



South Australian Museum  
Atlas of Living Australia Volunteer  
Digitisation Project 2011  
Procedures Manual Supplement:  
Photographing marine invertebrates  
(version 3: July 2015)



ATLAS OF **LIVING**  
**AUSTRALIA**  
sharing biodiversity knowledge

imagining



© South Australian Museum 2015  
*This document is licensed under Creative Commons 3.0 Australia: Attribution.*

## Contents

<b>1</b>	<b>Photographing marine invertebrate specimens for online transcription.....</b>	<b>4</b>
<b>2</b>	<b>Preparing the stage and the specimen.....</b>	<b>5</b>
<b>2.1</b>	<b>Taking the photo.....</b>	<b>6</b>
<b>2.2</b>	<b>Checking your image.....</b>	<b>9</b>
<b>2.3</b>	<b>Saving your image.....</b>	<b>10</b>
<b>2.4</b>	<b>Packing up the specimen .....</b>	<b>10</b>
<b>3</b>	<b>Troubleshooting.....</b>	<b>12</b>

## 1 Photographing marine invertebrate specimens for online transcription

In 2014 we're photographing a large number of marine invertebrate specimens to put online on the Biodiversity Volunteer Portal, so that online volunteers can transcribe the label information ready for databasing. This will test our ability to use that portal for rapid databasing, to quickly boost the number of records that are in KE Emu, our main collections management system.

Because we're trying to do this *rapidly*, we're taking single shots of the specimen and labels in the same frame, where possible.

We'd like to do these photos quickly, but we would also like the photos to be useful, so remember to look at the photo before it is saved, and re-do it if it doesn't come up to standard.

## 2 Preparing the stage and the specimen

Take the next specimen from the drawer.

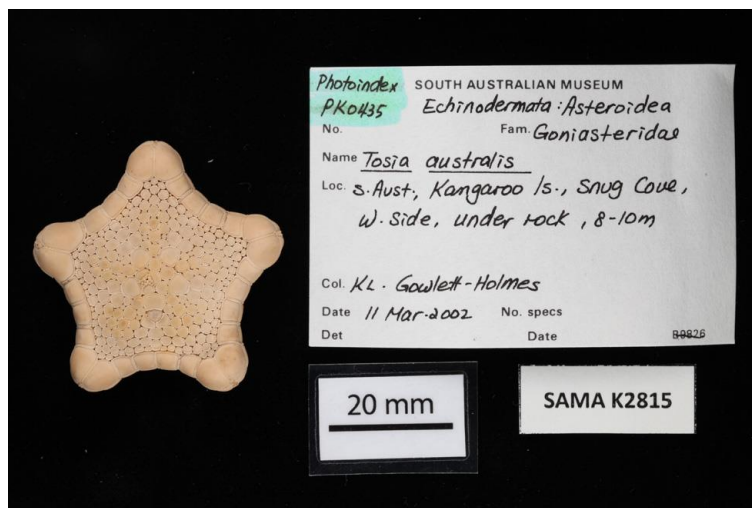
Look at the specimen, how deep is it? Most specimens will be able to be photographed using the flat stage. If it is deeper than 3cm, please use the two-level stage.

Look at the black velvet, is it reasonably clean? If it isn't clean, please use masking tape to de-lint it. If it is too dirty, please ask the Project Manager for a new piece of velvet.

Check if the specimen has a registration number – these numbers start with K, e.g. K1986 or K.153 etc. If the specimen doesn't have a 'K Number' (e.g. K694), cut the next database number from the sheet provided.

Choose an appropriate scale bar (they are available in 20mm and 50mm lengths.)

Arrange the specimen, labels, database label and scale bar similar to the picture below. If there are two or more specimens, take two and position them with one up the right way and one upside down.



## 2.1 Taking the photo

Make sure that the camera, flashes, flash transmitter and Stackshot are switched on. Position the stage under the camera and open **EOS Utility**.

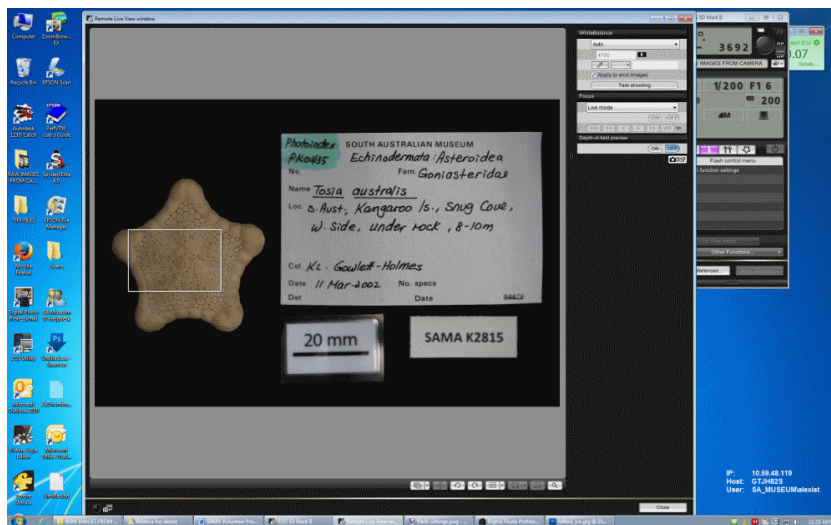
A panel will open on the right side of the screen.



The recommended settings can be seen at left. Note that these are different from the settings for photographing insect holotypes. To change any setting, please double click on its square and adjust it appropriately.

Click **Live view shoot**

This will open a window showing exactly what is under the camera's lens.



Check the orientation of the specimen, and move it around by sliding the velvet stage.

Move it so your stage fills as much of the frame as possible. You can move the camera up and down using the handle on the copy stand or the Stackshot's Fwd or Back buttons.

Use the focus ring on the barrel of the lens to bring the specimen roughly into focus (the ring with ridges on it). During this process the size of the specimen in the frame might change.

Use the Fwd and Back buttons on the Stackshot to bring the specimen into focus.

If it helps, move the white square over the specimen, and click on the magnifying glass to enlarge the picture on your screen.

If we get the specimen in focus, the labels will be in focus as well.



When you're happy with the focus, and have the settings correct, place the ring of tracing paper around the specimen and put the flash units in place. They're very accommodating and don't require a lot of precision. They should be roughly opposite each other, and positioned to cast a reasonable amount of light on the specimen.

Check to make sure that you can't see the tracing paper in the Live View window.

Close the Live View window.

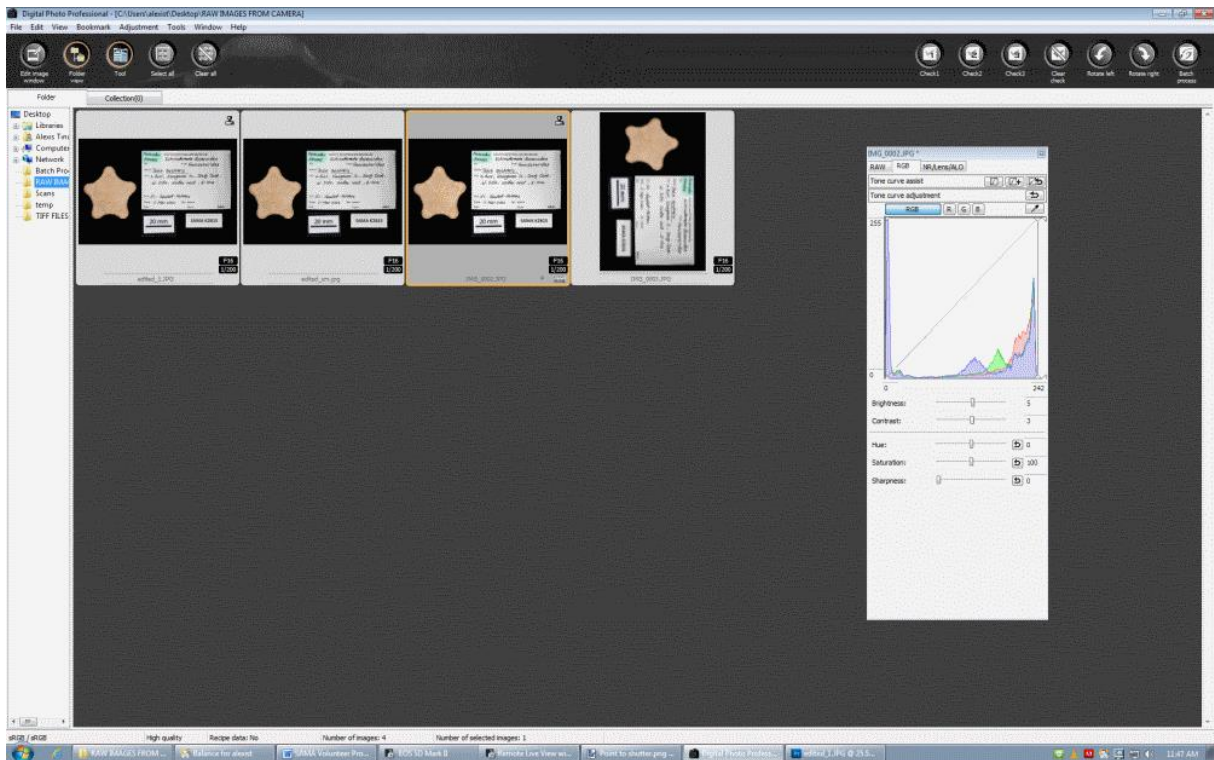
Press the shutter button on the EOS Utility controller (see right). The picture will show up in **Digital Photo Professional**.





## 2.2 Checking your image

Your photo will open in **Digital Photo Professional**, as shown below:



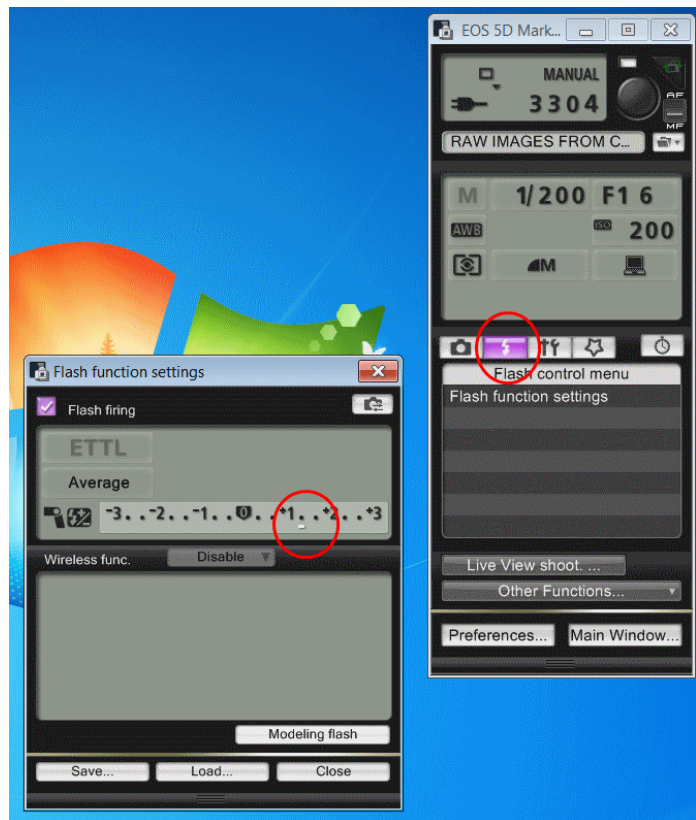
Is the photo a bit dark or underexposed?

The simplest way to fix this is to increase the intensity of the flashes, which will increase the amount of light, and re-take the photo.

You can adjust the intensity of the flashes by going back to the EOS Utility window, and clicking on the flash symbol (marked on the picture at right).

That will open the Flash Function setting, and you can increase the light by sliding the little white marker to the right (marked on picture). Decrease it by sliding it to the left.

Adjust the light, take the picture again and see if it improves. Repeat this process if it needs further adjustment.



## 2.3 Saving your image

If you're happy with the image, click on **File**, then select **Save as** and save it in the following folder:

**R:\ALA Digitisation\IMAGES\MARINE INVERTEBRATES**

With the file name formatted as follows:

**SAMA\_DatabaseNumber\_Genus\_species.jpg**

(e.g. SAMA\_K2815\_Tosia\_australis.jpg)

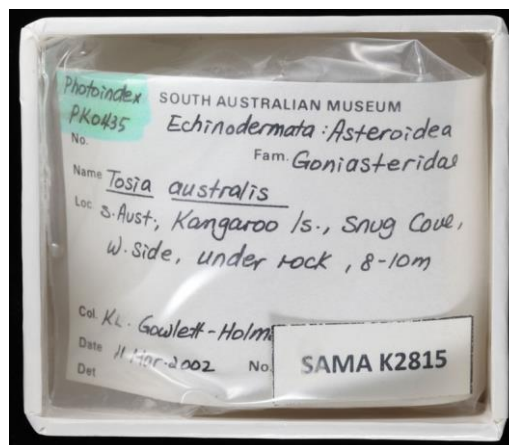
Open the spreadsheet in that folder and record the **database number**, the **number of specimens**, **your name** as the photographer, and the **date**. Write the date, database number and your name on the **Job Record Sheet** (the paper version). Save the spreadsheet, close it, pack up the specimen and move on to the next one.

	A	B	C	D
1	Database Number	Photographer	Date	
2	K2815	Alexis Tindall	28/01/2014	
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				

## 2.4 Packing up the specimen

Carefully re-assemble the specimen as it was when you took it out. You have added the database number, so put that somewhere in the bag so that it is visible, preferably from the top, but try not to obscure any of the label information. Place a bright orange spot on the outside of the plastic bag to mark that this specimen has been photographed.

This is a good example:



<b>3</b>	<b>Troubleshooting</b> .....	<b>12</b>
3.1	I've broken the specimen.....	12
3.2	How do I turn everything on? .....	13
3.3	Adjusting the light or exposure.....	14
3.4	Can I clean up the background of my picture? .....	15
3.5	The photographs are coming out completely black or very very dark? .....	16
3.6	The EOS Utility window has disappeared and I can't click on the 'Camera settings/Remote shooting' instruction to open it again?.....	18
3.7	The Live View Window looks different - it has two overlapping white rectangles instead of one? .....	19
3.8	What should the settings be on the camera? .....	19
3.9	Where are my files?.....	19
3.10	Are the batteries fully charged?.....	19
3.11	My problem isn't covered in this 'Troubleshooting' document, what can we do? .....	20

## 3 Troubleshooting

### 3.1 I've broken the specimen.

Stop what you're doing immediately. It is imperative that we do not cause any further damage. If the Project Manager is available, draw it to her attention immediately.

If the Project Manager is not present, collect all parts, and return them to the unit tray. Make a note of the incident to bring to the Project Manager's attention as soon as possible.

We will need to return the specimen and *all* of its parts to the Collections Manager for inspection. Be aware that there may be multiple small parts that have broken off and should be collected.

### 3.2 How do I turn everything on?

You need to switch the camera, flash transmitter, two flash units and the Stackshot controller on. The Stackshot controller needs to be switched on at the powerpoint. The relevant plug is labelled.

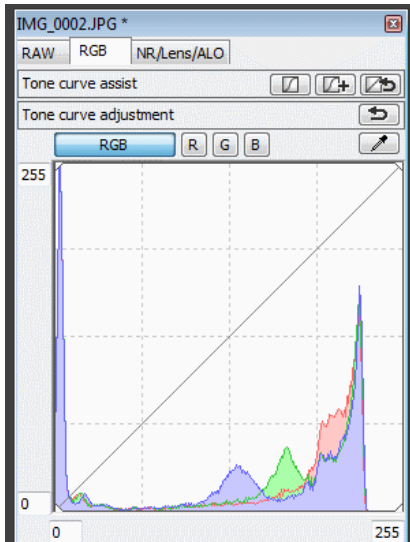
Switches are marked on the pictures below. You need to switch the camera to ON, the transmitter to the centre position which looks like a line, and the flashes to ON:



### 3.3 Adjusting the light or exposure

As indicated in section 2.3, the simplest way to fix this is to adjust the flash settings and re-take the picture. If you need to adjust it after the picture has been taken, use the Tool Palette as described here.

Double click on the photo that you'd like to work on.



Look at the histogram on the Tool Palette.

If there is a gap on the right (as shown at left), click and drag the slider on the right until it meets the histogram. This helps improve the exposure of the image.

Is the background dusty or marked? A bit of dust is acceptable for these rapidly photographed specimens, the best thing is to try and keep the black velvet clean. But see the next section if you'd like to improve it further

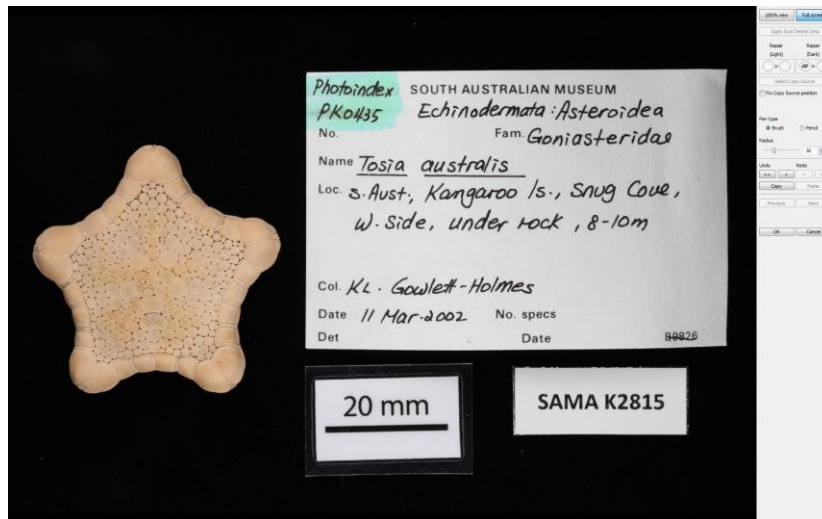


### 3.4 Can I clean up the background of my picture?

If the background of your picture is dusty, you can clean it a little in **Digital Photo Professional** before saving it.

Click on the picture that you'd like to edit. Then click on **Tools**, and **Start Stamp Tool**.

Click on **Full Screen**



Click **100% View**.

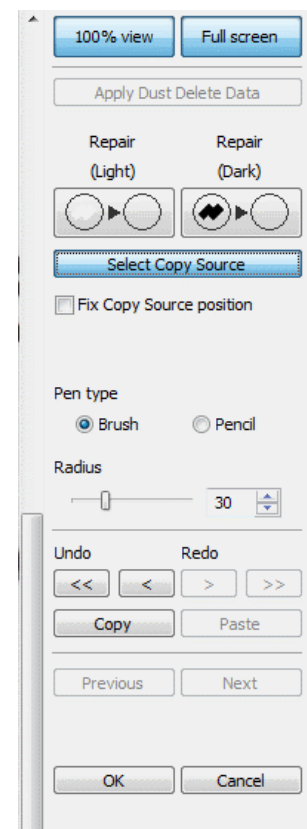
Click **Repair (Dark)** and then click **Select Copy Source**.

**Brush** will automatically be selected as the tool.

This will copy little patches of the background over any large pieces of dust or other undesirable marks. Click OK when you're happy.

Note that the thumbnail doesn't show the corrected image, it won't be visible until you save the picture.

Don't spend too long making the picture perfect, this is an exercise in rapid digitisation, but use the tool within reason if it would make you happier with the pictures that you're producing.



### 3.5 The photographs are coming out completely black or very very dark?

Check that you have removed the lens cap. If it is off, this means that the flash units are not firing. Look at their display and check if their batteries are flat. If they are, replace them with the Sanyo Eneloop rechargeable AA batteries, and place the expired ones on the white battery recharger. Please replace all batteries at the same time, even if only one unit has stopped working.

It might also mean that the Speedlite Transmitter (mounted on the top of the camera) has run out of batteries and isn't sending a signal to the flash. Look at the back of it, there should be dim red lights beneath the letters ETTL and one of the numbers. If there are no lights, it means that the battery has run out. Replace it with one of the Lithium CRV2 batteries. If you use the last one, please inform the Project Manager.

After you have replaced the batteries you might need to re-establish the link between the transmitter and the flash units. If they are talking to each other, their display will look like this:



If that link has been broken, the display will look as below. Re-establish the link by holding the **ZOOM** button (marked with the red arrow) down for about 20 seconds. The flash will automatically find the transmitter and establish the relationship.





If the transmitter and flashes are still not working, check that they are on the same channel. The numbers indicated in red on the images below should match (they will always be '1').



If they don't match, hold the ZOOM button until the CH. Bar blinks. Then use the large + or - buttons to change the channel until they match (all buttons and indicators marked in red below).



### 3.6 The EOS Utility window has disappeared and I can't click on the 'Camera settings/Remote shooting' instruction to open it again?

If the camera is unused for a certain period of time it turns the power off automatically to conserve battery energy. The simplest way to wake it up again is to gently touch the shutter button on the camera itself, and push it half way down as though you are starting to take a photo. It will switch itself back on, and the Option to click 'Camera settings/Remote shooting' will become available again. Click on that to open the EOS Utility panel.

### 3.7 The Live View Window looks different – it has two overlapping white rectangles instead of one?

The focusing pane should be a single rectangle, in the centre of the window

If it is two overlapping rectangles, the camera is set on automatic focus.

It should be manual focus, so adjust the switch on the barrel of the lens from 'AF' to 'MF'.

### 3.8 What should the settings be on the camera?

The settings for these marine invertebrate specimens are different from the holotypes. If you have any recommendations that

**F-Stop (aperture size): F16**

**ISO ("film speed" or equivalent sensitivity in digital imaging): 200**

**Shutter speed: 1/200**

**Image quality: M (this is a jpg setting, we are not taking RAW images for this set)**

**White Balance: AWB** (consult with Project Manager if you think that the colour doesn't look right in the images).

**Flash Exposure Compensation: +1 2/3** (You need to access the flash functions to change this – check with the Project Manager if you think that your images are too dark or are getting flares of over-exposure)



### 3.9 Where are my files?

- **JPG files** from the camera:

**C:\Users\alexist\Desktop\RAW FILES**

*(Please insert your username where it says "alexist" in this file path).*

- **Final Images** – after they have been saved with their proper names

**R:\ALA Digitisation\IMAGES\MARINE INVERTEBRATES**

### 3.10 Are the batteries fully charged?

**Canon 430EX Speedlites (flashes) AA Sanyo Eneloop Rechargeable Batteries (x8)**– When they are expired, place them on the white 8 slot recharger. The small lights next to each battery will initially be red, and will become green when the battery is charged. This is quicker than the camera battery. If you notice that the batteries are fully charged, remove them from the charger and put them in the designated plastic container.

After you have replaced the batteries, you need to re-establish the connection with the transmitter.

Look at the back of the flash unit. Hold the **Zoom** button (marked on the picture below) down until the display changes.



When connected, the display should look like this:



**(We now use an AC Adapter, so this might not be needed, but in case you are using the Canon EOS 5D Mk II LPE6 Battery – the charger goes through several stages before the battery is fully charged. It blinks orange and changes speed as it gains charge. When it is fully charged it will display a constant green light. The full recharge takes approximately 2.5 hours. Thus it's important that a flat battery goes straight on the charger when it is removed from the camera.)**

### **3.11 My problem isn't covered in this 'Troubleshooting' document, what can we do?**

In the first instance, chat with the Project Manager. If that person isn't around, or can't resolve the issue, the manuals for the camera, speedlites, speedlite transmitter and Stackshot are all available on the bookshelves. Feel free to peruse these documents to resolve your problem, or to expand your understanding of our equipment if you're interested.