

Making Microsculpture

Levon Biss explains his photographic process:

“Each image from the Microsculpture project is created from around 8000 individual photographs. The pinned insect is placed on an adapted microscope stage that enables me to have complete control over the positioning of the specimen in front of the lens. I shoot with a 36-megapixel camera that has a 10x microscope objective attached to it via a 200mm prime lens.

I photograph the insect in approximately 30 different sections, depending size of the specimen. Each section is lit differently with strobe lights to bring out the micro sculptural beauty of that particular section of the body. For example, I will light and shoot just one antennae, then after I have completed this area I will move onto the eye and the lighting set up will change entirely to suit the texture and contours of that specific part area of the body. I continue this process until I have covered the whole surface area of the insect.

Due to the inherent shallow depth of field that microscope lenses provide, each individual photograph only contains a tiny slither of focus. To enable me to capture all the information I need to create a fully focused image, the camera is mounted onto an electronic rail that I program to move forward 10 microns between each shot. To give you an idea of how far that is, the average human hair is around 75 microns wide. The camera will then slowly move forward from the front of the insect to the back creating a folder of images that each have a thin plane of focus. Through various photo-stacking processes I flatten these images down to create a single picture that has complete focus throughout the full depth of the insect.

I repeat this process over the entire area of the insect and once I have 30 fully focused sections I bring them together in Photoshop to create the final photograph. From start to finish, a final photograph will take around 4 weeks to shoot, process and retouch.”

To view more of Levon Biss's work visit:
www.levonbiss.com or www.microsculpture.net