



Microcosm: Three-Spined Stickleback



pongant

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Summary

Display model of the Three-Spined Stickleback, a genetic model for parallel Evolution.



2.16 hrs



2 pcs



0.15 mm



0.40 mm



PLA



16 g



Prusa MINI /
MINI+

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[ngs](#) [microcosm](#)

This is a display model for the Three-Spined Stickleback. With the advent of high-throughput sequencing, this species became a model for studying parallel evolution and local adaptation.

The model is best printed as seen in the pictures. The fish can be mounted on a 13mm (ø 4.6 mm) nail after the metal was carefully heated over e.g. a candle. The model of the stand has a hole for this nail.

Tips

- Consider adding superglue to stand, nail and model for maximum stability!
- Use supports
- Does bite
- Does sting

Background

The Three-Spined Stickleback *Gasterosteus aculeatus* L. is a bone fish of the northern hemisphere. Although originally of marine origin, the species has repeatedly colonised freshwater habitats following the retreat of the last great glaciers. As a result, it has radiated into a myriad of similar populations with similar adaptations to the new environment (ecotypes) [1]. Since these adaptations repeatedly evolve de novo (and in parallel to one-another), scientist utilise *G. aculeatus* as a model for parallel evolution. For this, whole-genome comparisons of different ecotypes and populations uncover genes involved in size, body armour, gland functioning, and much, much more [2].

Here you can download a life-size model of the **anadromous ecotype** - these stickleback yearly travel from the ocean to the rivers they spawned in.

Sources

[1] Bell & Foster 1994: The Evolutionary Biology of the Threespine Stickleback. DOI:10.2307/5902. [Link](#).

[2] Colosimo et al. 2008: Widespread parallel evolution in sticklebacks by repeated fixation of Ectodysplasin alleles. DOI:10.1126/science.1107239. [Link](#).

Model files

cl-stickleback.stl



cl-stand.stl



Print files



cl-stickleback_015mm_pla_mini_1h36m.gcode

🌀 PLA 📏 0.40 mm 📐 0.15 mm ⌚ 1.60 hrs 📊 10 g 🖨️ Prusa MINI / MINI+



cl-stand_015mm_pla_mini_34m.gcode

🌀 PLA 📏 0.40 mm 📐 0.15 mm ⌚ 0.56 hrs 📊 5 g 🖨️ Prusa MINI / MINI+

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