

II. Útlit, lögun og bygging fiska

Fiskar ?

1. Hryggdýr sem lifa í vatni
2. Kalt blóð (næstum alltaf)
3. Anda með tálknum
4. Hafa hauskúpu eða höfuðskel (Craniates)
5. Uggar en ekki fimmtæðir limir

*Meira en helmingur allra tegunda hryggdýra eru fiskar.
Beir koma í öllum stærðum allt frá 8 mm (goby) – 12 m (hákarlar).*

*Beir finnast í næstum öllu ferskvatni frá sjávarmáli upp í 5200 m yfir sjó
og í söltu vatni niður á meira en 8000 m dýpi.*

Helstu útlitseinkenni

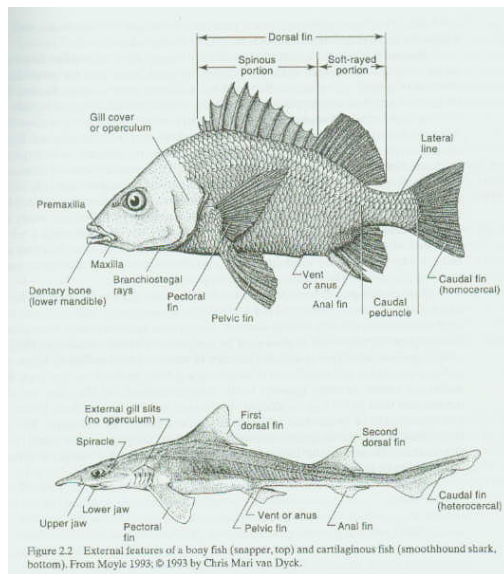


Figure 2.2 External features of a bony fish (snapper, top) and cartilaginous fish (smoothhound shark, bottom). From Moyle 1993; © 1993 by Chris Mari van Dyck.

Mynd 2.2 í Moyle and Cech

Premaxilla = Efra skoltbein
Lower Mandible = neðri kjálki
Maxilla = skoltbein
Branchiostegal rays = gelgjur
Branchiostegal arch = tálknbogar
Operculum = tálknloka
Gill slits = tálknop
Dorsal fin = bakuggar
Pectoral fins = eyruggar
Pelvic fins = kviðuggar
Anal fin = raufar uggi
Anus = gotrauf
Caudal peduncle = stytla
Caudal fin = sporður
Lateral line = hliðarrák
Spiracle = andop, innstreymisop

(sjá einnig vísindaheitalista á heimasíðu)

Hvernig er best að flokka alla þessa fiska ?

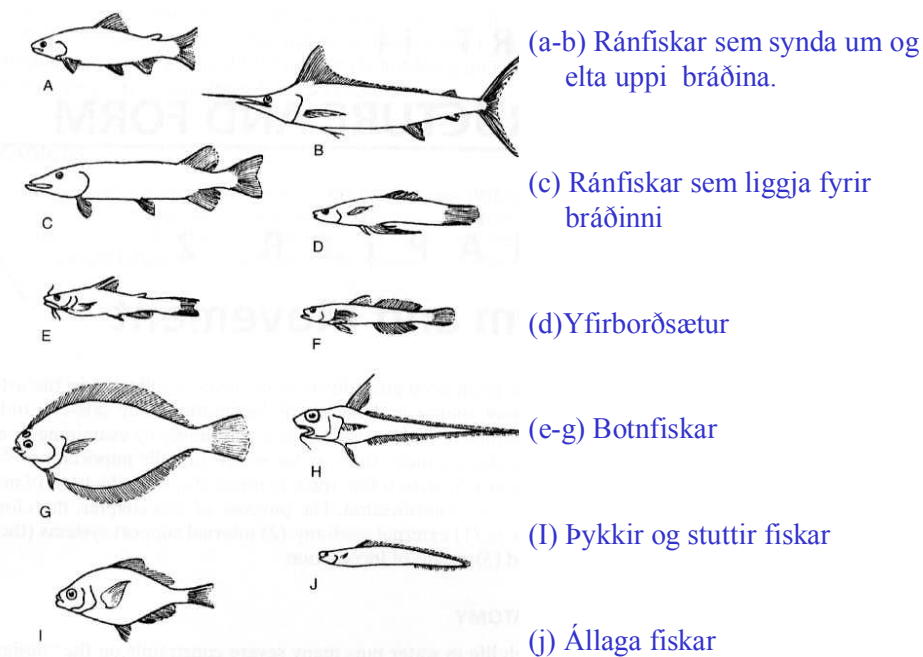
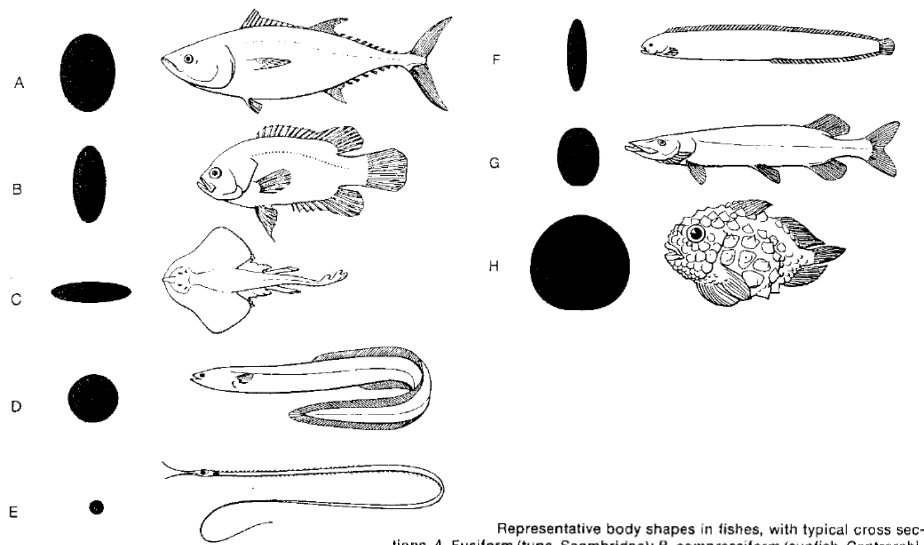


Figure 2.1 Typical fish body shapes: (A) and (B) rover-predator; (C) lie-in-wait predator; (D) surface-oriented fish; (E) bottom rover; (F) bottom clinger; (G) flatfish; (H) rattail; (I) deep-bodied fish; (J) eel-like fish.



Representative body shapes in fishes, with typical cross sections. A, Fusiform (tuna, Scombridae); B, compressiform (sunfish, Centrarchidae); C, depressiform (skate, Rajidae, dorsal view); D, anguilliform (eel, Anguillidae); E, filiform (snipe eel, Nemichthyidae); F, taeniform (gunnel, Pholidae); G, sagittiform (pike, Esocidae); H, globiform (lumpsucker, Cyclopteridae). (H based on Jordan and Evermann, 1900.)

Flokka fiska eftir útliti í tengslum við búsetu og lífshætti ?

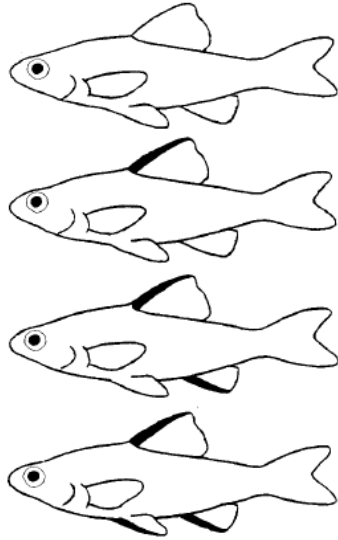
eða

Flokka eftir útliti og lögun í tengslum við þróunafræðilegar breytingar ?

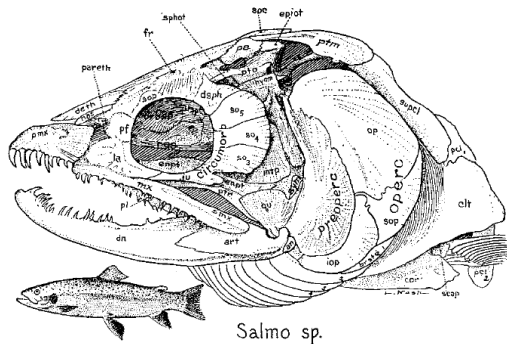
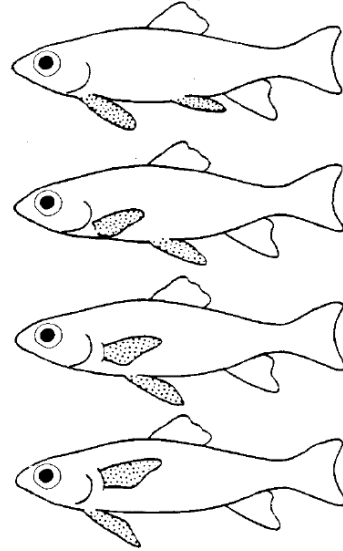
Helstu “trends” í útliti og lögun fiska

1. Breytingar í staðsetningu kvið- og eyrugga
2. Aukinn fjöldi gadda (höfuð, uggar og hreystur)
3. Breytingar í útliti og lögun

Aukinn fjöldi gadda

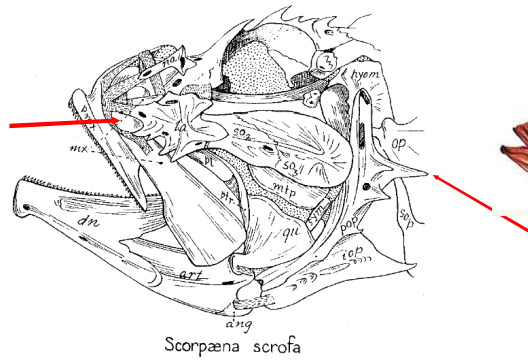


Staðsetning eyr- og kviðugga

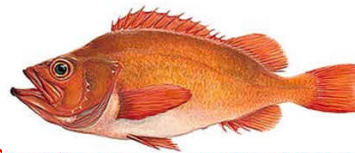


Salmo sp.

Gaddar á höfði

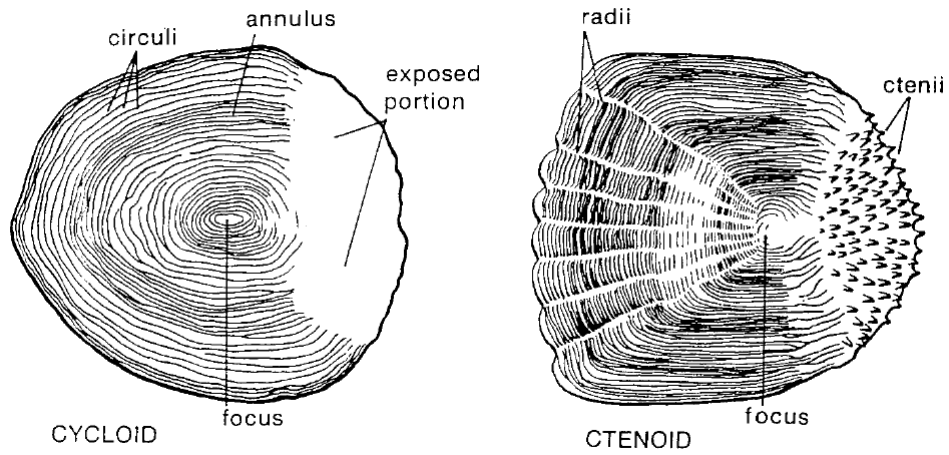


Scorpaena scrofa

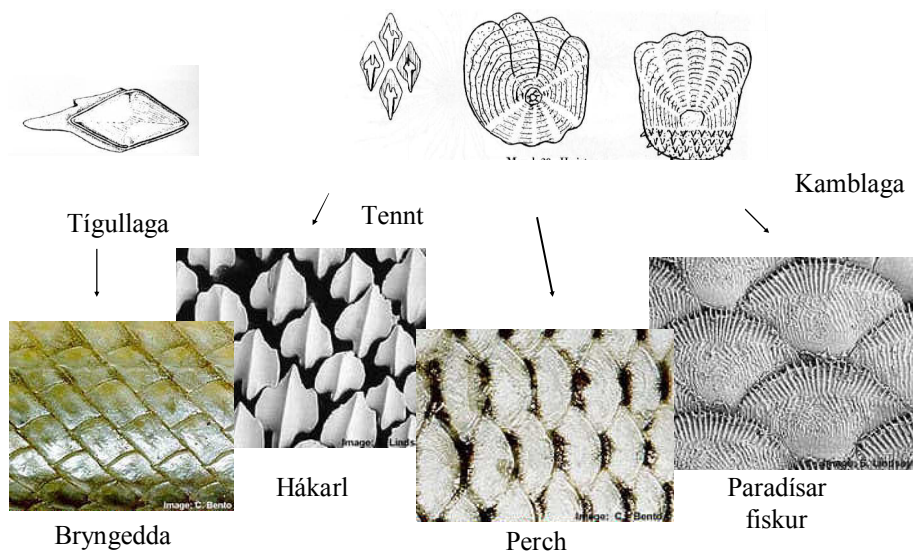


Myndir frá Jóni Hlíðberg

Hreystur: Disklaga ⇒ Kamblaga



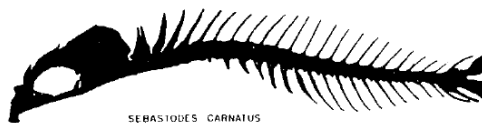
Roð og Hreystur



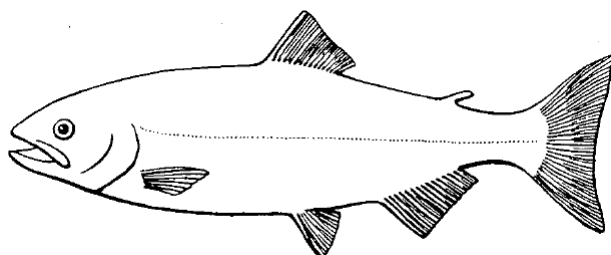
Líkamsbygging þróast í átt að styttri og dýpri bók



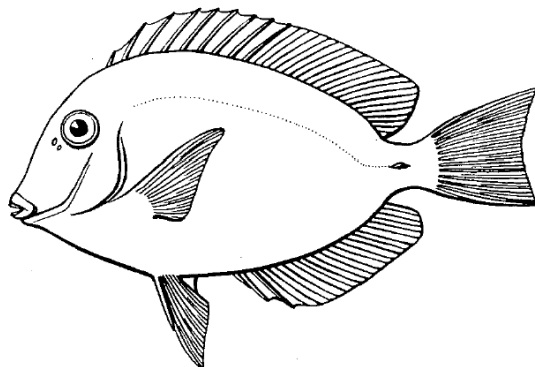
ELOPS AFFINIS



SEBASTODES CARNATUS

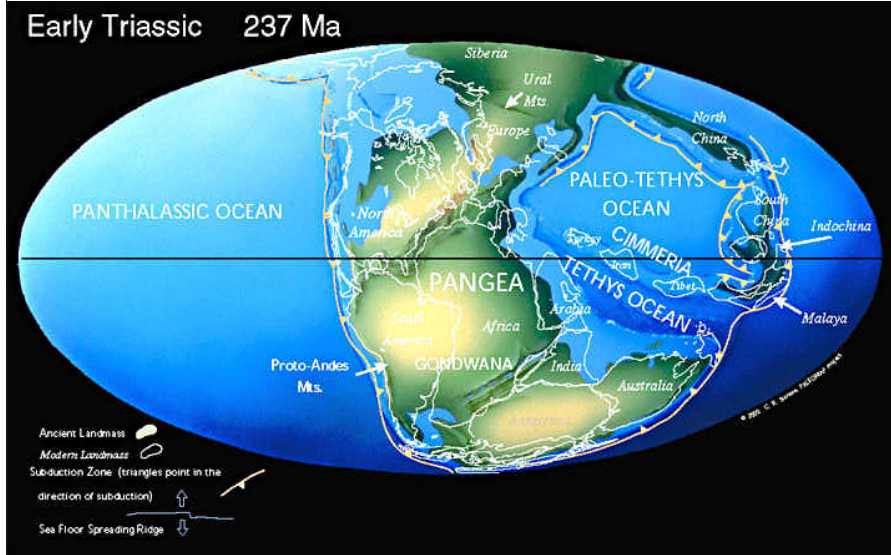


Frumstæðir fiskar

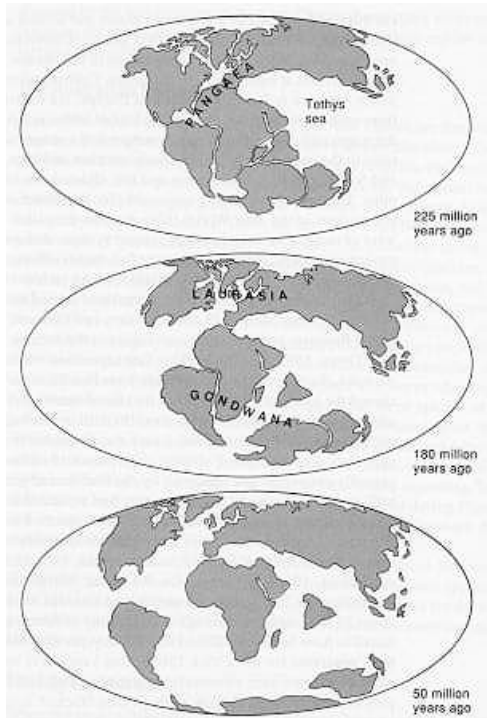


Þróaðir fiskar

**Landfræðilegar breytingar höfðu mikil áhrif á þróun fiska !
Pangaea brotnar upp í margar plötur (fyrir ca 200 M árum)
Aukið pláss og fjölbreytni búsvæða sérstaklega á grunnsævi !**



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**Pangaea brotnaði fyrst
upp í tvo hluta:
Laurasia í norðri og
Gondwana í suðri**