



Callichthyidae (Ostariophysi: Siluriformes) dissection protocol

Karina Carvalho F. Ferreira¹, Marcelo Ribeiro de Britto¹

¹Museu Nacional/UFRJ

[dx.doi.org/10.17504/protocols.io.u3meyk6](https://doi.org/10.17504/protocols.io.u3meyk6)

 **Karina Ferreira** 

ABSTRACT

This protocol shows how to dissect callichthyid fishes without losing important anatomical information about the relative position and shape of internal organs.

PROTOCOL STATUS

Working

We use this protocol in our group and it is working

GUIDELINES

The coelomic cavity is dissected and its organs removed. This procedure is done in specimens fixed in 10% formalina and already preserved in 70% alcohol; this fixation method is one of the most accepted for morphological studies, as it helps to maintain the original shape of the structures. After dissection, the organs are identified and stored in Eppendorf tubes in 70% alcohol along with the specimens. This causes no information loss.

MATERIALS TEXT

Scalpel
Thin point forceps
Scissors for ophthalmic surgery
Spacer
Dissection needles
Petri dish
Stereoscopic microscope

SAFETY WARNINGS

specimens should be stored in 70% alcohol, as formalin is highly harmful to human health in case of inhalation or ingestion.

- 1 Make a incision in the medial portion of the abdomen at the point immediately posterior to the pectoral girdle.
- 2 Extend the opening from the incision towards the left flank in the ventral view, with the aid of the scissors, bypassing the pectoral girdle



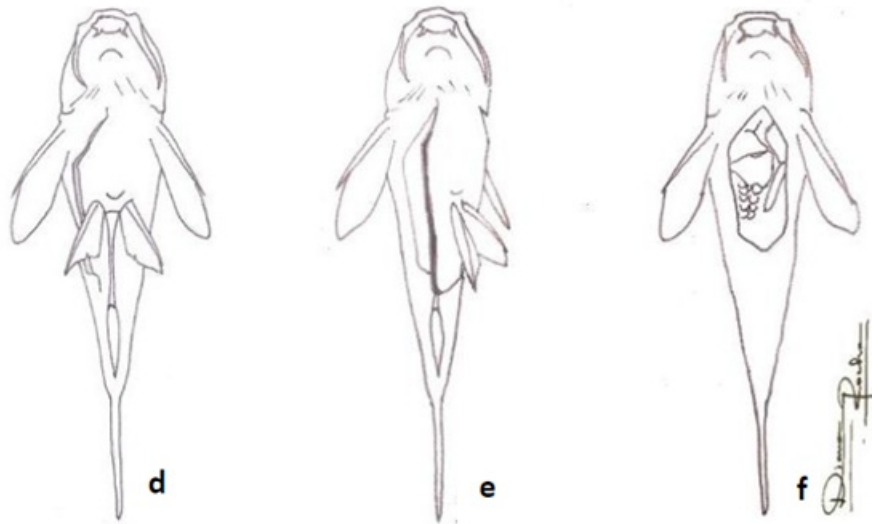
towards the dorsal portion of the specimens up to the limit of the celomathic cavity.

- 3 Continue the incision in caudal direction to the limit of the celomathic cavity, by passing the pelvic girdle and ending in the point immediately

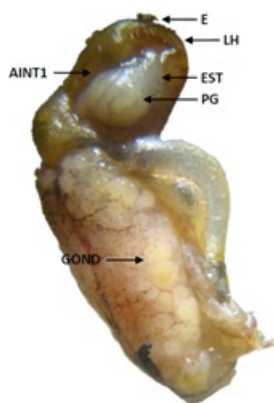


posterior to the pelvic girdle.

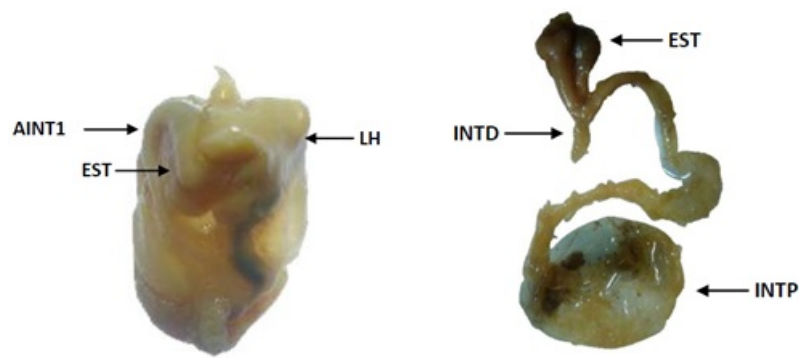
- 4 Lift up the skin and muscles that ventrally with hold internal organs with the aid of the thin point fórceps, and expose the organs.



- 5 Remove adipose tissue with the aid of the thin point forceps in order to better visualize internal organs.
- 6 Release the organs from the peritoneum using the spacer.
- 7 Locate the esophagus and make a cross-section on it using the forceps and scissors.
- 8 Disconnect the intestine from the anus using forceps and scissors.
- 9 Remove the internal organs from the celomathic cavity with the organs without any damage and keeping all the information about shape and relative position of each organ.



- 10 With the organs outside the celomathic cavity, separate the reproductive organs from the digestive system organs.
- 11 Remove the connective tissue located between the walls and intertinal loops. From there, the intertinal walls are separated and the digestive tube is distended.



This is an open access protocol distributed under the terms of the [Creative Commons Attribution License](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited