

# Collecting Gobies

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With gobies found in very diverse habitats, collecting them can be a challenge. You might find yourself climbing trees, traversing waterfalls, immersed in a mangrove swamp, diving in coral reefs, or in the deep sea. Perhaps the biggest problem in finding them is the lack of information on their microhabitat. I've spent months looking for a specific species, knowing that they were collected in a specific area, but not finding them until discovering their specific microhabitat.

How you collect depends on whether you're bringing them back to breed or for systematic studies. In all cases the methods used can be grouped into three categories – traps – nets – chemicals.

## Traps

Traps are effective methods for gobies that like small caves and crevices. If you live near the water, where you can hang a trap for extended periods, give it a try. The easiest trap to make is a bottle with a cord around the neck and some sediment in the bottom to weigh it down. While most systematists prefer beer bottles, those underage may substitute soda or water bottles. An effective trap for collecting [Tigrigobius macrodon](#), [Gobiosoma bosc](#), and sometimes species of [Ctenogobius](#) or [Gobionellus](#) in Florida was developed by Ramon Ruiz-Cruiz PhD. He constructed a trap of 6-12" sections of PVC pipe glued together with silicone cement. The tubes are open at both ends and arranged in a cube. The base can be 6 to 10 tubes wide, using 1/2" or 3/4" PVC pipe. Attach a rope and some lead weights and you're set. Don't make the trap too large as encrusting organisms will make it heavy over time.

## Nets

For gobies that dwell in shallow sandy or grassy areas, small beach seines and nets with long handles will yield species of [Microgobius](#) and [Gobiosoma](#). Use the long handle net to sweep rapidly through the grass beds. Make sure you have a fine mesh. With two people a beach seine is generally more successful. Seines come in many sizes, generally starting around 4' by 6' and progressing up to 6' by 100' and more. I generally use a 6' by 20' net with 1/4" mesh. If you have never used a seine before make sure you keep the lead line on the bottom and the bottom of the poles facing in the direction you're moving. If you don't have the proper technique the fish will escape under the net.

Tidepools provide an excellent area to collect species of [Bathygobius](#) in the western Atlantic or species of [Gobius](#) and [Mauligobius](#) in the eastern Atlantic. If you can't trap them directly in the net try using some cookie crumbs to lure them out of hiding – it works.

Sandy beaches also offer special gobies in the east Pacific. *Quietula* and *Evermannia* both live on sandy beaches and can be collected in the shallow moist depressions at low tide. While a hand net will most likely work using some clove oil or quinaldine works best to drive them out.

## Chemicals

Clove oil is a relatively new method of collecting. Not every state allows its use and may not due to unknowns associated with its use. Clove oil (eugenol) does have guidelines established for its use by the FDA. Check the following link for FDA

information: <http://www.fda.gov/cvm/guidance/guide150.doc>

(More information on obtaining collecting permits is given below.) The concentrated oil will numb your hands as well as put the fish to sleep. You need the concentrated clove oil which can be purchased from wholesale spice dealers. Check my website for the one I use. Make a 2% solution in isopropyl alcohol, place it in a squeeze bottle, and you're set.

Quinaldine is still the chemical of choice for most professional collectors. It is not available in liquid form to the general public but a powdered form can be found in some wholesale aquarium supply houses. Unlike clove oil, you do need permits to collect with quinaldine in most areas. If you have the permits, mix a 2% or less solution in isopropanol and seawater. Start by diluting the quinaldine 50:50 with isopropanol then use that mix diluted 10 times with more isopropanol and that final mix dilute with seawater by 50%. Keep the quinaldine in solution by shaking the squirt bottle. A small cloud dispersed in the water, under rocks or in caves, will cause the fish to drop out of their hiding places. The best method for collecting fish is still rotenone. It is however not legal in many places and dangerous to use. It also kills the fish and as such is very useful in systematic and ecological studies but not if you're collecting aquarium specimens.

If you are equipped with clove oil or quinaldine and have a mask and snorkel, try collecting *Barbulifer* in very shallow grassy areas in the tropics. They are generally found in 1 foot of water and less. If you're more adventurous, two very attractive gobies, *Ginsburgellus* and *Tigrigobius multifasciatus* can be found under sea urchins in rocky coast with relatively strong wave action. Good luck!

While most of the "pretty" gobies are found in tropical coral reef environments there are species of *Microgobius* with bright iridescent colors in mangrove swamps. If you're in deep mud a net and/or quinaldine will help get these.

**Before collecting, check with the local marine enforcement and obtain the proper permits to collect.** In some cases a fishing license will cover the collecting of non-sport fish, but not in all cases. Most states in the United States value their resources and have strict laws protection the fishes, especially the "pretty" ones that people like in aquaria. You can generally find collecting permit information on the state web page. Start by going to the state website for example; <http://www.state.la.us/> for the state of Louisiana. Change the "la" to the state you want and a link to their fish and wildlife department will lead you to the permit information. For Florida use the following link <http://marinefisheries.org>

Anyone collecting gobies can help add to the general knowledgebase by identifying the specific microhabitat a species is collected in and sending the information to me for inclusion on GobyNet <http://gobiidae.tamucc.edu>