pin066 1

# Digitisation Workflows, Tools and Techniques - Whole-drawer imaging

**Biological Collections Digitisation in the Pacific , Symposium IV:** March 2014

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AUSTRALIAN NATIONAL INSECT COLLECTION
WWW.CSIRO.AU

## Slide 1

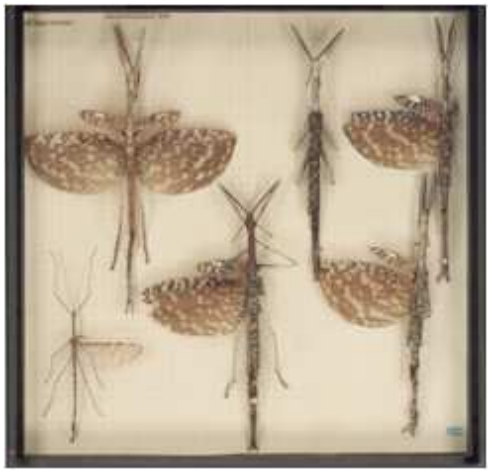
**pin066 1** Pinzon Navarro, Sara (CES, Black Mountain), 3/25/2014

# Section 1:

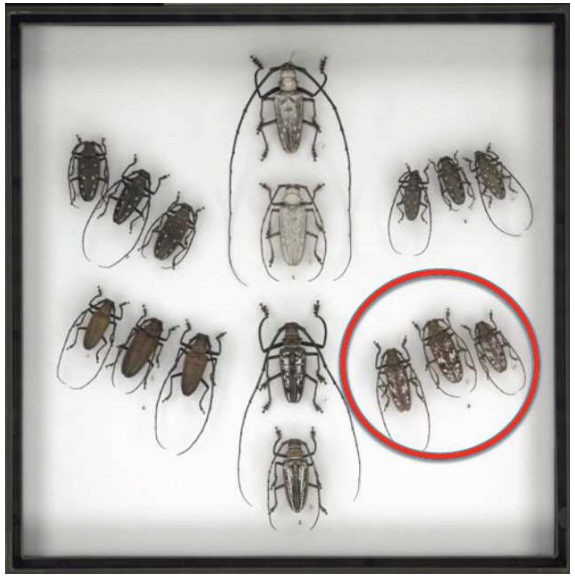
## *Introduction*

# Examples -- Insects, pinned and slide material
# -- non-insects

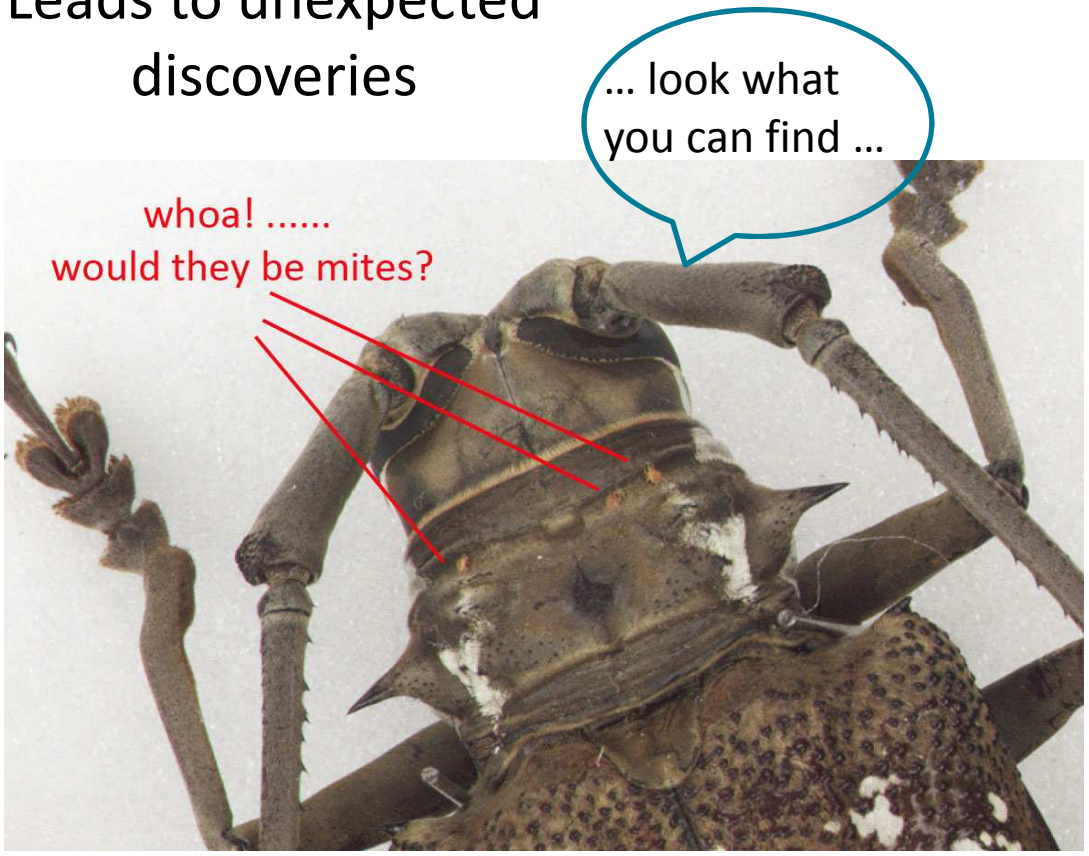





# Whole drawer imaging = High resolution images



Leads to unexpected discoveries



## Whole drawer imaging = contains a wealth of information

- Drawer imaging is a fast way to expose a collection's entire holdings

How to go about scanning 20,000 drawers in ANIC ?

✓ Recruit volunteers / students
✓Gather a pool of them with the right abilities

## We couldn't do it without ..

Our Volunteers ...

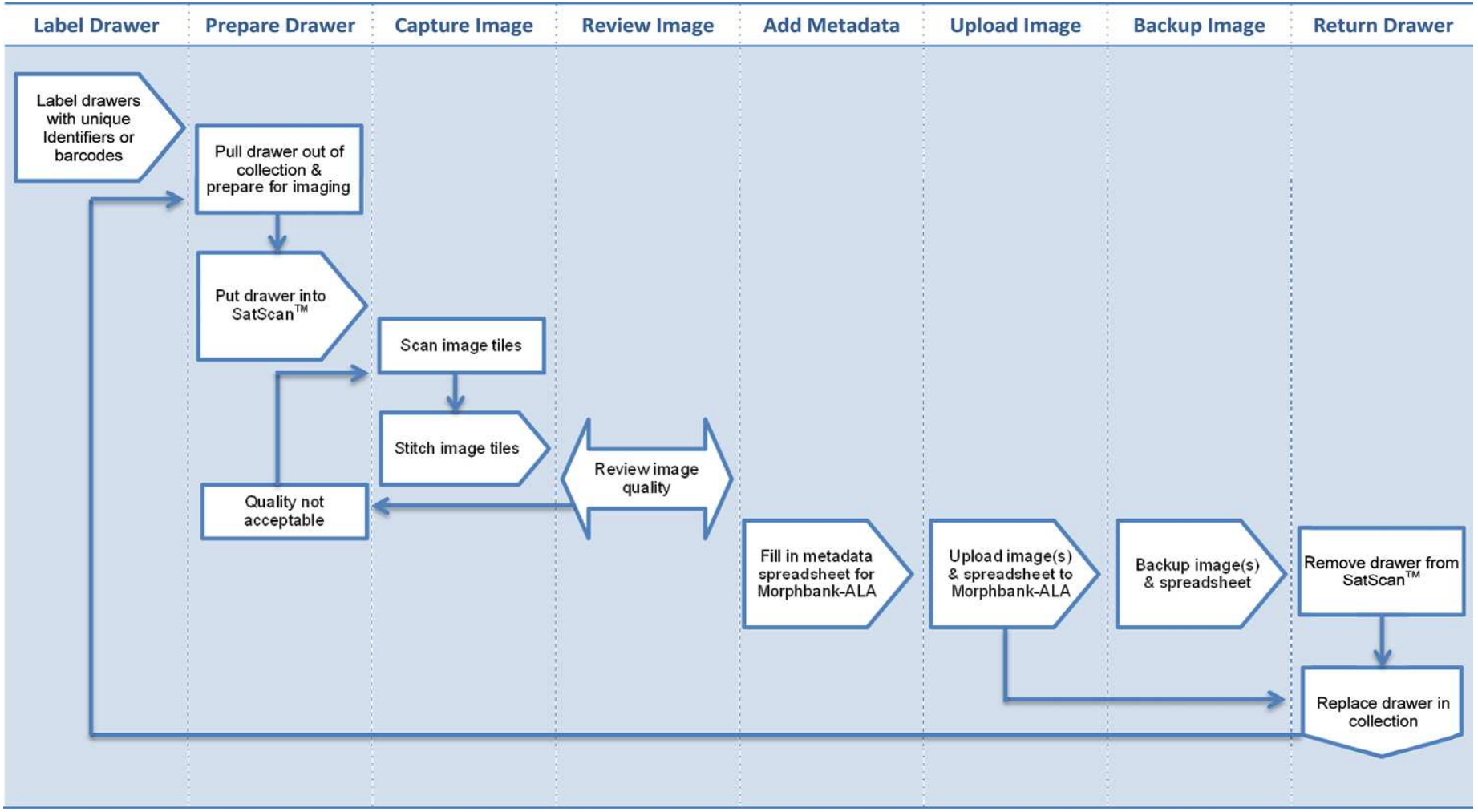
Our Students ...

Our Hero's!

# Section 2:

## *Whole-drawer imaging Workflow*

# Developing workflows



# Pinned Things in Trays and Drawers Working Group - Dried Insects

https://www.idigbio.org/content/workflow-modules-and-task-lists

**Pinned Things in Trays and Drawers Working Group - Dried Insects**

- Module 0 Generic Tasks Applicable to Two or More Modules
- Module 1 Pre-digitization Curation Tasks
- Module 2A Specimen Imaging Tasks
- Module 2B Whole-drawer Imaging Tasks
- Module 2C Label Imaging Tasks
- Module 3 Image Processing Tasks
- Module 4A Data Capture From Image Tasks
- Module 4B Data Capture From Specimen Tasks
- Module 4C Event Data Capture Tasks
- Module 5 Quality Assurance Tasks

Module 2B: Whole-drawer Imaging

# Section 3:

## *Whole-drawer imaging Tools*

- Whole-drawer imaging is an effective **tool** for rapid digitisation of a insect collection.

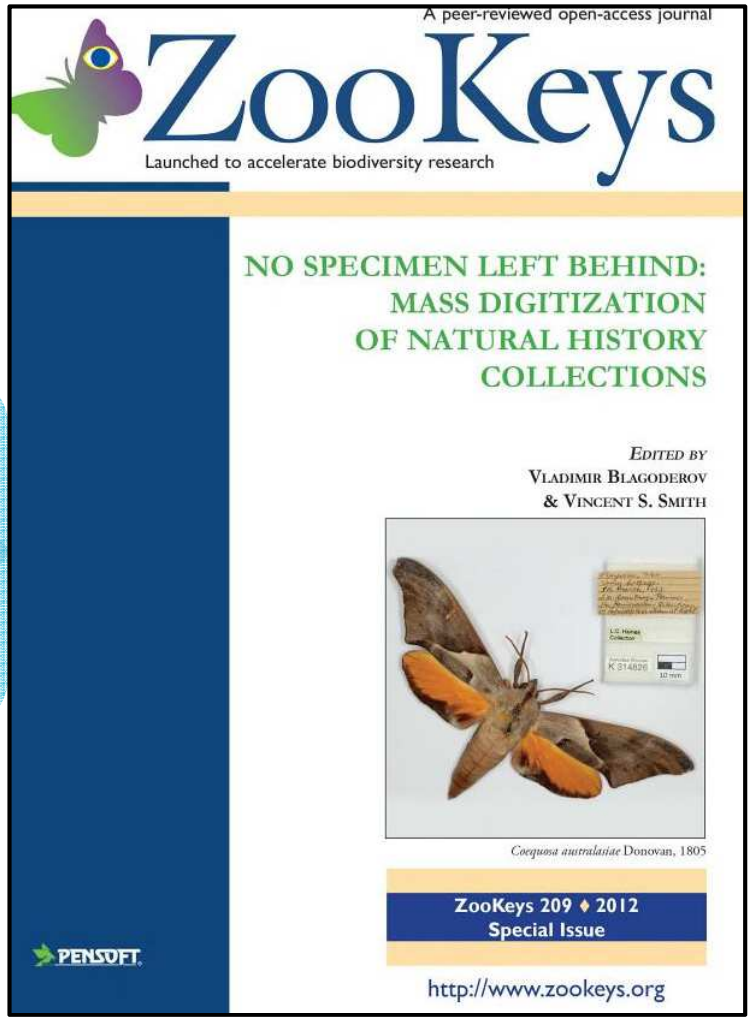
- On-line, Whole-drawer images as a **tool** can facilitate more effective -
  - Collection Management
  - virtual curation and
  - public engagement

- Still more development of software / **tools** are needed for whole drawer imaging eg. annotations of drawers specimens, 3D or angled imaging for capture of label data, OCR for data capture etc

Different whole drawer imaging tools, see :

- Special edition of Zookeys, 2012 – **No specimen left behind: mass digitization of natural history collections**

doi: 10.3897/zookeys.209.3699



*Section 3 : Whole-drawer imaging Tools*


**Workshop content and discussion topics will include but not be limited to:**

**17) the establishment of international working and interest groups for sustainable sharing of digitization practices and discoveries across nations**

# International Whole-drawer Digitisation Interest Group

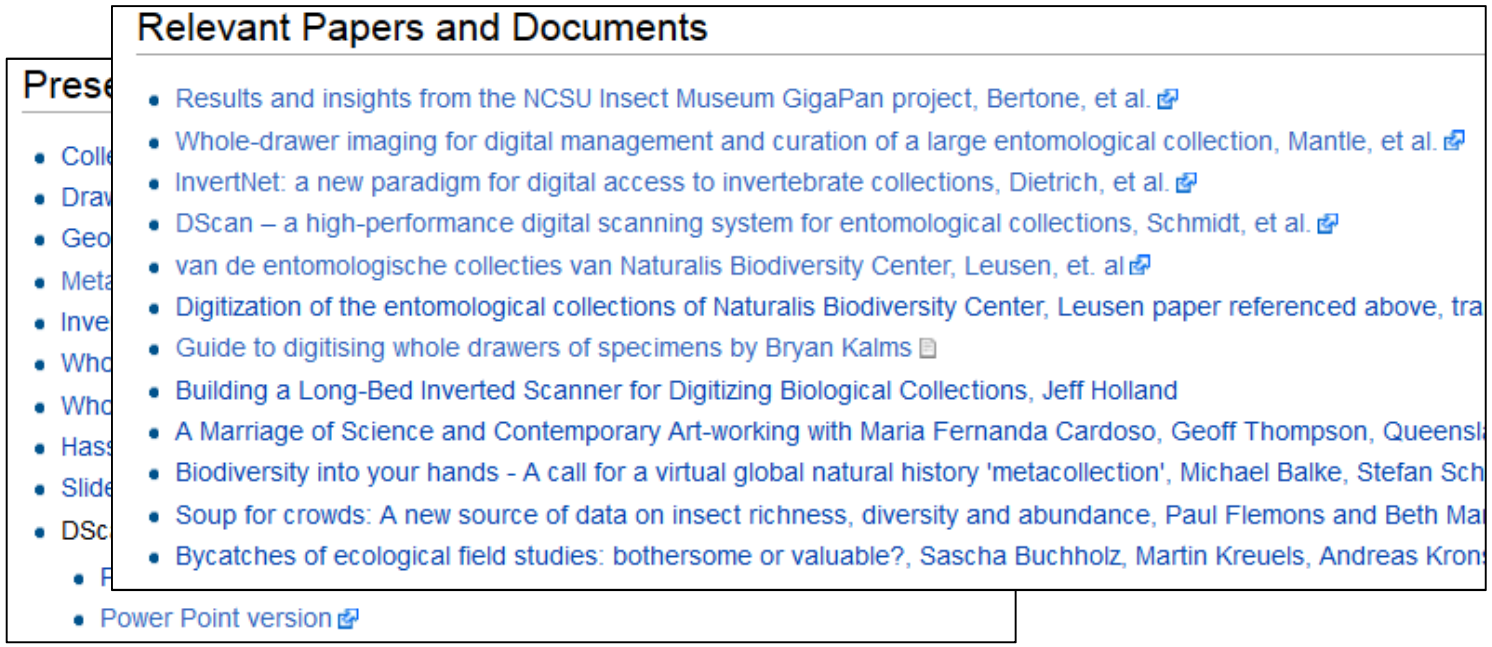
https://www.idigbio.org/wiki/index.php/Drawer_Imaging_Group

## Presentations (PDFs and links)

- Collections Digitization at Naturalis Biodiversity Center, Joost van Leusen
- Drawer Registration Project, Naturalis Bioidiversity Center, Joost van Leusen
- Geologystreet, Naturalis Biodiversity Center, Joost van Leusen
- MetaData Creator software, Vlad Blagoderov (Vimeo)
- InvertNet Robotic Whole-drawer imaging project, Chris Dietrich & David Raila
- Whole-drawer digitization in paleontology collections, Ann Molineux
- Whole-drawer digitisation at Australian National Insect Collection, Nicole Fisher
- Hasselblad H4D-200MS Drawer Imaging, Geoff Thompson, Queensland Museum
- Slide imaging at Naturalis Biodiversity Center, Joost van Leusen
- DScan, Stefan Schmidt
  - PDF version
  - Power Point version

# International Whole-drawer Digitisation Interest Group

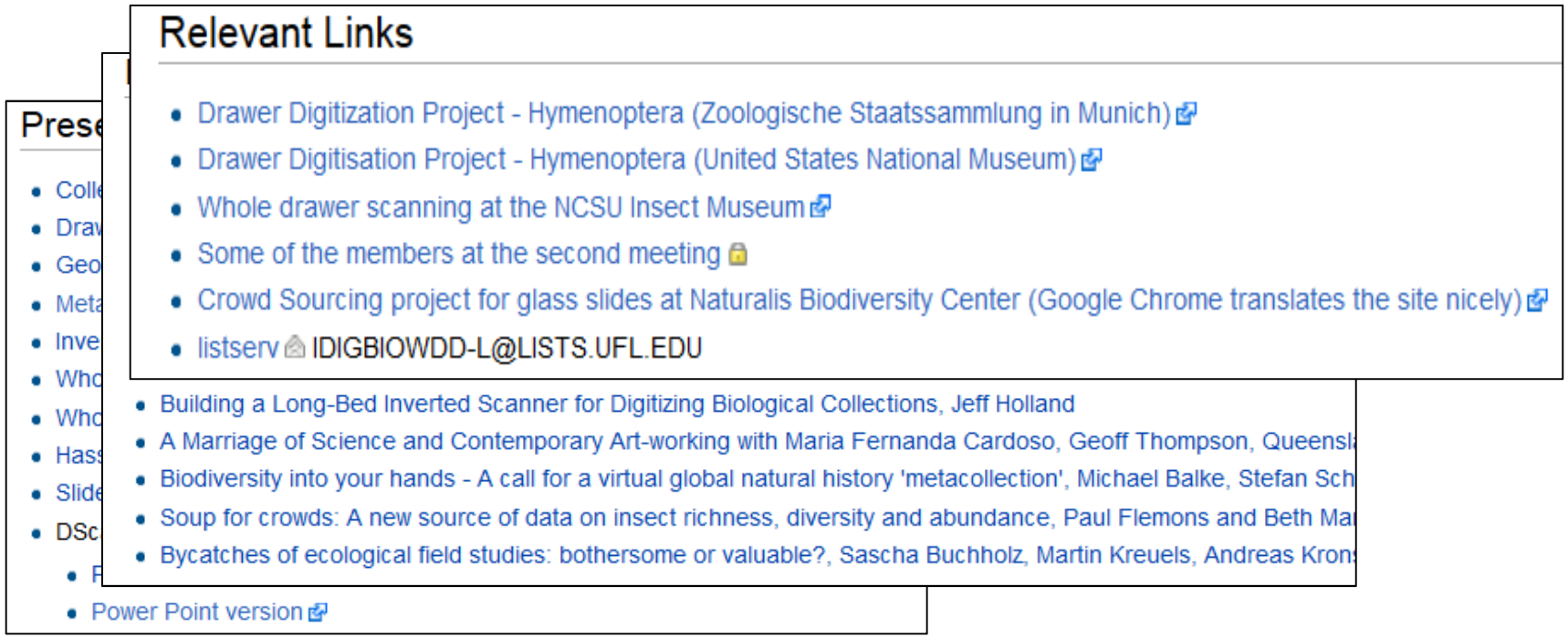
https://www.idigbio.org/wiki/index.php/Drawer_Imaging_Group



# International Whole-drawer Digitisation Interest Group

iDigBio
Integrated Digitized Biocollections

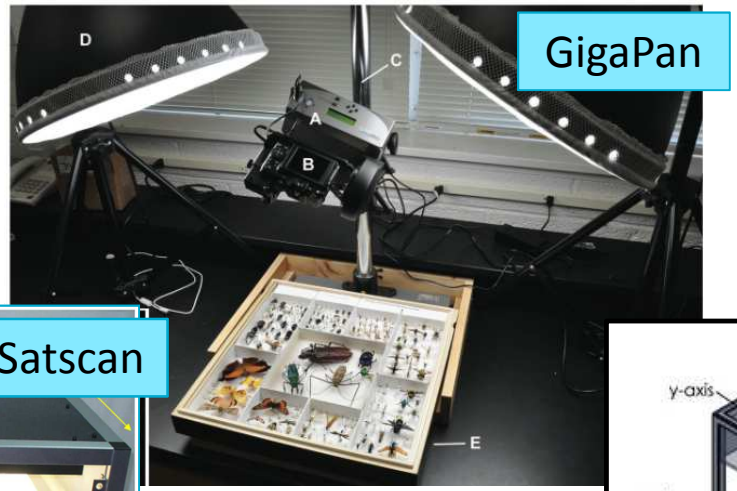
https://www.idigbio.org/wiki/index.php/Drawer_Imaging_Group

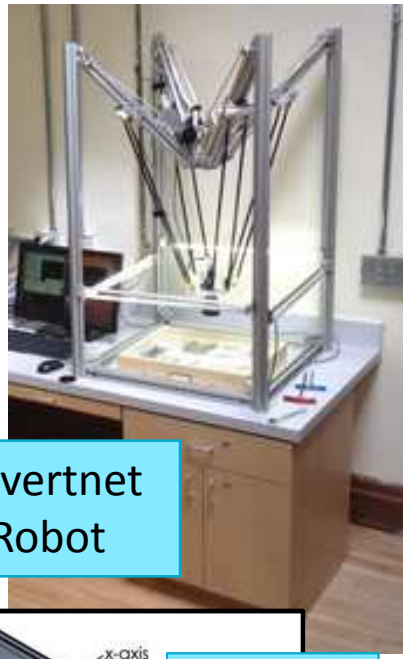


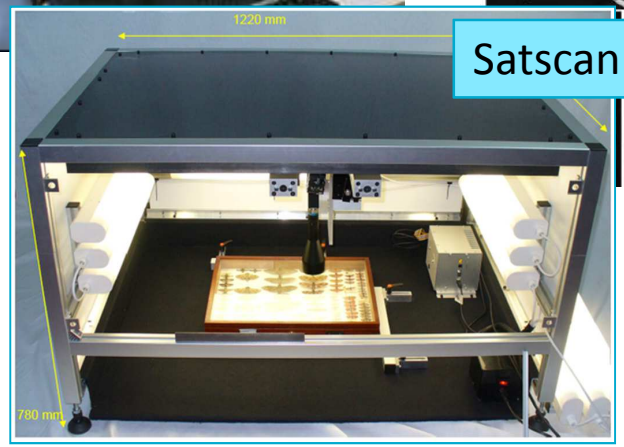
## *Section 3 : Whole-drawer imaging Tools*

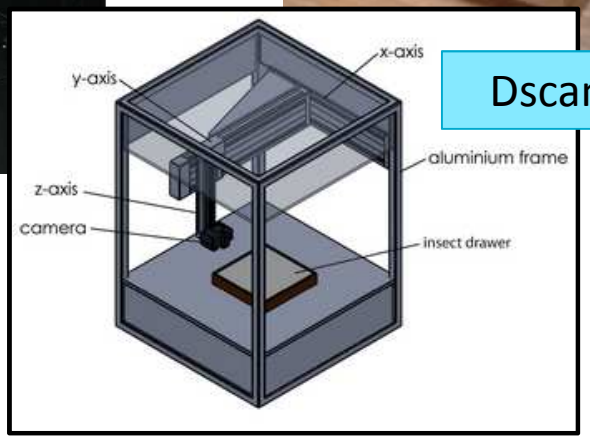
Various machines / systems used globally to capture images -

- Satscan, GigaPan, Dscan, Hasselblad, Invertnet Robot

# Section 4:

## *Whole-drawer imaging Techniques*

## *Section 4 : Whole-drawer imaging Techniques*

# Can use Whole-Drawer Imaging techniques to :

- ✓ See, extract and record label data (as used in the BVP)
- ✓ Promote and encourage remote curation of unsorted specimens
- ✓ Use current technology to put more order into the collections and make it available for others
- ✓ Assist with image and loan requests
- ✓ Encourage public engagement with biological collections
- ✓ Expose soups, bycatch and bulk sample collections (re: Flemons)
- ✓ Permit morphometric analysis of at least some specimens (Johnson,L . et al, 2013)
- ✓ Creating virtual collections

# Mahalo

## Thank you

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