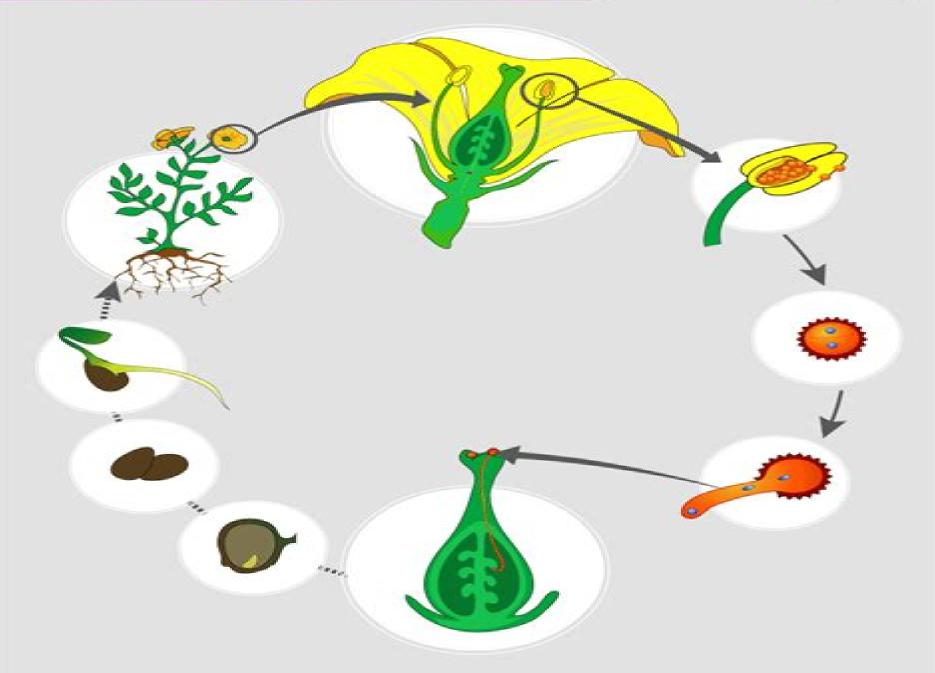
# SEXUAL REPRODUCTION IN PLANTS





# **Sexual Plant Reproduction**

Dazhong Zhao, Kang Chong, Ravishankar Palanivelu

#### **Sexual Plant Reproduction:**

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accessible to both experienced scientists and newcomers to the field Molecular and Cellular Plant Reproduction Dazhong Zhao, Kang Chong, Ravishankar Palanivelu, 2017-07-21 Plant reproduction is essential not only for producing offspring but also for increasing crop quality and yield Moreover plant reproduction entails complex growth and developmental processes which provide a variety of opportunities for elucidating fundamental principles in biology The combinational employment of molecular genetic approaches and emerging technologies such as florescence based imaging techniques and next generation sequencing has led to important progresses in plant reproduction using model plants crops and trees This e book compiles 31 articles including 1 hypothesis and theory 4 perspectives 12 reviews and 14 original research papers We hope that this E book will draw attention of all plant biologists to exciting advances in the field of plant reproduction and help solve remaining challenging questions in the future We wish to express our appreciation to all the authors reviewers and the Frontiers editorial office for their excellent contributions that made the publication of this e book possible Issues in Life Sciences: Botany and Plant Biology Research: 2011 Edition, 2012-01-09 Issues in Life Sciences Botany and Plant Biology Research 2011 Edition is a ScholarlyEditions eBook that delivers timely authoritative and comprehensive information about Life Sciences Botany and Plant Biology Research The editors have built Issues in Life Sciences Botany and Plant Biology Research 2011 Edition on the vast information databases of ScholarlyNews You can expect the information about Life Sciences Botany and Plant Biology Research in this eBook to be deeper than what you can access anywhere else as well as consistently reliable authoritative informed and relevant The content of Issues in Life Sciences Botany and Plant Biology Research 2011 Edition has been produced by the world's leading scientists engineers analysts research institutions and companies All of the content is from peer reviewed sources and all of it is written assembled and edited by the editors at ScholarlyEditions and available exclusively from us You now have a source you can cite with authority confidence and credibility More information is available at http www ScholarlyEditions com

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publications addressing different topics around the molecular basis of apomixis illustrating recent discoveries and advances toward understanding the genetic regulation of the trait discussing the possible origins of apomixis and the remaining challenges for its commercial deployment in plants **Thiol-based redox homeostasis and signalling** Francisco J. Cejudo, Andreas J. Meyer, Jean-Philippe Reichheld, Nicolas Rouhier, Jose A. Traverso, 2014-09-24 In contrast to the situation in heterotrophic organisms plant genomes code for a significantly larger number of oxidoreductases such as thioredoxins TRXs and glutaredoxins GRXs These proteins provide a biochemical mechanism that allows the rapid and reversible activation or deactivation of protein functions in response to changing environmental conditions as oxidative conditions caused by excessive photosynthesis Indeed owing to the fact that cysteines are sensitive to oxidation TRXs and GRXs play an essential role in controlling the redox state of protein thiol groups These redox dependent post translational modifications have proven to be critical for many cellular functions constituting regulatory signalling or protective mechanisms. The articles contained in this Research Topic provide timely overviews and new insights into thiol dependent redox regulation mechanisms with a focus on TRX and GRX based reduction systems in plants The different contexts discussed take into account physiological developmental and environmental conditions **Botany** Mauseth, 2016-07-06 The Sixth Edition of Botany An Introduction to Plant Biology provides a modern and comprehensive overview of the fundamentals of botany while retaining the important focus of natural selection analysis of botanical phenomena and diversity Botany James D. Mauseth, 2016-07-06 The Sixth Edition of Botany An Introduction to Plant Biology provides a modern and comprehensive overview of the fundamentals of botany while retaining the important focus of natural selection analysis of botanical phenomena and diversity Biotechnology and Molecular Markers S. Srivastava, A. Narula, 2006-01-16 The genesis of the volume Plant Biotechnology and Molecular Markers has been the occasion of the retirement of Professor Sant Saran Bhojwani from the Department of Botany University of Delhi For Professor Bhojwani retirement only means relinquishing the chair as being a researcher and a teacher which has always been a way of life to him Professor Bhojwani has been an ardent practitioner of modern plant biology and areas like Plant Biotechnology and Molecular Breeding have been close to his heart The book contains original as well as review articles contributed by his admirers and associates who are experts in their area of research While planning this contributory book our endeavour has been to incorporate articles that cover the entire gamut of Plant Biotechnology and also applications of Molecular Markers Besides articles on in vitro fertilization and micropropagation there are articles on forest tree improvement through genetic engineering Considering the importance of conservation of our precious natural wealth one article deals with cryopreservation of plant material Chapter on molecular marker considers DNA indexing as markers of clonal fidelity of in vitro regenerated plants and prevention against bio piracy A couple of write ups also cover stage specific gene markers DNA polymorphism and genetic engineering including raising of stress tolerant plants to sustain productivity and help in reclamation of degraded land Embryology of Flowering Plants: Terminology and Concepts, Vol. 3 T B

Batygina, 2019-04-23 Plant embryology dealing with the regularities of initiation and the first stages of development of an organism is now flourishing because of the overall progress being made in natural sciences Such discoveries of the 20th century as production of plants from a single somatic cell experimental haploidy and parasexual hybridization were of general biological significance. The combined efforts of embryologists geneticists and molecular biologists yielded the discovery of specific genes that control meiosis egg cell development and early stages of embryogenesis. The tendency to synthesize data of embryology and genetics has become increasingly noticeable. It is connected with the fact that the majority of problems connected with morphogenesis such as differentiation specialization the evaluation of features and the definition of the notionsgene and feature andgenotype and phenotype concern embryology and genetics embryogenetics in one way or another Evolutionary embryology has given rise to a new approach to the study of problems of adaptation in plants. In connection with the problem of preserving biological diversity under conditions of ecological stress special attention is paid to ecological embryology revealing the critical periods in early ontogenesis and plasticity and tolerance of reproductive systems at the level of species and population. The study of variability of morphogenesis and phenotype in population life cycle variations and the diversity of reproductive systems is the most important point in the population embryology of plants

Functional Plant Ecology Francisco Pugnaire, Fernando Valladares, 2007-06-20 Following in the footsteps of the successful first edition Functional Plant Ecology Second Edition remains the most authoritative resource in this multidisciplinary field Extensively revised and updated this book investigates plant structure and behavior across the ecological spectrum It features the ecology and evolution of plant crowns and a **Reproductive Biology of Angiosperms** Yash Mangla, Priyanka Khanduri, Charu Khosla Gupta, 2023-01-05 Reproductive Biology of Angiosperms Concepts and Laboratory Methods will cater to the needs of undergraduate and graduate students pursuing core and elective courses in life sciences botany and plant sciences The book is designed according to the syllabi followed in major Indian universities It provides the latest and detailed description of structures and processes involved in reproduction in higher plants The inclusion of colour photographs and illustrations will be an effective visual aid to help readers Interesting and significant findings of the latest research taking place in the field of reproductive biology are also provided in boxes At the end of each chapter the methodology of hands on exercises is presented for the implementation and practice of theoretical concepts

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