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NEW RECORDS FOR *FALLOPIA* × *CONOLLYANA*: IS IT TRULY SUCH A RARITY?

Hybrid seed between *F. japonica* and *F. baldschuanica* was first discovered as long ago as 1983 from a range of locations, many of them in Wales (Bailey 2001), during the examination of seed produced by open-pollinated *Fallopia japonica* var. *japonica* plants. It took another four years for it to be found established in the wild at Railway Fields, Haringey by David Bevan (Bailey 1988). Since then no more established plants have been recorded from the British Isles. The discovery of isolated occurrences of this taxon throughout Europe prompted the publication of the new hybrid combination *F.* × *conollyana* (Bailey 2001). It is a most remarkable feature of this story that although most seed produced by *F. japonica* var. *japonica* in Europe is of this combination, only a vanishingly small proportion of it ever seems to become established in nature. Such seed when collected in the wild is frequently viable, and high germination rates are achieved when sown under greenhouse conditions.

There the situation remained until September 2002 when one of the authors (M.S.), discovered four putative *F.* × *conollyana* plants in the London Borough of Haringey whilst undertaking survey work for the Greater London Authority. The plants were found growing in a south-facing gutter on the asphalted roof of an old brick building at the North Middlesex Sports Club ground on Park Road GR TQ2988 (v.c. 21). The substrate was mostly humic run-off from the roof and approximately 5 cm deep. The *F.* × *conollyana* plants were growing in association with *Senecio squalidus*, *Poa annua* and *Solanum dulcamara*, and were suffering from water-stress in the unusually dry autumn. The largest of the plants was approximately 30 cm tall, much branched with a woody base; the second plant although smaller also had a woody base and the two remaining plants were single unbranched stems less than 10 cm tall. From this, it is evident that we are not dealing with a single cohort and that these plants represent successful germination and establishment over a period of two or more years. The largest plant appears to be two or three years old. The other woody plant could be younger or the same age, but certainly more than a year old as evidenced by the woody base. The two smallest are 2002 seedlings. What at first might appear to be a somewhat eccentric place for seed germination and establishment, is on reflection not so odd when considering the natural habitat of Japanese Knotweed in Japan. Bailey (in press) discusses the question of seed germination in Japan, where there is a marked distinction between the habitat of tall lowland *F. japonica* and the dwarf montane varieties. At high altitudes *F. japonica* is often the only higher plant present, and when other taxa do occur, there are still considerable areas of bare rock or volcanic ash to be found. In such habitats *F. japonica* is regularly recruited from seed and there is much genetic variation, with plants of all ages including seedlings. In contrast, at lower altitudes the taller lowland plants eke out their existence at the margins of dense forest and often appear to be clonal. Considering the very slow growth and lack of competitive ability of *F. japonica* seedlings, it is probable that seed germination in lowland habitats can only occur in the aftermath of major earth movements or volcanic activity. In this context, a hot bare roof does not seem such an odd place for a seedling with initial slow growth and little competitive ability. This does however beg the question of what happens to all the seed produced in Britain, which falls on bare soil. A reasonable theory is that seed does not survive our winters. Not, we hasten to add, due to the cold, as *F. japonica* grows at 3,500m on Mt Fuji! Although the hybrid seed is perfectly viable, it is still hybrid seed and, as such, the endosperm is

not fully developed compared to seed produced by intraspecific fertilization or between taxa with comparable ploidy levels and base numbers (see Bailey 2001). The seed which gives rise to *F.* × *conollyana*, often contains enough endosperm for germination, but there is frequently a gap between the pericarp and the endosperm. In the damp conditions of a typical British winter it is quite possible that such malformed seed could be vulnerable to attack and destruction by zoosporic soil fungi such as *Pythium* and *Phytophthora*. The occurrence of plants of *F.* × *conollyana* where fungi dependant largely upon ground water for dispersal are unlikely to occur is of interest and may partially explain the apparent great rarity of this hybrid as mature plants in north-west Europe.

Finally, one must consider the implications of the first two confirmed British records for *F.* × *conollyana* occurring in the same region of London – is there something special about Haringey and if so, what? Or are urban botanists uniquely positioned to become adept at alien and novel plant identification? Whilst this note was in preparation another established plant of *F.* × *conollyana* was discovered growing in a garden in Eydon Northamptonshire (v.c. 32 SP5450), raising, the possibility of *F. conollyana* occurring in further sites across the British Isles; additionally, the potential for a new allopolyploid speciation event should now be considered more seriously.

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