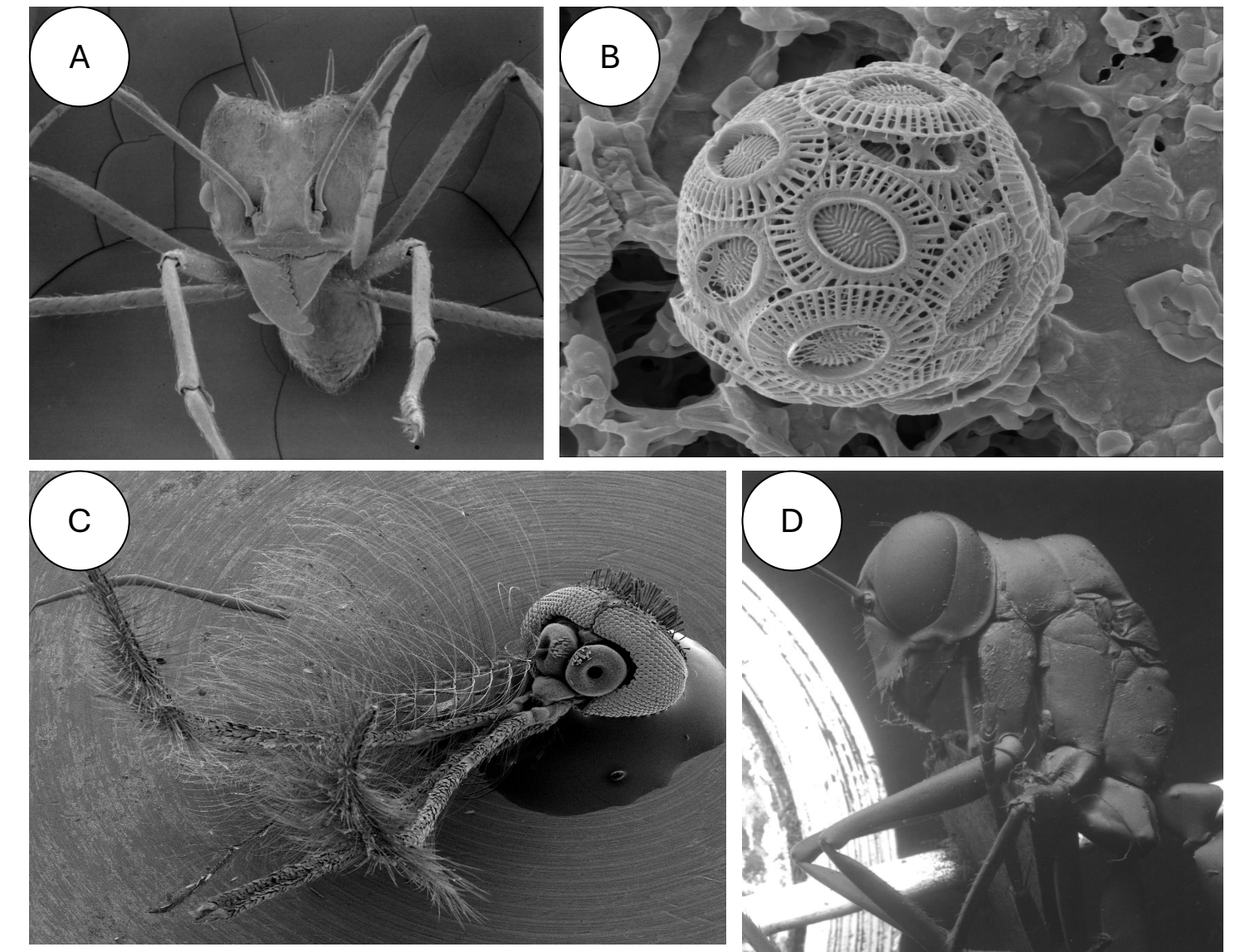


Tweaking the backgrounds for SEM imaging

Alex Ball, The Natural History Museum

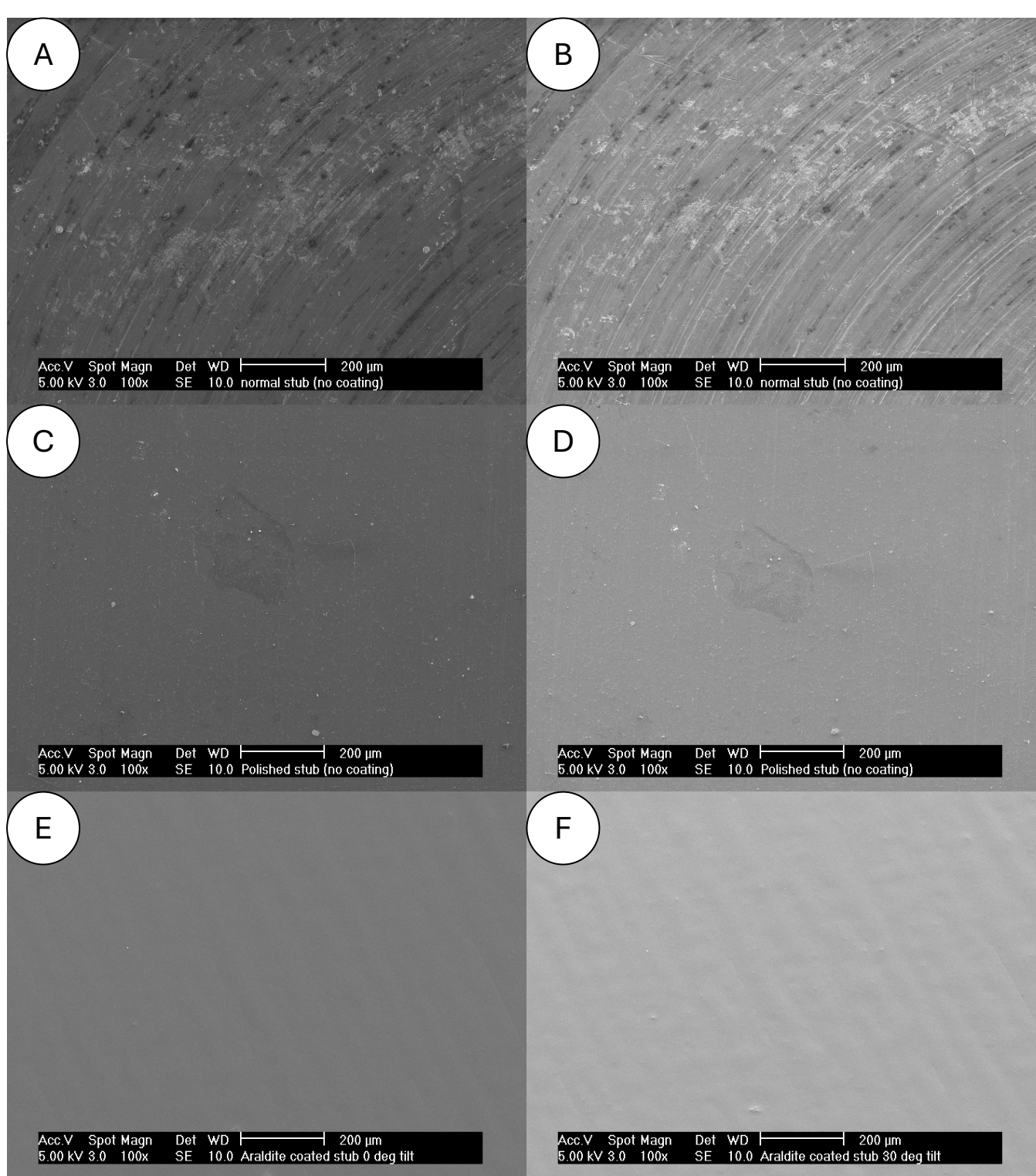
Providing a clean, distraction-free background not only delivers a more attractive image, but is also easier to edit using Photoshop or similar programmes.

Simply choosing a better mounting substrate can dramatically improve the final image.



Examples of poor backgrounds

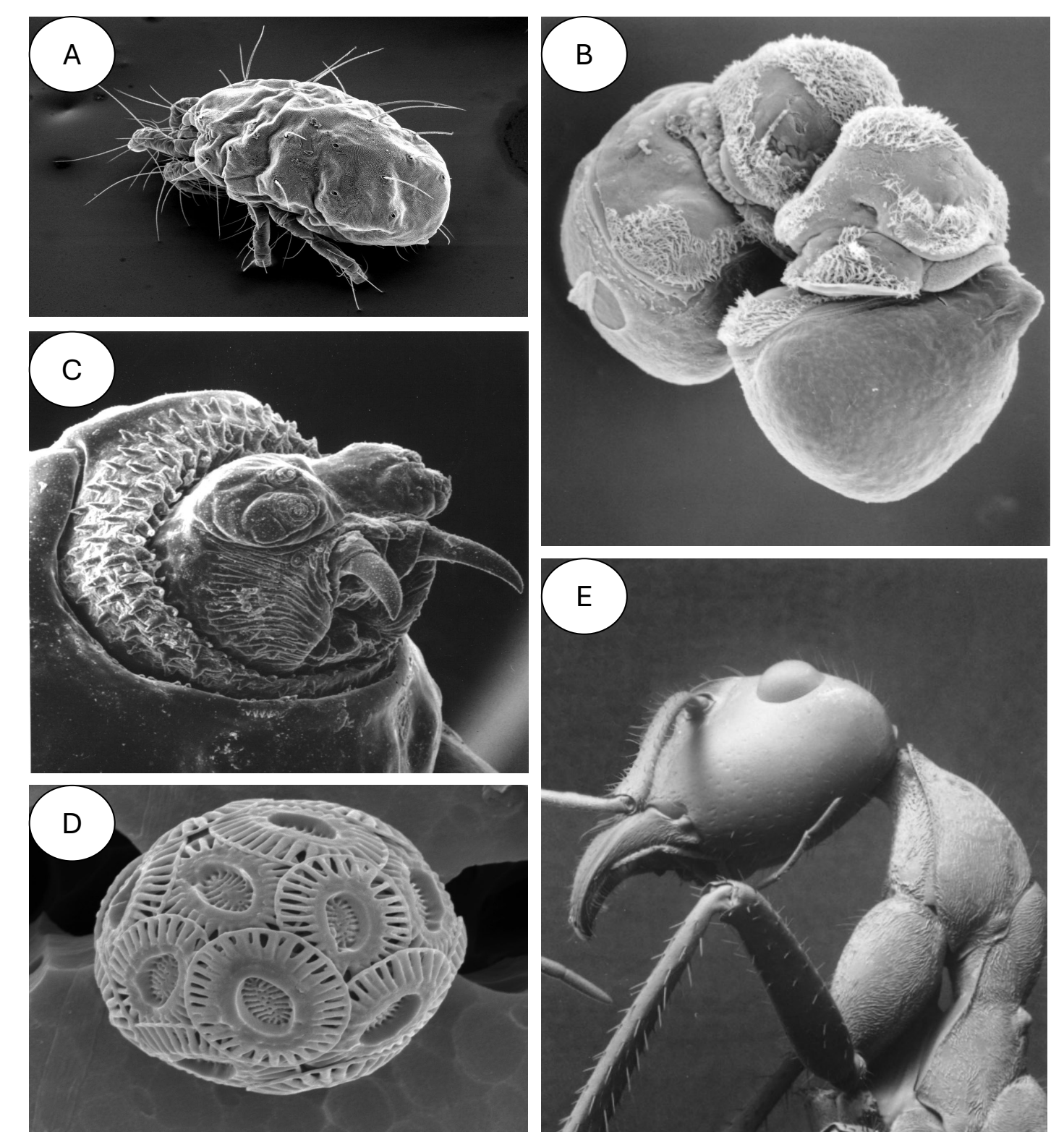
A) vacuum crazing of carbon tab; B) fibrous filter; C) machining rings on stub; D) pin and metallic stage components visible



Backgrounds and mounting media compared

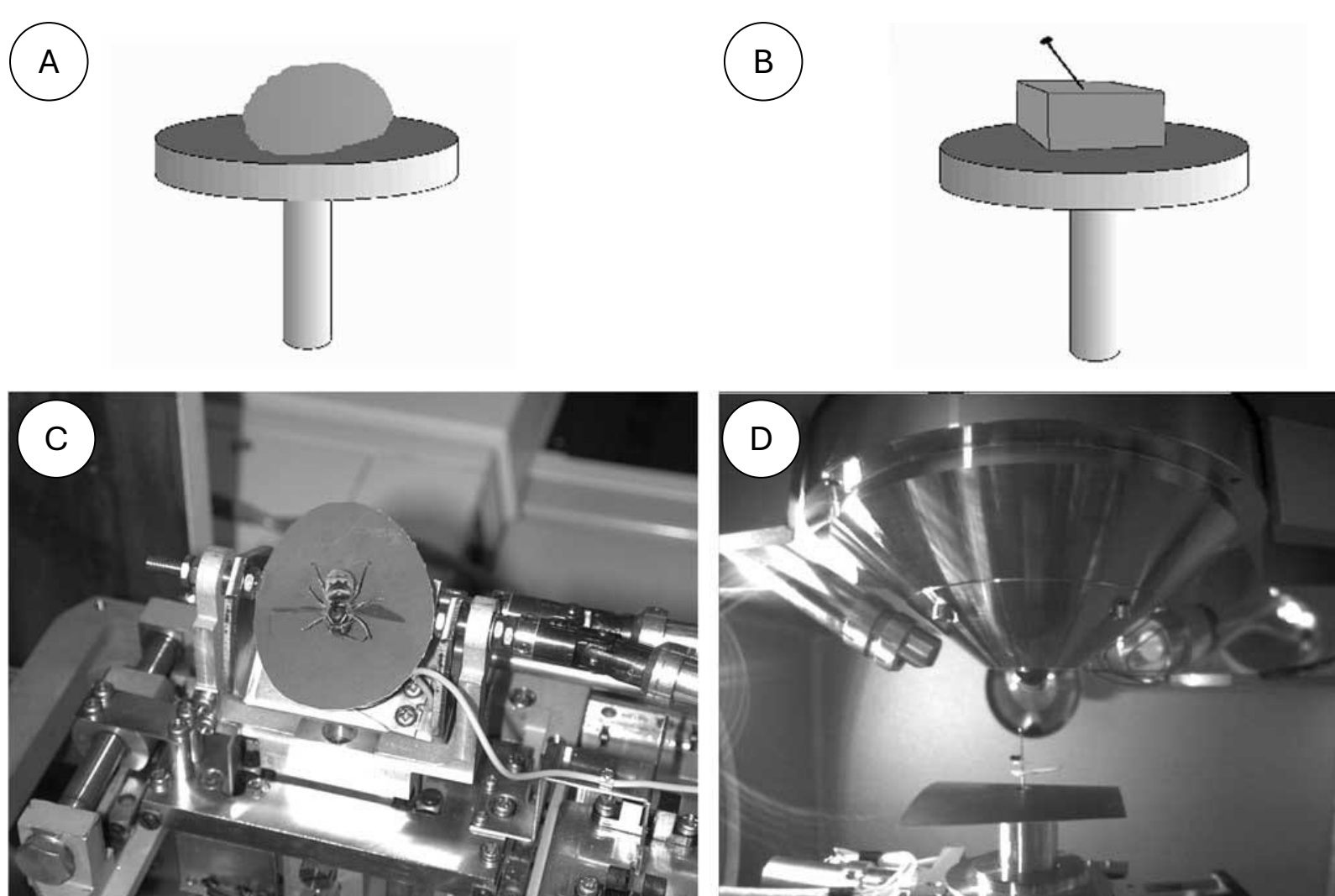
A) Plain aluminium stub; B) same stub tilted 30°; C) Polished aluminium stub; D) same stub tilted 30°; E) Araldite "skim" coated stub; F) same stub tilted 30°

Simple tips like polishing the stub surface using a metal polish, or applying a very thin smear of Araldite will give a smooth background. Inserting a piece of carbon coated paper between the specimen and the stage will absorb electrons and give a black background, improving contrast. Don't be afraid to experiment!

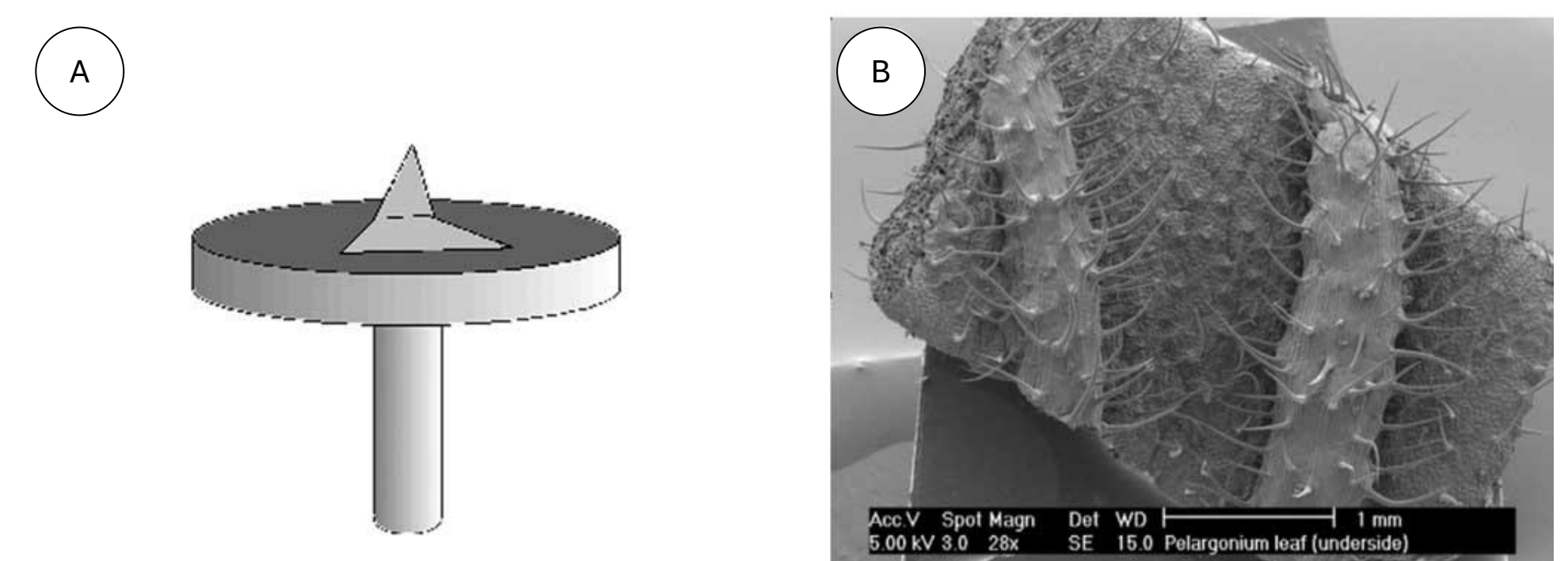


Examples of good backgrounds

A,B) polished stub and Araldite smear; C) short working distance throws background out of focus; D) Nucleopore filter; E) carbon painted paper



Mountants for pinned insects. A) Blu-Tack used as a mountant is simply placed on the stub as a ball. B) *Plastazote* needs to be cut to size and glued to the stub before pins can be inserted. C) shows the use of carbon-painted backing to mask stage "furniture". D) Internal lateral view of pin-mounted sample *in situ*.



A) Aluminium point glued to stub. Samples are glued onto the tip or surface of the stub; B) A section of *Pelargonium* leaf glued to a point. Using tilt, combined with a relatively long Working Distance, the background can be defocused to improve the final image.