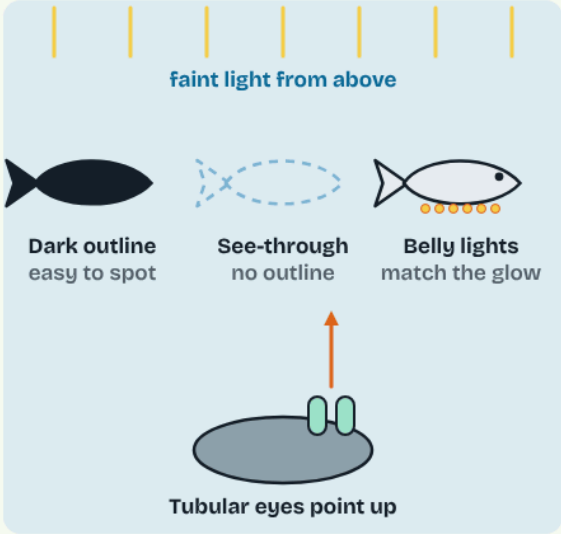
That is why

Why is the deep sea so good at hiding?

Hunters find prey two ways: by its shadow against the light above, or with a living searchlight.

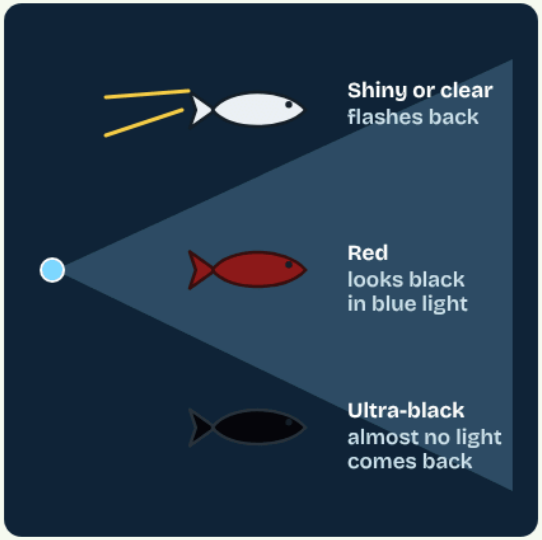
A Hunter 1: the shadow-spotter



Barreleyes scan for the faint shadows of prey overhead. Mirror-silver sides also work here, but only in soft light that comes from all around.

Beats it:
see-through bodies, belly lights, mirror sides

B Hunter 2: the living searchlight



Light sent back by the skin

Black paper	about 10%
Ultra-black fish	under 0.5%
Blackest fish	0.044%

Beats it:
red or ultra-black skin, anti-glare coats (up to 250 times less reflection)

C The color game

BLUE: most living light | RED: almost none

Most deep-sea animals see only blue, so a red animal has nothing to reflect and looks black.

1 The cheat: a red searchlight

Some loosejaw dragonfish make red light (about 705 nm) that their prey can't see, so they hunt unseen.

2 The quick-change squid

A twilight-zone octopus and squid stay clear against the light above, then turn red in the blink of an eye when a blue beam hits them.

Below about 800 m, light made by animals becomes the main light.

Match the light above, or give a searchlight nothing back.

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