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Editorial

Adrian Plant & Martin Drake

Empidid and dolichopodid enthusiasts are fortunate in having a large and very detailed literature covering British species. They are rather less fortunate in that amassing a 'complete' collection of these works is expensive, some of the works are out of date or difficult to obtain, some keys are overly simplistic or needlessly complicated and additional species have been added as British since publication of the major works. A complete revision and updating of the pantheon of literature is a daunting prospect. A more piecemeal preparation of keys to difficult or otherwise inaccessible groups seems more likely to succeed so here we provide a first offering ~ a revised and updated

A Key to British Species of *Platypalpus* Macq. (Hybotidae)

Adrian Plant

Platypalpus Macq. is a very speciose genus of small predatory hybotids commonly encountered running on leaf and other surfaces. Collin's British Flies (Collin 1961) provided a useful key and detailed descriptions of the 75 species of *Platypalpus* known from Britain at the time. Since Collin's seminal work, the number of species confirmed as British has risen to at least 88, thanks largely to excellent keys to the entire European fauna produced by Chvála (1975, 1989) and Grootaert & Chvála (1992). Whilst all British species are keyed in Grootaert & Chvála (1992), this large work is not readily available to many. The key provided here is based unashamedly on their key, but with considerable modification in the light of the wider literature and my own notes. It includes all species currently known as British as well as some which might turn up in future. Unfortunately, lack of time and potential copyright issues have prevented inclusion of illustrations to the key and the user may still have to look for these in the primary references.

Platypalpus is not an easy group to identify correctly.- but it is not difficult either and with a little practice and persistence most species may readily be identified

key to the large hybotid genus *Platypalpus*. We hope to be able to provide keys to other difficult groups in the not too distant future.

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using this key alone. Male genitalia illustrations are useful and will be needed to confirm some identifications. However, males are rare in some species (e.g. *P. candicans* & *P. cursitans*) over large parts of their range while for others (e.g. *P. major*) males are almost unknown and determinations must rely on characters of parthenogenetic females. Dwarf forms occur occasionally (e.g. form *minor* of *P. major*) and may be the product of repeated parthenogenetic reproduction.

Common pitfalls encountered in identification include confusion over the number of vertical setae, presence / absence of an anterior notopleural, colour of the basal antennal segments (very variable in some species) and the extent of dusting on the thoracic dorsum; ~ you have been warned! I have made extensive use the *length to width* ratio of the postpedicel (3rd antennal segment) and of the stylus (arista); these can be difficult to estimate accurately and it is often better to use the ratio between the *length of the stylus compared to the postpedicel*. Colour is always *ground colour* (visible in both wet and dry-mounted specimens) and any reference to colour of dusting is specifically mentioned. Some species are keyed both ways but if you get into difficulties then try the other option in a couplet (as with any key, don't try to 'force' an option). The key should be regarded as provisional and

it is preferable to confirm determinations by reference to original works.

Primary Literature

Collin, J. E. (1961). British Flies VI. Empididae. CUP.
 Chvála, M. (1975) The Tachydromiinae (Dipt. Empididae) of Fennoscandia and Denmark. *Fauna Entomologica Scandinavica* 3. Scandinavian Science Press.



Platypalpus laticinctus ©Adrian Plant

Key to species groups

(Note that species groups are formed for convenience of constructing a key and may not necessarily reflect systematic relationships between the species included)

- 1 Thorax with predominantly yellow ground colour; if darkened dorsally then pleura always distinctly yellowish. **GROUP A**
 - Thorax with predominantly black ground colour although often densely grey or yellowish-grey dusted. **2**

- 2 *vt* setae not clearly differentiated from numerous evenly long fine setae of upper occiput and vertex (care needed as occasionally [e.g. *P. pallipes*] 1 pair *vt* may be weakly developed in some individuals but in doubtful cases the scutum has fine hairs rather evenly distributed over its surface with line of *acr* and *dc* hardly differentiated); *T*₂ with apical spur never strongly developed. **GROUP B**
 - 1 or 2 pairs distinct *vt* setae which even if small are clearly differentiated from other fine setae of upper occiput and vertex. **3**

- 3 1 pair distinct *vt* setae. **4**
 - 2 pairs distinct *vt* setae. **8**

- 4 Scutum more or less polished black or subshining, at least along median line; any

Chvála, M. (1989). Monograph of the northern and central European species of *Platypalpus* (Diptera, Hybotidae), with data on the occurrence in Czechoslovakia. *Acta Universitatis Carolinae – Biologica* 32: 209-376.

Grootaert, P. & Chvála, M. (1992). Monograph of the genus *Platypalpus* (Diptera: Empidoidea, Hybotidae) of the Mediterranean region and the Canary Islands. *Acta Universitatis Carolinae – Biologica* 36: 3-226.



Platypalpus major ©Adrian Plant

- dusting usually rather thin (care and comparative experience are useful but all species lacking *h* and with whitish stylus belong here). **GROUP C**
 - Scutum lightly to densely greyish dusted. **5**

- 5 Scape and/or pedicel blackish (occasionally reddish-brown or yellowish brown). **GROUP E**
 - Scape and/or pedicel yellowish or yellowish brown. **6**

- 6 Pleura entirely grey dusted, including *katapisternum*. **GROUP D**
 - Pleura with *katapisternum* partly polished. ... **7**

- 7 Posthumeral setae (anterior notopleural) present; *T*₁ and *T*₃ with short dark setae dorsally. **GROUP F**
 - Posthumeral setae (anterior notopleural) not developed; *T*₁ and *T*₃ without short dark setae dorsally (except in *P. stabilis* and *P. major*). **GROUP G**

- 8 Scutum polished black, at least partially on posterior third; *T*₂ lacking of with only short apical spur, never longer than limb is deep. **GROUP H**
 - Scutum entirely dusted grey or greyish yellow; *T*₂ with or without strong apical spur. **GROUP I**

KEY A. Species with predominantly yellow thorax

- 1 *vt* setae absent or indistinguishable in length or strength from surrounding hairs of upper occiput; *h* absent; scutum mostly polished; T₂ covered with minute pale pile distally or apically; T₂ with apical spur absent or very weakly developed. **2**
- 1–2 pairs *vt* clearly distinct from other hairs; *h* present or absent; T₂ without minute pile distally and apical spur always present, if sometimes little more than a very small projection at tip. **4**
- 2 *acr* and *dc* small and numerous, rather evenly distributed over scutum, the two series hardly distinguishable from each other; T₂ with short blunt spur; [a short section of C beyond junction with R₁ often, but not always, deep black contrasting strongly with otherwise yellowish veins]. **pectoralis (Fallén)**
- *acr* and *dc* distinctly separated by bare areas; T₂ lacking apical spur. **3**
- 3 *acr* 4–6 serial, minute; antenna black; T₂ yellow apically. **inexpectatus Smith & Chvála**
- *acr* 2–4 serial, fine, diverging; scape and pedicel yellow, postpedicel black; T₂ velvety-brown on distal 0.5. **mikii (Becker)**
- 4 2 pairs of distinct *vt* setae. **aurantiacus (Collin)**
- 1 pair of distinct *vt* setae. **5**
- 5 Head entirely yellow; apical tarsal segments of front leg dilated. **luteus (Meigen)**
- Head with occiput darkened; apical tarsal segments of front leg not dilated. **6**
- 6 F₂ without *pv* setae behind double row of dark spine-like setae (look carefully). **exilis (Meigen)**
- F₂ with distinct pale *pv* setae behind double row of dark spine-like setae. **7**
- 7 Postpedicel entirely whitish-yellow; tarsi yellow; katapisternum polished. **8**
- Postpedicel blackish, at least at tip; tarsi weakly annulated brownish; katapisternum dusted. **leucocephalus (Von Roser)**
- 8 T₂ with strong black spur longer than limb is deep; postpedicel yellowish, 1.5X long as

wide, stylus black (but sometimes distinctly yellowish at base); male genitalia smaller with left lamella yellow. **luteolus (Collin)**

- T₂ with short blunt black spur, shorter than limb is deep; postpedicel whitish, 2–2.5X long as wide, stylus whitish at base; male genitalia large with left lamella black. **luteoloides Grootaert [Not British]**

KEY B. Species with black thorax and lacking vertical setae

- 1 F₂ lacking distinct setae behind ventral row of double spines; *acr* and *dc* rows at least narrowly separated from each other. **2**
- F₂ with more or less distinct setae behind ventral row of double spines; *acr* and *dc* rather evenly and densely distributed on scutum, not obviously separated from each other. **6**
- 2 Basal antennal segments yellow. **unguiculatus (Zett.) [Not British]**
- Basal antennal segments blackish. **3**
- 3 *acr* 2–4 serial, numerous, numerous fine setulae between line of *dc* and lateral margin of scutum; pleura dusted except for katapisternum. **4**
- Scutum almost bare with *acr* and *dc* minute, only a few fine setulae between line of *dc* and lateral margin of scutum; pleura largely polished. **5**
- 4 T₂ with dense covering of pale pile along entire length or at least distal 0.8; frons subshining black (care with wet-preserved specimens); male genitalia small. **parvicauda (Collin)**
- T₂ with dense covering of pale pile on distal 0.5 only; frons densely grey dusted; male genitalia globular, greatly enlarged. **ciliaris (Fallén)**
- 5 Frons and vertex dusted grey; T₂ with covering of pale pile apically; antennal stylus ≥ 2 X length of postpedicel; male abdomen sparsely setulose. **confinis (Zett.)**
- Frons and vertex shining black; T₂ without covering of pile apically; antennal stylus shorter (σ) or slightly longer (ρ) than postpedicel. **stigmatellus (Zett.)**

- 6 Antenna with postpedicel 3.5–4X long as wide, stylus 0.5X as long; F₂ only slightly more inflated than F₁; *acr* irregularly 6-serial, narrowly separated from multiserial *dc*; male apical tarsal segments on front leg narrow and elongate. ***longimanus* (Corti)**
- Antenna with postpedicel ≤ 3 X long as wide, stylus longer; F₂ obviously more inflated and longer than F₁; lines of *acr* and *dc* not obviously separated. **7**
- Frons shining black; antenna with postpedicel slightly longer than wide; F₂ and F₃ more or less darkened subapically; F₂ with fine yellow *pv* setae. ***macula* (Zett.)**
- Frons dusted grey; antenna with postpedicel \geq long as deep; F₂ and F₃ yellow; F₂ with strong dark *pv* setae. ***pallipes* (Fallén)**
- KEY C. Species with blackish thorax, one pair of vertical setae and scutum at least partly shining or subshining.**
- 1 T₂ without or with only very small apical spur; scutum more or less polished with at most only lateral margins slightly dusted; [if scutum completely but very thinly dusted and antennal stylus white, the species will be found in this section; otherwise species with very thinly dusted scutum and stylus dark which fail to be resolved in this section should be keyed in Group E] **2**
- T₂ with large sharply pointed apical spur, if only as long or slightly longer than limb is deep then F₂ with distinct *pv* setae behind double row of ventral points. **11**
- 2 F₂ without distinct *pv* setae behind double row of ventral points. ***unguiculatus* (Zett.)** [Not British]
- F₂ with distinct *pv* setae behind double row of ventral points. **3**
- 3 Anepisternum partly or completely shining; humeri shining; F₁ with at least 1–2 long black median setae in posterior ventral row longer than limb is deep. **4**
- Anepisternum completely dusted; at least posterior part of humeri dusted; F₁ without long setae in posterior ventral row. **8**
- 4 Antenna with postpedicel 3X long as wide, stylus much longer; frons narrow, no wider than front ocellus. **5**
- Antenna with postpedicel 4–5X long as wide, stylus similar or slightly longer than postpedicel; frons dorsally wider than front ocellus. **7**
- 5 *ocl* and *vt* setae of equal length (σ L. cercus very large, apically bent). ***smirnovi* (Kovalev)** [Not British]
- *ocl* setae 0.6–0.7X length of *vt* (σ L. cercus broadened or pointed, but not greatly enlarged). **6**
- 6 Antenna with postpedicel >3 X long as wide, stylus ≤ 2 X as long (σ L. cercus apically pointed). ***albiseta* (Panzer)**
- Antenna with postpedicel about 3X long as wide, stylus almost 3X as long (σ L. cercus apically broadened). ***pygialis* Chvála**
- 7 Legs extensively blackish; frons grey. ***albocapillatus* (Fallén)**
- Legs with coxae, femora and T₃ yellowish brown; F₁ black dorsally and on apical 0.3; F₂, F₃ and T₃ darkened apically. ***niveocapillatus* Chvála** [Not British]
- 8 *acr* 4-serial long and distinct. **9**
- *acr* 2-serial; scutum almost bare with only minute setulae. **10**
- 9 Larger thoracic setae whitish; antenna with postpedicel 2.5X long as wide, stylus 2X as long. ***pallidiseta* Kovalev**
- Larger thoracic setae black; antenna with postpedicel ≥ 4 X long as wide, stylus almost as long. ***obscurus* (Von Roser)** [Not British]
- 10 Antenna with postpedicel 3X long as wide, stylus 2X as long; σ R. periandrial lamella with tooth-like process on left margin, L. lamella distally narrow with black spines apically. ***caroli* Grootaert**
- Antenna with postpedicel 4X long as wide, stylus as long or slightly longer; σ R. periandrial lamella without tooth-like process on left margin, L. lamella not so narrow distally and lacking distinct black spines apically. ***niveiseta* (Zett.)**
- 11 Scutum shining, polished black at least in prescutellar area or extensively anteriorly between humeri; often mostly polished with dusting confined only to a patch behind humeri, notopleural depression and postalar calli. **12**

- Scutum very thinly dusted (can appear subshining or with metallic tinge) sometimes (*minutus* / *australominutus*) with narrow median shining stripe. **16**
[this couplet can cause problems, especially with rubbed dry-mounted material; *P. niger* is keyed both ways as intensity of dusting varies between populations. *P. politus* may cause problems and its dusting pattern is sexually dimorphic. Problematic specimens should be keyed both ways and never ‘forced’]
- 12 Legs black with only base of all femora yellow. **niger (Mg.)**
[*niger* varies somewhat throughout its European range and the form keying out here is typical of British and European Atlantic seaboard populations; specimens of other European populations will resolve at couplet 18 which is included ‘just in case’. Note that *P. ater* (Wahlberg) is a boreal species that might just occur in the north of Scotland, it resembles *niger* but all larger thoracic setae are pale and the femora are more uniformly dark]
- Legs mostly yellow. **13**
- 13 F₂ conspicuously inflated, pv bristles weak or absent except for 2-3 apically. **pseudociliaris (Strobl)**
- F₂ less strongly inflated, only slightly deeper than F₁ (in doubtful cases thoracic pleura extensively polished). **14**
- 14 *h* present, distinct; *acr* and *dc* distinct, [tarsi with brown annulations becoming darker apically, apical segment entirely dark]. **ingenuus (Collin)**
- *h* minute; *acr* and *dc* minute [apical 2–3 tarsal segments darkened]. **15**
- 15 Antenna yellow including postpedicel; scutum polished on prescutellar area (♂) or prescutellar area and median stripe (♀). **ruficornis (Von Roser)**
- Antenna rather darker yellow, postpedicel rather narrower and apically darker; scutum polished at extreme front (♂) or more or less entirely polished (♀). **politus (Collin)**
- 16 Legs yellow with darkened tarsi; occiput polished black; antenna with scape and pedicel yellow, postpedicel small and black, stylus long and whitish; *h* absent; thoracic pleura and humeri shining. **leucothrix (Strobl)**
- Legs extensively darkened; occiput dusted; *h* present even if sometime very fine; antenna dark including basal segments and stylus. **17**
- 17 *h* distinct; large thoracic setae yellow; scutum metallic black with very thin dust; frons very narrow; vein CuA₂ closing cell *cup* (ie. vein closing anal cell) distinctly S-shaped and recurrent. **aeneus (Macq.)**
- *h* small and fine; large thoracic setae dark; vein CuA₂ closing cell *cup* less strongly recurrent. **18**
- 18 Legs black with only base of all femora yellow; pleura extensively polished; T₁ without small rim-like apicoventral process; scutum variably thinly dusted. **niger (Mg.)**
- Femora with different pattern (take care as *minutus* / *australominutus* can have base of all femora yellow but they also always have yellowish markings apically); pleura silvery grey dusted except for shining katepisternum. **19**
- 19 T₁ without small rim-like apicoventral process; *acr* 2-serial, rows widely separated; legs black, tarsi uniformly dark without annulations, at most F₁, (rarely F₂ and F₃ very narrowly) yellowish apically. **albifacies (Collin)**
- T₁ with small rim-like apicoventral process; *acr* 2-serial, rows narrowly separated; legs black, femora apically yellowish. **20**
- 20 ♂ genitalia with R. periandrial lamella apically bifid, tips of bifurcation rounded and separated by a narrow slit; cercus with 2 apical spines. **minutus (Mg.)**
- ♂ genitalia with R. periandrial lamella apically bifid, tips of bifurcation pointed and separated by a V-shaped gap; cercus with 3 apical spines. ... **australominutus (Grootaert)** [females of *minutus* and *australominutus* are inseparable].

KEY D. Species with black thorax, one pair of vertical setae, scutum dusted greyish, basal antennal segments yellowish and katepisternum entirely dusted

- 1 Veins M and R₄₊₅ almost parallel, M at most gently bowed. **2**
- Veins M and R₄₊₅ obviously not parallel, M strongly bowed away from R₄₊₅. **3**

- 2 *dc* setae large and bristle-like; abdomen shining black; antenna with postpedicel yellow (darkened only at tip) in male or dark (yellowish only at base) in female. ***verralli* (Collin)**
- *dc* setae small (except 1-2 pairs in prescutellar area larger); abdomen yellow; antenna with postpedicel entirely yellow in both sexes. ***dessarti* Grootaert** [Not British]
- 3 Vein M strongly and evenly bowed, even apically; tarsi pale or indistinctly annulated; frons very narrow (no wider than front ocellus). ***candicans* (Fallén)**
- Vein M not so strongly and evenly bowed, curving upwards rather abruptly apically where subparallel with R₄₊₅; tarsi with brownish annulations; frons broader. .. ***cursitans* (Fabr.)**

KEY E. Species with black thorax, one pair of vertical setae, scutum distinctly dusted and basal antennal segments dark

- 1 F₂ without *pv* bristles behind the double row of small black ventral spines; *acr* and *dc* minute; tarsi yellow or with only apical tarsomere dark. **2**
- F₂ with distinct *pv* bristles behind the double row of small black ventral spines [look carefully, *pv* bristles can be very fine and difficult to see]; *acr* and *dc* moderately long; tarsi distinctly annulated or with apical 1-2 tarsomeres darkened. **3**
- 2 T₂ with long sharply pointed apical spur about as long a limb is deep; postpedicel 3X long as wide, stylus thickened; tarsi completely yellow. ***aristatus* (Collin)**
- T₂ with blunt apical spur about as long a limb is deep; postpedicel 2-2.5X long as deep, stylus slender; apical tarsomere black. ***tonsus* (Collin)**
[note that in *tonsus* the double row of black ventral spines becomes longer and yellowish basally and could be mistaken for basal *pv* bristles]
- 3 T₂ with apical spur shorter than tibia is deep or if about as long, then blunt tipped. **4**
- T₂ with apical spur large, sharply pointed, longer than limb is deep [species with blunt tipped spur about as long as limb is deep are keyed both ways]. **5**
- 4 Wing membrane distinctly yellowish; apical 1-2 tarsomeres of all legs dark; T₂ with apical spur about as long as limb is wide, blunt, ♂ with tiny spine at tip. ***cothurnatus* Macquart**
- Wing membrane clear or faintly brownish; tarsi distinctly annulated; T₂ with apical spur very small. ***cryptospina* (Frey)**
- 5 T₂ with apical spur only about as long as limb is wide, blunt, ♂ with tiny spine at tip Wing membrane distinctly yellowish; apical 1-2 tarsomeres of all legs dark. ***cothurnatus* Macquart**
- T₂ with apical spur long, sharply pointed (other characters various). **6**
- 6 Larger thoracic bristles black. **7**
- Larger thoracic bristles yellowish to brownish. **8**
- 7 Legs extensively darkened, coxae black; T₂ with apical spur sharply pointed (*acr* clearly 4-serial at front). ***melancholicus* (Collin)**
- Legs extensively yellowish, coxae yellow; T₂ with apical spur blunter tipped with a minute spine and even smaller hair apically (*acr* usually 4-serial but sometimes 2 or 3 serial in part). ***optimus* (Collin)**
- 8 Scutum with *acr* 4-serial, at least in front. legs usually extensively darkened; F₁ not much narrower than F₂. **9**
- Scutum with *acr* 2-serial [care! *P. notatus* can have a few extra *acr* and appear 4-serial in part]; legs yellowish or extensively darkened; F₁ sometimes obviously narrower than F₂. **10**
- 9 Large thoracic bristles yellowish; *acr* rather long, usually 4-serial throughout; legs usually paler with C₂, C₃, C₁ at base, rather broad rings on all femora and tip of T₁ and T₃ darkened; hind trochanter usually yellowish; tarsi very strongly dark annulated; wing membrane vaguely darkened, veins brown; smaller species (2.3-3.3 mm). ***annulatus* (Fallén)**

- Large thoracic bristles brownish to black; *acr* shorter, usually 2-serial about middle and posteriorly; legs more extensively darkened with all coxae and all femora (except at tip) strongly darkened; hind trochanter darkened; tarsi less strongly annulated (tarsomeres with dark apical part less abruptly divided from paler basal part); wing membrane distinctly brownish, veins blackish brown; larger species (2.9-3.8 mm). ***melancholicus* (Collin)**
- 10 Antenna with postpedicel at least 2.5X long as deep, stylus about as long or slightly longer than postpedicel. **11**
 - Antenna with postpedicel shorter, no more than 2X long as deep, stylus obviously longer than postpedicel. **16**
- 11 Abdomen polished black, sometimes with small patches of grey dusting laterally on tergites 1 and 2. **12**
 - Abdomen with distinct patches of grey dusting on all tergites basally. **14**
- 12 Vt setae closer together (hardly 1.5X width of frons by anterior ocellus); F₂ much stouter than F₁; tergites 1 and 2 with small lateral patches of dusting; tarsi faintly annulated but apical tarsomere black, legs otherwise yellow with conspicuous black 'knees'.
..... ***infectus* (Collin)**
 - Vt setae wider apart (about 2X width of frons by anterior ocellus); F₂ not much stouter than F₁; abdomen entirely shining black; legs yellowish or extensively darkened but always with distinct annulated tarsi. **13**
- 13 Legs extensively darkened; at least C₂, C₃, C₁ at base, F₂ and F₃ apically dark [paler individuals occur, their coxae are dark at least about base, F₂ and F₃ have at least a dark dorsal patch or median ring]; face narrower than frons anteriorly; vt setae pale.
..... ***notatus* (Mg.)**
 - Legs extensively yellowish [pale yellow to orange]; C₂, C₃ at most dark basally, F₂ and F₃ sometimes faintly dark ring or apex; frons broader, similar width as face; vt setae brownish. ***strigifrons* (Zett.)**
[very pale examples of the *notatus* can be confused with dark specimens of *strigifrons* and determination should be confirmed by genitalia examination; *notatus* is common and widespread whereas *strigifrons* is confined to sand dunes]
- 14 Legs yellow (including coxae); basal antennal segments sometimes dark reddish brown [some individuals recall dark examples of *P. pallidiventris* but in that species the anterior notopleural is developed].
..... ***praecinctus* (Collin)**
 - Legs obviously darkened on coxae and femora. **15**
- 15 Antenna entirely dark; *acr* irregularly 2-3 serial; stylus of equal length as postpedicel (♂) or slightly longer (female).
..... ***carteri* (Collin)**
 - Antenna with basal segments reddish yellow; *acr* regularly 2-serial; stylus 1.5X length of postpedicel. ***latemi* Grootaert**
[specimens conforming with *latemi* have been found in Britain. It has not been admitted formally to the British list and since first describing the species, Grootaert has expressed doubts (pers. com.) that it is a valid species. It may be a dark form of *P. praecinctus*].
- 16 Smaller [1.5-2.6 mm]; palpi smaller, greyish yellow [can be quite dark]; clypeus polished black; antenna with postpedicel only slightly longer than wide; legs yellow (including coxae and femora), tarsi annulated; vt setae wider apart; dusting on scutum tinged golden yellow. ***clarandus* (Collin)**
[*P. luteipes* Zusková occurs on near continental Europe; it resembles *clarandus* but is somewhat larger (3.0 mm) with yellow palpi, anterior and mid tarsi only faintly annulated and F₂ conspicuously larger than F₁].
 - Larger [2.4-3.6 mm]; palpi quite large, brownish; clypeus dusted silvery-grey; antenna with postpedicel 1.5X long as wide; legs usually with dark markings on femora; vt setae closer together; dusting on scutum tinged brownish grey. **17**
- 17 Palpi clearly longer than broad; *acr* less numerous, the 2-serial rows conspicuously wide apart; ♂T₁ not spindle-shaped, with short ventral hair. ***interstinctus* (Collin)**
 - Palpi broadly ovate, hardly longer than broad; *acr* more numerous, the 2-serial rows closer together; ♂T₁ spindle-shaped, with longer pv bristles and a few bristly hairs dorsally.
..... ***pseudofulvipes* (Frey)**
[leg colour of *interstinctus* and *pseudofulvipes* varies from predominantly yellow to extensively darkened. *P. interstinctus* usually has at least a dark subapical ring on F₂ and *pseudofulvipes* often has

F₁ and F₂ dark but both species (especially *pseudofulvipes*) can have almost entirely dark legs and both have strongly annulated tarsi. Palpus shape is the best character to distinguish the two].

KEY F. Species with black thorax, one pair of vertical setae, scutum distinctly dusted, basal antennal segments yellow (at least dark reddish yellow), katepisternum partly polished, posthumeral setae (anterior notopleural) present and with T₁ and T₃ bearing short dark setae dorsally.

- 1 Smaller (2-3 mm); *acr* 2-serial [*acr* are usually not numerous in prescutellar depression]. **2**
- Larger (3-4 mm); *acr* 3 or 4-serial, clearly more 2-serial but series sometimes rather irregular [*acr* are usually numerous in prescutellar depression]. **5**
- 2 *Acr* with the 2 rows clearly separated (if narrowly), hairs not diverging; anterior notopleural of similar size to posterior pair. **3**
- *Acr* with the 2 rows hardly separated, appearing almost 1-serial but diverging strongly from each other. **4**
- 3 Antenna with postpedicel narrowly yellowish about base; ♂T₁ slightly spindle-shaped and front tarsi yellow with contrastingly blackish apical segment; ♀ with all tarsi annulated but apical segment sometimes obviously somewhat darker than preceding segments. ***longiseta* (Zet.)**
- Antenna with postpedicel not paler basally; male T₁ not inflated; all tarsi strongly annulated in both sexes. ***pallidiventris* (Mg.)**
- 4 Coxae and trochanters yellow (sometime slightly darkened); palpus yellow in male, darkened in ♀. ***kirtlingensis* Grootaert**
- Coxae and trochanters black (C₁ pale apically in female); palpus dark in both sexes. ***pictitarsis* (Becker)**
- 5 Katepisternum with large polished patch anteriorly; *acr* irregularly 3-serial (at least behind); antenna with postpedicel 2.5X long as deep, stylus ≤ 1.5X as long; tarsi annulated, but ♂ narrowly brownish annulated on 3rd and 4th segment with 5th blackish (as in *longiseta*), ♀ with all tarsi rather faintly

brownish annulated but 5th segment darker.

- ***biapicalis* Wéber**
- Katepisternum indistinctly polished at middle; *acr* irregularly 3-4 serial (usually 4-serial) throughout; antenna with postpedicel ≤ 2X long as deep, stylus ≥ 2X as long; tarsi distinctly blackish-annulated but metatarsi brownish. ***analis* (Mg.)**

KEY G. Species with black thorax, one pair of vertical setae, scutum distinctly dusted, basal antennal segments yellow (at least dark reddish yellow), katepisternum partly polished, posthumeral setae absent and with T₁ and T₃ not usually bearing short dark setae dorsally.

- 1 Antenna yellow; at most tip of postpedicel and stylus darkened. **2**
- Antenna with postpedicel darkened, at most narrowly paler / yellowish basally. **7** [this character can be problematical in some examples; if in doubt key both ways.- go to couplet 2 if the palpi are large and couplet 7 if palpi are small. *P. stabilis* in particular can have the postpedicel yellowish basally and should be considered. Additionally, in *P. divisus* ♀ the postpedicel may appear brownish].
- 2 Vein M very obviously bowed; F₂ strongly inflated, 2X thick as F₁; usually large species but dwarf forms occur. (2.8-5.5 mm). ***major* (Zet.)**
- Vein M almost parallel with R4+5; usually smaller (≤3 mm). **3**
- 3 Palpi long, narrow, silvery white; Antenna with postpedicel pale (♂) or brownish (♀), long (2.5X long as deep with stylus slightly longer); tarsi yellow with 5th segment blackish and basal three segments of front tarsus subannulate ventrally (i.e. with a small dark spot apicoventrally); wings distinctly yellowish..... ***divisus* Walker**
- Palpi broadly ovate; Antenna with postpedicel ≤ 2X long as deep; wings clear or faintly yellowish. **4**
- 4 Very small species (1.4-1.8 mm); antenna deep yellow; T₂ with apical spur short, trowel-like; tarsi yellow, only 5th segment darkened. ***ochrocerus* (Collin)**

- Larger species (usually c2.5 mm); antenna paler yellow; T₂ with strong sharply pointed apical spur (if blunt then spur is longer than T₂ is deep or [*pallidicornis* ♂] tarsi dark annulated). **5**
- 5 Tarsi yellow with only 5th segment darkened. *albicornis* (Zet)
- Tarsi with dark annulations. **6**
- 6 Frons broader; face silvery grey; abdomen distinctly dusted grey laterally; T₂ with apical spur sharply pointed in both sexes; tarsi strongly annulated black. *flavicornis* (Mg.)
- Frons narrow; face yellowish grey; abdomen very indistinctly dusted grey laterally; T₂ with apical spur sharply pointed (♀) or blunt (♂); tarsi less strongly annulated black. *pallidicornis* (Collin)
- 7 T₂ with apical spur blunt & shorter than limb is deep. **8**
- T₂ with apical spur large and sharply pointed (if blunt tipped [*annulipes* & *subtilis* ♀] then at least as long as limb is deep). **10**
[all species following couplet 8 are small (≤ 2 mm) whereas those following couplet 10 are larger (excepting *calceatus* & *subtilis* which are c1.3-2.6 mm)].
- 8 Antenna with postpedicel ≥ 3X long as deep, stylus shorter; stigma present at apex of R₁. *stigma* (Collin)
- Antenna with postpedicel c1.5X long as deep, stylus longer; stigma absent. **9**
- 9 C₂, C₃ and palpi yellow; ♂ with all tarsal segments of front leg sharply annulated black (less darkened in ♀). *articulatoides* Frey
- C₂, C₃ and palpi black; ♂ front leg with tarsal segments 1 & 2 annulated black, 3 & 4 yellow with only very faint annulations, 5 darkened (less distinct in ♀).
..... *articulatus* Macquart
[*P. maculimanus* (Zet.) may yet be found in Britain; the tip and outer margin of the left perianthial lamella have only short hairs whereas in *articulatus* there are c4 strong apical bristles. ♀♀ indistinguishable].
- 10 Large species (3-5 mm). T₂ with large sharply pointed spur. **11**
- Smaller species (≤ 3 mm, if c3 mm the tibial spur blunt [*annulipes*] or antennal postpedicel yellowish basally [*stabilis*]). **13**
- [*P. latemi* (see Key E) is also c3 mm; its abdomen is strongly dusted grey, coxae and front legs darkened and basal antennal segments reddish yellow].
- 11 Abdomen strongly dusted grey dorsally with only narrow median triangles polished black; *acr* and *dc* dark brown, *dc* strong. *fasciatus* (Mg.)
[F₂ and F₃ usually darkened near tip; tarsi annulated.- brownish basally, broader & darker on apical segments]
- Abdomen more extensively polished with grey lateral patches narrower; *acr* and *dc* pale and small. **12**
- 12 Abdomen with lateral dust patches confined to anterior two segments; segments 3-5 with narrowly dusted anterior margins; antenna with postpedicel usually yellowish basally. *laticinctus* Walker
[very variable in size and colour; postpedicel yellowish or dark basally; legs usually yellowish but F₂, F₃ and sometimes even F₁ darkened; front tarsi generally yellowish, mid and hind leg indistinctly annulated].
- Abdomen with broad lateral dust patches on all segments; antenna with postpedicel entirely blackish. *cruralis* (Collin)[Not British]
- 13 Antenna with postpedicel broadly yellowish on basal 0.5 (look from below ~ occasionally only narrowly yellowish in ♀); T₁ of ♂ thickened; tarsi faintly annulated brownish, darker on apical 2 segments [size very variable, usually 2.6-3.3 mm]. *stabilis* (Collin)
- Antenna with postpedicel completely blackish; (narrowly yellow at base in *ecalceatus* and rarely so in *annulipes* which has strongly annulated tarsi). **14**
- 14 *Acr* irregularly 3-4 serial (care! can appear 2-serial in rubbed specimens); tarsi with distinct black annulations (very strongly defined on front leg); larger, 2.5-3.5 mm.
..... *annulipes* (Mg.)
[this common species is confusingly variable; the basal segments of the antenna are sometimes almost black and the postpedicel may be yellowish basally and varies considerably in length. Leg colour varies from entirely yellow to extensively blackish but the tarsi are always distinctly annulated.; most specimens with very distinctly annulated front tarsi turn out to be *annulipes*. A putative undescribed but related species is present

- in Britain; it has C₁ and F₁ (except at tip) deep black and left periandrial lamella narrower].
- Acr regularly 2-serial; tarsi entirely yellowish, with apical 2 segments darkened or annulated; generally smaller, 1.5-3.2 mm. **15**
- 15 Fore tarsi distinctly annulated.
 *subtilis* (Collin)
 [only 1 notopleural, tibial spur blunt in ♂, sharply pointed in ♀; looks like small pale version of *annulipes* but in *subtilis* wing veins are all pale whereas in *annulipes* they are only yellowish on the costal half only].
- Fore tarsi yellow or with apical segments darkened. **16**
- 16 Fore tarsi entirely yellow. *ecalceatus* (Zet.)
- Fore tarsi with apical 2 segments darkened. *calceatus* (Mg.)

KEY H. Species with black thorax, two pairs of vertical setae, scutum polished black (at least posteriorly)

- 1 Antenna with postpedicel short $\leq 3X$ long as deep, stylus as long or longer than postpedicel. **2**
- Antenna with postpedicel long, $\geq 4X$ long as deep, stylus $\leq 0.6X$ length of postpedicel. **7**
- 2 Antenna entirely black; F₂ with 4-5 long dark *pv* setae; very small species (1.0-1.5 mm). *sylicola* (Collin)
- Antenna yellowish, at least on vassal segments (basal segments sometimes dark yellowish brown in *commutatus*); F₂ without *pv* setae behind the double row of ventral black spine-like bristles; rather larger species 1.8-2.5 mm. **3**
- 3 Antenna entirely yellow; pleura polished; *humeral* and *acr* setae absent. *alter* (Collin)
- Antenna with postpedicel dark; pleura dusted but katepisternum with polished patch at middle; *humeral* and *acr* setae present. **4**
- 4 Antenna with postpedicel long, $\geq 2X$ long as deep, stylus about as long. **5**
- Antenna with postpedicel shorter, only slightly longer than deep, stylus c $2X$ as long [not British]. **6**
- 5 Legs yellow (including 5th tarsal segment); antenna with postpedicel slightly more than

- 2X long as deep and stylus hardly as long; *acr* 3-4 serial, small. *unicus* (Collin)
- Legs yellow but distal tarsal segments somewhat brownish, 5th segment almost black; antenna with postpedicel 2.5-3X long as deep, stylus of similar length, basal segments sometimes darkened; *acr* 2-serial, distinct, hair-like. *commutatus* (Strobl)
- 6 At least 5th tarsal segment dark; F₂ long, slender, as deep as F₁; *acr* regularly 2-serial. *boreoalpinus* Frey [Not British]
- Tarsi entirely yellow; F₂ short, stout, deeper than F₁; *acr* irregularly 2-4 serial. *alpinus* Chvála [Not British]
- 7 F₂ lacking *pv* setae behind double ventral row of short spine-like bristles. **8**
- F₂ with dark *pv* setae. **9**
- 8 Scutum polished black (at most very thinly dusted); antenna with basal segments pale. *longicornis* (Mg.)
- Scutum dark grey dusted; antenna with basal segments blackish. *brachystylus* (Bezzi)
 [not yet confirmed as British].
- 9 C₁ yellow, only base slightly darkened; T₃ in ♂ simple; F₂ in ♀ at most dark dorsally on distal half. *nigritarsis* (Fallén)
- C₁ blackish, somewhat paler apically; T₃ in ♂ conspicuously curved medially with ventral excision at middle and swollen near base; F₂ in ♀ dark dorsally along entire length. *excisus* (Becker)

KEY I. Species with black thorax, two pairs of vertical setae, scutum entirely dusted (if only thinly)

- 1 T₂ without apical spur (or spur very small); antenna with basal segments often yellowish. **2**
- T₂ with long sharply pointed apical spur; antenna with basal segments blackish. **8**
- 2 *Acr* 2 serial; F₂ \leq width of F₁. **3**
- *Acr* 3-4 serial or more; F₂ $>$ width of F₁. **6**
- 3 Antenna with postpedicel very short, hardly longer than deep; small species 1.2-1.8 mm. *nanus* (Oldenberg) [Not British]
- Antenna with postpedicel longer $\geq 3X$ long as wide. **4**

- 4 Antenna very long, postpedicel $\geq 5X$ long as deep, stylus $c0.25X$ as long; legs dark yellow, tibiae brownish, tarsi almost black. ***brachystylus* (Bezzi)** [probably British as specimens collected by Cole determined as this sp. by Chvála]
 - Antenna shorter; postpedicel $\leq 4X$ long as deep; legs yellow, tarsi darker apically. **5**
- 5 Antenna with postpedicel $c4X$ long as deep, stylus $c0.5X$ as long. ***luteicornis* (Mg.)**
 - Antenna with postpedicel $c3X$ long as deep, stylus about as long. ***tuomikoskii* (Chvála)**
- 6 Legs yellow but tarsal segments 4 and 5 faintly brownish; T_2 with small apical spur. ***pulicarius* (Mg.)**
 - At least C_2 and C_3 darkened at base; tibial spur hardly present on T_2 **7**
- 7 C_2 and C_3 strongly darkened; antenna with stylus $2X$ as long as postpedicel. ***incertus* (Collin)**
 - C_2 and C_3 less strongly darkened; antenna with stylus $1.5X$ as long as postpedicel. ***vegrandis* Frey** [Not British]
- 8 *Acr* 4-6 serial (at least anteriorly), on broad neduan stripe. **9**
 - *Acr* 2-serial throughout. **12**
- 9 Larger thoracic setae yellow; legs extensively yellow including mid and hind coxae. ***maculipes* (Mg.)**
 - Larger thoracic setae black; at least C_2 , C_3 , F_2 & C_3 extensively darkened. **10**
- 10 T_2 with apical spur rather short ($\leq 1X$ long as limb is deep); legs darker with paler parts brownish rather than yellow, F_1 black on at least basal 0.5; small species (1.5-1.8 mm). ***celer* (Mg.)** [Not British]
 - T_2 with apical spur sharply pointed, long (obviously longer than limb is deep); legs with contrasting yellow and black markings; larger (1.7-2.6 mm). **11**
- 11 *Acr* 4-serial; C_1 yellow; C_2 , C_3 , most of F_2 and F_3 on distal 0.5 black. ***rapidus* (Mg.)**
 - *Acr* irregularly 6-serial; legs more extensively black, F_1 with only tip yellow and F_3 almost entirely black. ***rapidoides* Chvála**
- 12 Large thoracic setae brownish. ***bilobatus* Wéber** (♀)
 - Large thoracic bristles black. **13**
- 13 Thoracic pleura subshining, katepisternum and anepimeron polished black; small (2 mm). ***pygmaeus* (Mg.)**
 - Thoracic pleura dusted except polished katepisternum. **14**
- 14 Postpronotal lobe [humerus] more or less shining on outer face. Legs yellow (♂) or extensively darkened (♀); antenna with postpedicel $1.5X$ long as deep, stylus $1.5X$ as long; larger (2.4-3.6 mm). ***agilis* (Mg.)**
 - Postpronotal lobe [humerus] dusted; relative proportions of postpedicel and stylus otherwise; smaller (2-3 mm). **15**
- 15 Antenna with postpedicel $2.5X$ long as deep, stylus about same length; *acr* pale; larger thoracic setae blackish (♂) or brownish(♀); femora extensively darkened with paler tip (♂) but F_2 and F_3 blackish only apically in ♀. ***bilobatus* Wéber**
 - Antenna with postpedicel $1.5X$ long as deep, stylus $c2X$ as long or more; *acr* black; larger thoracic setae always black; legs yellow in both sexes with dark dorsal strip on F_2 and distal 0.5 of F_3 black. ***pseudorapidus* Kovalev** [Not British]



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