

The British species of *Xanthochlorus* Loew, 1857 (Diptera, Dolichopodidae), with description of two new species

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Summary

The British fauna of *Xanthochlorus* is increased to four species, including two new species, *X. galbanus* sp. n. (also recorded from Denmark, Hungary and Italy) and *X. silaceus* sp. n. The first has previously been misidentified as *X. luridus* Negrobov, 1978, which is therefore deleted from the British list. *Xanthochlorus statzi* nom. n. is proposed as a new name for the fossil species *Xanthochlorus tenellus* Statz, 1940, preoccupied by *X. tenellus* (Wiedemann, 1817).

Introduction

The Handbook by d'Assis-Fonseca (1978) recognised only two British species of *Xanthochlorus* Loew, *X. ornatus* (Haliday, 1832) and *X. tenellus* (Wiedemann, 1817), both of which were thought to be common and widespread. It has been known for some years that two further species are present in Britain, but the distinguishing characters and nomenclature needed clarification. Following the revision of Palaearctic species by one of us (Negrobov 1978) specimens in the Natural History Museum, London (BMNH) were examined by Dyte (1987), who drew attention to the presence in Britain of a third species which has since been known as *X. luridus* Negrobov, 1978. Its inclusion in the checklist (Chandler 1998), led to the citation of England for *X. luridus* in the world catalogue (Yang *et al.* 2006). It was also noted in the checklist (Chandler 1998: Note 15, p. 94) that a fourth unnamed species had been recognised to occur in Britain.

From examination of many collections of this genus by PJC it has become apparent that the species hitherto known as *X. luridus* is very common and widespread in Britain and that most specimens named as *X. tenellus* by d'Assis-Fonseca and subsequent collectors belonged to this species, both having more extensive yellow markings than are found in *X. ornatus*.

It should be pointed out that Statz (1940) proposed the name *Xanthochlorus? tenellus* for a fossil species from the Upper Oligocene, apparently assigned only tentatively to this genus. He evidently overlooked that *X. tenellus* was already a name in use in the genus and a new name is necessary for the fossil. We propose the new name *Xanthochlorus statzi* nom. n. for *Xanthochlorus tenellus* Statz, 1940, preocc.

Yang *et al.* (*op. cit.*) recognised twelve species of *Xanthochlorus* of which nine were cited as Palaearctic. Among them was *X. ultramontanus* Becker, 1918, which Negrobov (1991) synonymised with *X. ornatus* (reporting that the type locality, not named in the original description, was Chamonix, France) but this was questioned by Pollet (2004), who recognised it as distinct based on the description and structure of the genitalia. The remaining three species include one Nearctic species (known from USA and Canada) and two Chinese species stated to be

Oriental. However, both species were described from Shaanxi province, all of which is north of the latitude 30 degrees north and would therefore be regarded as Palaearctic using the criteria to define zoogeographic regions adopted by the published catalogues of Diptera for the Palaearctic and Oriental Regions, so the genus can be regarded as unknown outside the Holarctic Region. There is also an Oriental species, *X. tarsatus* Schiner, 1868, described from Pulo-Milu in the Nicobar Islands, India, which Yang *et al.* (*op. cit.*) listed as unrecognised. As this has a modified male hind tarsus, otherwise unknown in the genus, it is most unlikely to belong to *Xanthochlorus*.

Negrobov (1978) keyed the then known species, only the two from China having been described more recently (Olejníček 2004, Yang and Saigusa 2005). The Nearctic species *X. helvinus* Loew, 1861 and the Chinese species *X. nigricilius* Olejníček, 2004 differ from other species of the genus in having black bristles.

Pollet (2004) listed five species from Europe, of which *X. ultramontanus* was listed only from France and *X. fulvus* Negrobov (described from North Caucasus) from the South of Russia, while *X. luridus* Negrobov (also described from North Caucasus) was recorded from Greece and England, repeated by Yang *et al.* (2006). The Greek record of *X. luridus* has now been confirmed to be correct (Marc Pollet *pers. comm.*). However, following examination of British material by OPN it became clear that *X. luridus* of the British list was not that species but a previously unrecognised species that is described as new here

Biology

Xanthochlorus species occur in a wide range of woodland types, in dry as well as moist situations and their larval development is evidently terrestrial. The rearings reported here of *X. silaceus* sp. n. from moist debris in a rotting tree stump and from soil at the base of a willow (*Salix* species) are as far as we know the first for the genus.

The British species

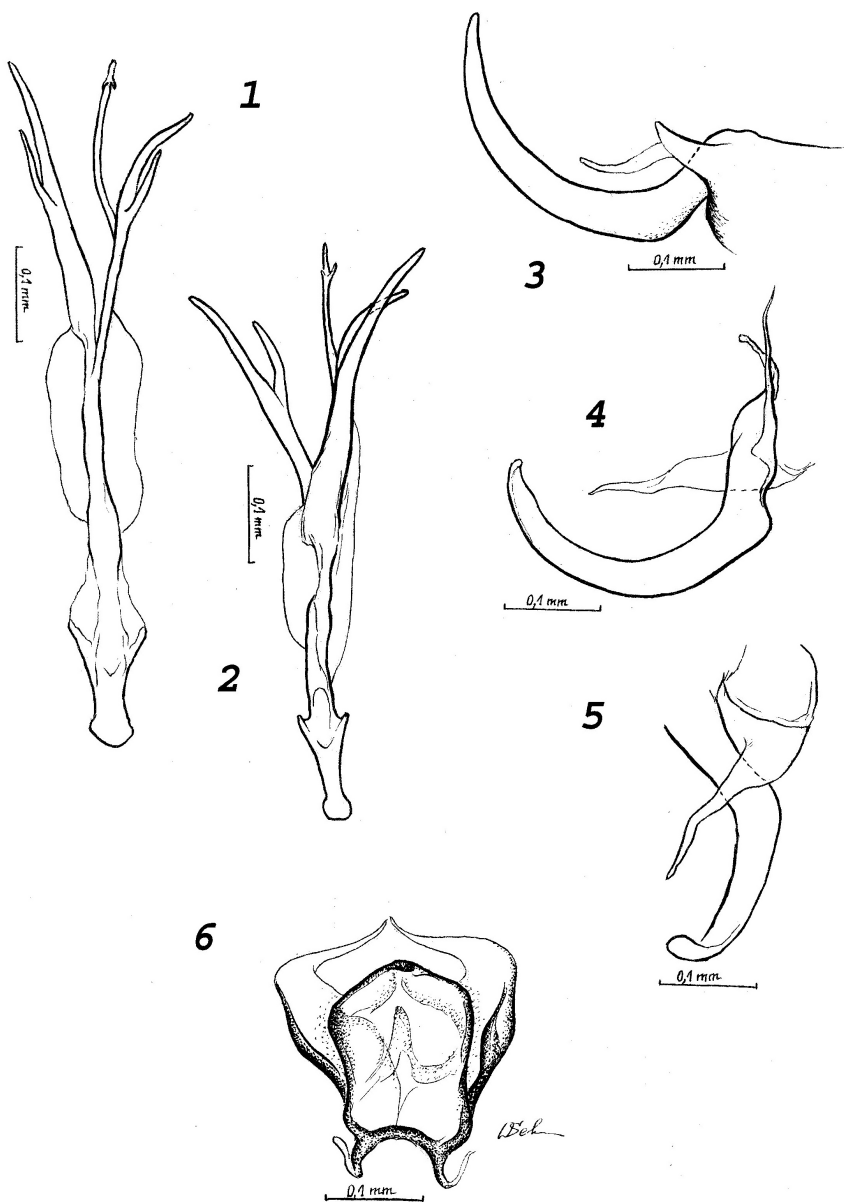
The terminology of parts of the male genitalia is indicated in Figs 9-11.

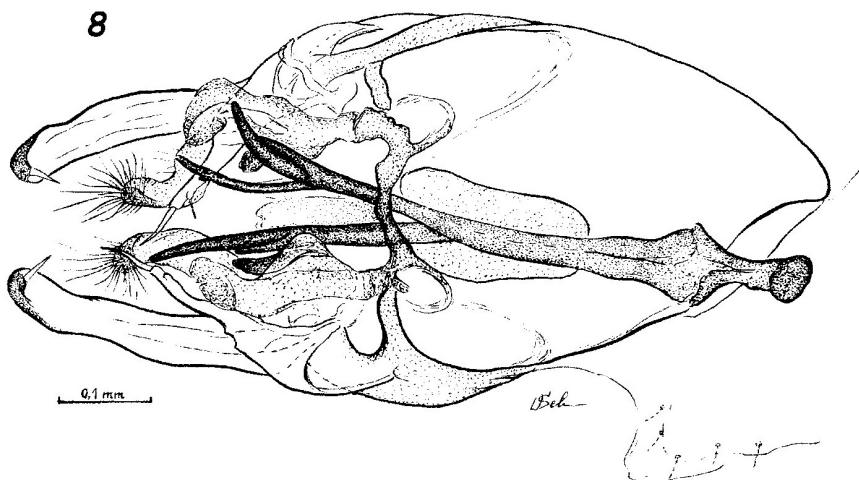
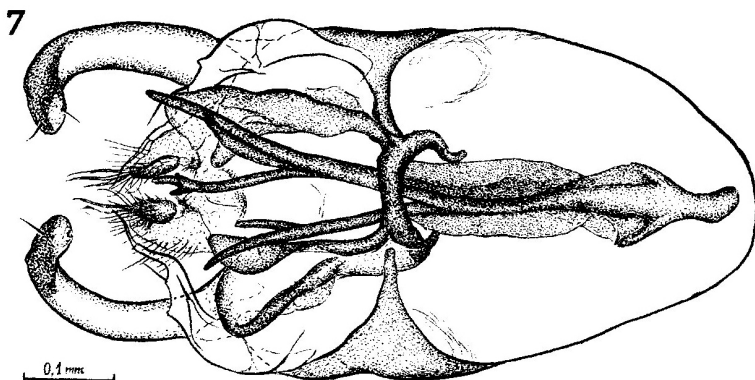
Xanthochlorus galbanus sp. n.

Male. Head with frons and face silver-white dusted. One pair of strong divergent ocellars and a strong vertical bristle on each side between ocellar triangle and eye. Antenna with scape and pedicel yellow, first flagellomere [postpedicel, third antennal segment] brown, oval and bluntly pointed apically, bearing white hairs. Ratio of length and width of first flagellomere to length of arista 0.5:0.7:3.8. Arista arising at the base of first flagellomere. Proboscis yellow; palpi whitish with white setae. Postocular bristles [cilia] white.

Thorax mainly yellow, including anterior and lateral parts of mesonotum and posterior margin of scutellum. Disc of scutellum and adjoining part of mesonotum brown with metallic-green to bronze sheen, this coloration on the mesonotum extending forwards beyond the suture until level of second pair of dorsocentrals, fading in front, without precise margins.

Figs 1-6. *Xanthochlorus* male genitalia: 1 and 3, *X. galbanus* sp. n.; 2 and 4-6, *X. luridus* Negrobov. 1-2, aedeagus and parameres, ventral view; 3-4, surstylus, lateral view with epandrial lobe above; 5, surstylus, ventral view; 6, hypandrium, ventral view.





Figs 7-8. *Xanthochlorus* male genitalia, ventral view with wall of capsule removed to reveal base of aedeagus: 7, *X. luridus* Negrobov; 8, *X. galbanus* sp. n.

Pleura yellow, with a small triangular black spot on mesepimeron immediately below the wing base and a more rectangular black spot at front corner of postnotum under scutellum. Propleura with 1 lower down-curved white bristle and 1 upper small white hair. Bristles of mesonotum brown. Five pairs of strong dorsocentral bristles. Acrostichal bristles small, irregular uniserial, only on anterior presutural part of mesonotum. A long postpronotal

(humeral) bristle on each side, convergent with each other. Strong bristles on sides of mesonotum include one posthumeral, two supra-alars, two notopleurals and one postalar. Scutellum with 1 pair of strong widely spaced medial bristles and 1 pair of small weak lateral bristles.

Legs yellow, with all 5th tarsomeres dark, latter slightly enlarged in fore tarsus. Femora with only short dark bristles. Fore tibia without strong bristles. Middle tibia with two black anterodorsal bristles, about twice as long as tibial width, situated near basal and apical quarter of tibia and with two black posterodorsal bristles basal to each of the anterodorsals, the basal one nearly as strong as them, the apical one short and weaker. Hind tibia with 6-7 short dorsal and 0-3 weak anteroventral bristles. Ratio of length of tibia and tarsomeres from the first to fifth tarsomere: fore leg 8.4:5.5:2.7:2.2:1.3:1.0; mid leg 11.7:6.9:2.6:1.8:1.0:0.8; hind leg 14.3:4.7:3.5:2.2:1.4:1.1.

Wing colourless and transparent. Ratio of length of costal segment between R_{2+3} and R_{4+5} and costal segment between R_{4+5} and M_{1+2} : 2.6:1.0. Medial parts of R_{4+5} and M_{1+2} slightly sinuous, these veins parallel in apical part of the wing and slightly divergent at tips. Ratio of length of apical and basal segments of CuA_1 is 7.4:15.0. Ratio of length of apical segment of CuA_1 and posterior cross-vein (dm-cu): 2.6-3.0:1.0. Calypters with light brown cilia; halteres yellow.

Abdomen yellow, with irregular dark markings often apparent on tergite 4 and anterior part of tergite 5, in some specimens these markings are on tergites 3 and 4, possibly representing an artifact. A row of long and strong brownish marginal bristles on tergite 1, otherwise shorter dark bristling on abdomen. Hypopygium yellow. Surstylus (= gonopod) curved medially; epandrial lobe simple and tapered apically. Aedeagus (phallosoma) with 2 parameres (paraphalli), each forked with two pointed processes apically.

Length of body 2.5-2.8mm, length of wing 3.2-3.6mm (based on 52 specimens).

Female. Very similar to male in most respects including body coloration with a similar extent of thoracic markings and vague dark patches on tergites 3-4 or 4-5. Ovipositor short and yellow.

Length of body 2.3-2.6mm, length of wing 3.2-3.7mm (based on 32 specimens).

Etymology. Latin *galbanus* = greenish yellow, referring to the greenish thoracic coloration on a yellow ground.

Holotype ♂, **England, Gloucestershire**, Coombe Dingle, 8.vii.1992, swept in broad-leaved woodland, leg. P.J. Chandler, deposited in National Museums of Scotland (NMS).

Paratypes: ENGLAND: Berkshire: 7♂, California Country Park, 27.vii.1996; 1♂, same locality, 6.vii.1997; 1♂, same locality, 19.vi.1998; 1♂, Dinton Pastures Country Park, Mortimer's Meadows, west bank of River Loddon, 3.viii.1996; **Buckinghamshire:** 1♂, 2♀, Hambledon Hill, 30.vi.1998; **Cambridgeshire:** 1♂, Chippenham Fen, 2.vii.1988; **Devon:** 1♂, Buck's Mills, 16.vi.1989; **Dorset:** 2♂, 1♀, Hambledon Hill, 30.vi.1998; 1♂, 2♀, Puddles Wood NNR, 30.vi.1998; **Hampshire:** 1♂, Leckford Estate, Reserve C, 27.vii.1985; 1♂, Leckford Estate, Water Garden, 21.vii.2000; 2♂, Leckford Estate, woods south of Water Garden, 23.vii.1995; **Norfolk:** 1♂, 1♀, same locality, 21.vii.2000; 1♂, East Ruston Common, 10.vii.1993; **Suffolk:** 2♂, 2♀, Barton Mills, 28.vii.1989; 1♂, King's Forest, Dale Pond,

13.vii.2003; 1♂, King's Forest, Home Heath, 13.vii.2003; 1♂, Mildenhall, 13.vii.2003 (all above leg. P.J. Chandler); 1♂, King's Forest, 8.vii.1990, leg. I. Perry; 1♂, Tuddenham Heath, bank of R. Lark, 14.viii.1979, leg. Burns, Hammond, Hutson and Huxley, BMNH. **WALES: Monmouthshire** (= Gwent): 2♂, Black Cliff, 12.viii.1989, leg. P.J. Chandler. **SCOTLAND: Ayrshire**: 2♂, 1♀, Culzean Castle, cliff woodland, 16.vi.1995, leg. P.J. Chandler. **DENMARK: Sjaelland**, 1♂, Jaegersborg Ermelunden, swept in woods at south end, 26.viii.2000, leg. P.J. Chandler [some paratypes have been deposited at Voronezh University and at the National Museum of Ireland].

Other material. 133♂, 189♀, some from the above counties and also including examples from the following: **ENGLAND**: Bedfordshire, Cornwall, Cumbria, Durham, Herefordshire, Kent, Lancashire, North Yorkshire, Somerset, Surrey, Wiltshire. **WALES**: Caernarvon, Ceredigion, Glamorgan, Powys. **SCOTLAND**: Perthshire. **HUNGARY**: 2♂, 6♀, 5km north of Csakuar, 20.viii.1982, leg. J.R. Vockeroth, C.E. Dyte collection. **ITALY**: 1♂, Aosta, Gressoney St Jean, 22.vii.1991, leg. M.J. Ebejer, C.E. Dyte collection.

Distribution and biology

Xanthochlorus galbanus is common and widespread through most of Britain and the sparse continental records suggest that it is also widespread in western Europe and has probably been often misidentified in collections. In addition to the countries listed above it has also been found in Belgium (Marc Pollet *pers. comm.*). Most of the material examined was collected by sweeping in wooded habitats and it occurs in a wide range of wet and dry woodland types.

Discussion

Xanthochlorus galbanus differs from *X. luridus* in coloration and structure of the genitalia. In *X. galbanus* the mesonotum is yellow laterally and anteriorly while it is dark except for the humeral area in *X. luridus*; a few specimens of *X. galbanus* with this coloration have also been examined. Also *X. galbanus* has abdominal tergites 1-3 yellow while they are dark at least medially in *X. luridus*. Differences in the male genitalia of the two species are shown in Figs 1-8. The surstylus (= gonopod) is more gently curved in *X. galbanus* while it is strongly bent in *X. luridus*. The terminal branches of the parameres (paraphalli) also differ in their relative lengths.

Xanthochlorus silaceus sp. n. (Figs 9-11)

Male. Very similar to *X. galbanus* in most respects. Differing in coloration of thorax, which is mostly yellow with a small patch of greenish sheen occupying the prescutellar area within the 5th pair of dorsocentrals (not including them) and stopping short posterior to the 4th pair of dorsocentrals; scutellum with at most a small medial patch of similar coloration on front margin; dark spots on mesepimeron and postnotum are as in *X. galbanus* and *X. tenellus*.

Legs as in *X. galbanus* with mid tibia similarly bristled, but hind tibia with bristling less developed, with 4-5 short dorsals and 0-3 weak posteroventrals.

Abdomen with vague dark coloration varying in extent and location on tergites 3-4 or 4-5 as in *X. galbanus*. Hypopygium yellow. Surstylus (= gonopod) almost straight, with preapical constriction and blunt at tip; epandrial lobe with a tapered dorsal lobe and an

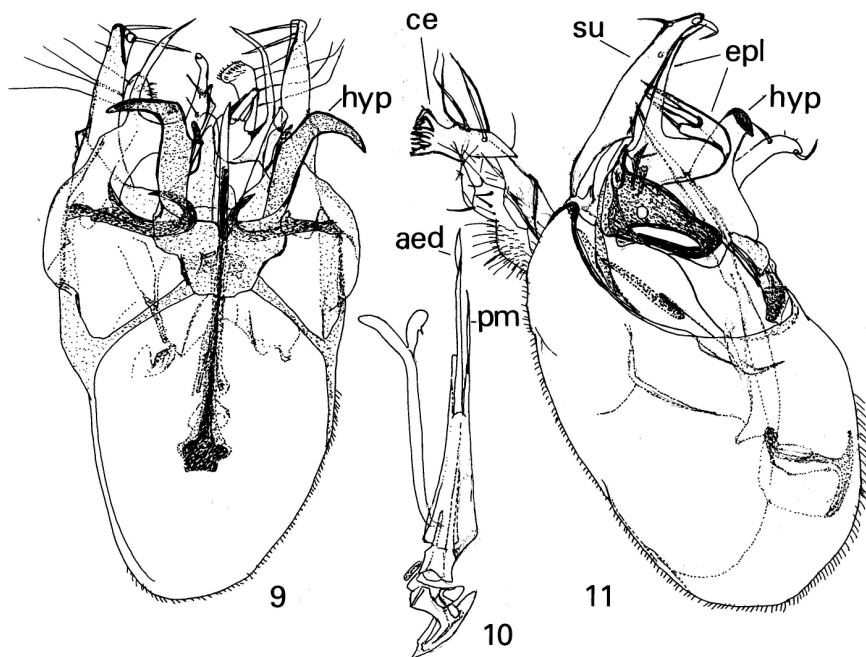
apically trilobed ventral lobe. Aedeagus (Fig. 10) without forked parameres.

Length of body 2.4-2.7mm, length of wing 2.7-3.3mm (based on 8 specimens).

Female. Very similar to male in most respects including pale body coloration, but the prescutellar patch of greenish sheen is less apparent and may be vague or absent, scutellum sometimes with a slight greenish to brown patch medially at base but may be entirely yellow. Ovipositor short and yellow.

Length of body 2.2-2.5mm, length of wing 2.7-3.1mm (based on 12 specimens).

Etymology. Latin *silaceus* = ochre yellow, referring to the predominantly yellow coloration.



Figs 9-11. *Xanthochlorus silaceus* sp. n., male genitalia: 9, ventral view; 10, aedeagus and parameres, ventrolateral view; 11, lateral view: aed = aedeagus, ce = cercus, epl = epandrial lobe, hyp = hypandrial lobe, pm = paramere, su = surstylus.

Holotype ♂, **England, Kent**, Downe, Cuckoo Wood, swept in broad-leaved woodland, 20.vii.1985, leg. P.J. Chandler, NMS.

Paratypes: **ENGLAND:** 1♂, 1♀, data as holotype; **Berkshire:** 1♂, 1♀, Datchet, Sumptermead Ait (SU982773), ex soil at base of willow *Salix*, collected 26.iii.2006, emerged 23.v-2.vi.2006, leg. C.E. Dyte; 2♂, Datchet, near Thames Path, ex moist debris from mossy tree stump, collected 10.iii.2007, emerged 11-13.v.2007, leg. C.E. Dyte; **Oxfordshire:** 1♀,

Bix Bottom, 17.viii.1972, leg. P.J. Chandler; **Somerset**: 4♂, 4♀, Tucking Mill, 18.vii.2006, leg. D.J. Gibbs; 3♀, same locality, 23.vii.2006, leg. D.J. Gibbs; **Surrey**: 1♂, West Horsley, Sheep Leas, 29.vi.1991, leg. P.J. Chandler; 1♂, Box Hill, 30.vii.1950, leg. L. Parmenter, BMNH. **WALES: Monmouthshire** (= Gwent): 1♂, Black Cliff, 9.vii.1986; 4♀, same locality, 12.viii.1989, leg. P.J. Chandler.

Distribution and biology

Xanthochlorus silaceus is so far known only from southern England and South Wales and is apparently very local in occurrence, but will probably be found to occur in other parts of western Europe. Most specimens were swept in broad-leaved woodland, with a particular bias towards drier calcareous habitats but the reared material came from riverbank habitats by the Thames. Availability of suitable breeding sites is probably more significant.

Discussion

This species differs significantly from other species in the structure of the surstyli and especially in the complex epandrial lobe. There is some superficial resemblance in lateral view to Vaillant's figure of *X. ochraceus*, reproduced by Negrobov (1978) so it cannot be certain that it is distinct from *X. ochraceus*. However, its posterior crossvein is not closer to the wing margin than in *X. tenellus* or *X. galbanus* [see Key to West Palearctic species below].

Xanthochlorus ornatus (Haliday, 1832) (Fig. 12)

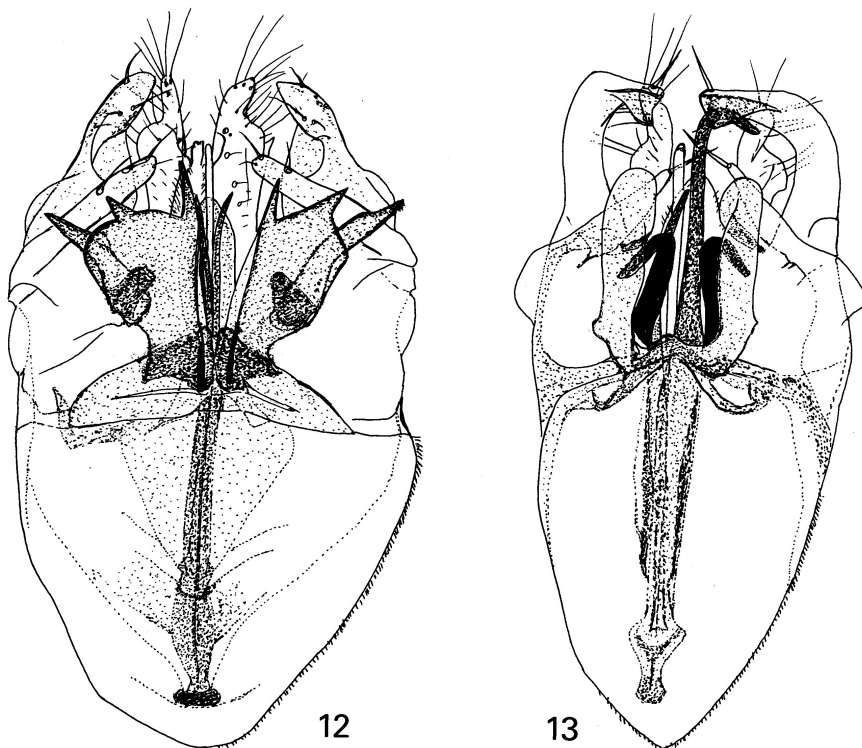
This species is very distinct from the other British species in having the thorax entirely dark coloured dorsally in both sexes and the pleura also dark in the male. It is the commonest species of the genus in the British Isles, reaching the north of Scotland and occurs in all types of wooded habitats. Dyte (1969) recorded it as new to Ireland based on a record from County Clare in BMNH.

Material examined. 227♂, 265♀. **ENGLAND**: Bedfordshire, Berkshire, Cambridgeshire, Cornwall, Cumbria, Derbyshire, Devon, Dorset, Durham, Gloucestershire, Hampshire, Hertfordshire, I. of Wight, Kent, Norfolk, Northamptonshire, North Yorkshire, Oxfordshire, Somerset, Suffolk, Surrey. **WALES**: Caernarvon, Carmarthen, Glamorgan, Merioneth, Monmouthshire, Pembrokeshire. **SCOTLAND**: Angus, Ayrshire, Easter Ross, East Lothian, Fife, Inverness-shire, Morayshire, Nairn, Perthshire, Sutherland. Also seen from **FRANCE**: (Eure et Loir, Lozère), **GREECE, ITALY, SPAIN, SWEDEN.**

Xanthochlorus tenellus (Wiedemann, 1817) (Fig. 13)

This species is very similar to *X. silaceus*, having a similar extent of greenish coloration on the thorax, restricted to the prescutellar area between the posterior dorsocentrals but in *X. tenellus* this is rather more defined and almost as distinct in the female as in the male. This species is widespread in Britain but less frequent than *X. galbanus*. In England most records are from the eastern counties and it appears particularly frequent in the Breckland, but like other species occurring in both wet and dry wooded habitats. Haliday (1833) recorded it from

Ireland but Dyte (1969) did not know of any more recent records and its occurrence there requires confirmation.



Figs 12-13. Male genitalia, ventral view: 12, *X. ornatus* (Haliday); 13, *X. tenellus* (Wiedemann).

Material examined. 27♂, 7♀. **ENGLAND: Bedfordshire:** 1♂, The Clappers, 11.vii.1997, leg. P.J. Chandler; **Cambridgeshire:** 1♂, Cambridge, Paradise, 1.viii.1987, leg. I. Perry; 2♂, Devil's Ditch, 2.vii.1995, leg. I. Perry; 1♀, Woodwalton Fen, 6.vii.1970, leg. J.H. Cole; **Norfolk:** 1♂, Barnham Cross Common, 14.vii.1988, leg. P.J. Chandler; **Suffolk:** 1♂, Newmarket, Sussex Lodge, 21.vii.1885, leg. G.H. Verrall, BMNH; 1♂, Tuddenham Heath, bank of R. Lark, 14.viii.1979, leg. Burns, Hammond, Hutson and Huxley, BMNH. 1♂, Tuddenham, 13.viii.1906, leg. G.H. Verrall, BMNH; 1♂, Brandon, 8.vii.1877, leg. G.H. Verrall, BMNH; 1♂, Cavenham Heath, 13.vi.1988, leg. I. Perry; 1♂, same locality, 18.vi.1994, leg. I. Perry; 1♂, King's Forest, 24.vi.1989, leg. I. Perry; 1♂, same locality, 18.vi.1994, leg. I. Perry; 1♂, same locality, 2.viii.1997, leg. I. Perry; 1♂, King's Forest,

Home Heath, 16.vii.2003, leg. P.J. Chandler; 1♂, 1♀, RAF Barnham, 28.vi.1995, leg. J.H. Cole; **Surrey:** 1♂, West Horsley, Sheep Leas, 29.vi.1991, leg. P.J. Chandler; 3♂, 1♀, West Horsley, Sheep Leas, 29.vi.1991, leg. P.J. Chandler; 2♂, 2♀, Frensham Great Pond, 23.vi.2001, leg. P.J. Chandler. **SCOTLAND: Perthshire:** 1♂, Pass of Killiecrankie, 1.viii.1975, leg. P.J. Chandler; **Western Isles:** 1♂, 1♀, Kerrera, 30.vi.1999, leg. P. Skidmore. **AUSTRIA: Carinthia:** 1♂, near Faak am See, 3.vii.1992, leg. C.E. Dyte. **CZECH REPUBLIC: Bohemia:** 2♂, centr. Sulava (v Prahy), 1.vii.1964, leg. J. Macek, C.E. Dyte collection. **SWITZERLAND: Neuchâtel:** 1♂, 1♀, Rochefort, dry *Quercus* woods, 15.ix.1997, leg. P.J. Chandler.

Key to British species of *Xanthochlorus* Loew

Males are most readily identified from the distinctive structure of their genitalia. The females have a simple ovipositor with short cerci and external specific differences in structure have not been discerned. Jonathan Cole (*pers. comm.*) has suggested that there are specific differences in an internal weakly sclerotised structure in three species he had examined and further study of this, with females that have been positively associated with the corresponding male, would be desirable to confirm whether these are reliable structural differences.

1. Mesonotum and scutellum entirely dark, greenish or bronze and grey dusted; pleura dark in male, yellowish in female *ornatus* (Haliday)
- Mesonotum and scutellum at most partly dark on disc, more or less yellow at front and sides; thorax otherwise yellow including pleura in both sexes 2
2. Mesonotum with greenish or bronze coloration extending forward beyond the suture until level of second pair of dorsocentrals, sometimes covering most of mesonotum in male. Male with parameres markedly forked (Figs 1, 8); surstylus curved on apical part in lateral view (Fig. 3) *galbanus* sp. n.
- Mesonotum with greenish or bronze coloration at most restricted to a prescutellar patch within the dorsocentrals and not reaching 4th pair anteriorly. Male with parameres unforked 3
3. Surstylus in lateral view curved in an arc; epandrial lobe slender and not bilobed (Fig. 13). Prescutellar patch usually well defined in both sexes *tenellus* (Wiedemann)
- Surstylus in lateral view almost straight; epandrial lobe bilobed with ventral lobe itself trilobed apically (Fig. 11). Prescutellar patch often reduced or absent in female *silaceus* sp. n.

Key to males of West Palaearctic species of *Xanthochlorus* Loew

This is a tentative key based on the key to Holarctic species by Negrobov (1978), in which *X. ultramontanus* and *X. ochraceus* were not examined and their inclusion was based on the literature. Their inclusion here must also be regarded as provisional.

As indicated above, *X. ultramontanus* Becker has, according to Becker's figures, male genitalia resembling *X. ornatus* and it is possible that is synonymous with *X. ornatus*. It is included in the key on the basis of the antennal character used by Negrobov (1978).

As discussed under *X. silaceus* that species shows some resemblance to Vaillant's figures of *X. ochraceus* and may be conspecific with it, but its posterior crossvein is not closer to the wing margin than in *X. tenellus* or *X. galbanus*, a character used to separate *X. ochraceus* in the key by Negrobov (1978) and *X. ochraceus* is also provisionally included here based on the characters used in that key,

Negrobov (1978) also keyed known females separately, excluding *X. fulvus* and the far eastern species *X. phillipovi* of which females had not been examined. It was not practicable to provide a key here that would achieve certain identification of females.

1. Antenna mainly black, scape yellow. Alps [*ultramontanus* Becker]
 - Antenna yellow, with first flagellomere at most partly darkened 2
2. Mesonotum dark at least on much of disc 3
 - Thorax and abdomen mainly yellow, sometimes with dark prescutellar marking on mesonotum and/or dark markings on scutellum, mesepimeron or abdomen 6
3. Surstylus straight, widened apically; epandrial lobe oval (Fig. 12). Europe *ornatus* (Haliday)
 Surstylus curved ventrally; epandrial lobe various 4
4. Scutellum entirely dark. Epandrial lobe forming a broad plate. North Caucasus *fulvus* Negrobov
 - Scutellum with margin yellow. Epandrial lobe narrow, tapered and pointed apically ... 5
5. Mesonotum mainly dark with only humeral area yellow and abdomen dark at least in middle of tergites 1-3. Left paramere distinctly shorter than right paramere (Fig. 7). North Caucasus and Greece *luridus* Negrobov
 - Mesonotum mainly yellow, in particular laterally and anteriorly; abdomen with tergites 1-3 yellow. Parameres subequal in length (Fig. 8). Western Europe *galbanus* sp. n.
6. Last section of CuA₁ twice length of posterior crossvein (dm-cu). Surstylus肘ed at tip. Algeria [*ochraceus* Vaillant]
 - Last section of CuA₁ three times length of posterior crossvein (dm-cu) 7
7. Surstylus in lateral view curved in an arc; epandrial lobe slender and not bilobed (Fig. 13). Greenish prescutellar patch usually distinct in both sexes. North and Central Europe *tenellus* Wiedemann
 - Surstylus in lateral view almost straight; epandrial lobe bilobed with ventral lobe itself trilobed apically (Fig. 11). Female with prescutellar patch often indistinct or absent. Britain *silaceus* sp. n.

Acknowledgements

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