Remarkable observations of *Synanthedon mesiaeformis* (Lepidoptera, Sesiidae) in mid- and southern France

Rudi Goossens

Abstract. The clearwing species *Synanthedon mesiaeformis* (Herrich-Schäffer, 1846) shows a disjunct distribution pattern in the northern, central and eastern part of Europe, in the south of France and the northeast of Spain (Laštůvka & Laštůvka 2008). In July 2016 the author found quite rich populations of this species in two places in France, situated far north and west from the currently known range, namely Châteauneuf-la-Fôret (Haute-Vienne) and Montbernard (Haute-Garonne).

Samenvatting. De wespvlindersoort *Synanthedon mesiaeformis* (Herrich-Schäffer, 1846) wordt verspreid waargenomen in het noordelijke, centrale en oostelijke deel van Europa en ook in het zuiden van Frankrijk en het noordoosten van Spanje (Laštůvka & Laštůvka 2008). In juli 2016 werden door de auteur vrij grote populaties van deze soort in Frankrijk aangetroffen op twee plaatsen ver ten noorden en ten westen van het tot nog toe gekende verspreidingsgebied, namelijk Châteauneuf-la-Fôret (Haute-Vienne) en Montbernard (Haute-Garonne).

Résumé. L'espèce de Sesiidae *Synanthedon mesiaeformis* (Herrich-Schäffer, 1846) est dans la partie nord, centrale et orientale de l'Europe ainsi que dans le sud de la France et la partie nord-est de l'Espagne (Laštůvka & Laštůvka 2008). Au mois de juillet 2016 l'auteur a trouvé des populations assez importantes de l'espèce à deux places bien loin vers le nord et l'ouest de l'aire connue à ce moment, à savoir Châteauneuf-la-Fôret (Haute-Vienne) et Montbernard (Haute-Garonne).

Key words: *Synanthedon* – *mesiaeformis* – breeding tree – France – common alder – *Alnus glutinosa*.

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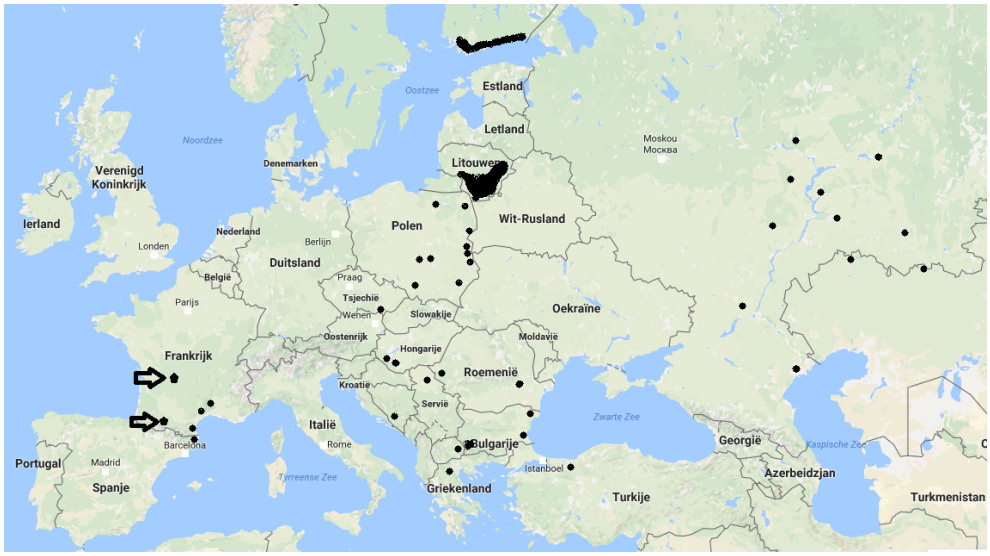
Introduction

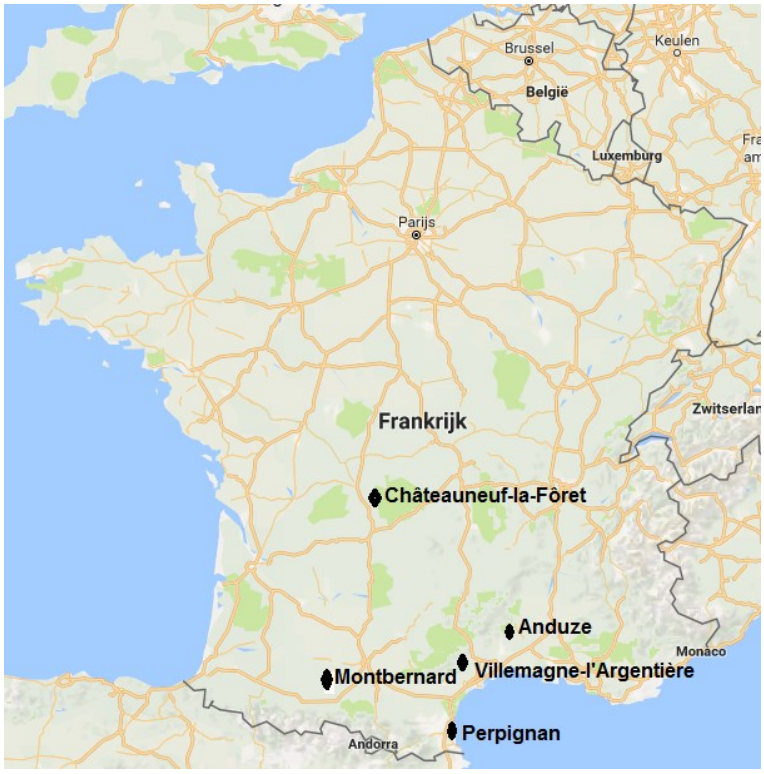
Synanthedon mesiaeformis (Herrich-Schäffer, 1846) is a quite large clearwing species (wingspan 19–31 mm). Typical characteristics are the yellow rings on the 2nd and 4th segment, of which the last one is clearly broader, and the yellow tips of the antennae. The larva of *S. mesiaeformis* lives 2 years underneath the bark of common alder (*Alnus glutinosa* L.), especially in old, solitary trees. Besides the scattered occurrence of *S. mesiaeformis* in the northern, central and eastern part of Europe, the species also occurs in southern France (departments Hérault, Gard and Pyrénées-Orientales) and the northeast part of Spain (province Catalonia) (Laštůvka & Laštůvka 2008).

Observations in France

Until now the species was found in France at Vénéroux and Villemagne-l'Argentière (dep. Hérault), Anduze (dep. Gard) and near Perpignan (dep. Pyrénées-Orientales) (Laštůvka & Laštůvka 2008). In July 2016 the author found the species in Châteauneuf-la-Fôret (Haute-Vienne) and Montbernard (Haute-Garonne), situated respectively far north and west of the currently known range. In both new places numerous exit holes were found in an old tree (breeding tree) and in the close neighbourhood several males were captured with pheromones. They appeared to be attracted by the pheromone FLA, developed for *Synanthedon flaviventris* (Staudinger, 1883) (compounds E2, Z13-18: Ac; Z3, Z13-18: Ac; 500 µg + 500 µg).



Map 1. Range of *S. mesiaeformis* (Herrich-Schäffer, 1846) in Europe (Laštůvka & Laštůvka 2008) complemented with data from Poland (Bąkowski 2013) and both new French localities (indicated by arrows).



Map 2. Localities of *S. mesiaeformis* in France. Châteauneuf-la-Fôret is, as the crow flies, about 260 km NW from Anduze, the northernmost known locality for this species. Montbernard, on the other hand, is about 180 km W of Perpignan which was the westernmost known locality.

Châteauneuf-la-Forêt, 4th of July 2016

The breeding tree (Figs 1, 2 and 3) in Châteauneuf-la-Fôret is an old, solitary *Alnus glutinosa* (common alder). In the bark of the tree, dozens of exit holes were found (fig. 3) and, underneath the bark, one larva and seven pupae. The holes are scattered all over the tree. On a surface of 30 × 30 cm, 2 m high above the ground, the author counted 8 exit holes. But they appeared not to be distributed evenly: there were apparently more holes on the east- and south-side of the trunk. All pupae were positioned almost perpendicular to the surface of the bark. Around 5 PM two males were attracted with FLA in about 15 minutes.

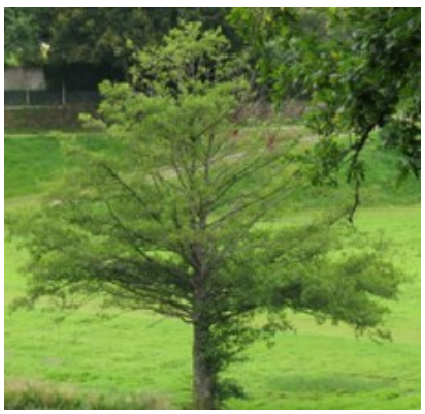


Fig. 1. Breeding tree (© Rudi Goossens).

Fig. 2. Detail of the breeding tree shown in Fig. 1 (© Rudi Goossens).

Fig. 3. Exit holes of *S. mesiaeformis* (© Rudi Goossens).

Fig. 4. Larva of *S. mesiaeformis* in *Alnus glutinosa* (© Rudi Goossens).

Fig. 5. Pupa of *S. mesiaeformis* in *Alnus glutinosa* (© Rudi Goossens).

Fig. 6. Freshly emerged female of *S. mesiaeformis* (© Rudi Goossens).

Montbernard, 11th of July 2016

In a brook valley in Montbernard (Haute-Garonne), in a row of old alders (Fig. 8), the author found a tree with a few exit holes and another one with about 20 exit holes. In this place also several males were attracted (around 6 PM) with the previously mentioned pheromone composition (Fig. 7).

Fig. 7. Male specimens of *S. mesiaeformis* attracted by the pheromone FLA (© Rudi Goossens).

Fig. 8. Breeding tree at Montbernard (© Rudi Goossens).

Possible reasons for the present disjunct range

In the entomological literature, four possible reasons for the present disjunct range of *S. mesiaeformis* are given (Laštůvka & Laštůvka 2008):

The currently known range represents a residual of the former distribution over the warmer and moister postglacial period;

Landscape modifications and elimination of solitary alder trees as „weeds“ from the 18th up to the mid-20th century in large areas of Europe;

Species specific and partly unknown habitat preferences and specific population ethology;

An insufficient level of faunistic investigations in several parts of southern and eastern Europe

Material

Two females and a male from Châteauneuf-la-Fôret and three males from Montbernard are kept in the collection of Theo Garrevoet (Antwerp, Belgium).

Traces of the weaver beetle (*Lamia textor* (Linnaeus, 1758))

In the bark of the common alder traces of the weaver beetle (*Lamia textor,* Figs 9 to 11) can also be found. These can easily be confused with exit holes of *S. mesiaeformis* (Fig. 3).

Fig. 9. Exit holes of *Lamia textor* in *Alnus glutinosa* (© Rudi Goossens).

Fig. 10. Galleries under the bark of alder made by *Lamia textor* (© Rudi Goossens).

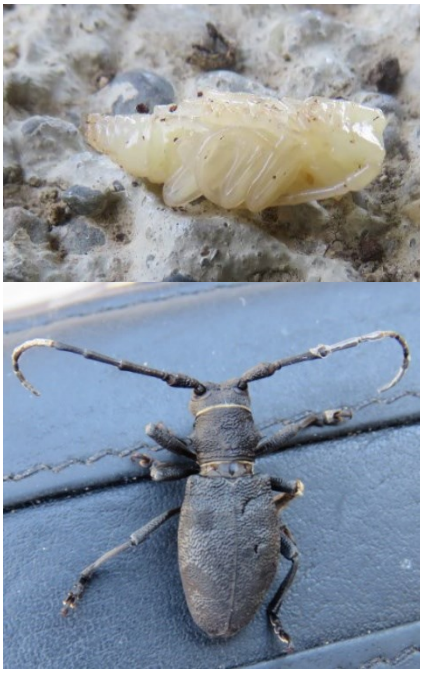


Fig. 11. Chrysalis and imago of the weaver beetle *Lamia textor* (© Rudi Goossens).

Acknowledgement

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References

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