



FORM PER PROGETTI BANDO DOTTORATO

1. Project title

Investigation into the *Hieracium tomentosum* L. group: defining an integrative approach for a taxonomic revision combining traditional taxonomy with ecological, cytological and molecular data.

2. Proposer

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4. Key words

(Max. 5 – at least 2)

Plant taxonomy, Evolution, Systematics, Asteraceae, apomixis

5. Abstract

(Max.1.500 characters with spaces)

Hieracium L. (Asteraceae) is one of the most diverse plant genera among the angiosperms. Its extreme morphological variability is caused by complex reproductive strategies, massive interspecific hybridization in the past and polyploidization. Around 1.500 taxa have been reported for the Italian flora and the current taxonomic treatment has not substantially changed over the last century. The relationships among species are largely unknown despite the availability of modern investigation techniques, like molecular biology or advanced microscopy which have been used on a very small number of Italian species. A selected number of *Hieracium* taxa, here informally called *Hieracium tomentosum* group, will be investigated. Ecological, cytological and molecular data will integrate taxonomy and morphometry. The project will be organized into three main parts: a classical taxonomic approach will compare morphological data collected from herbarium specimens and new collections, the ploidy level will be determined (via flow cytometry and/or chromosome counts), molecular analyses will be performed combining plastidial and nuclear markers. The primary aim is to clarify the taxonomic validity and position of some Italian endemic *Hieracium*, propose an alternative, updated and revised taxonomical treatment of the genus in Italy and to disentangle the phylogenetic relationships inside *H. tomentosum* group and related species.