

Langerhans Lab Major Equipment Inventory

NC STATE UNIVERSITY

Category	Item	Information
Compact Cameras	Canon D10	-waterproof, shockproof blue camera, 12 megapixel, 3x optical zoom, 35-105mm f/2.8-4.9 lens, decent amount of control; purchased 2009 - Decent easy-to-use all-weather field camera, decent underwater camera (be careful to fully close the compartments now as it has shorted out before), ok video quality
	Canon G12 (& underwater case)	- 10 megapixel, lots of control, RAW images, HD video, converter for adding lenses and filters, 28-140mm f/2.8-4.5 lens; purchased 2011 - Good field camera with nice manual control features, can photo well for color and morphology in field; just short of SLR quality and control; pretty decent video quality
dSLR Cameras	Canon Rebel XTi	- 10 megapixel; purchased 2008 - 2 nd morphometrics station; pretty good, uses Compact Flash memory
	Canon Rebel XS	- 10 megapixel, live view; purchased 2010 - Primary morphometrics station; good all-around SLR, HD video
	Canon Rebel T3i (& underwater case)	- 18 megapixel; purchased 2011 - field use and morphometrics station as needed; nice all-around SLR, HD video
SLR Lenses	2 Sigma 50mm macro f2.8 lenses	- photographing small specimens
	2 Kenko teleconverter 1.5x lenses	- 50% greater magnification for photographing small specimens
	1 Canon 50mm macro f2.5 lens	- photographing small specimens (not quite as good as Sigma lenses), macro lens for HSV
	1 Sigma 17-70mm f2.8-4 macro lens	- field/everyday use, lab HSV use for versatile needs
	1 Tamron 75-300mm f4-5.6 macro lens	- field zoom lens
	1 Canon 18-55mm f3.5-5.6	- field/everyday use, use with T3i underwater case

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Video Cameras	GoPro Hero HD video camera (& many accessories)	- Field, underwater, action use; usually stored at Yates Mill - underwater case, tripod mount, battery bacpac, headgear, extra batteries
	2 Sony Handycam DCR-SR68 camcorders	- 80GB internal memory, 60x optical zoom, SD memory card capability - mate-choice and behavioral experiments (decent quality); at Yates Mill
	2 EverFocus EQ550 low-light security cameras (w/ 1/3" 6-60mm varifocal auto iris lenses)	- used with AVerDiGi NV3000 PCI card for viewing video on computer - behavioral experiments in G8, dark-room use for night-time monitoring and cave fish work
Memory Cards	2GB Compact Flash	- for Canon Rebel XTi
	2GB SD	- extra available card
	2GB SD	- for Leica EZ4D microscope
	8GB SDHC	- for Canon Rebel XS
	8GB SDHC	- for Canon D10
	16GB SDHC (Class 10)	- for Canon Rebel T3i
	32GB SDHC	- for Canon G12
32GB SDHC (Class 10)	- for GoPro Hero	
High-Speed Video Cameras	IDT N4-S1 camera w/ 1.25GB memory	- 1016 x 1016 resolution, 3.5 sec at 500Hz, up to 2000Hz, Ethernet connection, 6000 ISO
Tripods	2 standard Kodak black tripods	- portable with carrying case, good for field use
	1 standard silver Vivitar tripod	- portable with carrying case, good for field use
	1 good semi-portable tripod (Davis & Sanford Attaras Grounder Tripod)	- good for local field use (tough for long hikes or international travel)
	1 really good tripod (Manfrotto 190XDB with 701HDV)	- for HSV camera, etc.
Camera Paraphernalia	Gray camera bag	- old, falling apart now
	Black camera bag for SLR and a couple of lenses	- good
	Small black SLR camera bag	- good

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Camera Paraphernalia (cont.)	Small black camera bag for GoPro Hero	- good
	UV filter (58mm)	- fits on 50mm SLR lenses and the adapter tube for the G12
	Lens cleaning materials (sprays, cloth, Q-tips, blower brush)	- we have several sets of these, in various camera bags and in lab
	Memory card readers	
	Screen protectors	
Lighting	~7-8 fiber lights	- good, standard gooseneck fiber-optic lights
	Replacement bulbs	- be sure to use correct replacement bulbs (in lab and at Yates Mill)
	~2-4 standard flood lights	- decent lighting for really general use
	Infrared LED light strips, power supply, connectors	- good for lighting dark rooms where video cameras will be able to easily see, but fish won't really see any light
Data Storage	4GB flash drive 16GB flash drive 32 GB flash drive	- all decent; 16GB and 32GB are pretty good and fast
	Lacie 80 GB external hard drive	- small by today's standards, and not very fast; at Yates Mill
	Seagate 1 TB external hard drive	- good, fast
	West. Digital 3 TB ext. hard drive	- good, fast (manual backup for server)
	lomega 1.5 TB ext. hard drive	- good, fast (automatic backup for server)
Lap Laptop	Dell Latitude E5420 (2.3GHz, 4GB RAM, 500GB HD)	- typical uses: spectrophotometer, field HSV camera recording, behavioral experiments at Yates Mill or G6
Tools	Hammers, pliers, wrenches, screwdrivers, levels	- at Yates Mill, roller tool cabinet - some in lab
	Portable tool kit (2)	- 1 in lab, 1 at Yates Mill
	Jigsaw	- at Yates Mill, roller tool cabinet - decent for cutting acrylic/plexiglass (use clamps to hold sheets in place)
	DeWalt portable drill	- at Yates Mill, roller tool cabinet; good drill
	DeWalt mitre saw	- at Yates Mill, on top of roller tool cabinet; great for cutting pvc, wood, etc.

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Collecting Gear	Seines (~4)	- some at Forfar, some in lab
	Dip nets	- ~6 at Forfar, ~3 in lab/Yates Mill
	Cast net	- 1 in lab
	Collapsible fish traps	- ~25 at Yates Mill, ~10 at Forfar
	Metal minnow traps	- ~4 at Yates Mill
	Plastic minnow traps	- ~4 at Yates Mill
	Plankton nets	- 1 153um, 1 80um; at Yates Mill or in YSI bag
Field Meters / Water Quality	2 handheld GPS units (Garmin GPSMAP 78)	- good; at Yates Mill
	Velocity Meter (Global Water ?)	- good; at Yates Mill
	YSI 85 and hard case	- good; at Yates Mill
	YSI Pro2030 and soft case	- good; at Yates Mill
	2 Turbidimeters	- good; at Yates Mill
	2 pH meters (Hanna HI 98128)	- good; at Yates Mill
	Secchi Disk	~1-2 at Forfar; 1 at Yates Mill
Field Data Recorders	4 HOBO, reader, software	- good; in lab
	12 thermochron iButtons	- good; in lab
Field Data Collection	Notebooks	- all in lab
	Rite-in-the-Rain paper	
	Underwater paper	
	Clipboards	
Purchased Software	SigmaPlot	- all in lab software drawer or in "Programs" folder on server
	Endnote	
	Photoshop CS 5.1	
	Paintshop Pro 7	
	Quicktime Pro	
	Helicon Focus	
	HOBOWare	

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Site-licensed Software	JMP	- all available through NCSU
	SAS	
	MS Office	
Useful Free Software	Tps Suite	
	FastStone Image Viewer	
	ImageJ	
	Quicksand	
Live Fish Transport	Breather bags	- in lab
	Fish bags	- in lab
	Bag buddies	- in lab or at Yates Mill
	Coolers	- ~2-3 at Yates Mill or in lab
Experiment Materials	Plexiglass	- at Yates Mill
	80/20 materials	- at Yates Mill
Color Analysis	JAZ Spectrometer System & accessories	- at Yates Mill
	Digital photography gear:	
	Styrofoam photo box Color checkers, etc.	- at Forfar - at Yates Mill