
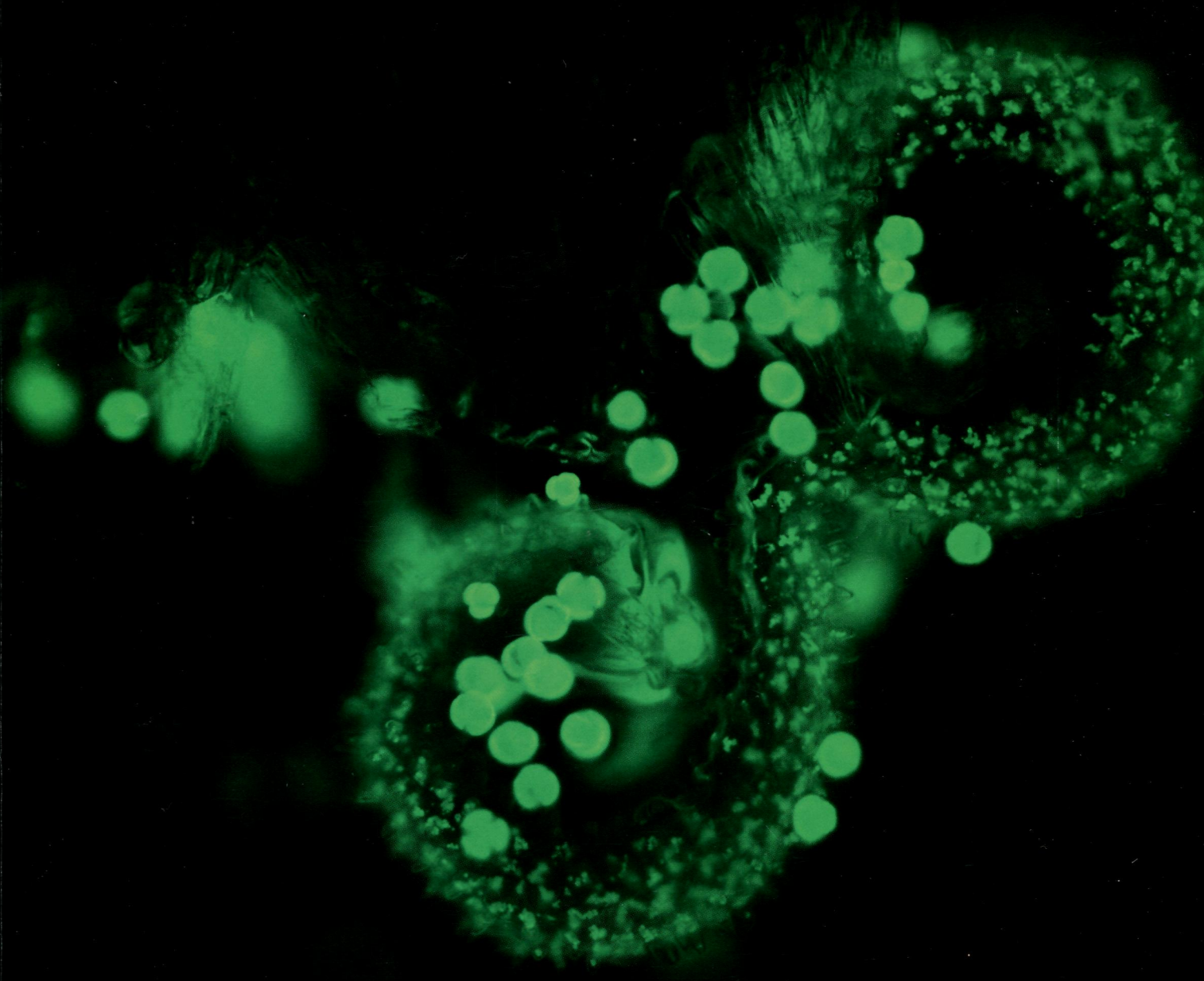


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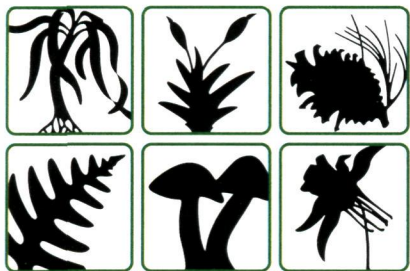
Celebrating 100 years  1914-2014

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Cover Illustration: The stigmatic surface of a bisexual disk floret of *Artemisia annua* is shown under fluorescence illumination. *Artemisia annua* is an intriguing medicinal plant that produces bioactive phytochemicals including artemisinin, a sesquiterpene lactone containing a peroxide bridge, that is extremely effective against malaria. The development of cultivars that produce high quantities of artemisinin could help meet worldwide demand for this pharmaceutical and its derivatives, which also possess anti-cancer and anti-microbial activity. However, fundamental reproductive processes are not well understood and impair breeding and seed propagation programs. In "Flower morphology and floral sequence in *Artemisia annua* (Asteraceae)" on pages 875–885, Wetzstein et al. describe inflorescence architecture, timing of ray and disk floret development, and flower fertility/seed set. Disk florets in *A. annua* exhibit protandry and active pollen presentation. The image shows the bifurcate and recurved stigma of a floret at the pistillate stage, which at that phase has a downward facing orientation. The fully reflexed stigmatic arms contain brightly fluorescing residual pollen that is retained on the tips of elongated, plumose presenter papillae. Stigmatic surface papillae contain projections that facilitate pollen capture. Image credit: Hazel Wetzstein.



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Abbreviations

Miscellaneous: AFLP, amplified fragment length polymorphisms; a.s.l., above sea level; bp, base pair; BP, before present; BSA, bovine serum albumin; cpDNA, chloroplast DNA; CTAB, hexadecyltrimethylammonium bromide; cv., cultivar; ddH₂O, double-distilled water; dNTP, deoxyribonucleotide E.C., Enzyme Commission; EDTA, ethylene diamine tetra-acetic acid; f. sp., forma specialis; indels, insertions and deletions; ITS, internal transcribed spacer; LM, light microscopy; mya, million years ago; PAGE, polyacrylamide gel electrophoresis; PCR, polymerase chain reaction; RAPD, random amplified polymorphic dimorphism; SDS, sodium dodecyl sulfate; SEM, scanning electron microscopy; s.l., sensu lato; s.s., sensu stricto; subsp., subspecies; TEM, transmission electron microscopy

Genetics: *A*, mean number of alleles per locus; *D*, mean genetic distance; CI, consistency index; *F*, fixation index; *F_T*, total deviation from Hardy-Weinberg expectations; *F_{ST}*, genetic diversity among populations; *F_{IS}*, inbreeding within populations; *G_{ST}*, the proportion of genetic diversity among populations; *H_e*, Hardy-Weinberg expected heterozygosity; *H_o*, observed heterozygosity; MP, most parsimonious tree; *n*, individual chromosome number; Nm, mean number of migrants per generation; *P_p*, percentage of polymorphic loci; RI, retention index; *x*, base chromosome number

Statistics and math: ANOVA, analysis of variance; CV, coefficient of variation; df, degrees of freedom; *N*, number of individuals; *p*, probability; *P*, level of significance; PCA, principal components analysis; *r*, coefficient of correlation; SE, standard error; SD, standard deviation