

# MICROSCOPE IMAGES IN YOUR WORLD



The mouth of Giraffe Tick of East Africa



The foot of our super model, fruit fly



The beautiful face of a fruit fly.

*True beauty is in the eye of the beholder.*

We have various types of microscopes that have specific applications.

The light microscope is the most common of these and also the least expensive. It has a range of about 2X to 1000 X magnification and for a lot of microscopy work, it is very suitable. However its biggest limitation is depth of focus. This means you cannot work at high magnifications and expect to see a very topographical sample all in focus.

For very topographical samples we would turn to a scanning electron microscope. With the use of the focused beam of electrons, it is possible to get high magnification, up to about 300,000X, and also good depth of focus.

Looking at the above images, collected on a scanning electron microscope at the Veterinary Research Institute out at Onderstepoort, Pretoria, we can see the a lot of detail at a fairly high magnification. In any one of these images the distance from the top of the sample to the deepest “trough” could be measured in micrometers. Quite a large distance for a microscope. Yet all of the image is in focus.

This makes scanning electron microscopes the first choice for zoologists studying insects. They can use the SEM to identify insect species, variations in species from different regions and study the morphology of the insects before they can come up with insecticides against pesky insects like ticks, fruit fly's and fleas.

Some insects could only be loved by their mothers !



This information is brought to you by the Microscopy Society of Southern Africa in the interest of furthering research, awareness and development of microscopy in the region.

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