2D Imaging for Paleontology
Collection Objects

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Why Continue 2D Imaging?

2D imaging is the traditional method of visually conveying information about an object.

Legacy Data…
Imaging 2D and 3D Specimens
Existing Infrastructure
  Publications
  Web
  No special software needed
Low Cost
Rapid Deployment
Evolution of 2D Images

From simple line drawings...

Hitchcock 1854
To more technical line drawings...
To film photography...
To digital and...

SEM images...
2D Imaging has been the mainstay of Paleontology.
Some objects are only suited for 2D imaging...
With the onset of digital imaging in the later 1990’s, a clear path was formed as increases in resolution, speed, and quality occurred.
Today's digital SLR’s offer speed and efficiency at low to moderate cost. When coupled with quality lenses, they offer cost effective digital imaging for small to medium sized collections.
This allows for the replication of specimens

Images from the literature...

FIGURES 1-13. Kazlowskia (Megakoziowskia) velata Amsden, n. sp. 1. posterior view of a pedicle valve showing palintrope and "deltidium", x 3; (collected by R. D. Alexander, Haragan formation near old Hunton townsite; T. W. Amsden locality CL-H to O1 (OU-1052); 2. enlarged surface view, x 3; Coll. M1-K (OU-1049); 3. posterior view of a pedicle valve showing palintrope and "deltidium", x 3; same collection as fig. 1 (OU-1053); 4, 10, 11, brachial, anterior and lateral views of the holotype, x 1; Coll. M2-M (OU-1045); 5. pedicle view, x 1; Coll. M2-M (OU-1046); 6. pedicle interior, x 2; Coll. M1-H (OU-1047); 7. brachial view, x 2; Coll. M1-J (OU-1046); 8. pedicle view, x 1; Coll. M2-M (OU-1050); 9. posterior view, x 1; M2-J (OU-1051); 12. pedicle interior, x 1; Coll. P9-K (OU-1054); 13. brachial interior, x 1; Coll. P9-K (OU-1054).

See Plate XII-F for a comparison with the Henryhouse species, Delthyris kazlowskii.

FIGURES 14-26. Howelletella cycloptera (Hall): 14, 15, 17, 27. posterior, brachial, pedicle, and anterior views, x 1; Coll. P2-A (OU-1094); 16, 18, 26. anterior, brachial and lateral views, x 1; Coll. CI-M (OU-1096); 19, 22. pedicle view x 3; and enlarged surface view (x 3); Coll. P9-P (Bois d'Arc formation—Gryatt.)
Enabling the image capture of large numbers of specimens in a relatively short amount of time.
Digital imaging also makes it less painful to add standard views to previously published specimens, potentially increasing the research value of those specimens.
Recent software and hardware advances in “stacking” images has further revolutionized digital imaging.
Artificially increasing the depth-of-field to otherwise unachievable levels, rivaling SEM images.
At the SNOMNH, we are using stacked images for all type and previously figured specimens, and images for all new research specimens are stacked.
Even those from Vertebrate Paleontology...
Including stereo pairs.
One additional option is now being realized with stacked images of fossils...
Art! (through exhibits, 70x48 inch images) Opening July 4, 2014