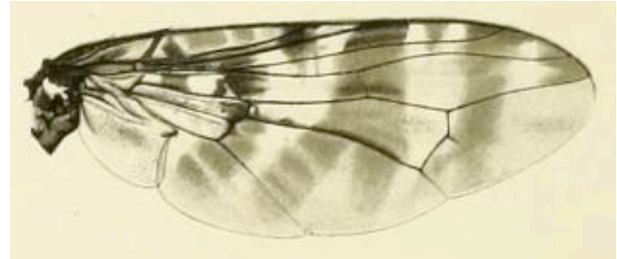


Key to Eurasian species of the genus *Platystoma* Meigen, 1803 (Diptera, Platystomatidae)

Use of the wing pattern as a diagnostic character is not always reliable, as several species exhibit variation in the number, density and position of spots and shade of colour. Where possible and where known, alternative morphological features have been applied.

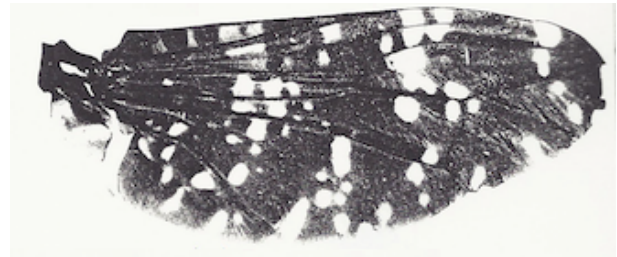
- 1. Wing membrane banded, unspotted; thoracic calypter distinctly lengthened
 ***P. chrysotoxum* Hendel, 1913**
 Transcaucasus: Armenia; Iraq



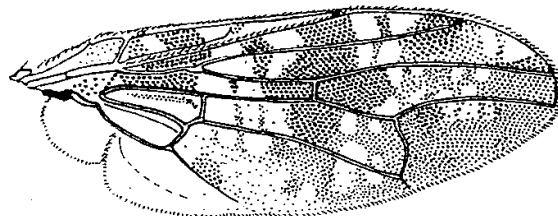
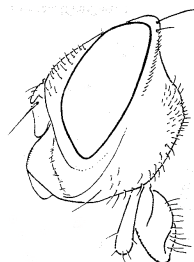
- Wing hyaline spotted on a dark brown to black membrane, in some instances these merging into clear bands; thoracic calypter not much longer than the alar calypter ..
 **2**
- 2. Spots on wing membrane widely spaced such that brown/black membrane dominates over hyaline spots **3**

- Spots on wing membrane dense and clustered such that hyaline spots dominate over brown/black membrane or form lines **4**

- 3. Abdomen black with dense grey pruinescence, paler on T₃ - T₅
 ***P. obtusum* Hendel, 1913**
 Transcaspien: Turkmenistan

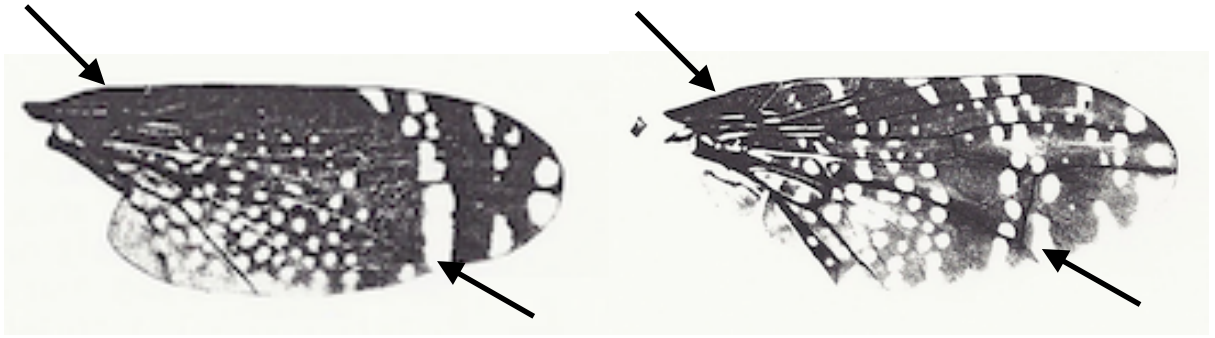


- Abdomen reddish yellow, neither black nor metallic shining
 ***P. ussuricum* Korneyev, 1991**
 Russia, Far East



- 4. Costal cell entirely dark brown as far as apex of sc..... ***P. nitidiventre* Hendel, 1913**
 Transcaucasus: Azerbaijan; Turkey

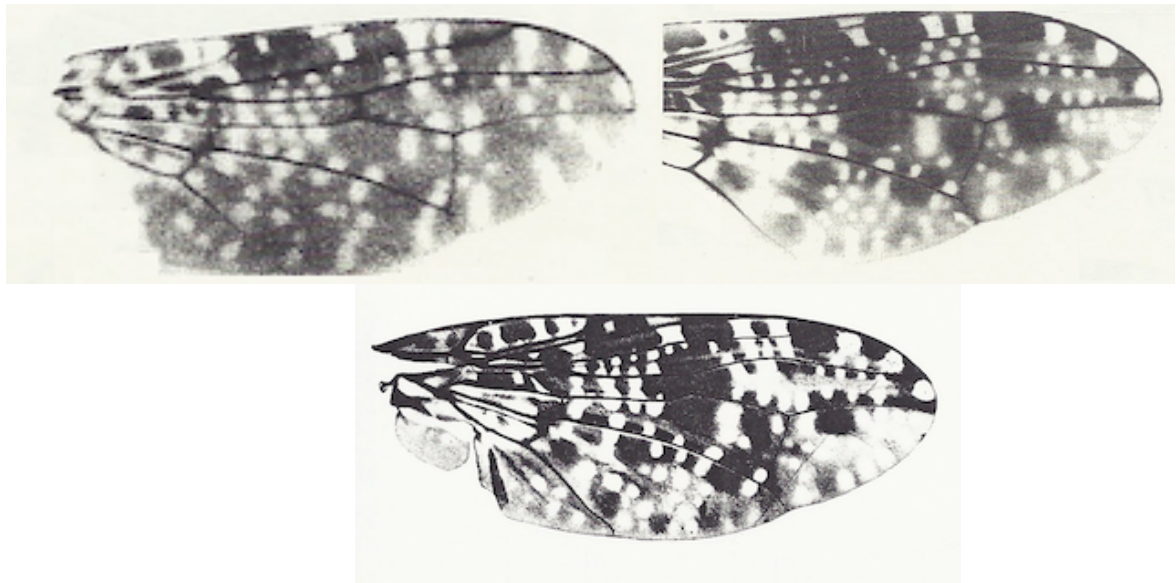
Note: Two varieties, one with hyaline spots merged to form a discal median band, the other with the spots across *dm* still distinctly spots, the latter with a hyaline mark in pterostigma.



- Costal cell at least partially hyaline 5
- 5. Four postsutural supra alar macrosetae (2 supra-alar and 2 postalar) 6
- Three postsutural supra alar macrosetae (1 supra-alar¹ and 2 postalar) 9
- 6. Scutellum setulose, at least laterally, but sometimes also dorsally 7
- Scutellum dorsally bare and shiny 8
- 7. Wing-pattern strongly and darkly mottled, clear spots at wing-base yellowish; large species (10mm), essentially a black coloured species.. **P. elegans Hendel, 1913**
"Caucasus"
- Wings with a clear lattice pattern, pale spots clear over all the wing; small species (10mm), yellowish-grey in appearance **P. lativentre Loew, 1866²**
Transcaucasus: Georgia
- 8. Anepisternum microsetose, with black bare spots where microsetae are inserted; Postpronotal lobe and posterior margin of scutellum red, rarely more yellow-brown or yellow. Size: 7-9 mm, rarely 4-5 mm (varieties with yellow postpronotal lobe). Gena restricted - less than 1/3 height of compound eye. Palpi red. Wings with distinct black areas surrounded by smokey white and grey spotted membrane - but quite variable in positioning of hyaline spots. Male genitalia, with short surstyli, distally terminating in paired claws, ejaculatory sclerite large, distiphallus terminating in short paired filaments of equal length, fifth sternite lacking tubercles **P. lugubre (Robineau-Desvoidy, 1830)**
Europe: Austria, France, Hungary, Italy, Poland, Romania, Spain, 'Yugoslavia'; Russia South European Territory: Georgia, Transcaucasus; Turkey
- Not having the above combination of characters 9

¹ This couplet seems a little unsatisfactory as there is often times a small anterior and a large posterior macroseta in the supra-alar position. This should be read as four supra-alars. Note, the majority of species have three supra-alars.

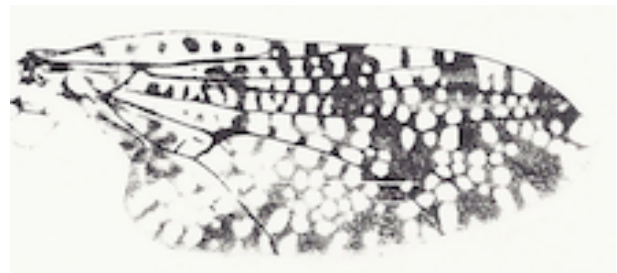
² *P. lativentre* Loew, 1866 exits twice because two of the four loew Types have 2 *sa* and 2 *pa*, while the other two have 1 *sa* and 2 *pa* (Hennig 1945 commented on this).



- Subspecies:** Postpronotal lobe reddish; anterior $\frac{3}{4}$ anepimeron shining black, completely lacking pruinosity pattern.....
 ***P. lugubre pleuronitens* Hendel, 1913**
 Europe: France, Italy; Turkey
- Postpronotal lobe black; all pleurites with pruinosity patterns.....
 ***P. corsicanum* Séguy, 1932**
 Corsica

9. Scutellum setulose above (at least setulose laterally and microsetose dorsally) **10**
 - Scutellum may have dense pruinosity, but it lacks microsetae above **12**

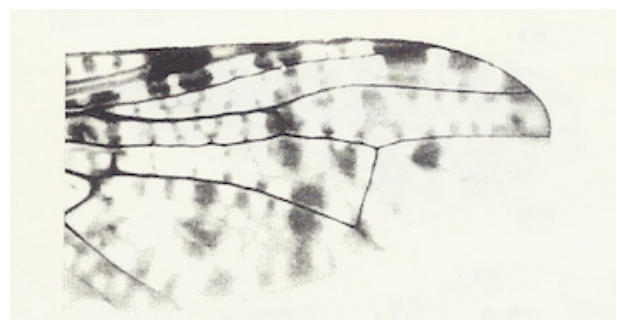
10. Posterior margins of abdominal tergites T_1 - to T_4 with large iridescent metallic blue spots; antennal socket without ventral black spot
 ***P. oculatum* Becker, 1907**
 Turkmenistan, China, Mongolia



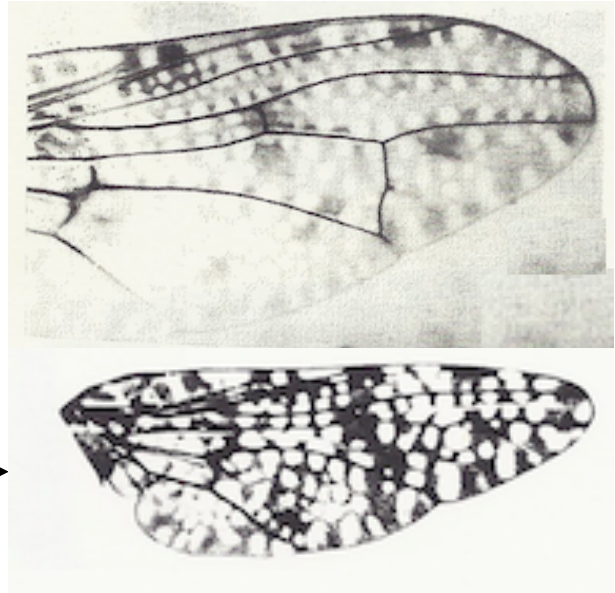
- Subspecies:** Antennal socket always **with** a shiny ventral black spot
 ***P. oculatum pavonis* Hendel, 1913**
 Turkmenistan

- Posterior margins of T_1 to T_4 without metallic blue spots; large species (7-8 mm)**11**

11. Tibiae red-brown, darkened apically; gena deep, less wide as height of compound eye, clypeus black, palpi red (extreme base brown); thoracic calypter twice length of alar calypter; wings grey with scattered dark brown spots & dense hyaline spots; male S_5 without tubercles.....
 ***P. insularum* (Róndani, 1869)**
 Europe: Sardinia



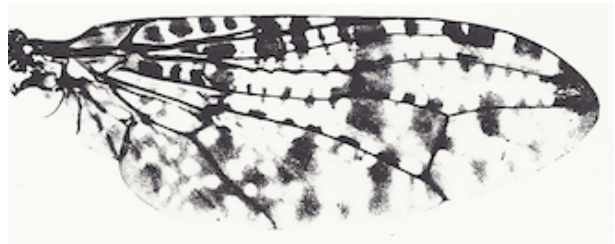
- Basal half of tibia black, reddish tarsi; gena wide, palpi entirely red; wings broad, scattered hyaline spots and a few dark brown spots; filaments of the distiphallus short, sternite five with tubercles, surstyli elongated
..... ***P. corticarum* (Róndani, 1869)**
Europe: France, Italy; Turkey



This image from Hennig, 1945, does not appear to fit the key as translated, nor does it match the image from Rivosecchi (2000) who examined the Róndani type

- 12. Posterior tarsus entirely black; at most basal tarsomere of the hind tarsus paler **13**
- Tarsi partially to totally of yellow-red **18**

- 13. R_{4+5} narrows at wing apex; hyaline spots merge making much of wing membrane clear, dark areas merge into irregular 'bands'; face and prelabrum yellow
.... ***P. euphorbiinum* Enderlein, 1930**
Tenerife



- R_{4+5} only slightly (if at all) narrowed; wing membrane less obviously clear; face and prelabrum black **14**

- 14. Haltere light yellow ***P. ilgunense* Bischof, 1905**
Turkey

- At least the knob of the haltere dark-brown **15**

- 15. T_4 long, longer than T_3 or T_5 **16**

- T_4 shorter than T_3 or T_5 - male T_5 longer than the three preceding segments together; female T_3 as long as or longer than T_4 **"seminationis" group** ... go to **17**

- 16. Male T_5 considerably shorter than the three preceding segments together; female T_3 very short, T_4 long and longer than T_5 ***P. lativnetre* Loew, 1866**
second exit - see couplet 6 for details

- T_3 and T_5 equal, and shorter than, T_4 , Legs (including coxae) almost completely black, middle and rear coxa and apices of femora yellowish brown, metatarsus of middle legs, apart from the narrow distal end, yellowish white, dorsal basal part of hind metatarsus, entire ventral metatarsus and 2 following tarsomeres reddish yellow; scutellum and anepisternum pruinose, without clear spots
..... ***P. centralasiaticum* Soós, 1978**
Mongolia

17. Gena narrow, about $\frac{1}{3}$ height of compound eye, face, clypeus and palpi completely black. Mid- and hind-femora with short black macrosetae. Wing membrane spotted with indistinct radial median and pre-apical brown bands defined by few to no hyaline spots. Subcostal cell dark brown, yellow-red only on the side. Fifth abdominal tergite much longer than the previous tergites. Pruinosity grey to yellow-grey, black dots are denser and merged into longitudinal stripes. Male genitalia, characterised by the length of the distiphallus about as long as the basiphallus. Female: The silver-grey shimmering pruinescent spots on the 3 and 4 abdominal tergite, often hardly visible on the 3, so that the abdomen appears there as shiny black

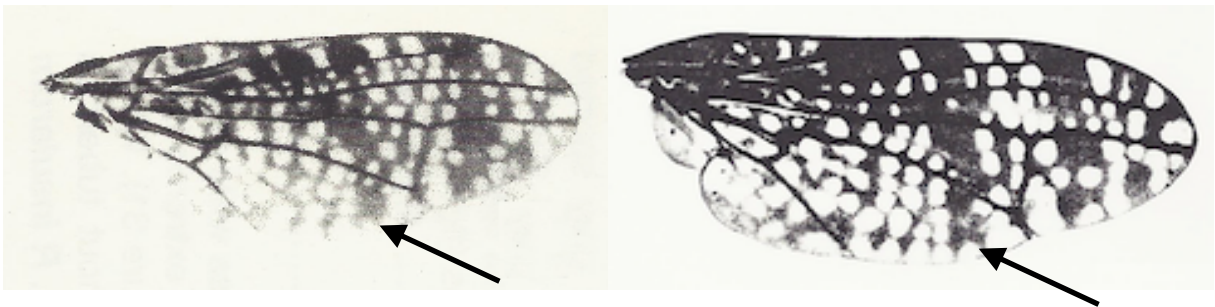
..... ***P. seminationis* (Fabricius, 1775)**

Europe &
South European Territory of Russia

Subspecies: Hyaline transverse band of spots over *dm-m* and brown transverse bands on either side of it are imperfectly formed and have irregular margins and some hyaline spots within brown area; brown transverse bands poorly defined on hind margin of wing; male terminal tarsomere of the front tarsi with elongated and widened apical posterior macrosetae.....

..... ***P. seminationis seminationis* (Fabricius, 1775)**

Turkmenistan



Male terminal tarsomere of the front tarsi with apical anterior **and** posterior elongated and flattened macroseta. Female: almost evenly covered with grey tomentum with puncture-marks.....

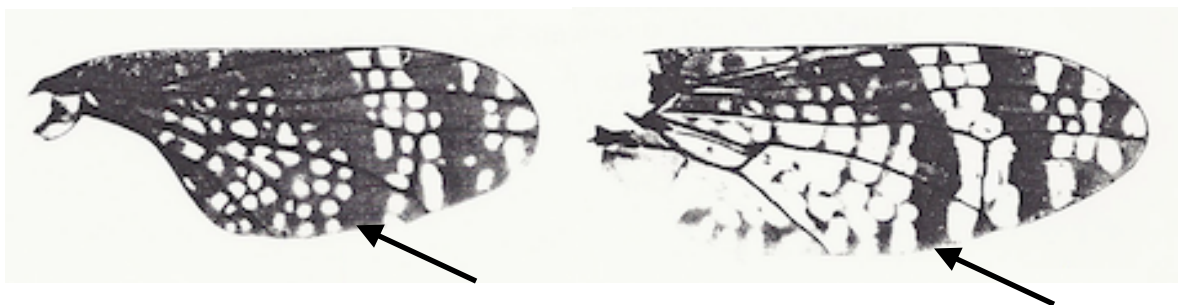
..... ***P. seminationis biseta* Loew, 1868**

Europe: Romania

Hyaline transverse band of spots over *dm-m* and brown transverse bands on either side clearly defined and marginate, with no spots within brown band; hyaline spots tending to merge into a band ; brown transverse bands clearly defined on hind margin of wing

..... ***P. seminationis frauenfeldi* Nowicki, 1867**

Europe: Austria, Hungary, Italy, Romania;
South European Territory of Russia



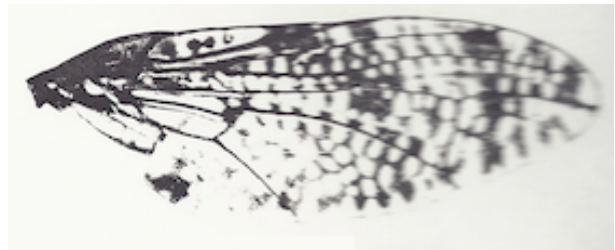
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The following three subspecies differ from the nominate subspecies by:
mid- and hind-femora posteroventral long yellowish hairy.
Subcostal cell yellow, at most basal with 1 - 3 small brown spots.
Pruinescence of notum and abdomen very dense and ocher
yellow, only broken through by small isolated black dots:

Male: terminal tarsomere of the front tarsi without apical anterior
and posterior elongated and widened macroseta (female
unknown)
..... ***P. seminationis angustipenne* Loew 1854**
Russia: Central European Territory

Male: terminal tarsomere of the front tarsi with apical anterior and
posterior elongated and widened macroseta:

Brown transverse
bands poorly
defined, white spots
forming wing pattern
distinct, not merging;
large species
(9-10mm)
P. seminationis
***valachiae* Hendel, 1913**



Europe: Romania; Turkey

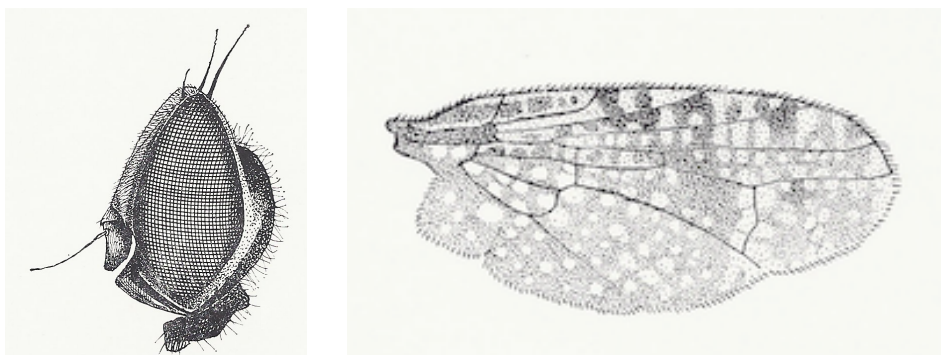
White spots on wing membrane often merge into each other
..... ***P. seminationis rufimanum* Loew, 1873**
Russia: south European Territory & Transcaucasus: Armenia

- 18. Femora and tarsi partially yellow or red-brown..... **19**
- Femora and tarsi completely black..... **35**

- 19. Pulvilli red-brown, clearly not yellow; brown transverse band across *dm* and
markings on *m4* sometimes faint.....
..... ***P. dimidiatum* Hendel, 1913**
Europe, Crete



- Pulvilli red-yellow³ 20
- 20. Gena are strikingly wide, about 1/3 the length of the vertical eye diameter; coxae and legs red-brown, darker brown on basal part of all femora and front tibiae, middle and rear tibiae are darker at distal end. Tarsomeres black except apex of basal two tarsomeres of mid and hind legs narrowly yellow; 5 strong, black anteroventral spines on distal half of the anterior femur ***P. altaicum* Soós 1978**
Mongolia
- Not having the above combination of characters 21
- 21. Coxae, front and middle femora yellow, rear femora brown - apex of each shining dark brown, front tibiae and tarsomeres brownish yellow, metatarsus nearly black, black, light yellow at apex of 5th tarsomere ***P. mendax* Soós 1978**
Mongolia

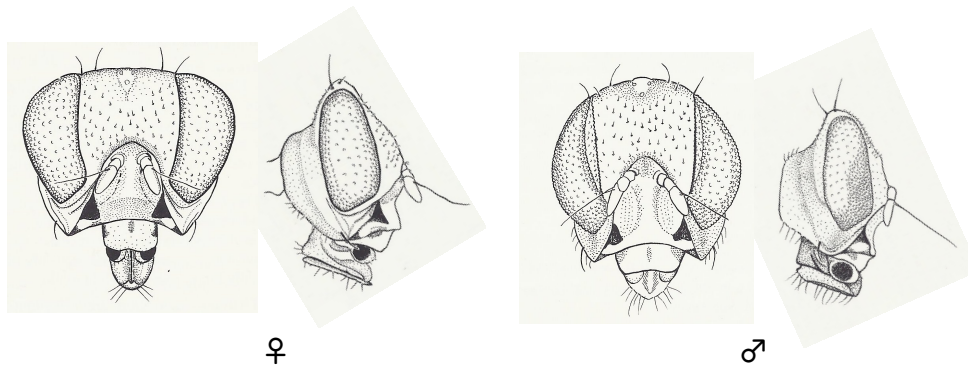


- Not having the above combination of characters 22
- 22. Body covered in bright grey microtrichia, resulting in a completely matt appearance ..
..... 23
- Body not densely covered in microtrichia, abdominal ground colour evident as dark and shining beneath the microtrichia 28
- 23. Frons length equal to width or longer than wide; fore tarsi black with the apical tarsomeres yellow..... 24
- Frons wider than long; fore tarsi brown, or if black, then all segments black 25
- 24. Black spots in antennal grooves large and elongate, reaching the lower facial margin; frons longer than wide ***P. bispilosum* Portschinsky, 1875**
Mongolia
- Black spots in antennal grooves oval, not reaching the lower facial margin; frons as wide as it is long ***P. afghanisticum* Soós, 1977**
Afghanistan

- 25. Postpronotal lobe completely yellow; flagellomere 1 yellow; hind femur completely red-brown; dark lateral spot on clypeus restricted in size and not reaching clypeal margin.....
..... ***P. suave* Loew, 1873**
Uzbekistan



³ don't know if this holds true for *P. altaicum* Soós 1978 and *P. mendax* sp. n. but they exit at this point
FlyEvidence version 10 July 2020 at 20:02



- Postpronotal lobe with a brown or black band; flagellomere 1 darkened mediodorsally; hind femur with a dark anterior stripe; dark lateral spot on clypeus large and reaching clypeal margin **26**

26. Black spots in antennal grooves large and elongate, reaching the lower facial margin; black band on anterior surface of middle femur covering 1/3 of the femora, not reaching base; anterior tarsus black, covered with dense black setulae; occiput behind the ocellar triangle with a black band; eye oval in lateral view
 ***P. soosi* Krivosheina & Krivosheina, 1996**
 Tajikistan, Turkmenistan, Uzbekistan

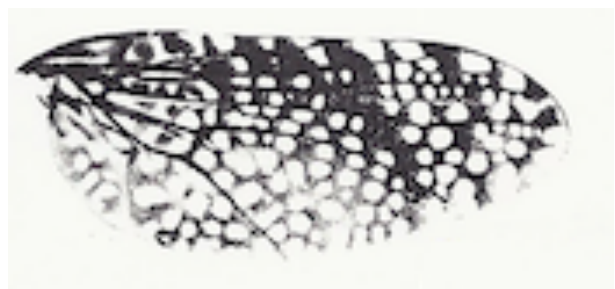
- Black spots in antennal grooves oval, not reaching the lower facial margin **27**

27. Black spots in antennal grooves oval, not reaching the lower facial margin; femora and tibiae yellowish, with black stripes; anterior tarsus brown; eye reniform in lateral view ***P. murinum* Hendel, 1913**
 China



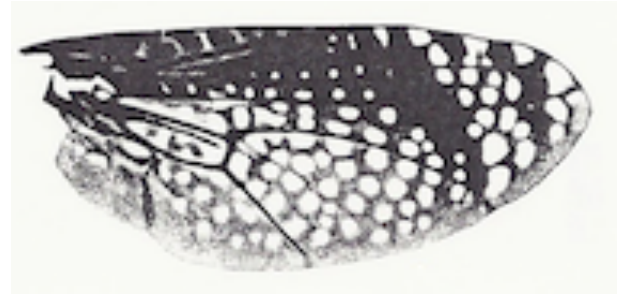
- Black spots in antennal grooves large and elongate, reaching the lower facial margin; apex of femora and base of tibia shiny black; anterior tarsus black; eye oval in lateral view ***P. kaszabi* Soós, 1978**
 Mongolia

28. Face completely yellow, without black spots under the antennal sockets; abdomen shining black with metallic olive-green lustre
 ***P. gilvipes* Loew, 1868**
 Transcaucasus: Armenia, Mongolia



- Face shining black or else at least with black spots under the antennal sockets..... **29**
- 29. Costal margin brown, extending posteriorly over *r-m* and *dm-m*; abdomen shiny black-green, without white pruinose spots..... **30**
- Wing without brown costal margin, with fairly wide-meshed hyaline pattern **31**
- 30. Thorax with a single black shiny lateral stripe from the notopleuron to the wing base, rest of pleura densely covered with microtrichia and lacking spotted clear marks which lack microtrichia; frons 1.5 times longer than wide; abdomen closely pruinose and almost obscurely hairy ***P. punctiventre* Portschinsky, 1875**
Russia: south European Territory & Transcaucasus: Armenia

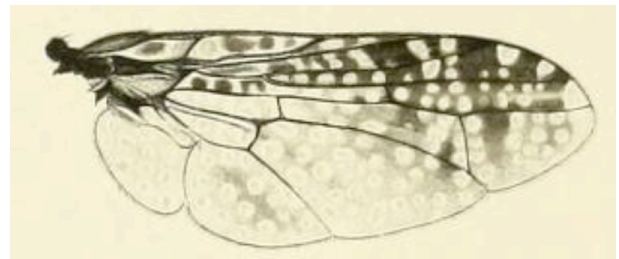
- Thorax lacking any such shiny black lateral stripe; pruinescence on pleura punctured with black spots; frons as long as wide; abdomen not closely pruinose
..... ***P. rufipes* Meigen, 1826**
Turkey



- 31. R_{4+5} and M_1 mostly parallel and straight, lacking a distinct anteriorly orientated curve ***P. meridionale* Hendel, 1913**
Morocco, Tunisia

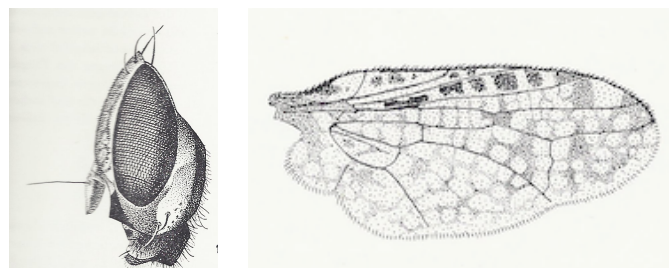
Subspecies:


- Brown wing pattern more intense on anterior margin and apical half of wing
..... ***P. meridionale meridionale* Hendel, 1913**
Morocco, Tunisia

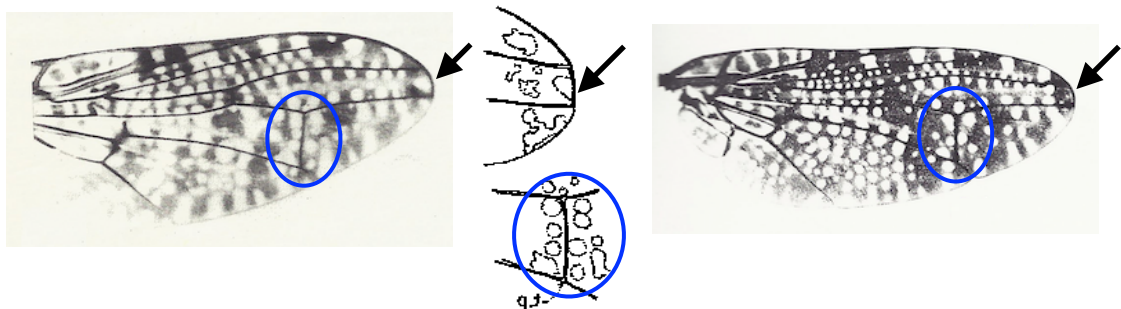


- Wing membrane solid grey with small hyaline spots
..... ***P. meridionale idia* Séguy, 1934**
Morocco

- R_{4+5} and M_1 curving anteriorly just prior to meeting *C* at apex of wing **32**
- 32. Frons longer than wide, antennal insertion level with lower quarter of compound eye; vertex sharply delimited - this combination giving a unique shape to head; wing membrane covered with large evenly sized and spaced hyaline spots; ground-colour of legs brownish-yellow, but variably femora with elongated brown-black anterior or posterior streaks, on black-brown patches, rarely all femora dark brown-black, all dark parts grey-white pruinose, foretibia black ***P. mongolicum* Soós, 1978**
Mongolia



- Head not distorted and other characters not with this combination..... **33**
 - 33. Apical tarsomere of fore-leg red; parafacial/postgena⁴ and anepisternum adjacent to anepisternal suture red-yellow ***P. curvinerve* Hendel, 1913**
Tajikistan
 - Apical tarsomere of fore-leg darker than basal tarsomeres; R5 bent upwards at the mouth; parafacial/postgena and anepisternum nowhere reddish yellow.....**34**
 - 34. M_1 conspicuously curved anteriorly just prior to meeting C at apex of wing.....
.....***P. canum* Portschinsky, 1875**
Turkmenistan
- 
- M_1 no more conspicuously curved than R_{4+5} anteriorly just prior to meeting C at apex of wing ⁵ ***P. clathratum* Hendel, 1913**
Russia: south European Territory
 - 35. Thoracic calypter overlapping by at least twice the length of the alar calypter and up to three times as long altogether **36**
 - Thoracic calypter not much longer than the alar calypter, at most twice as long, but then with a small overlap **39**
 - 36. Thoracic calypter small, of unusual, almost tongue-like shape
.....***P. provinciale* Loew, 1868**
Europe: France
 - Thoracic calypter broad, not unusually shaped**37**
 - 37. Tarsomeres bright red-brown; gena broad, red-brown palps, darker on external surface; wing membrane without an apical spot in R_{4+5} (Hennig 1945) or with one (Rivosecchi 2000)⁶ and 4 pairs of spots around crossvein $dm-m$ (variable in Hennig 1945); large species (8–11mm) ***P. tegularium* Loew, 1859**
Europe: Austria, France, Hungary, Italy, Romania, 'Yugoslavia'



⁴ In translation, the meaning isn't clear to me whether this is parafacial or postgena.

⁵ Well, this isn't very convincing - it needs a review of type material

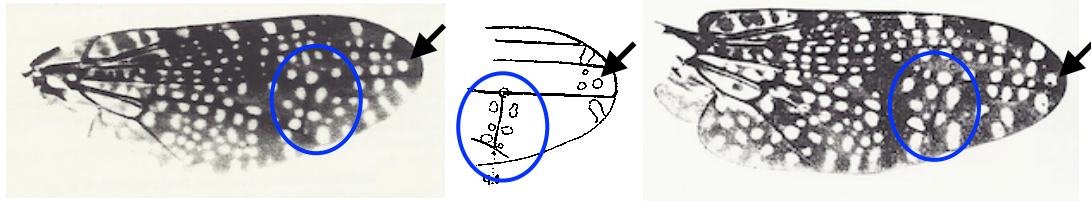
⁶ could be two different species - needs examination of types to be resolved.

- Tarsomeres blackish, at most dark red-brown; small species (5–7.5mm) 38

38. Gena narrow, palpi black distally grey; wings dark, apical-most spot in R_{4+5} in-set away from costal margin, 3 pairs of spots either side of $dm-m$

..... ***P. gemmationis* (Róndani, 1869)**

Europe: Austria, France, Hungary, Italy, Romania, Spain, 'Yugoslavia'



Subspecies: matt grey pruinescence of face descends as a line of equal width to shiny epistome; notum yellow-grey pruinose, black puncture dots flow together to form 4 wide stripes

..... ***P. gemmationis gemmationis* (Róndani, 1869)**

Europe: Austria, France, Hungary, Italy, Romania, Spain, 'Yugoslavia'

matt grey pruinescence of face descends to epistome as a broad, blunt band narrowing to apex; notum ash-grey to bluish-grey pruinose, black puncture dots isolated

..... ***P. gemmationis bifasciatum* Brullé, 1832**

Europe: Greece

39. Gena more than $\frac{1}{3}$ vertical dimension of compound eye 40

- Gena less than $\frac{1}{3}$ vertical dimension of compound eye 41

40. Epistomal margin black; gena and postorbital sclerite black

..... ***P. obtusum* Hendel, 1913**

Transcaucasus: Azerbaijan

- Epistomal margin brownish; gena, postorbital sclerite and ventral margin of eye brownish-red

..... ***P. hendeli* Lindner, 1941**

Europe, Crete; Turkey



41. Face shiny red-brown

***P. mandshuricum* Enderlein, 1937**

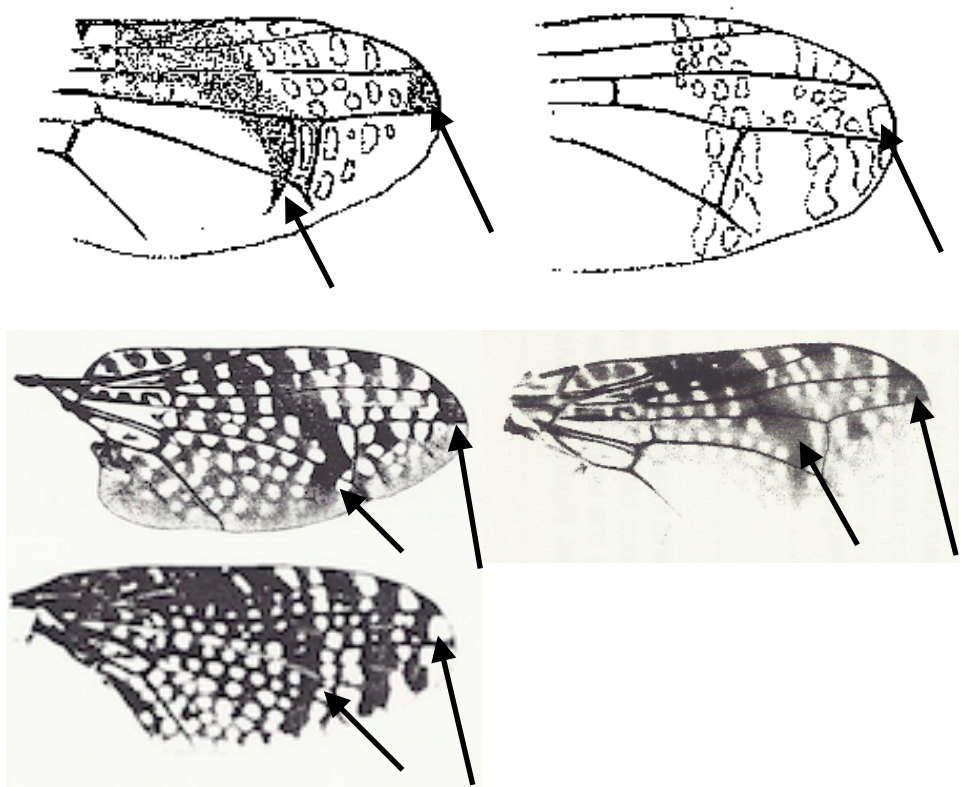
China



- Face shiny black 42

- 42. Thorax and scutellum flat and slanting, with metallic blue-green lustre 43
- Thorax and scutellum convex not particularly metallic shining 44
- 43. Gena shallow, width $\frac{1}{12}$ vertical dimension of compound eye; scutum flattened, on a single level with scutellum; wing membrane dark at apex or variably with hyaline spot; dark band over apical quarter of *dm*; distiphallus in male terminating in two long filaments equal in length to the basiphallus. small size (5-6 mm).....

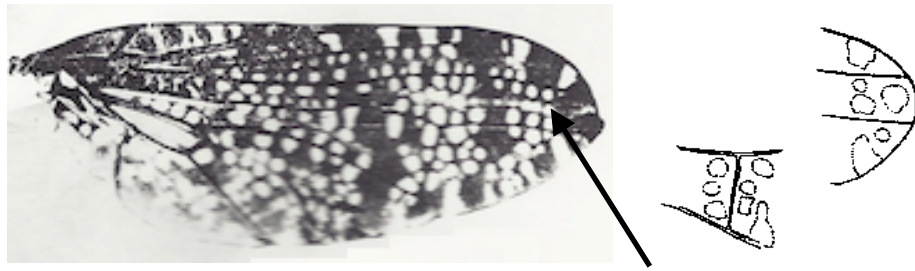
..... ***P. plantationis* (Róndani, 1869)**
 Europe: Austria, France, Hungary, Italy



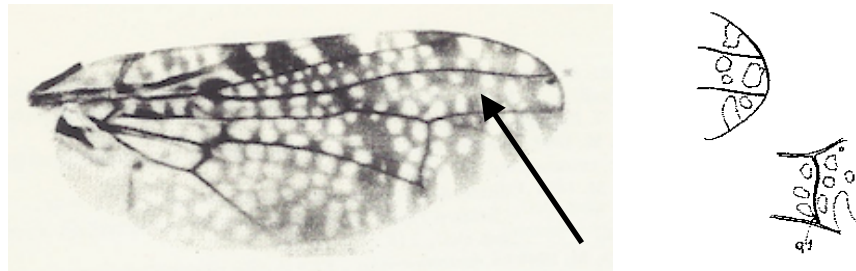
- Width of gena one eighth the vertical dimension of eye; wing membrane with large hyaline spots and completely coloured posterior margin ***P. aenescens* Loew, 1968**
 Europe: Romania;
 Russia, Central European and South European Territories



- 44. Wing cell *cua* hyaline, or with only a small faint median brown mark45
- Wing cell *cua* hyaline, but with a clearly developed median brown mark46
- 45. R_{4+5} with a double row of closely spaced clearly defined hyaline spots separated by an irregular line of fused hyaline spots; male distiphallus terminating in two short paired filaments of equal length, S_5 with tubercles ***P. subtile* Loew, 1868**
 Europe: Sicily

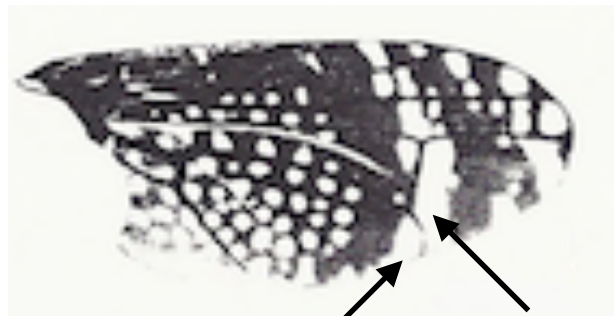


- R_{4+5} with a double row of widely spaced clearly defined hyaline spots without an irregular line of fused hyaline spots between them; male genitalia as in, with distiphallus terminating in two long filaments of unequal length, S_5 without tubercles ***P. bezzii* Hendel, 1913**
Europe: Italy



- 46. A crescent shaped hyaline band crosses $dm-m$ from apex of R_{2+3} to hind margin, tending to break up into isolated spots toward the anterior wing margin **47**
- Hyaline spots across $dm-m$ not merging, but remaining as distinct spots.....**48**

- 47. Face pollinose on the midline and along the mouth margin; hyaline band across $dm-m$ straying into cell dm and hyaline mark at the apex of M_4 is large and merged with the $dm-m$ band; male abdominal T_5 three to five times longer than T_4
..... ***P. arcuatum* Loew, 1856**
Israel, Lebanon, Turkey



- Lower half of face completely shiny black, without pruinosity; cell dm with no apical hyaline spot and hyaline mark at the apex of M_4 is small and separate from the crescent shaped hyaline $dm-m$ band.....***nitidiventre* Hendel, 1913** ⁷
see couplet 4 for details

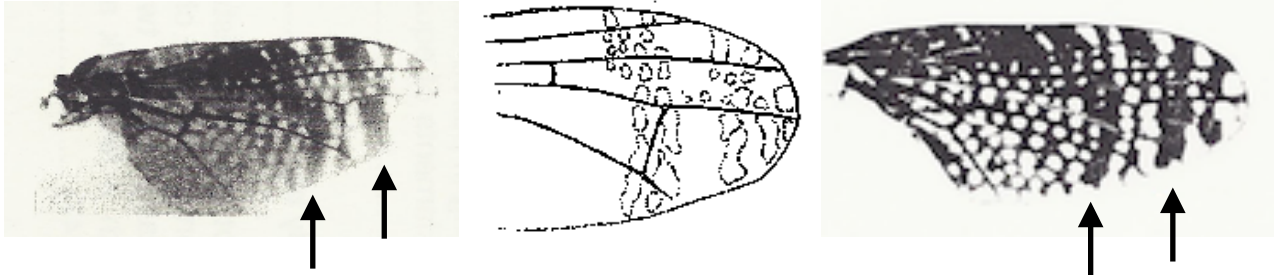
- 48. Epistomal margin mostly shiny black with pruinosity only present as a continuation of the midline**49**
- The whole face covered in pruinosity which continues along almost the whole length of the epistomal margin, the face shiny black only in two sub-square spots either side of the midline**50**

⁷ *P. nitidiventre* comes out multiple times in this key because some specimens seen by Hennig do not have a crescent shaped hyaline band over $dm-m$ – there may be two species and this needs revision.

49. Abdomen clearly partly pruinose; scutum and scutellum not on the same level; wing membrane with two dark sub-parallel transverse bands either side of *dm-m*; male distiphallus terminating in two long filaments of unequal length much shorter than basiphallus; small size (3-4 mm)

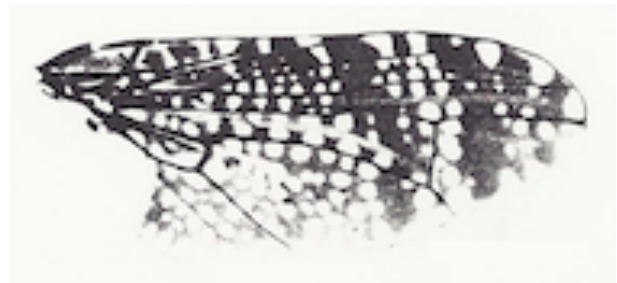
..... ***P. pubescens* Loew, 1845**

Europe: Austria, Czech Republic, Greece, Hungary, Italy, Romania, 'Yugoslavia'

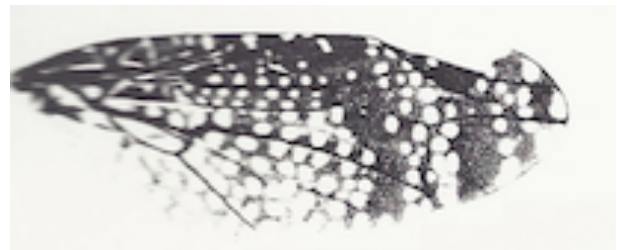


- Abdomen completely lacking pruinosity and shining ***P. nitidiventre* Hendel, 1913** ⁶
see couplet 4 for details

50. Abdomen clearly partly microsetose with shining punctures
- ***P. malatiense* Hennig, 1945**
Transcaucasus: Armenia; Iraq



- Abdomen with clear microsetose marks and shiny black punctures.....
- ***P. subfasciatum* Loew, 1862**
Europe: Bulgaria, 'Yugoslavia'; Turkey



Notes:

P. murinum raised to full species by Krivosheina & Krivosheina, 1996.
P. bezzi and *P. corticarum* raised to full species by Rivosecchi, 2000.

Missing from this key are:

P. stackelbergi Soós, 1979
P. strix Portschinsky, 1875

Nomen nuda:

P. nigronotata Loew, 1873
P. pectoralis Loew, 1873

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Credits:

Head & wing sketches: Hendel, F. 1914a, Hennig, W. 1945, Korneyev, V. A. 1991, Krivosheina M.G. and Krivosheina N.P. 1996, Rivosecchi, L. 2000, Soós, A. 1978.