

# Mike Medrano's DIY system for stacking images

Presented to the iDigBio InvertImaging group  
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THE UNIVERSITY *of*  
NEW MEXICO

Mike developed this system  
for imaging millipede gonopods  
(which are 1-3mm long)

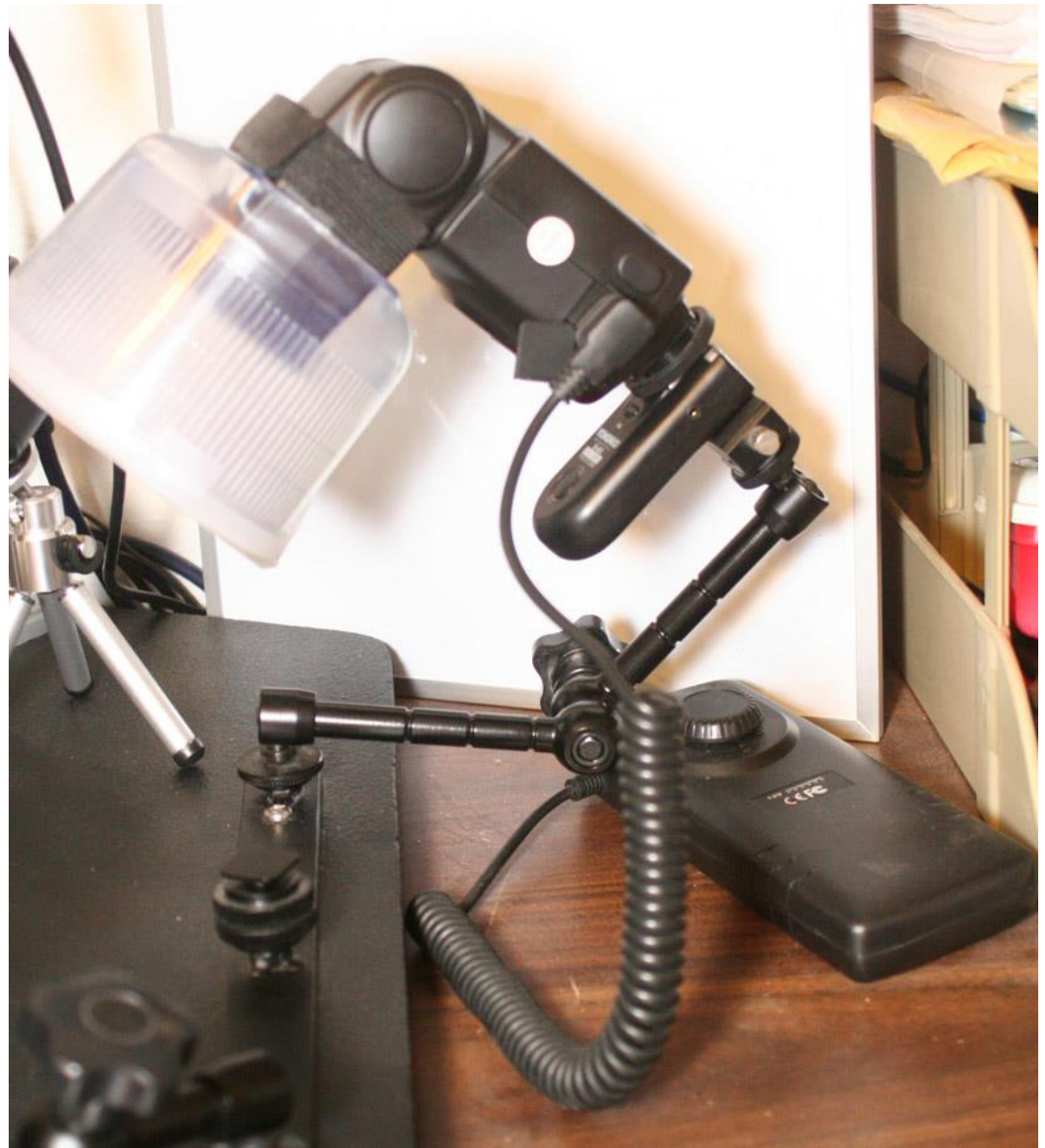
Whole system



Automatic lift



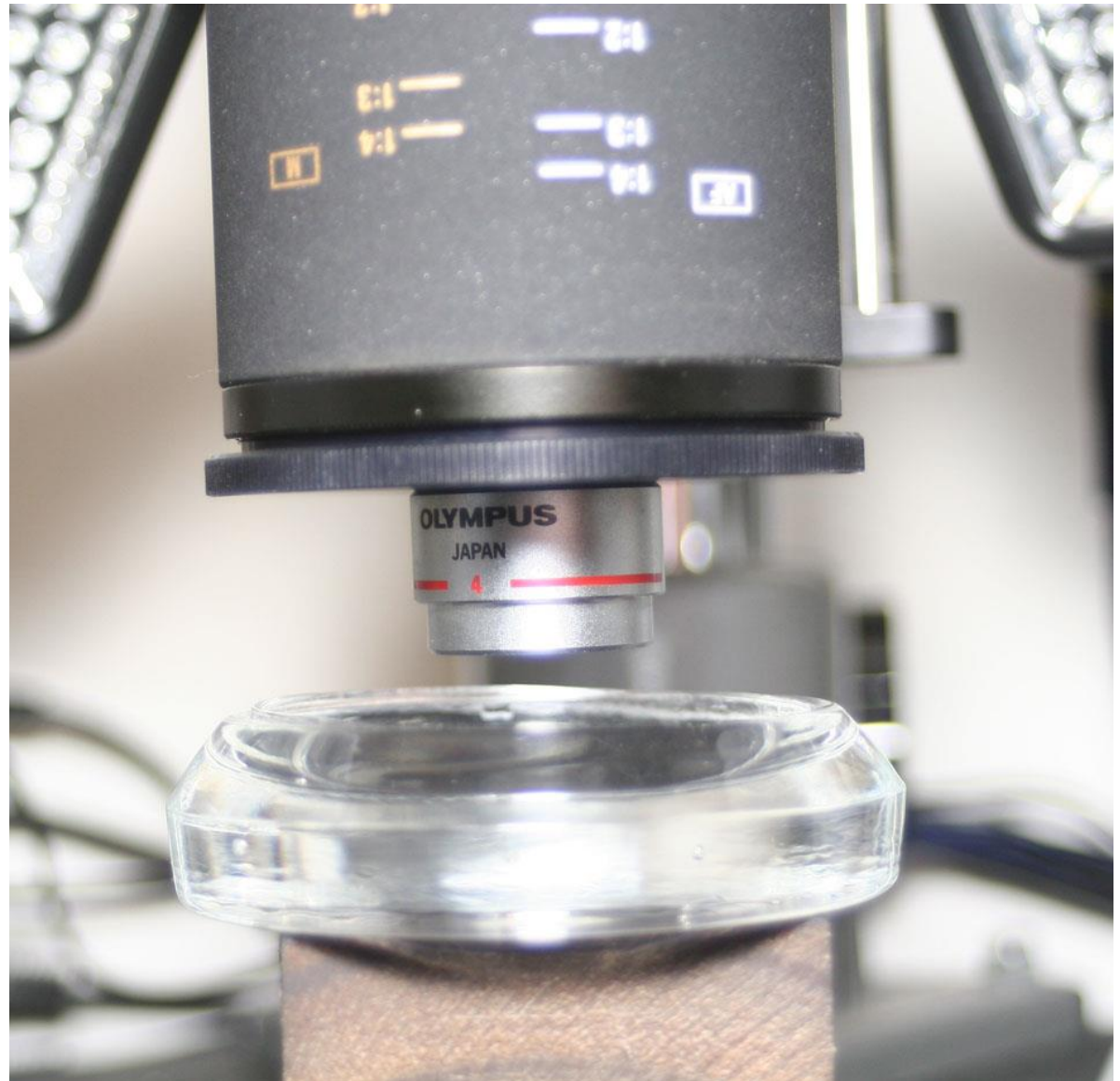
Flash with diffuser  
and battery pack



Lens



Close-up of lens



Modeling light



Stackshot with wireless controller (\$600)

Zerene Stacker software (Pro version for Stackshot control) (\$189)

Photographic copy stand (\$50 used Ebay)

3 flashes (\$40 ea. Amazon)

2 sets of 2 wireless flash transmitters  
(\$60 Amazon)

2 flash battery packs (\$40 ea. Amazon)

3 Dome flash diffusers (\$25 ea. Amazon)

48 AA rechargeable batteries  
(\$72 Harbor Freight)

2 AA battery chargers (an 8 bay and a 16 bay,  
\$19 & \$54, respectively, Amazon)

Materials used to make  
the system

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6 Photographic articulating arms  
(3-7-inch and 3-11-inch arms, \$15 & \$18  
ea., respectively, Amazon)

Canon 450D digital SLR camera  
(\$225, used Ebay)

AC battery connection for camera  
(\$15 Amazon)

105 mm Sigma macro lens (\$600)

58 mm RMS microscope objective adapter  
(\$25 Ebay)

4X microscope objective (borrowed from  
existing Olympus compound microscope)

Materials used to make  
the system

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2 Rechargeable 36 LED modeling lights  
(\$18 ea. Amazon)  
2 mini tripod stands for modeling lights  
(\$7 ea. Walmart)  
4 Wood blocks (\$0.50 ea. Hobby Lobby)

Materials used to make  
the system

Miscellaneous  
2 USB cables, 1 USB Hub w/15ft cable

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Surge protector

Several hotshoe adapters and screws for  
mounting flashes

Cases for AA batteries

Glass dish for floating specimens

Custom made items:  
Mount for Stackshot to copy stand

Rails on copy stand to attach arms for flashes,  
modeling lights and wireless controller

Total: \$2,335.00 not including custom made,  
miscellaneous items or borrowed items

Materials used to make  
the system

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