

ELECTRON MICROSCOPY UNIT

Klaus W. Wolf, PhD – Head of Unit

WORK OF THE UNIT

During the 2008/2009 academic year, the Electron Microscopy (EM) Unit, Mona has continued conducting research, teaching and rendering assistance to Researchers, Postgraduate-, Undergraduate -, High School- students and other interest groups. These persons either got results from, or understanding of the uses and operations of any or all of the following: Transmission Electron Microscopy, Scanning Electron Microscopy, Optical Microscopy (OM), Macro-Photography (MP). Table 1 lists the main services provided during the said academic year.



Table 1 Main services provided by the EM Unit during the 2008/2009 academic year.

Specimen	Technique	Institution
Acetate peels of rock surface	OM	Dept. of Geography & Geology
Ackee root tips	OM	Biotechnology Centre
Flower of Opuntia sp.	MP	Dept. of Life Sciences
Fungi	MP	Dept. of Life Sciences
Larvae of Citrus Butterfly	MP	Dept. of Life Sciences
Mammalian Tissue	OM	Dept. of Basic Med. Sci. - Pharmacology
Microscopic fossils	OM	Dept. of Geography & Geology
Rat Liver	OM	Dept. of Basic Med. Sci. - Anatomy
Rat liver and aorta	OM	Dept. of Basic Med. Sci. - Pharmacology
Rat pancreas	OM	Dept of Basic Med. Sci. - Physiology
Rock sections	OM	13 different students - Dept. of Geography & Geology
Soil particles & Leaves	OM	Dept. of Geography & Geology
Spiders	OM, MP	Dept. of Geography & Geology
Tissue culture in plants	OM	Biotechnology Centre

Lectures and laboratory sessions in Electron Microscopy were conducted in the Virology course “BL38A”, from the Department of Life Sciences and the Medical Physics and Bioengineering course “P29A” from the department of Physics.

Lectures were conducted in the graduate course Research Methods for Biologists “BL60E”, from the Department of Life Sciences and a laboratory session for the graduate course Research Methods from the Department of Chemistry.

Posters, exhibits and demonstrations were contributed to Research Day activities on the Mona campus of the University and a poster and exhibits were contributed to the UWI Fair on the Western Campus in Montego Bay.

Collaborations continue with Zoologists from the University of Salzburg (Austria) and Wittenberg College (USA) on *Ciliates in tank bromeliads* and *Kinetics of spermatogenesis in lizards*, respectively.

Research in progress

Gamete structure and development in insects, using various microscopic techniques.

Effects of chemicals on red blood cells.

Refereed Publications

- * Gribbins, K. M., Rheubert, J. L., Poldemann, E. H., Collier, M. H., Wilson, B., **Wolf, K. W.** Continuous spermatogenesis and the germ cell development strategy within the testis of the Jamaican Gray Anole, *Anolis lineatopus*. *Theriogenology* 72: 484-492, 2009
- * Foissner, W. and **Wolf, K.W.** Morphology and ontogenesis of *Platyophrya bromelicola* nov. spec., a new macrostome-forming colpodid (Protists, Ciliophora) from tank bromeliads of Jamaica. *Eur. J. Protistol.* 45: 87-97, 2009.
- * Oertel, A., **Wolf, K.W.**, Al-Rasheid, K. and Foissner, W. Revision of the genus *Coriplites* Foissner, 1988 (Ciliophora: Haptorida), with description of *Apocoriplites* nov. gen. and three new species. *Acta Protozool.*, 47: 231-46, 2008

With a staff complement of two, the **per capita publication = 1.5**.

Targets

In the 2009/2010 academic year, the EM Unit aims to:

Pursue joint venture funding that will assist in the acquisition of a new scanning electron microscope;

Continue its involvement in teaching and research;

Continue its core function of assistance to researchers and exposing interest groups to the benefits and techniques of electron microscopy.