

## BUFFALO SCULPIN

*ENOPHRYS BISON* (GIRARD, 1854)

NATURAL HISTORY SUMMARY BY JASON PARILLO

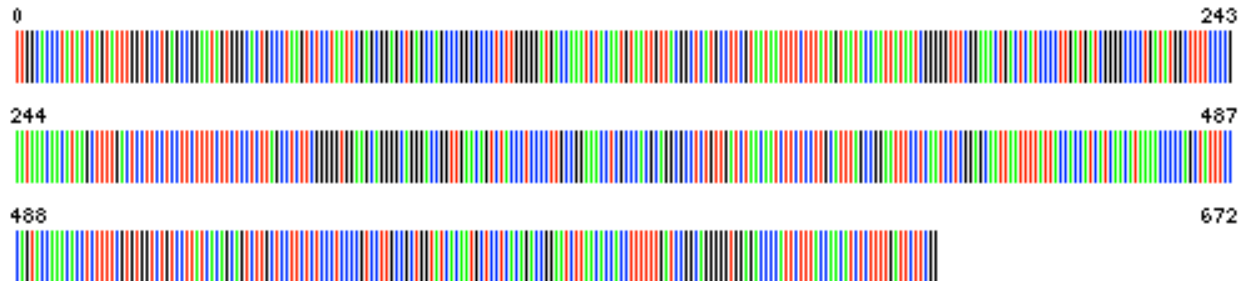


Figure 1. *Enophrys bison* DNA Barcode - Barcode of Life Database - BOLD Systems (Ratnasingham and Hebert 2007)

### Classification

**Kingdom:** Animalia  
**Phylum:** Chordata  
**Class:** Actinopterygii  
**Order:** Scorpaeniformes  
**Family:** Cottidae  
**Genus:** *Enophrys*  
**Species:** *E. bison*

### Description

*Enophrys bison*, the Buffalo Sculpin, is a marine fish with a fusiform, anteriorly stout body that tapers to a narrow caudal peduncle. The head is prominent with a moderate snout. The lateral line arches anterior and rough lateral line plates are present. The body is naked above and below the lateral line. The dorsum of the fish is either green, black, or sometimes white with black mottling. Three distinct dark bands cross the body, one running through the first dorsal and pectoral bases, another running through the second dorsal fin, and the third on the caudal peduncle. The venter is ivory or white. The caudal fin is rounded, pelvic fins are small with an abdominal position, and the pectoral fins are large and fan shaped. The adipose fin is absent. There are 16-18 soft rays on the pectoral fin and 8-9 soft rays on the anal fin. The dorsal fin is separated, with 7-9 spines anterior and 10-13 soft rays, posterior. The dorsal, caudal, and pelvic fins are covered with black

spots and bars. There are few to no black markings on the anal and pelvic fins. Eyes are positioned close together and inversely proportionate to body length. The average length of the buffalo sculpin is 10-12 inches (Sandercook et al. 1968).

### **Distribution**

The current distribution of Buffalo Sculpin is in the eastern Pacific Ocean, from Kodiak Island, Alaska to Monterrey Bay, California. *Enophrys bison's* range map is available at Aquamaps 2016.

### **Diet**

Buffalo Sculpin eat a variety of prey including marine invertebrates and vertebrates such as young fishes, mussels, isopods, amphipods, and crabs. Although algae are often found among its gut contents, it is unclear if the Buffalo Sculpin intentionally eats the algae or ingests them incidentally, with prey items (Oregon Department of Fish and Wildlife 2017).

### **Habitat and Ecology**

Buffalo sculpin can be found in marine inshore rocky and sandy habitats, at depths up to 65 meters, but have been found as deep as 227 meters (Oregon Department of Fish and Wildlife 2017). They are prey items for a number of marine animals, most notably, the harbor seal. Juveniles and larvae are commonly preyed upon by larger fish, and larvae are probably a food source for coastal pelagic predators (Oregon Department of Fish and Wildlife 2017). A smaller subtidal cottid, *Asemichtys taylori* (Spinynose Sculpin), lays its eggs exclusively over the Buffalo Sculpin eggs. This interaction, known as interspecific nesting, is the first reported interaction of its kind amongst marine fishes (Kent et al. 2011). It is thought that the Spinynose Sculpin, which has a much smaller body size than the Buffalo Sculpin, takes advantage of the innate guarding ability of Buffalo Sculpin males. This behavior comes at no cost of energy to the smaller Spinynose Sculpin, but has been shown to be detrimental to Buffalo Sculpin eggs (Kent et al. 2011).

### **Reproduction and life cycle**

The Buffalo Sculpin is an oviparous species that displays paternal care. Spawning in late winter and early spring, the female lay eggs on rocks or on human structures in lower intertidal areas up to 12 meters in depth. The eggs (19,000 – 32,000 per spawning

episode) are laid in areas exposed to currents. Several females often spawn with one male. The male guards the nest and fans the eggs with his pectoral fin. After five to six weeks, yolk sac larvae emerge and begin life alone (Oregon Department of Fish and Wildlife 2017).

### **Conservation Status**

The Buffalo Sculpin abundance has not been evaluated in most areas and they have an unranked conservation status throughout their native range (Encyclopedia of Puget Sound 2015).

### **Cultural Significance**

Buffalo Sculpin often get caught in the lines of anglers in the Pacific Northwest. The Buffalo Sculpin is also an aquarium fish (Oregon Department of Fish and Wildlife 2017).

### **Specimen Specific Detail**

The three Buffalo sculpin (*E. bison*) specimens from the Burton Ostenson Museum of Natural History at Pacific Lutheran University, were collected on February 14, 1961. Overall, they are in relatively good condition given their age. The specimens are discolored due to preservation. However, despite the discoloration, three dark stripes are unmistakable. All three individuals are about the same size and display relatively similar patterns on their body. The first synthesis of element 103, Lawrencium, was conducted at the University of California, Berkeley, on February 14, 1961 (OnThisDay.com).

### **Literature Cited**

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