

PhD position

Sexual selection in plants

University of Montpellier



ERC SEXIPLANTS

Central questions

- Has sexual selection positive effects on plant fitness?
- Is sexual selection widespread in angiosperms?

Interested ?

We offer a 3-year PhD position !

- Addressing unexplored questions for plants
- Capitalize from an ongoing long-term experimental evolution protocol
- Strengthen your skills in experimental evolution, quantitative genetics and paternity analyses
- In a group of dynamic, supportive, enthusiastic and collaborative researchers

Contact information: Jeanne Tonnabel
jeanne.tonnabel@umontpellier.fr



Institut des Sciences de l'Evolution-Montpellier



A **fully-funded three-year position** is opened to work on sexual selection in plants with a special focus on its effect on plant fitness, under the supervision of Dr. Jeanne Tonnabel (<https://isem-evolution.fr/membre/tonnabel/>) in the context of the SEXIPLANTS project funded by the ERC.



Project goals? Sexual selection is generally thought to apply to all sexually reproducing organisms and should therefore also operate in plants. Yet, general predictions from sexual selection theory remain largely untested in the plant kingdom. This PhD project aims at testing one of the most fundamental predictions of sexual selection theory: that both male-male competition and female choice favor individuals of higher genetic quality and thereby positively impacting population fitness. To address this, the project will combine three complementary approaches: (1) experimental evolution, by testing whether plant populations of *Brassica rapa* populations evolved under monogamy vs. polygamy for 20 generations differ in mutational load and abilities to respond to stress; (2) quantitative genetics, by testing whether plant traits related to mates and gametes are genetically correlated with other fitness components, and (3) a meta-analysis quantifying the strength of sexual selection across species and testing for angiosperm-wide associations with demographical trends and plant traits.

For whom? We are looking for candidates with a MSc degree in biology (or equivalent) with strong motivation both for understanding and testing general concepts in evolutionary biology and for conducting experimental work. Knowledge on sexual selection and/or plant evolution and experience on experimental evolution/quantitative genetics/paternity analyses would be an advantage but is not required.

Where? The PhD student will join a stimulating working atmosphere comprising enthusiastic researchers working on sexual selection in plants in the context of the SEXIPLANTS project with high collaboration opportunities (François Rousset, Agnès Mignot, Tim Janicke). The PhD student will work at the Institut des Sciences de l'Evolution de Montpellier (ISEM, UMR 5554). Montpellier offers a stimulating scientific environment for evolutionary biologists with many seminars and opportunities to interact with many renowned scientists. The working language will be English but some notions of French will come in handy in the daily life.

Working contract? The PhD contract will consist three-year contract funded by the ERC SEXIPLANTS led by Jeanne Tonnabel. The gross monthly salary is around 2 200 euros. The contract includes health insurance and 44 days of annual leave.

When? The ideal starting date of PhD would be October 1st 2025 but starting date is negotiable.

How to apply? All applications must be sent by email to Jeanne Tonnabel (jeanne.tonnabel@umontpellier.fr) and in parallel CNRS platform (<https://emploi.cnrs.fr/Offres/CDD/UMR5554-JEATON-010/Default.aspx>) before July 10th. Applications should include 1) a motivation letter describing research interests, relevant experience and motivation for applying to this PhD position, 2) a CV and 3) contact information for two referees.

