AN UNUSUAL HABITAT FOR *VERTIGO ANGUSTIOR* JEFFREYS 1830 IN NORTHERN FRANCE

Vertigo angustior is a tiny land snail belonging to the family of Vertiginidae Fitzinger 1833, listed in Annex II of the European Union Habitat and Species Directive. Its presence could justify the designation of special Area of Conservation. Worldwide, Vertigo angustior is a near-threatened species, while in Europe it is classified as vulnerable[1]. At the micro-habitat level, it requires layers of wet litter or wet moss, normally in open (unshaded) wetland habitats. However, its macro-habitats are very wide, always calcareous, ranging from fixed dunes, machair, limestone pavements, salt marshes to vegetation associated with marshes or wet grasslands[2].

In July 2019, in the Regional Nature Reserve of Villemoron, (Département of Hautes-Marne-France-(N 47.660936, E 5.091391), a survey of xerophilic land snails and slugs revealed the presence of *Vertigo angustior.* Without any sources of water or any kind of wetlands, in a meadow with a limestone soil poor in nutrients, the presence of *Vertigo angustior* was identified in an area of xerophilous vegetation belonging to the xérobromion (*Festuco-Bromatalia*) series according to continental phytoecologists. Half of the site is used for cattle grazing; the other half has been abandoned for about 30 years. During the study, only *Vertigo angustior* adults were collected from 10 of 70 leaf litter samples (25×25cm).

A sampling station with live specimens and another one with old shells were found in a xerophilous lawn of *Ranunculus gramineus* L. (Eunis E1.272). The pasture, grazed by cattle, is characterized by its very short flora (between 10–20cm high), growing on very fine, brown and slightly decalcified soil on a low slope or plateau. It has also been found in an ungrazed xerophilous limestone meadow (four stations with live specimens and two stations with empty shells). This grassland grows best in sunny areas, on a south-facing slope, where the evapotranspiration is high. This type of vegetation is found on very thin soils, on Bathonian and Bajocian gravel and pebbles, away from woods. These two vegetation types are classified as Natura 2000 habitats (Corine biotope: 34.31 to 34.34; Eunis E1.2: semi-natural dry grassland and scrubland facies on calcareous substrates). Finally, two stations were found (one with live specimens, one with empty shells) in an ungrazed xero-thermophilic fringe of *Coronilla* and *Brachypodium*, on brown soil.

To date, there are no reports of *Vertigo angustior*, from vegetation of these types, although it has been collected marginally in a xerophilous sandy meadow in the French Alps[3] and in a calcareous nutrient-poor meadow in the Loire catchment area (Cucherat, unpublished data). The driest habitats reported to date are the limestone pavements in north-west England, living in fissures with litter and humus accumulation. It can also be found in sand dunes, but these macro-habitats are subject to a heavy rainfall regime. At Villemoron, given its high moisture requirements, it is possible that heavy autumn and winter rains may be sufficient to maintain its habitats sufficiently wet for much of the year, and it might have a very short life cycle compared to the population living in the wetlands near the site (where young specimens were found on the same date). Further investigations are needed to better understand this peculiar habitat for this species.

[1] CUTTELOD *et al.* 2011 *European red list of non-marine molluscs*. 97 pp.
[2] CAMERON RAD *et al*. 2003 *Heldia* **5**: 151–170.
[3] GUASCH L 2011 *Folia conchyliologica* **15**: 3–16.

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