

## Comparing *Fallopia japonica*, *F. sachalinensis* and their hybrid *F. x bohemica* in Belgium: population ecology, functional traits and invasiveness.

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In the course of the nineteenth century two *Fallopia* species were introduced to Europe from Asia. *F.japonica* has become one of the most invasive plant in Europe (Beerling et al, 1994). *F.sachalinensis* is much less invasive and still rare in Western Europe. *F. ' bohemica*, the hybrid between the two species, is said to spread even more rapidly than its parents (Mandak et al, 2004). Our objective is to test if the three taxa have contrasting values of key functional traits that might explain their contrasting invasiveness. We also examine if the hybrid is intermediate between its parents or, alternatively, if it shows transgressive variation in some traits. In sites where two or three taxa coexist in sympatry, the following traits are being monitored: shoot height, number of leaves and ramifications, number and length of internodes, concentrations of nitrogen in shoots and leaves, specific leaf area. The first results reveal interesting differences among the three taxa. Thus, *F.japonica* has higher N resorption efficiency (up to 70% N is resorbed from senescing leaves, vs. 40% in *F.sachalinensis*) . *F. ' bohemica* is intermediate between the parents (though often closer to *F. japonica*). It shows transgressive variation for leaf and ramification numbers. Growth speed is the same for the three species, but *F.japonica*'s growth stops earlier. Field observations will be complemented by a “controlled conditions” experiment to test if the three taxa show contrasting phenotypic plasticity of functional traits in response to different soil fertility conditions.

Beerling DJ, Bailey JP, Conolly AP (1994) *Fallopia japonica* (Houtt.) Ronse Decraene. J Ecol 82:959–979.

Mandák B, Pyšek P, Bímová K (2004) History of the invasion and distribution of *Reynoutria* taxa in the Czech Republic: a hybrid spreading faster than its parents. Preslia 76:15-64.