How big is a bug’s eye?

This picture shows the head of a tiny parasitic wasp. The image was captured with a scanning electron microscope. In the scanning electron microscope a fine beam of electron is scanned on the sample to generate an image of the surface.

The eye of the wasp is just 0.06mm wide (that’s 60μm).

The Centre for Advanced Microcopy provides state of the art microscopy facilities for research, diagnostic and analysis in life science and physical sciences. These advanced microscopes enable scientists, engineers and technologists to see details of structures at the atomic level through the nanoscale to up to the macroscopic level.

The facilities at the University of Reading have been used in projects as diverse as nematode identification, ballpoint pen design and the analysis of volcanic ash!

Some typical sizes of biological objects from largest to smallest in μm

- **Wasp eye**: 60μm
- **Width of a human hair**: 20–200μm (0.02–0.2mm)
- **Eukaryotic cell**: 10–100μm
- **Chloroplast**: 5–8μm
- **Cell nucleus**: 3–10μm
- **Bacterial cell**: 1–3μm (1000–3000nm)
- **Ribosome**: 0.01–0.02μm (10–20nm)

A micrometre is one millionth of a metre (1/1000 of a millimetre). The unit symbol in the International System of Units (SI) is μm.

A nanometre is equal to one billionth of a metre. The unit symbol is nm.