

PhD position

Sexual selection in plants

University of Montpellier



ERC SEXIPLANTS

Central questions

- Can female plants choose their mates?
- Can pistil elicit cryptic female choice?

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
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A **fully-funded three-year position** is opened to work on sexual selection in plants with a special focus on pollen-pistil interactions, 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 include plants. Yet, general predictions from sexual selection theory remains untested for the plant kingdom. This PhD aims at testing the most fundamental predictions of sexual selection theory, including female choice models (Fisherian and good-genes models) with a special focus on pollen and pistil traits. Indeed, cryptic female choice in plants might stem from simple morphological pistil traits or from the physiology of pistil tissues, which is known to actively provide nutritive and guidance molecules to pollen tubes. The PhD will benefit from a unique material developed for plants: the output of experimentally evolved lines of *Brassica rapa* 'fast plants' which have been maintained for 18 generations in monogamy vs. polygamy. The PhD candidate will study the evolution of pollen and pistil traits in these experimental evolution lines, but also paternity biases induced by those traits and the genetic correlations between them through quantitative genetics.

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 (Agnès Mignot, François Rousset, Tim Janicke). The PhD student will work at the Institut des Sciences de l'Évolution 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 submitted to the CNRS platform (<https://emploi.cnrs.fr/Offres/CDD/UMR5554-JEATON-009/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.

