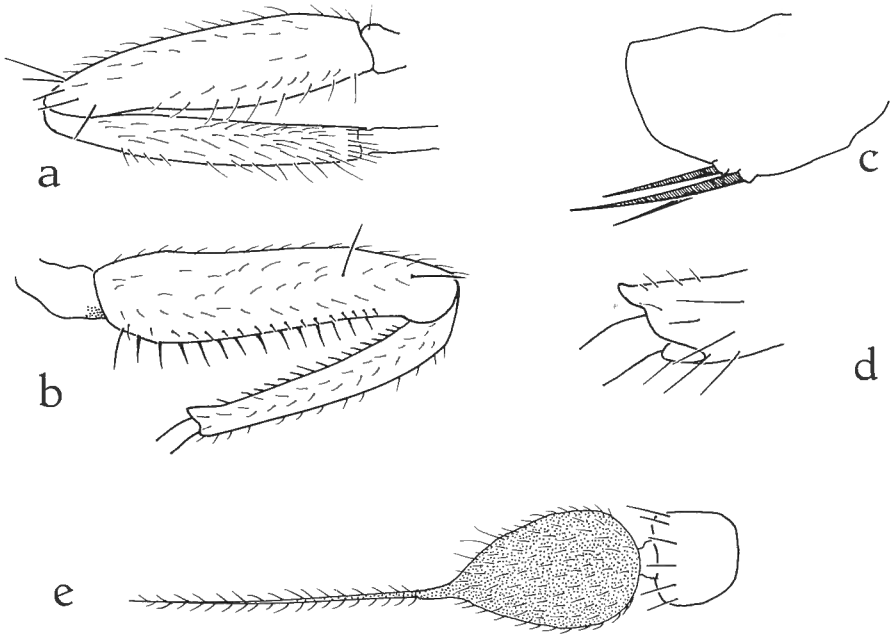


Fig. 1. — *Platypalpus vegrandis* FREY male :  
 A. front femur and tibia in posterior view; B. mid femur and tibia in anterior view;  
 C. detail of posterior trochanter with spines; D. detail of tibial spur; E. antenna.

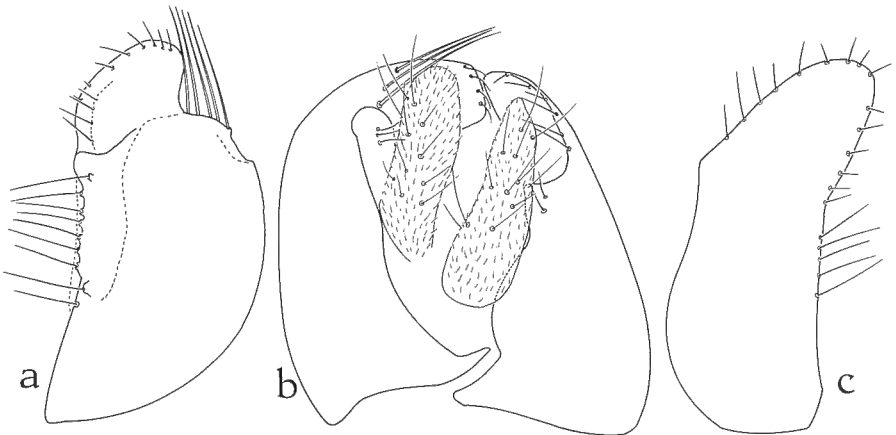


Fig. 2. — *Platypalpus vegrandis* FREY male hypopygium :  
 A. right lamella; B. periandrium with cerci; C. left lamella.

### Discussion

In the key of CHVÁLA (1975) *P. vegrandis* should be placed after *P. brunneitibia* (STROBL), *P. difficilis* (FREY), *P. scandinavicus* CHVÁLA and *P. tuomikoskii* CHVÁLA. It can be distinguished from them by its short antennae. In fact *P. vegrandis* resembles superficially to *P. nanus* (OLDENBERG). However, the latter belongs to the peculiar *P. hackmanni*-group in which e.g. the sternopleura are dusted.

Dr. M. CHVÁLA (Prague) had the occasion to study the type series of *P. vegrandis* consisting of 4 females (Steiermark, 2 ♀; Südsteiermark, 1 ♀; Styria, 1 ♀ in coll. FREY, Helsinki). His notes on these specimens led to the conclusion that they were identical to the species from the present study.

*P. vegrandis* is actually known from Austria, Belgium (GROOTAERT, in press) and France. It is probably not uncommon in mountainous areas in Central Europe.

### *Platypalpus cruralis* (COLLIN, 1961)

British Flies, Empididae p. 179 (*Tachydromia*)

Large black species with 1 pair of vertical bristles. Basal antennal segments yellow, third segment black. Front tibiae exceedingly stout in male and rather stout in female.

#### Male

Head greyish dusted. Face broad (broader than second antennal segment) silvery dusted. Front of frons nearly as wide as face, nearly parallel sided widening at the ocellar triangle (dusted). 1 pair of yellowish vertical bristles. Occiput dusted. Antennae with basal segments yellow. Third joint black though generally yellowish on base, 2.5 times as long as deep. Arista 1.5 times as long as the third segment. Palpi yellow somewhat elongated with a white subterminal bristle.

Thorax black in ground colour, dusted except for the polished mid part of the stenopleura. Acrostichals short narrowly biserial, dorsocentrals short biserial ending into 2 pairs of longer prescutellars. Acr and dc widely separated by a darkened stripe. All long bristles on mesonotum yellowish. Humeral bristle rather fine, 2 to 3 posterior notopleurals with some pubescence, 1 postalar and 2 strong scutellars sided by 2 or 3 small hairs.

Legs yellow except for the black tips of trochanters and knees. Front femora half as deep as the very thickened mid femora, with a double row of short yellow ventral bristles (Fig. 3, a). Front tibiae very thickened, as deep as front femora, arched and with some short black dorsal bristles. Middle femora large somewhat darkened with a row of short anteroventral and short posteroventral bristles. Long stout spur on mid tibiae.

Hind femora and tibiae slender. Colouration of tarsi variable : in some males quite yellow, in others all tarsi narrowly brownish annulated.

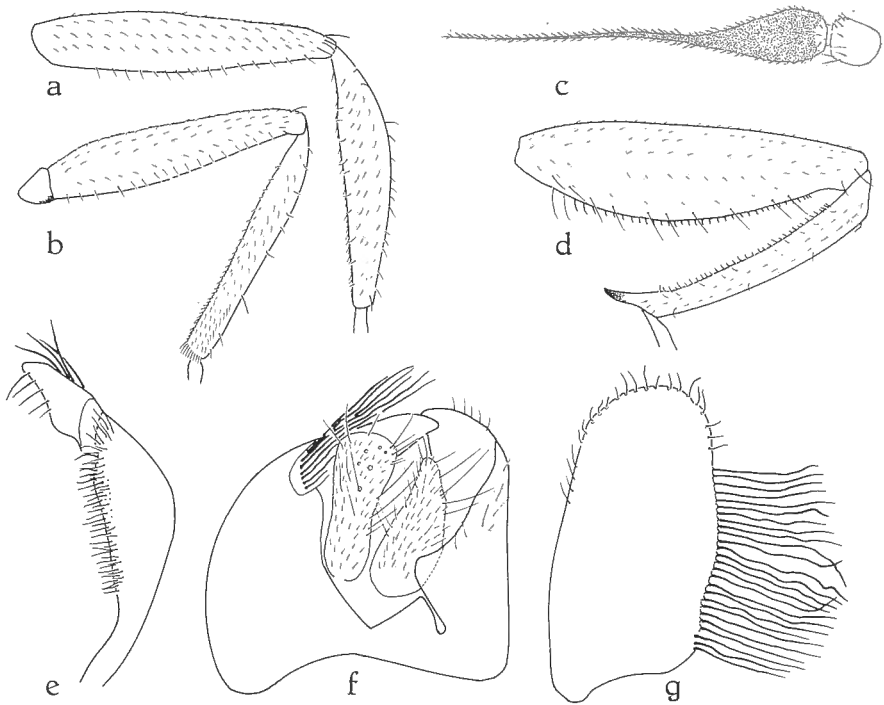


Fig. 3. — *Platypalpus cruralis* (COLLIN) :

A. male front femur and tibia; B. female front femur and tibia; C. male antenna;  
D. male mid femur and tibia in posterior view; E. right periandrial lamella;  
F. periandrium with cerci; G. left periandrial lamella.

Abdomen black, all tergites broadly dusted anteriorly though the dusted triangles are not connected dorsally. Venter shining black. The hypopygium is illustrated in Fig. 3 e-g.

Wing membrane faintly yellowish-brown. Tips of the longitudinal veins and costa near wing tip brown. Vein  $R_{4+5}$  and M diverging but ending parallel in the costa. Crossveins separated. Halteres white.

#### Female

In nearly all characteristics identical with the male except for the less thickened front femora (Fig. 3 b). These are still more thickened than in *P. laticinctus* WALKER.

#### Discussion

*P. cruralis* (COLLIN) is closely related to *P. laticinctus* WALKER and *P. fasciatus* (MEIGEN). All three are stout species with many identical characters : a rather small shining patch on the sternopleura, chaetotaxie



of the mesonotum and the dusting on the abdominal tergites. *P. cruralis* is easily distinguished from the others in the male sex by the very thickened and arched front tibiae. These are not arched in the female but still stouter in comparison to the other species. In *P. laticinctus* the third antennal segment is generally longer than in *P. cruralis*, the tarsi paler and the first 2 abdominal tergites are broadly dusted while the following segments have only a narrow grey lateral stripe anteriorly, being more triangular in *P. cruralis*. In *P. fasciatus* the abdomen is even more dusted and the third antennal segment only 2 times as long as deep.

It is important to repeat the note of CHVÁLA (1975 p. 199) that *P. cruralis* (COLLIN, 1969) is a homonym of *P. cruralis* (COLLIN, 1961). The former species was renamed *P. ringdabli* CHVÁLA, 1975.

*P. cruralis* is probably widespread in Europe as is shown by the records from Poland, Belgium, Austria and France.

### *Platypalpus alpinus* CHVÁLA, 1971

Ent. Scand. 2 (1971) : 24 Figs 24-26.

Fauna Entomologica Scandinavica 3 (1975) : 125 Figs 82, 323-325, 691.

*P. alpinus* CHVÁLA is closely related to *P. boreoalpinus* FREY, *P. commutatus* (STROBL) and *P. unicus* (COLLIN). The male genitalia are illustrated in Fig. 4. Quite aberrant for *Platypalpus* is that the bristles on the inner border of the right periandrial lamella are inserted on a tubercle.

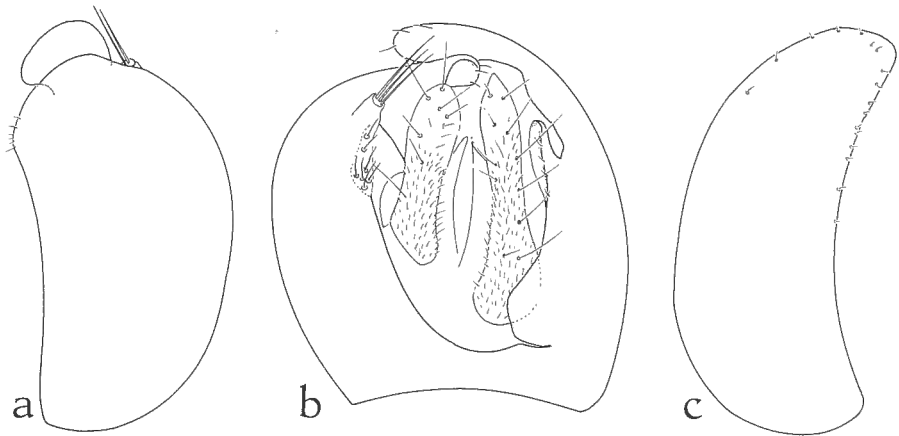


Fig. 4. — *Platypalpus alpinus* CHVÁLA male periandrium :  
A. right lamella; B. periandrium with cerci; C. left lamella.

The paratype from Finland (Hoplax, ♂ leg. FREY) in which the antennae were absent, appeared to be *P. commutatus* (STROBL) upon dissection. So there is only one record left from Finland. As already

stated by CHVÁLA (1971), *P. alpinus* is probably a common species in the Alps but now it is questioned if it is present at all in Scandinavia. At the moment there are records from Finland (?), Belgium, France, Austria, Italian and Yugoslavian Alps.

#### DISCUSSION

As is shown in Table 1, 25 *Platypalpus* species were found. The sampling period fell in the beginning of the peak activity of *Platypalpus*. The activity of the early spring species such as *P. agilis*, *P. aristatus* and *P. longicornis* already ceased. Except that the latter was still present at a high altitude (Col Croix St. Robert) and was accidentally captured at the Lac Pavin.

To evaluate the species composition it is necessary to compare it with the fauna of Great-Britain (COLLIN, 1961), Fennoscandia and Denmark (CHVÁLA, 1975) and Belgium (GROOTAERT, 1981; 1984) as no recent studies on *Platypalpus* from France are reliable considering the many taxonomical changes from the last years. Most species found in this part of the Massif Central are widespread lowland species. Only *P. alpinus*, *P. difficilis*, *P. ecalceatus*, *P. mikii* and *P. vegrandis* can be considered as mountainous species. Remarkable is the presence of *P. verralli* in large numbers in almost all localities. The latter is widespread throughout Europe but never so common.

The author wishes to thank Dr. M. CHVÁLA for his comments on the identifications.

#### SUMMARY

25 *Platypalpus* species are reported from the Massif Central. The male of *P. vegrandis* FREY is described for the first time. Additional descriptions are given of *P. cruralis* (COLLIN) and *P. alpinus* CHVÁLA.

#### RESUME

25 espèces de *Platypalpus* sont rapportées du Massif Central. Le mâle de *P. vegrandis* FREY est décrit. Des descriptions complémentaires de *P. cruralis* (COLLIN) et *P. alpinus* CHVÁLA sont données.

## REFERENCES

CHVÁLA, M.

1971. A revision of the Scandinavian Tachydromiinae (Dipt., Empididae) described by J. W. ZETTERSTEDT. — *Ent. scand.*, 2, 1-28.

1975. The Tachydromiinae (Dipt. Empididae) of Fennoscandia and Denmark. — *Fauna Entomologica Scandinavica*, 3, 336 p.

COLLIN, J. E.

1961. British Flies. *Empididae*. — Cambridge, University Press, 782 p.

FREY, R.

1943. Uebersicht der paläarktischen Arten der Gattung *Platypalpus* MACQ. (= *Coryneta* MEIG.). (Dipt. Empididae). — *Not. Ent.*, 13, 1-19.

GROOTAERT, P.

1981. Notes on the occurrence of the genus *Platypalpus* MACQUART, 1827 (Diptera : Empididae) in Belgium. — *Bull. Inst. r. Sci. nat. Belg.*, 53, 24 p.

1984. Further notes on the genus *Platypalpus* MACQUART (Dipt. Empididae) in Belgium with additional descriptions to known species. — *Bull. Inst. r. Sci. nat. Belg.* (in press).

Koninklijk Belgisch Instituut voor Natuurwetenschappen  
Vautierstraat 29  
B-1040 Brussels, Belgium.

