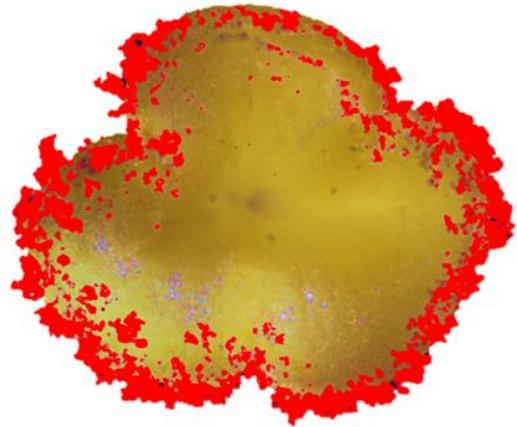


QUANTIFYING POLLEN DEPOSITION WITH MACRO PHOTOGRAPHY AND 'STIGMAGRAPHS'

by Gail MacInnis and Jessica R.K. Forrest

Studies of pollination frequently require a measure of the amount of pollen deposited on a flower's female reproductive organs. This is especially common in studies of the pollen deposition efficiency of flower-visiting animals. Conventionally, pollen deposition measurements are taken after a flower receives a single visit from a pollinator and the number of pollen grains are counted in a laboratory. Often, this requires the removal of the flower from the field and subsequent fruit or seed analyses must be done indirectly. Further, the contribution of each species to the total pollen load on a flower receiving multiple visits is impossible to determine in the laboratory. Here, a pollen deposition measurement technique was developed to determine the proportion of pollen deposited by each pollinator in an assemblage of flower visitors, and to allow the sampled flower to remain

unmanipulated in the field to develop into fruit and seed.



*A stigma photograph (stigmagraph) of a daffodil (*Narcissus pseudonarcissus*). Red indicates areas containing pollen.*