PSEUDOTRICHIA RUBIGINOSA (A. SCHMIDT 1853) (HYGROMIIDAE) IN NORTHERN FRANCE

Falkner *et al.* (2002) stated that the presence of *Pseudotrichia rubiginosa* in France was probable, because of the occurrence of the snail just on the German side of the River Rhine, but rejected French records from the same region as a product of confusion with other hairy snails. On this basis, Cucherat & Demuynck (2004) considered it as new to France when, in July 2001, I discovered adult-sized specimens in flood debris close to a small ditch of the Lys River floodplain, a tributary of the River Scheldt.

I have recently discovered two papers, not referred to by Falkner *et al*. (2002) that cite the occurrence of this species in N. France. The first was published by Sueur & Triplet (1984) and details the presence of *P. rubiginosa* close to the mouth of the Somme River. The second described its occurrence in the Rhine River catchment, close to the German border in 1998 (Geissert, 1999). As these two original records seem not be based on dissection of specimens, their validity needs to be confirmed. However, I have discovered more localities ranging from Northern France to south of Paris, in which identity has been confirmed by dissection. These are listed in chronological order below, with notes on habitat.

01 March 2003, Marchiennes, Grande Tourbière, Dept. Nord, Scarpe River, Scheldt catchment. The Grande Tourbière is dominated by typical fen vegetation growing around an old game pond. Some places are colonised by willow. The soil is typically organic. Adults of *P. rubiginosa* were found with *Vertigo moulinsiana* (Dupuy 1849). This hairy snail was found living in sedge (*Carex acutiformis*) litter layer, in a small temporary pond. The pond is flooded in winter and in early spring.

03 June 2004, Noyon, L'abreuvoir au Cerf, Dept. Aisne, Oise River, Seine catchment. Adult specimens of *P. rubiginosa* were collected on *Urtica dioica* leaves in a poplar plantation on alluvial soil (Leg F. Boca). According to F. Boca (pers comm.) the plantation is flooded annually by the Oise River up to one metre above soil level.

03 June 2004, Manicamp, Le Tordoir bleu, Dept. Aisne, Oise River, Seine catchment. Adult sized specimens of *P. rubiginosa* were found in leaf litter close to a ditch, in a hay meadow of the floodplain of Oise River (Leg F. Boca). This locality has a typical alluvial soil.

29 September 2004, Auchy-les-Hesdin, Marais de la Grenouillère, Dept. Pas-de-Calais, Ternoise River, Canche catchment. This marsh is a common managed by low-intensity grazing of cattle and horses. The vegetation is a mixture of tall herb communities dominated by *Filipendula ulmaria*, patches of sedge (*C. acutiformis* and *Carex paniculata*) and *Glyceria maxima* in low parts of the common (ditches and depressions) and wet meadow in higher parts. The central part of the site is a willow/alder carr. The soil is a mixture of alluvial and organic soil. The site has been surveyed for molluscs since 1999, but *P. rubiginosa* was discovered for the first time in 2004, living with *V. moulinsiana* only in depressions and ditches where *Glyceria maxima* was growing. These habitats are typically flooded during autumn to late spring.

22 September 2005, Sailly-sur-la-Lys, Prés du Moulin Madame, Dept. Pas-de-Calais, Lys River, Scheldt catchment. This site is a typical wet meadow of the Lys River floodplain on an alluvial soil. The higher part of the site is dominated by hygrophilous grasses which are regularly mowed. The lower part is intersected by a drainage ditch colonised by *Glyceria maxima* and some patches of *Phragmites australis*. Adult *P. rubiginosa* were found very close to the edge of the ditches under *Glyceria* leaf litter. Some were found in mosses, even under water.

27 June 2007, Santes, Le Rosoir, Dept. Nord, Deûle River, Scheldt catchment. This site is a small part of ancient marshes drained by the Deûle River, now channelized, south west of Lille town. These marshes have been much managed by man since the middle ages for wood exploitation and as a result, the marshy conditions are seasonally temporary. In winter the main depressions, called "Clair" locally, are flooded, but are completely dried from summer to early autumn. The vegetation is typically dominated by nitrophilous species of wetlands, and characterised by high and big willow (*Salix alba*) carr. Many adult *P. rubiginosa* were collected, under

logs of willow at the edge of the "Clair" and willow carr.

27 May 2008, La Grande Paroisse, Pièce des Loges, Dept. Seine-et-Marne, Seine River, Seine catchment. This site is an ancient gravel pit in the flood plain of the Seine River, disconnected from the main channel of the river, which is now channelized. The substrate is a typically calcareous sandy soil and vegetation is dominated by a very nitrophilous willow carr. A few adult *P. rubiginosa* were found under logs of a stand of willow growing on the edge of the gravel pit. The willows at the site show adventive roots on their trunks, indicating that the location is often flooded by water of the gravel pit up to one metre above soil level.

These records increase substantially the number and the range of occurrences of *P. rubiginosa* in France. Nevertheless, the majority of localities have been found in catchments where the species was previously known (Vader, 1977; Bruyndoncx *et al.*, 2002). Therefore, it is reasonable to expect the species to occur in the flood plains of the major tributaries of the Scheldt River, such as the Deûle, Lys and Scarpe rivers. However, three localities are outside this catchment, and belong to the Canche catchment and Seine catchment respectively. The record from the Seine catchment extends the distribution of the species more than 200 km to the south, the southernmost being from Grande-Paroisse 80 km south of Paris. In the Pleistocene, all of these rivers belonged to the same catchment (i.e those of the Seine River) before the rise in sea level during the Holocene.

While I cannot characterise the habitats of *P. rubiginosa* precisely from my data (many of the localities have been discovered by accident), my records show that *P. rubiginosa* is not strictly confined to the flood zone of tidal freshwater rivers, as seems to be the case in Belgium (Vader, 1977; Bruyndoncx *et al.*, 2002) and in most of the sites in Great Britain (Killeen, 1999). They do resemble those described at the locality of South Stoke, Oxfordshire studied by Killeen (1999). In Belgium and in the majority of its occurrences in Great Britain, the habitat of *P. rubiginosa* is characterized by having areas of bare mud vegetated by a sparse tall-herbs communities, often dominated by nitrophilous species like *Urtica dioica* and *Rumex spp.*. In the French localities I have described here, *P. rubiginosa* has not been collected in the flood-zone of the rivers, but in a small pond, a lake and ditches running in their flood-plains. These habitats may be shaded by willow or in open areas, but all are more or less regularly flooded by freshwater. The snail has been always found in very wet leaf litter or under wood debris. These observations are in accordance with the habitat described in Eastern Europe (Obrdlik *et al.*, 1995).

Although my records are too few to draw general conclusions about the ecology of *P. rubiginosa* in France present observations raise interesting questions as to the genetic relation between the different populations occurring in Northern France, Great-Britain and Belgium.

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