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Discovery and introduction of *Cardamine occulta* (Brassicaceae) into Europe

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Schulz in 1903, in his monograph of *Cardamine* (Brassicaceae), treated *C. flexuosa* in a wide sense with a number of subspecies, varieties and forms. Out of the infraspecific taxa recognised by him, only *C. scutata* Thunb., *C. fallax* (O.E. Schulz) Nakai and *C. pennsylvanica* Willd. are now generally recognised as separate species. The remaining part of *C. flexuosa* had until recently been treated as a single species without recognising any infraspecific taxa. In 2006, however, Lihová et al. showed that Eastern Asian weedy populations assigned to *C. flexuosa* represent a separate cytotype and genetic lineage. Recently, the name *C. occulta* Hornem. was determined for these Asian populations. While an octoploid level was ascertained for *C. occulta*, the tetraploid level was confirmed for *C. flexuosa*, as well as for their close relatives from Asia, *C. scutata* and the recently described *C. kokaiensis* Yahara & al. The relative monoploid genome sizes were found to be strikingly different between these species. Variation in genome size agrees with different polyploid origins suggested based on genomic *in situ* hybridisation and comparative chromosome painting. These data indicate an autopolyploid origin of *C. kokaiensis* from a parental genome related to *C. parviflora* L. By contrast, an allopolyploid origin has been shown for the other species: *C. scutata* most likely originated via crossing of *C. amara* L. with *C. parviflora*, and *C. flexuosa* from *C. amara* and *C. hirsuta* L. Interestingly, *C. occulta* most probably originated through allopolyploid hybridisation of *C. scutata* and *C. kokaiensis*. While *C. occulta* is widespread in Asia and has been recorded in other continents for a long time, in Europe it was discovered only recently: in 1977 it was collected at Vercelli (Italy) and in 1993 in the province of Alicante (Spain). Nevertheless, currently

it is present throughout most of the European countries, its spreading being supported mostly by horticulture.

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