

Synanthedon perigordensis sp. n. (Lepidoptera: Sesiidae)

T. C. Garrevoet & B. Vanholder

Abstract. A new species of clearwing moth, *Synanthedon perigordensis*, is described. All the specimens were collected with a pheromone trap in France (Dep. Dordogne). Female and bionomics remain unknown.

Samenvatting. *Synanthedon perigordensis* sp. n. (Lepidoptera: Sesiidae)
De auteurs beschrijven een nieuwe soort glasvleugelvinder, *Synanthedon perigordensis*. Alle type-exemplaren werden in een feromoonval gevangen in Frankrijk (dep. Dordogne). Het wijfje en de bionomie blijven onbekend.

Résumé. *Synanthedon perigordensis* sp. n. (Lepidoptera: Sesiidae)
Les auteurs décrivent une nouvelle espèce de sésie, *Synanthedon perigordensis*. Tous les exemplaires types furent trouvés dans un piège à phéromones en France (départ. Dordogne). La femelle et la bionomie restent inconnues.

Key words: *Synanthedon perigordensis* sp. n. - Sesiidae - Dordogne - France.

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Synanthedon perigordensis sp. n.

Material. Holotype ♂: France, Dep. Dordogne, Plaisance/Issigeac, 24.VI.1996, leg. M. Gillard, in coll. T. C. Garrevoet. Paratypes: 27♂ France, Dep. Dordogne, Plaisance/Issigeac, 15–25.VI.1996, leg. M. Gillard, in coll. T. C. Garrevoet (12♂), B. Vanholder (8♂), M. Gillard (Presgaux, Belgium, 3♂), M. Dixon (Congleton, Cheshire, Great-Britain, 2♂), N. Ryrholm (Uppsala, Sweden, 1♂), and Z. Laštůvka (Brno, Czech Republic, 1♂). 3♂ France, Dep. Dordogne, St. Alvère, 5–6.VI.1996, leg. M. Dixon, in coll. T. C. Garrevoet, B. Vanholder and M. Dixon. All specimens were collected in a pheromone trap (Delta trap provided with a sticky insert). For this reason, none of the specimens were of perfect quality. Nevertheless, the general condition was good enough to recognise these moths as a bona species.

Description of the holotype (figs 1, 2)

Head. Forehead black with a blue shine. Black hairs between the eyes, mixed with some yellow ones. Antennae blue shiny black, ventrally with some yellow scales. With a terminal scale pencil (clavate). Labial palpi with very long scales especially basally. Deep yellow medially and ventrally; black laterally (see fig. 3). The proboscis is well developed.

Thorax. Black, mixed with very fine yellow hairs. Tegulae black with some dark-brown scales. Patagia black with a few yellow hairs. Patagial collar dark brown. A big deep yellow area laterally below the fore-wing.

Legs. The femura is black mixed with yellow scales along the inner edge. The tibia is black. The tarsi are yellow.

Fore-wing. Upside: costal margin brown-black mixed with yellow scales. Posterior transparent area (PTA) from wing base to Cu₁. Anterior transparent area (ATA) well developed and broad at discoidal spot. External transparent area (ETA) big, broader than high, consisting of 5–6 fenestrae and with a rounded apical border. The junction of veins M₁-M₂ is clearly included in the ETA. Veins covered with black scales. Apical area with brown scales between the black veins. Discoidal spot tapered from costal side to inner side. Costal half is dark brown while basic half is lighter, mixed with yellow-brown scales. Discoidal spot entering with a little point into the ATA. Inner wing base covered with dark brown and yellow scales.

Underside: costal and inner margin yellow. Veins with black scales. Discoidal spot dark brown with an obvious triangular golden-yellow area pointing apically. Apical area with yellow scales between the black veins.

Hind-wing. Upperside: transparent. Discoidal spot with black-brown scales, triangular to M_2 . Veins with brown scales. Underside: Costal edge with yellow scales. Veins black except A_1 with yellow scales. All veins end with yellow scales into the black fringes.

Abdomen. Dorsally: Black. The distal quarter of segment 2 deep yellow. This yellow colouration extends laterally on segments 1 and 2. The distal half of segment 4 also deep yellow. Ventrally: Black. Deep yellow spot covering segments 4, 5, 6 and 7 (see fig. 4). Anal tuft: black medially, yellow laterally.

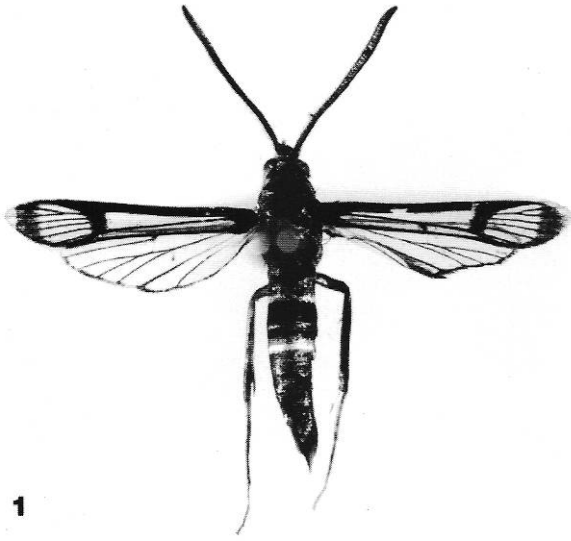
Male genitalia. Resemble that of *S. andrenaeformis* (Laspeyres, 1801) but with certain exact and constant differences (5 specimens examined of *S. perigordensis* sp. n. and 2 of *S. andrenaeformis*). Furthermore, Špatenka (1983: 300) states that the variation in the genitalia of *S. andrenaeformis* is negligible, what we also observed when comparing our specimens. Valva short, wide, rounded apex. The area with setae extends to the edge with the crista. The androconiae on this crista consist of long scales. Crista sacculi very long, starting at the crista, bending towards the dorsal edge, following this edge to 2/3 of the length of the valva. Crista sacculi covered with strong, rather long androconiae, implanted in one row (fig. 5a). Aedeagus relatively long, slender, wide at the base. Subapically a dorsal curvature with 1 to 4 spines (fig. 5b). Saccus short and concave at the end (fig. 5c). The crista gnathi ear-shaped, clearly rounded at the end (fig. 5d).

Variability

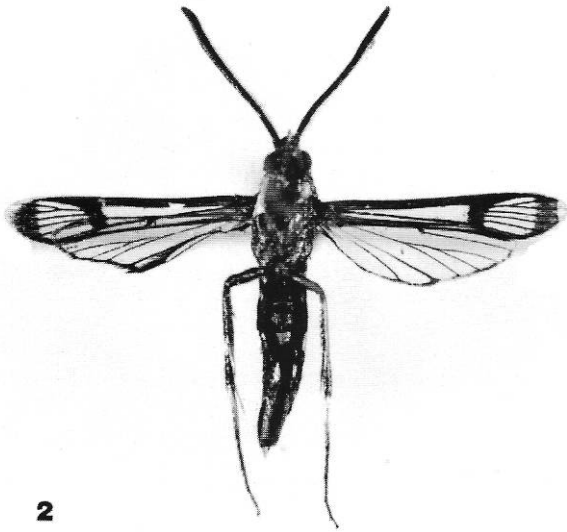
Not exceptionally small yellow rings at the distal edges of segments 1, 3, 5, 6 and 7 are present on the dorsal side of the abdomen. These rings are smaller than those on segment 2 and 4 and often only indicated.

Differential diagnosis

The allied species appears to be *S. andrenaeformis* but the newly described species can easily be distinguished by the very large ETA (the junction M_1 - M_2 always in ETA), by the golden-yellow aspect of the underside of the wings, the relatively broad yellow rings on abdominal segments 2 and 4, the big deep yellow coloration on the ventral side of the abdominal segments 4, 5, 6 and 7 and by the yellow area in the discoidal spot of the fore-wing underside.



1



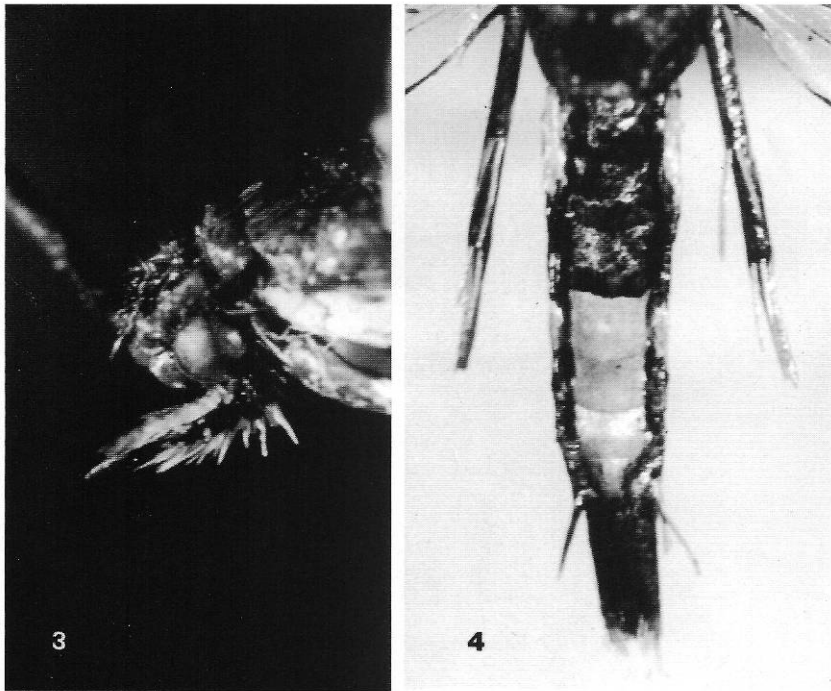
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Figs 1-2: *Synanthedon perigordensis* sp. n., Holotype ♂: France, Dep. Dordogne, Plaisance/Issigeac, 24.VI.1996, leg. M. Gillard, in coll. T. C. Garrevoet; 1 – upperside, 2 – underside (magnification 4×).

Taxonomically, *S. perigordensis* sp. n. appears to be closest to *S. andrenaeformis*. Therefore we would like to place this new species between *S. soffneri* Špatenka, 1983 and *S. andrenaeformis*. The table summarises the differences between *S. perigordensis* sp. n. and *S. andrenaeformis*.

Table: Differences between *S. perigordensis* sp. n. and *S. andrenaeformis*.

	<i>S. perigordensis</i> sp. n. ♂	<i>S. andrenaeformis</i> ♂
General appearance	A more robust species with extensive yellow coloration, especially at the underside.	A species with a slender abdomen. A very obvious anal tuft.
Fore-wing	<ul style="list-style-type: none"> • ETA very large, broader than high, always including junction M_1-M_5. Consisting of 5–6 fenestrae (fig. 6a). • Apical region small ($\frac{1}{4}$ of width of ETA), with yellow-brown scaling. • Discoidal spot underside with many yellow scales. 	<ul style="list-style-type: none"> • ETA much smaller, higher than broad, rarely including junction M_1-M_5 (fig 6b). • Apical region broad, about the same width as ETA. • Discoidal spot underside almost completely black.
Labial palpac	deep yellow medially and ventrally, black laterally.	white or yellowish white ventrally.
Abdomen	A broad, deep yellow band on segment 4. A smaller one on segment 2. Not exceptionally further small rings on segments 1, 3, 5, 6 and 7.	Only narrow yellowish rings on segments 2 and 4, very rare on other segments.
Genitalia	<ul style="list-style-type: none"> • valva short, broad, apex more rounded. • gnathos ear-shaped. • crista sacculi long, reaching at least $\frac{2}{3}$ of the length of the valva. Bending towards and reaching the crista (fig. 7a). 	<ul style="list-style-type: none"> • valva short, broad, apex pointed. • gnathos triangular. • crista sacculi short, not extending $\frac{1}{3}$ of the length of the valva. Only slightly bending towards crista (fig. 7b).



Figs 3-4: *Synanthedon perigordensis* sp. n.: 3 – head with labial palpi, 4 – underside of abdomen.

Furthermore, *S. andrenaeformis* is a West Palaearctic species, “insular in central, S and E Europe” Laštůvka & Laštůvka (1995: 60). According to the distribution map in Laštůvka & Laštůvka (l.c.) the species is very local in France. Only the eastern part of France and a small area in the north are indicated. Rondou (1933: 254) mentions the species from one locality in the French Pyrenees. Lhomme (1946–1963: 514) adds the departments Basses-Alpes, Drôme, Lot, Marne, Oise, Hautes-Pyrénées, and Seine-et-Oise.

Habitat

All specimens were trapped in an oak forest with ample growth of other trees and on a dry garrigue like biotope with much *Quercus* and some *Juniperus*. The specimens were all lured in a pheromone trap loaded with a lure with EZ3,13-18:Ac – ZZ3,13-18:Ac (1350 µg + 150 µg) (supplied by Voerman, IPO-DLO, Wageningen, The Netherlands). During observation in the afternoon, no specimens were noticed. Therefore, the flight period during the day is presumably before noon. The first specimen was captured at 5 June 1996 by M. Dixon. The density was apparently very low at that moment: only three specimens were collected on 5 and 6 June. On 20 June, M. Gillard inspected his trap placed on 15 June and observed only 3 specimens. So, most of the moths were trapped between 20 and 25 June (end of the observation period). Flight period apparently starts

already in early June but reaches its maximum at the end of June and presumably early July. The species seems to be abundant in its habitat.

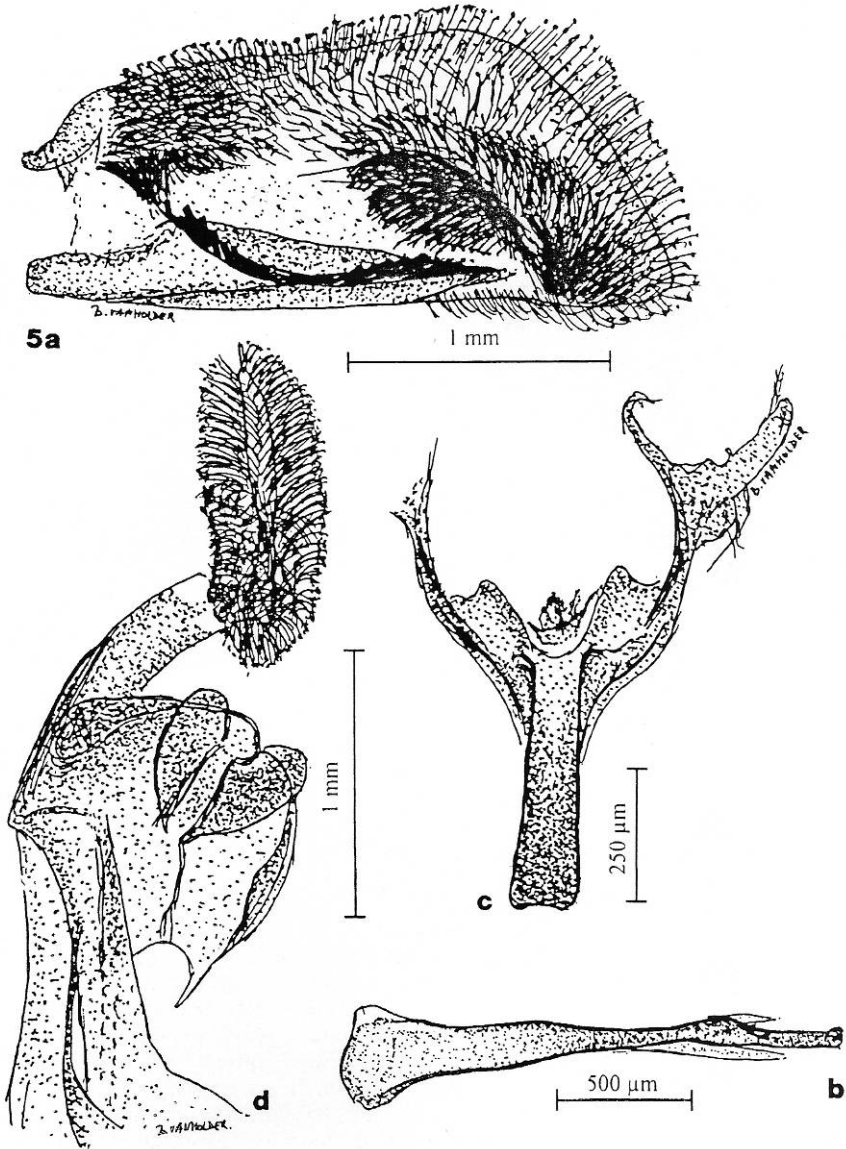


Fig. 5: *Synanthedon perigordensis* sp. n., male genitalia: a - valva (prep. TG0185), b - aedeagus (prep. TG0186), c - saccus (prep. TG0185), d - uncus and tegumen (prep. TG0187).

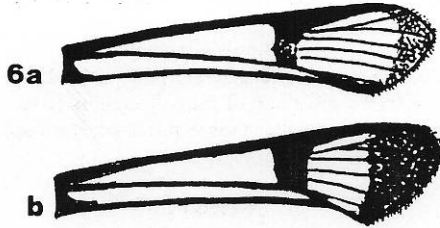


Fig. 6: Right fore-wing of (a) *Synanthedon perigordensis* sp. n., and (b) *Synanthedon andrenaeformis* (Laspeyres, 1801).

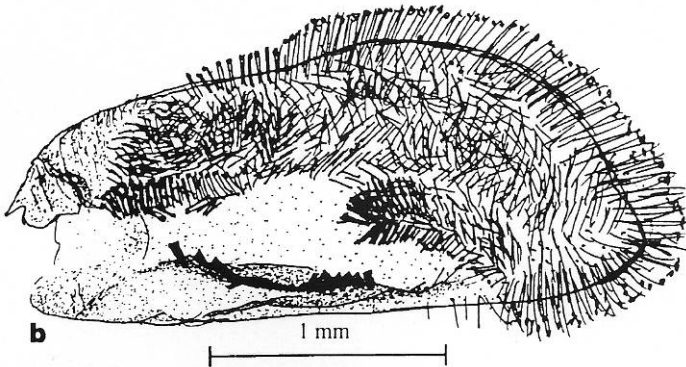
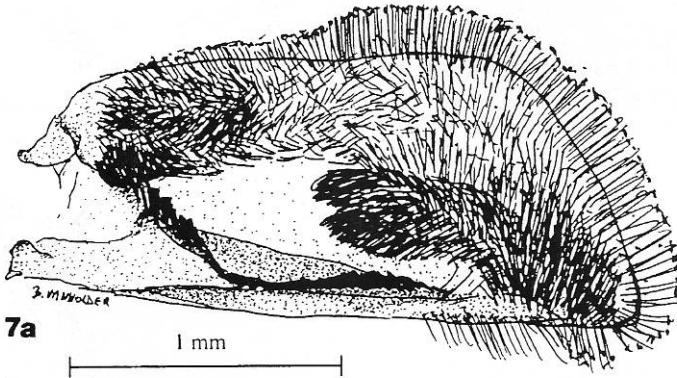


Fig. 7: Valva of (a) *Synanthedon perigordensis* sp. n. (prep. TG0188), and (b) *Synanthedon andrenaeformis* (Laspeyres, 1801) (prep. TG0190).

Etymology

The species is named after the geographical region in France where it was observed for the first time. Mark Dixon, the entomologist who captured the first specimen of this species, suggested this name.

Remark. We follow Flaschka (1996: 190) who considers the generic name *Synanthedon* to be feminine; consequently, the specific name becomes *perigordensis*, not "*perigordense*".

Acknowledgements

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