

# 2D Image Processing Software

Andrew Williston

Museum of Comparative Zoology

Ichthyology Collection

# GLAMOUR

Январь 2016

www.glamour.ru

**50**  
САМЫХ  
СТИЛЬНЫХ  
ДЕВУШЕК

**60**  
ПОДАРКОВ ВСЕМ  
ПО КАРМАНУ

**95**  
БЬЮТИ-ХИТОВ

**МАСТЕР  
СПОРТА ПО  
ШАШНЯМ**  
Почему  
он изменяет

Анжелина  
**ДЖОЛИ**  
и Брэд Питт

*снова вместе*

**ГОРОСКОП  
2016**

Сказка про  
двенадцать  
месяцев

**ОСТАЮТСЯ  
ЗИМОВАТЬ**

- \* Карли Клосс
- \* Евгений Цыганов
- \* Юлия Снигирь
- \* Скарлетт Йоханссон
- \* Рената Литвинова
- \* Ирина Шейк

**УЧИМСЯ  
НА  
ВЕЧЕРНЕМ**

БЛЕСТЯЩИЕ  
ПЛАТЬЯ,  
ТУФЛИ, ЛАКИ  
И УКРАШЕНИЯ

# Goals

Quality

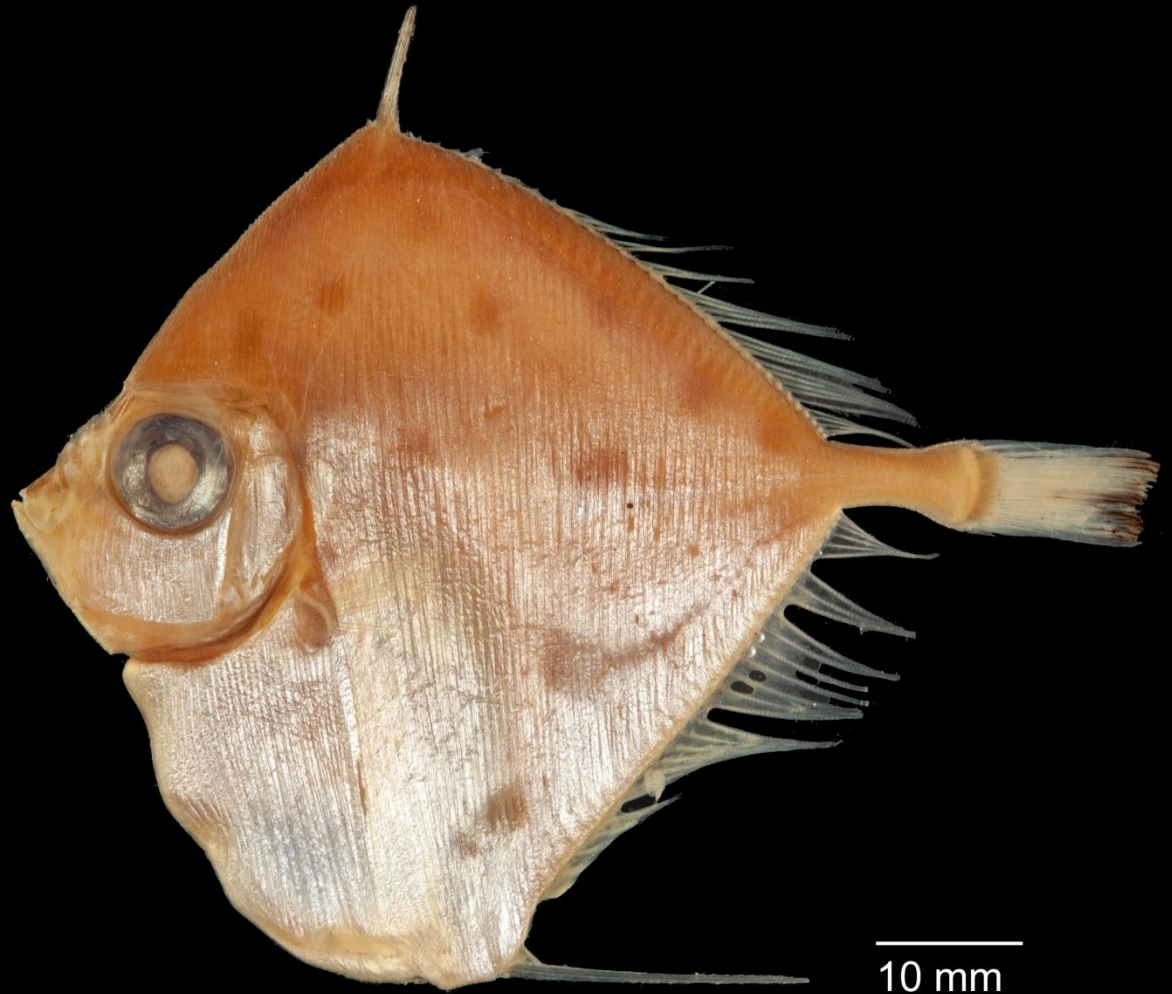


10 mm

# Goals

Quality

Archival

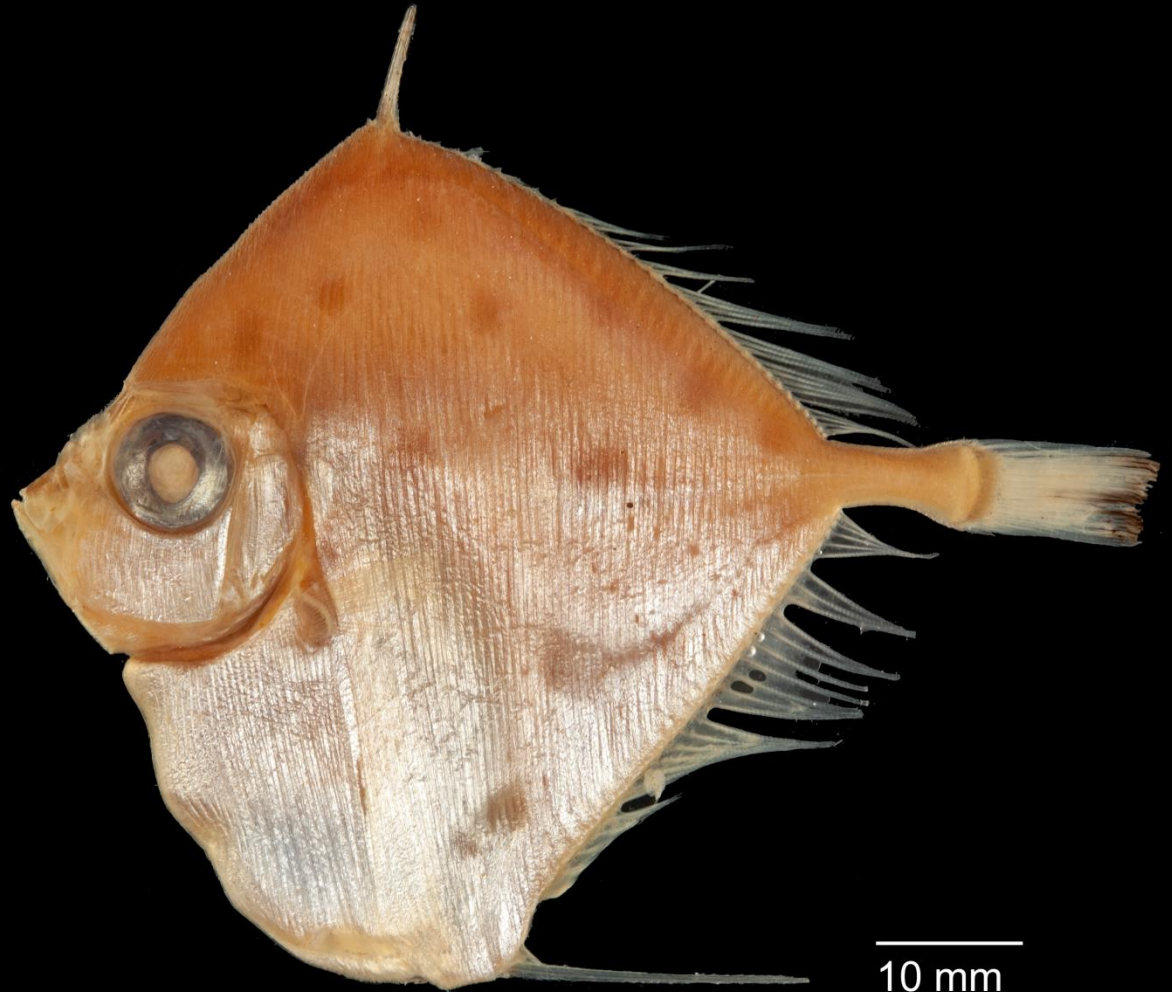


# Goals

Quality

Archival

Attractive



# Goals

Quality

Archival

Attractive



**Quality**

**Quality**

**IMAGE CAPTURE SOFTWARE**



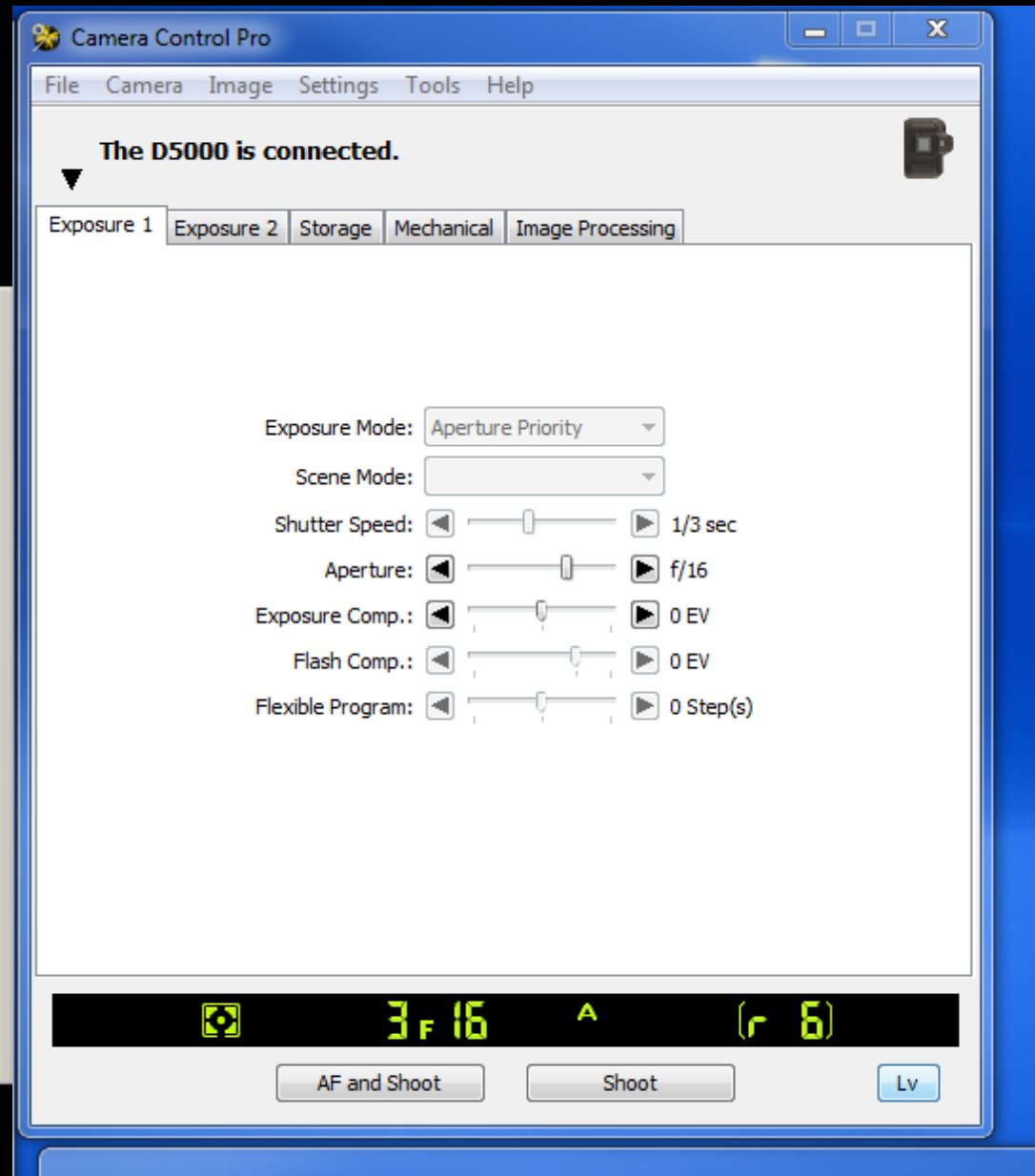
# Quality

- tethering



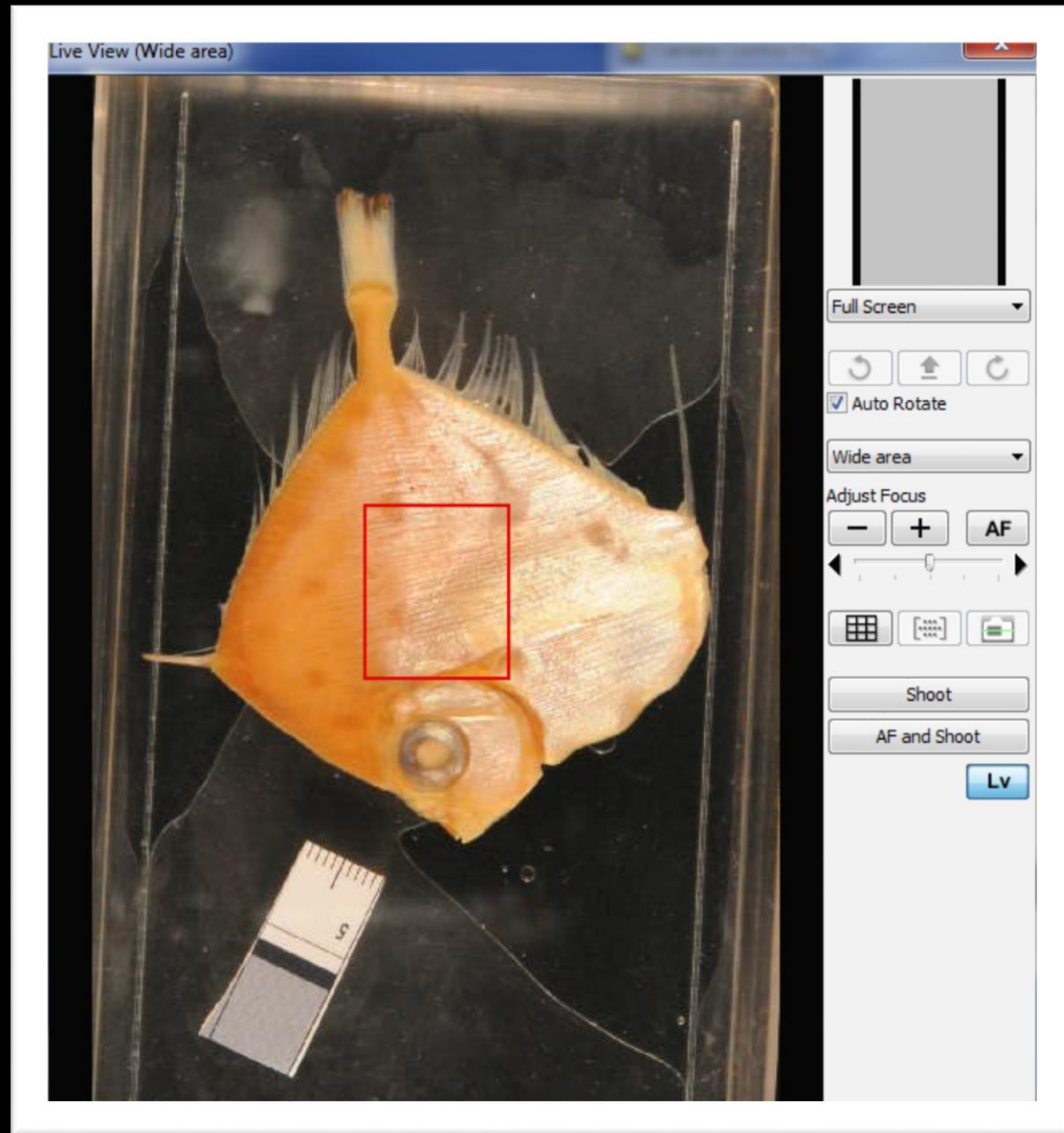
# Quality

- tethering



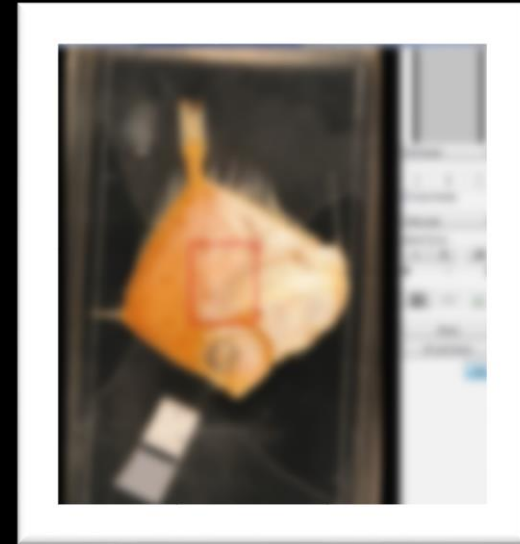
# Quality

- tethering



# Quality

- tethering



# IMAGE PROCESSING



2016-03-21\_1.NEF

# Quality

- review



2016-03-21\_1.NEF

# Quality

- review



2016-03-21\_1.NEF



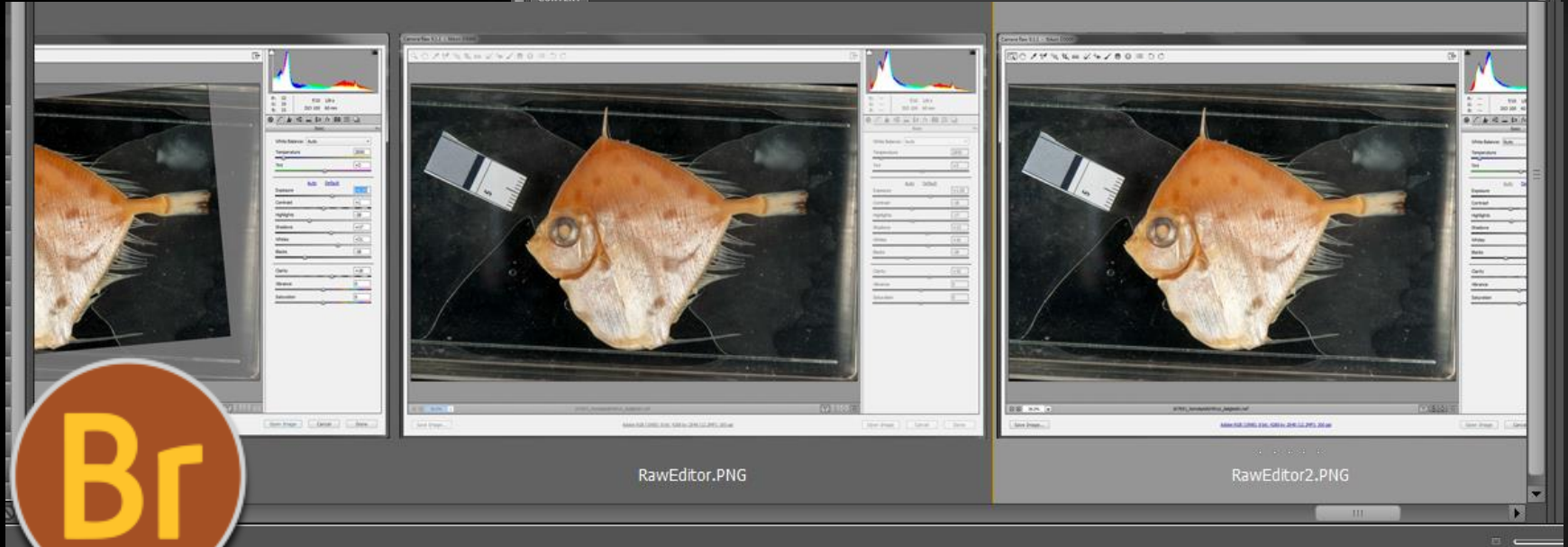
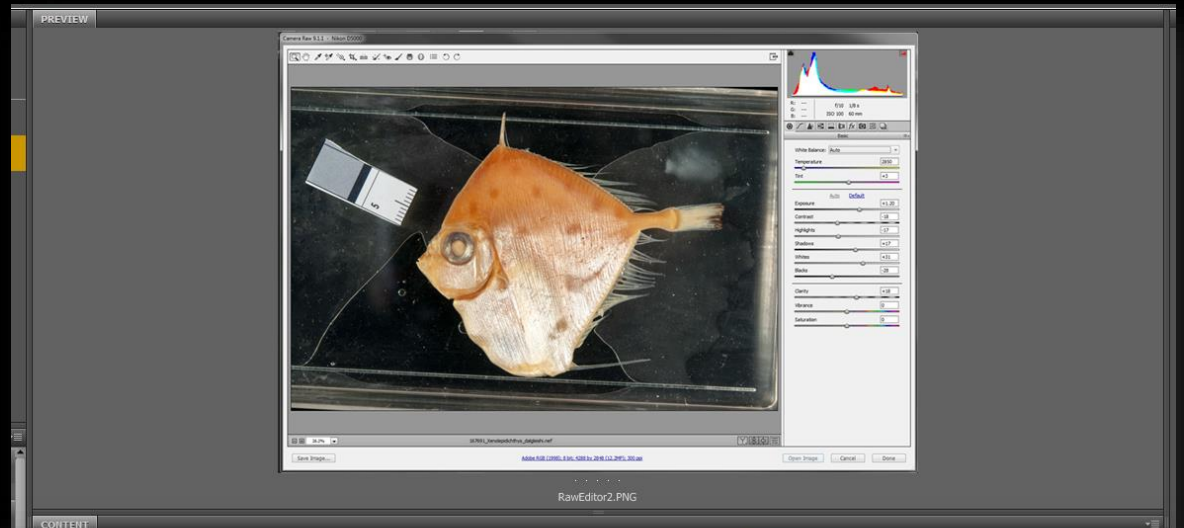
2016-03-21\_2.NEF



2016-03-21\_3.NEF

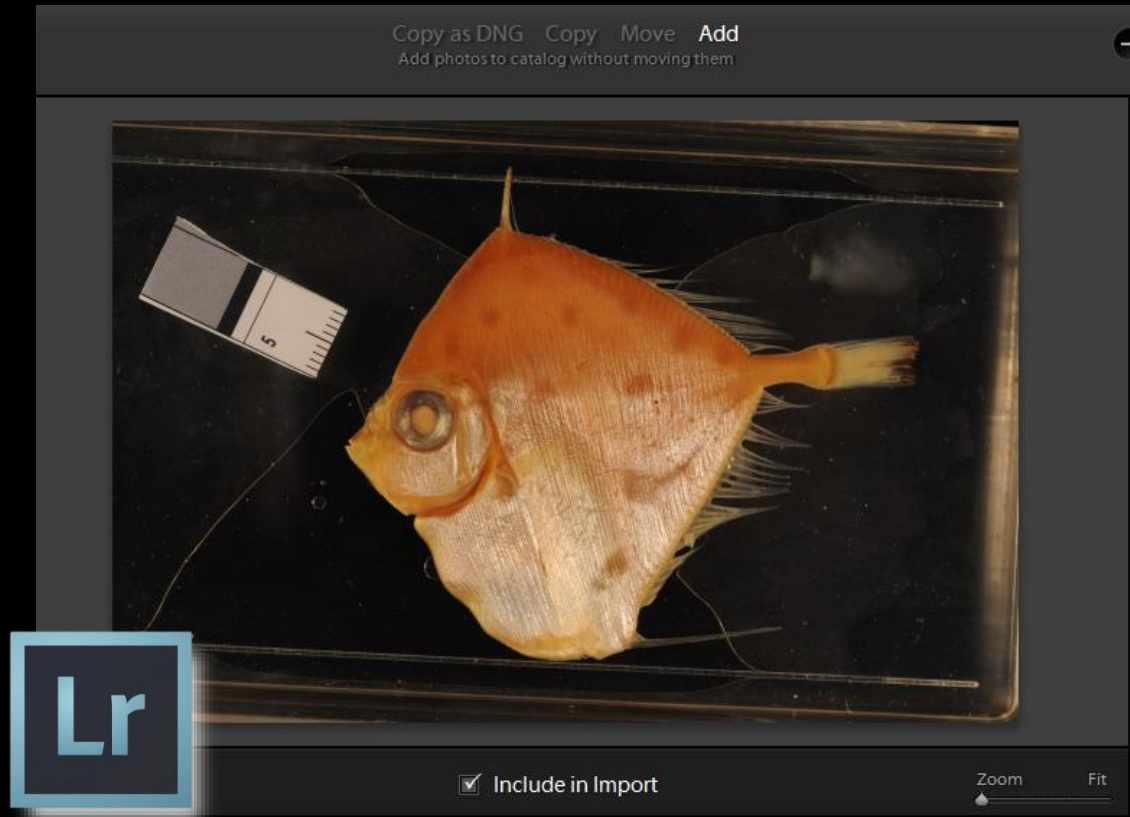


# Quality •review



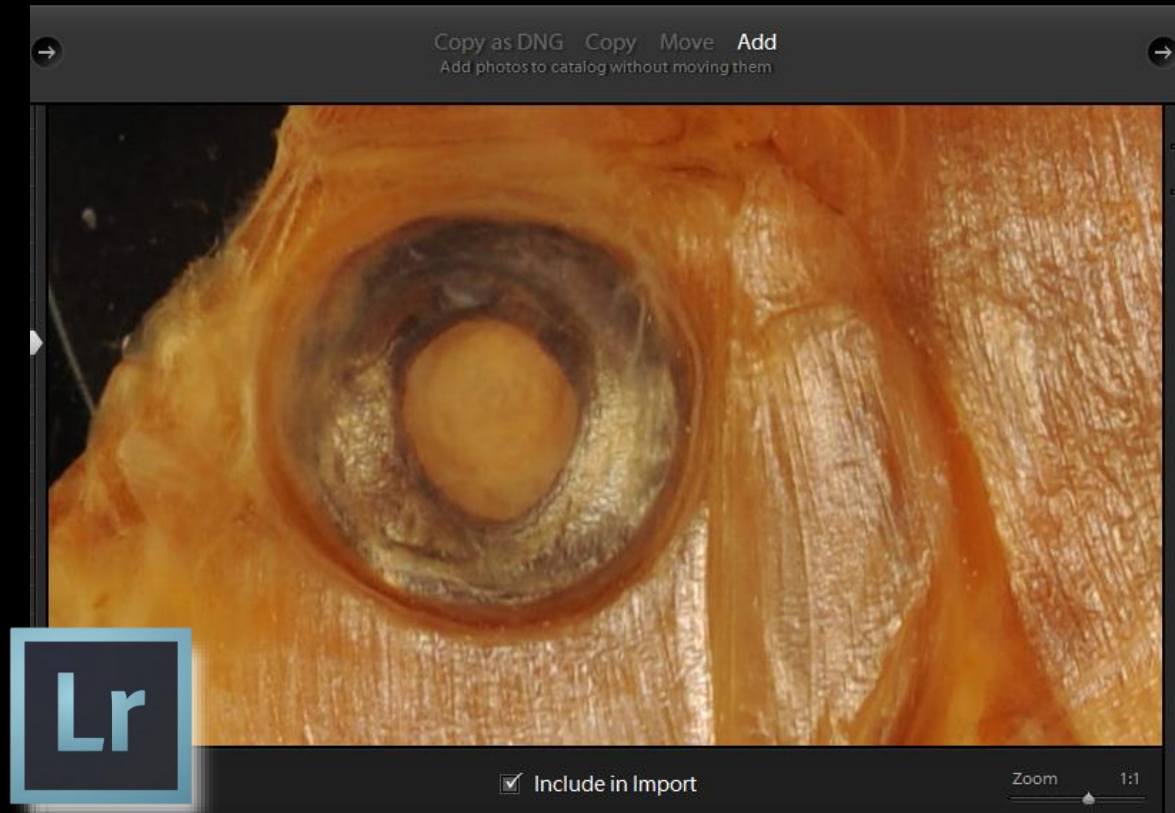
# Quality

•review



# Quality

- review



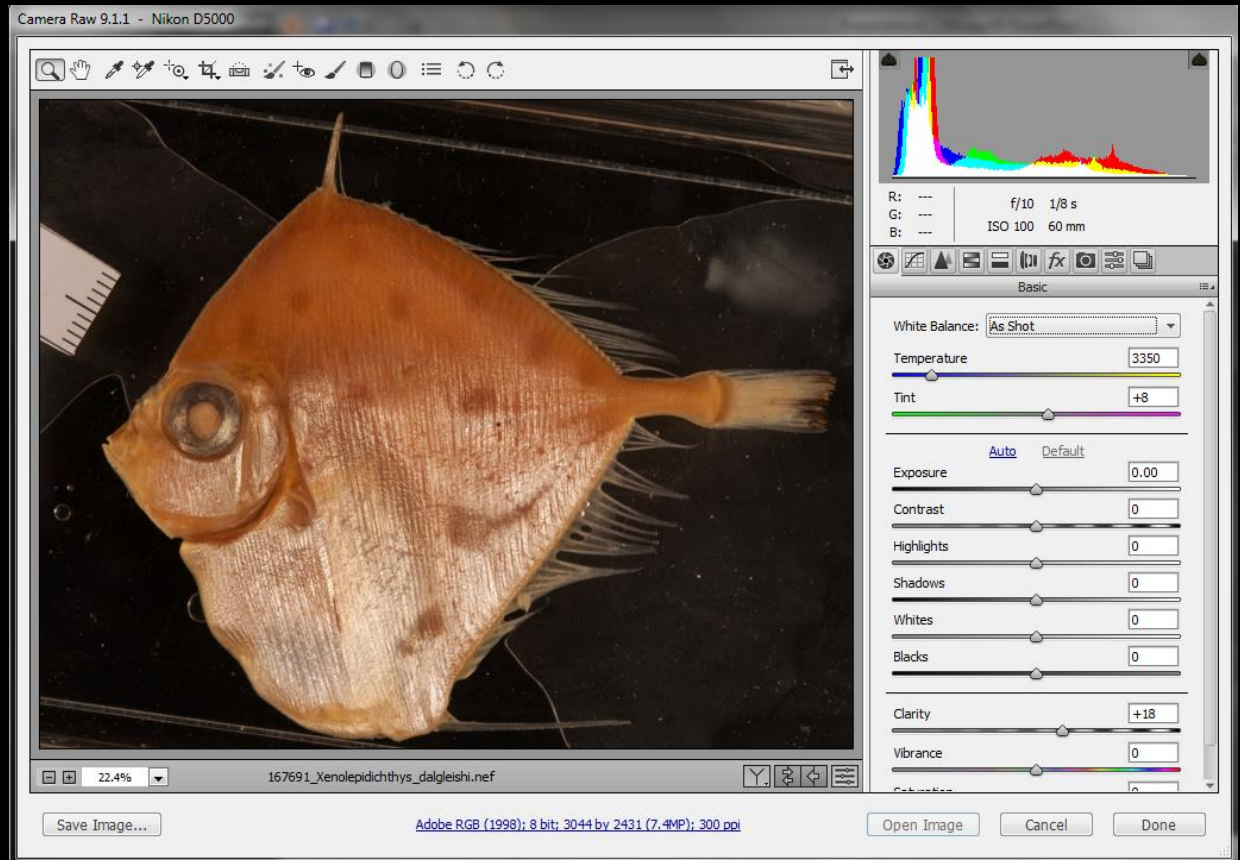
# Quality

•review



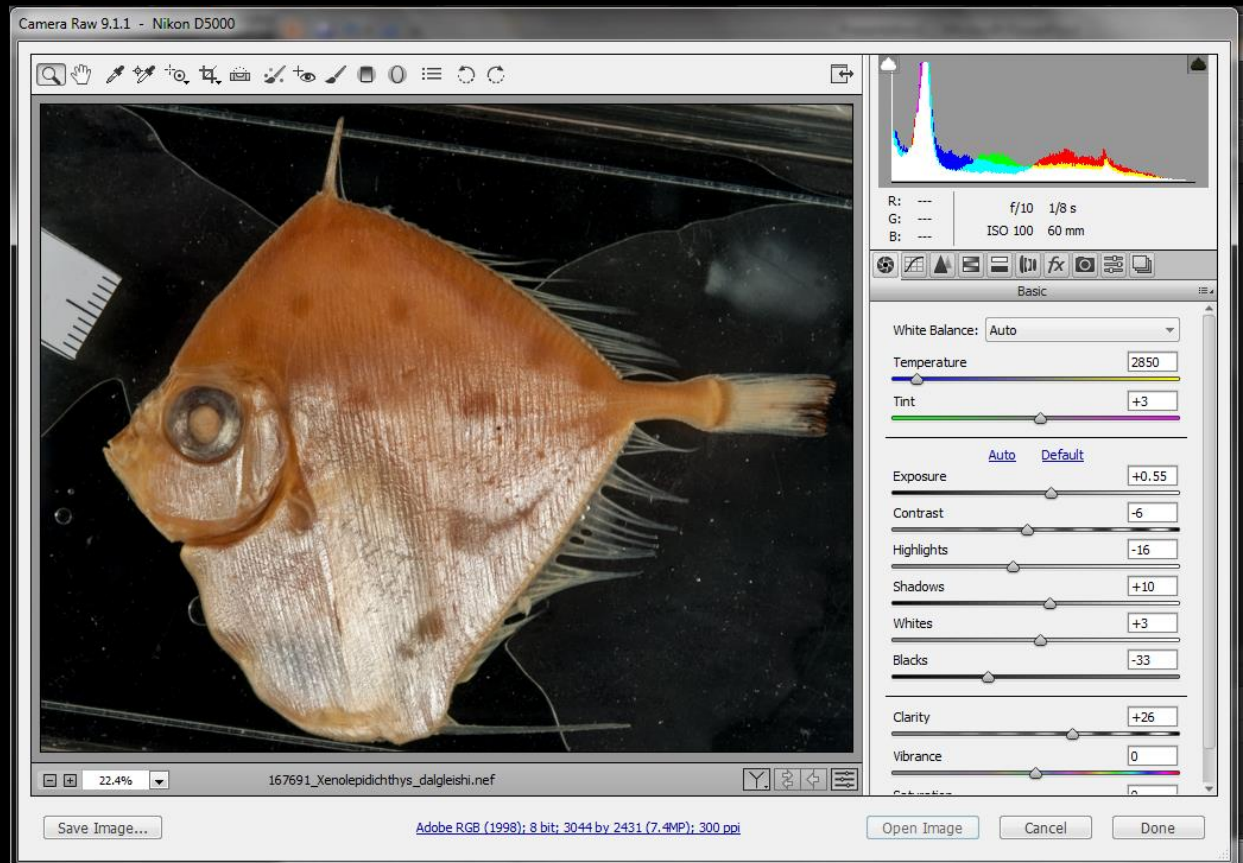
# Quality

- review
- correction/  
enhancement



# Quality

- review
- correction/  
enhancement





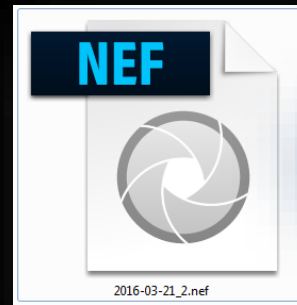
2016-03-21\_1.NEF

# Quality

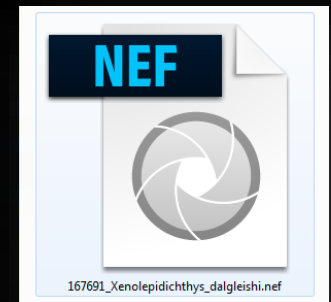
- review
- correction/  
Enhancement

# Archival

- file name



2016-03-21\_2.nef



MCZ167691\_Xe  
nolepidichthys\_  
dalgleishi.nef



# Quality

- review
- correction/  
Enhancement

# Archival

- file name
- conversion

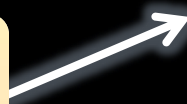


# Quality

- review
- correction/  
Enhancement

# Archival

- file name
- conversion



Archival Raw (.dng)



# Quality

- review
- correction/  
Enhancement

# Archival

- file name
- conversion



Archival Raw (.dng)



Derivative (.tiff)

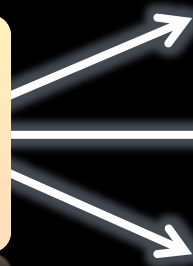


# Quality

- review
- correction/  
Enhancement

# Archival

- file name
- conversion



Archival Raw (.dng)



Derivative (.tiff)



Derivative (.jpeg)

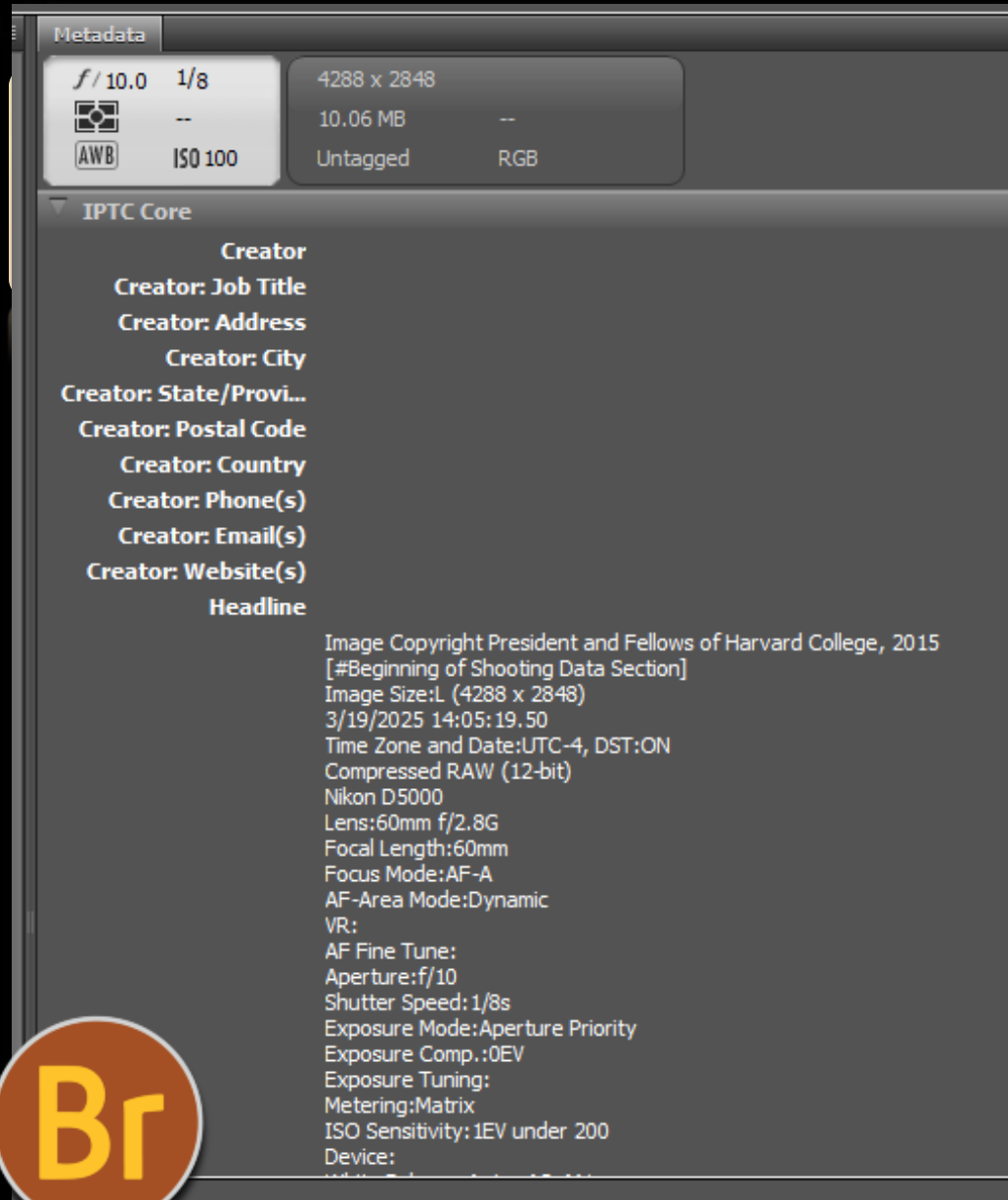


# Quality

- review
- correction/  
Enhancement

# Archival

- file name
- conversion
- metadata



The screenshot shows a metadata viewer window with a 'Metadata' tab. At the top, technical camera settings are displayed in a grid: f/10.0, 1/8, 4288 x 2848, 10.06 MB, --, AWB, ISO 100, Untagged, and RGB. Below this is the 'IPTC Core' section, which lists various fields. The 'Creator' field is expanded to show sub-fields: Job Title, Address, City, State/Province, Postal Code, Country, Phone(s), Email(s), and Website(s). The 'Headline' field contains the following text: 'Image Copyright President and Fellows of Harvard College, 2015 [#Beginning of Shooting Data Section] Image Size:L (4288 x 2848) 3/19/2025 14:05:19.50 Time Zone and Date:UTC-4, DST:ON Compressed RAW (12-bit) Nikon D5000 Lens:60mm f/2.8G Focal Length:60mm Focus Mode:AF-A AF-Area Mode:Dynamic VR: AF Fine Tune: Aperture:f/10 Shutter Speed:1/8s Exposure Mode:Aperture Priority Exposure Comp.:0EV Exposure Tuning: Metering:Matrix ISO Sensitivity:1EV under 200 Device:'. A circular orange logo with the letters 'Br' in white is overlaid on the bottom left corner of the screenshot.

Metadata

f/10.0 1/8 4288 x 2848 10.06 MB --  
AWB ISO 100 Untagged RGB

▼ IPTC Core

Creator

Creator: Job Title

Creator: Address

Creator: City

Creator: State/Provi...

Creator: Postal Code

Creator: Country

Creator: Phone(s)

Creator: Email(s)

Creator: Website(s)

Headline

Image Copyright President and Fellows of Harvard College, 2015  
[#Beginning of Shooting Data Section]  
Image Size:L (4288 x 2848)  
3/19/2025 14:05:19.50  
Time Zone and Date:UTC-4, DST:ON  
Compressed RAW (12-bit)  
Nikon D5000  
Lens:60mm f/2.8G  
Focal Length:60mm  
Focus Mode:AF-A  
AF-Area Mode:Dynamic  
VR:  
AF Fine Tune:  
Aperture:f/10  
Shutter Speed:1/8s  
Exposure Mode:Aperture Priority  
Exposure Comp.:0EV  
Exposure Tuning:  
Metering:Matrix  
ISO Sensitivity:1EV under 200  
Device:

Br

# Quality

- review
- correction/  
Enhancement

# Archival

- file name
- conversion
- metadata



Archival Raw (.dng)



Derivative (.tiff)



Derivative (.jpeg)



A screenshot of a software metadata window. At the top, it shows camera settings: f/10.0, 1/8, 4288 x 2848, 10.06 MB, AWB, ISO 100, Untagged, RGB. Below that is the 'IPTC Core' section with fields for Creator, Job Title, Address, City, State/Province, Postal Code, Country, Phone(s), Email(s), Website(s), and a Headline. The Headline field contains detailed metadata: 'Image Copyright President and Fellows of Harvard College, 2015', '[#Beginning of Shooting Data Section]', 'Image Size:L (4288 x 2848)', '3/19/2025 14:05:19.50', 'Time Zone and Date:UTC-4, DST:ON', 'Compressed RAW (12-bit)', 'Nikon D5000', 'Lens:60mm f/2.8G', 'Focal Length:60mm', 'Focus Mode:AF-A', 'AF-Area Mode:Dynamic', 'VR:', 'AF Fine Tune:', 'Aperture:f/10', 'Shutter Speed:1/8s', 'Exposure Mode:Aperture Priority', 'Exposure Comp.:0EV', 'Exposure Tuning:', 'Metering:Matrix', 'ISO Sensitivity:1EV under 200', and 'Device:'.



**Copy as DNG**  
Copy to new location, import, and convert to DNG

Copy Move Add



**TO** System (C:)   
Users \awillist \ My Pictures



File Handling ◀

File Renaming ◀

Apply During Import ▾

Develop Settings None ▾

Metadata None ▾

Keywords

+ Destination ◀



Include in Import

Zoom 1:2

Import Preset : None ▾

Import

Cancel

Copy as DNG Copy Move Add  
Copy to new location, import, and convert to DNG

System (C:) Users \awillist \ My Pictures



File Handling

File Renaming

Apply During Import

Develop Settings None

Metadata None

Keywords

Destination



Include in Import

Zoom 1:2

Import Preset: None

Import Cancel



Copy as DNG Copy Move Add  
Copy to new location, import, and convert to DNG

System (C:) Users \awillist \ My Pictures



File Handling  
File Renaming

Apply During Import

Develop Settings None

Metadata None

Keywords

Destination



Include in Import

Zoom 1:2

Import Preset: None

Import Cancel

Copy as DNG Copy Move Add  
Copy to new location, import, and convert to DNG

System (C:) Users \awillist \ My Pictures



File Handling

File Renaming

Apply During Import

Develop Settings None

Metadata None

Keywords

Destination



Include in Import

Zoom 1:2

Import Preset :

None

Import

Cancel



Maximize detail while  
minimizing change



**Magic wand**



Erase

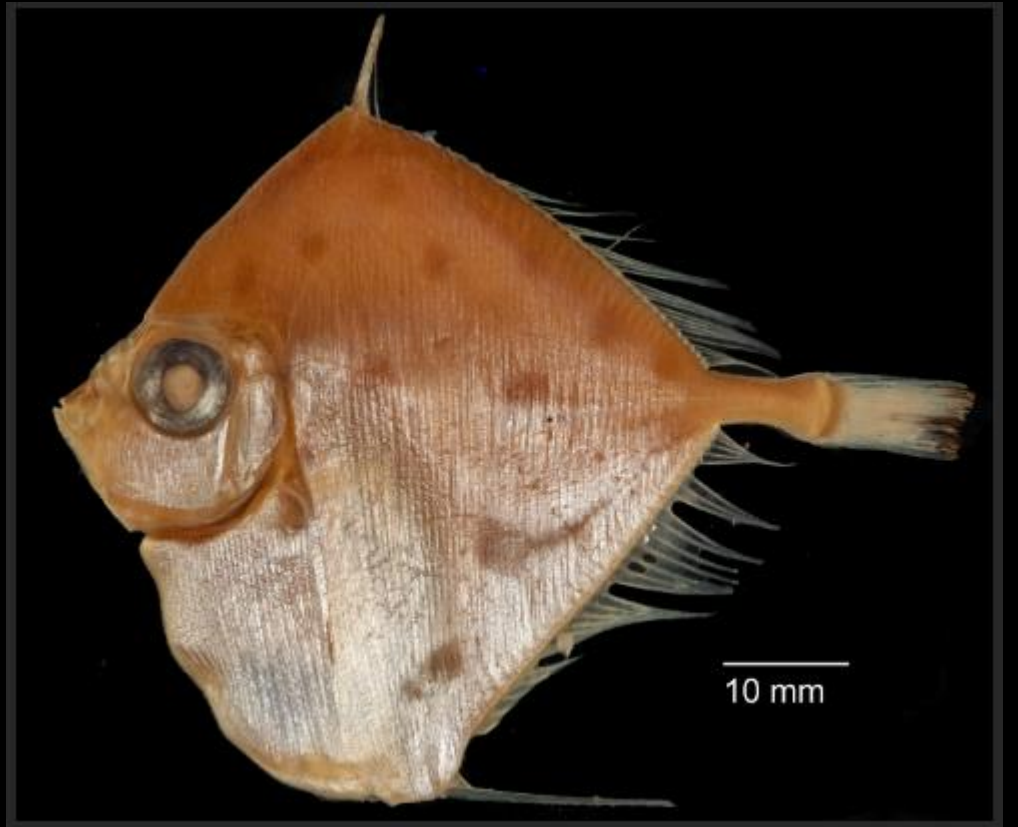


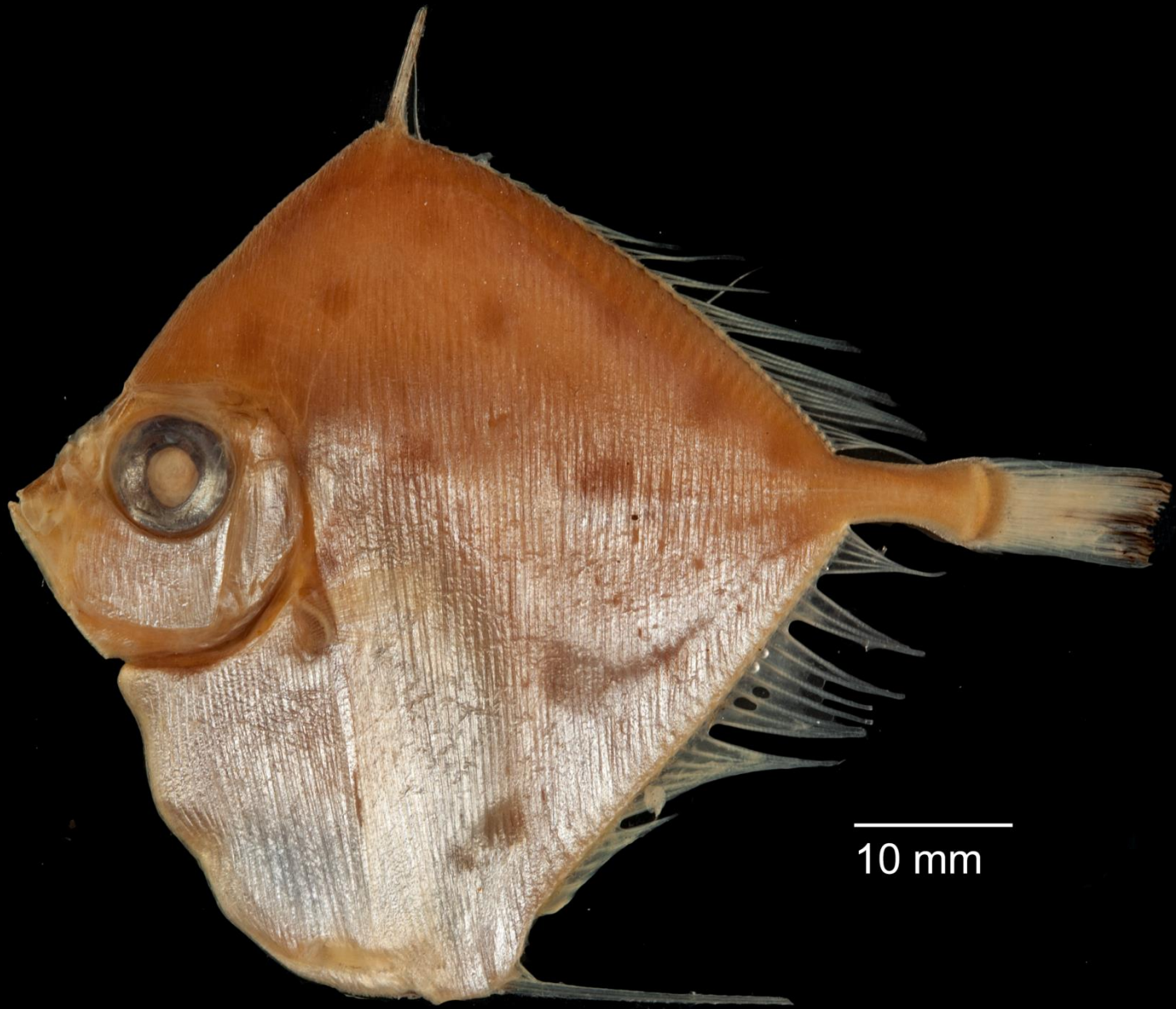


# Straighten

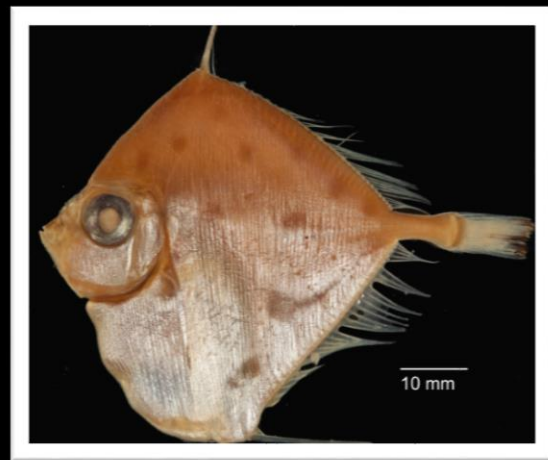
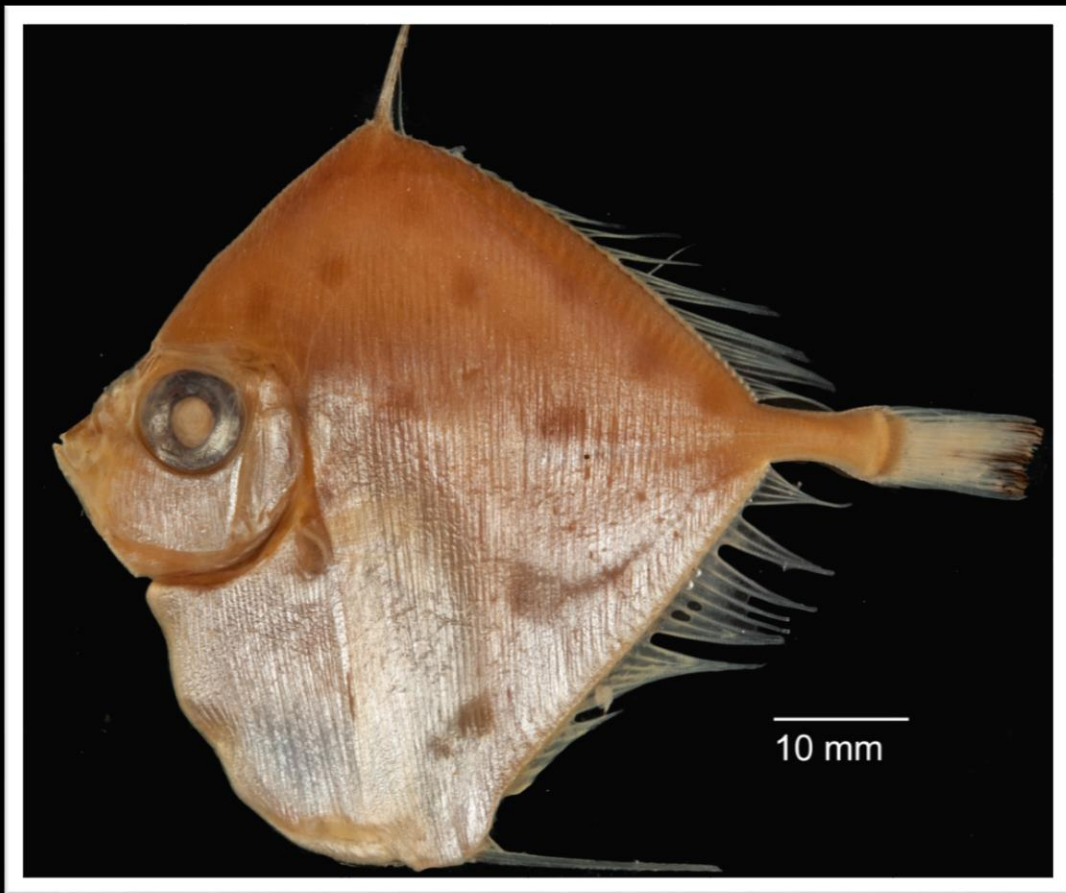








10 mm





Museum of Comparative Zoology specimen ICH-60585  
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Original photography by G. David Johnson, UNSM.

Image Credit Dave Johnson, USNM