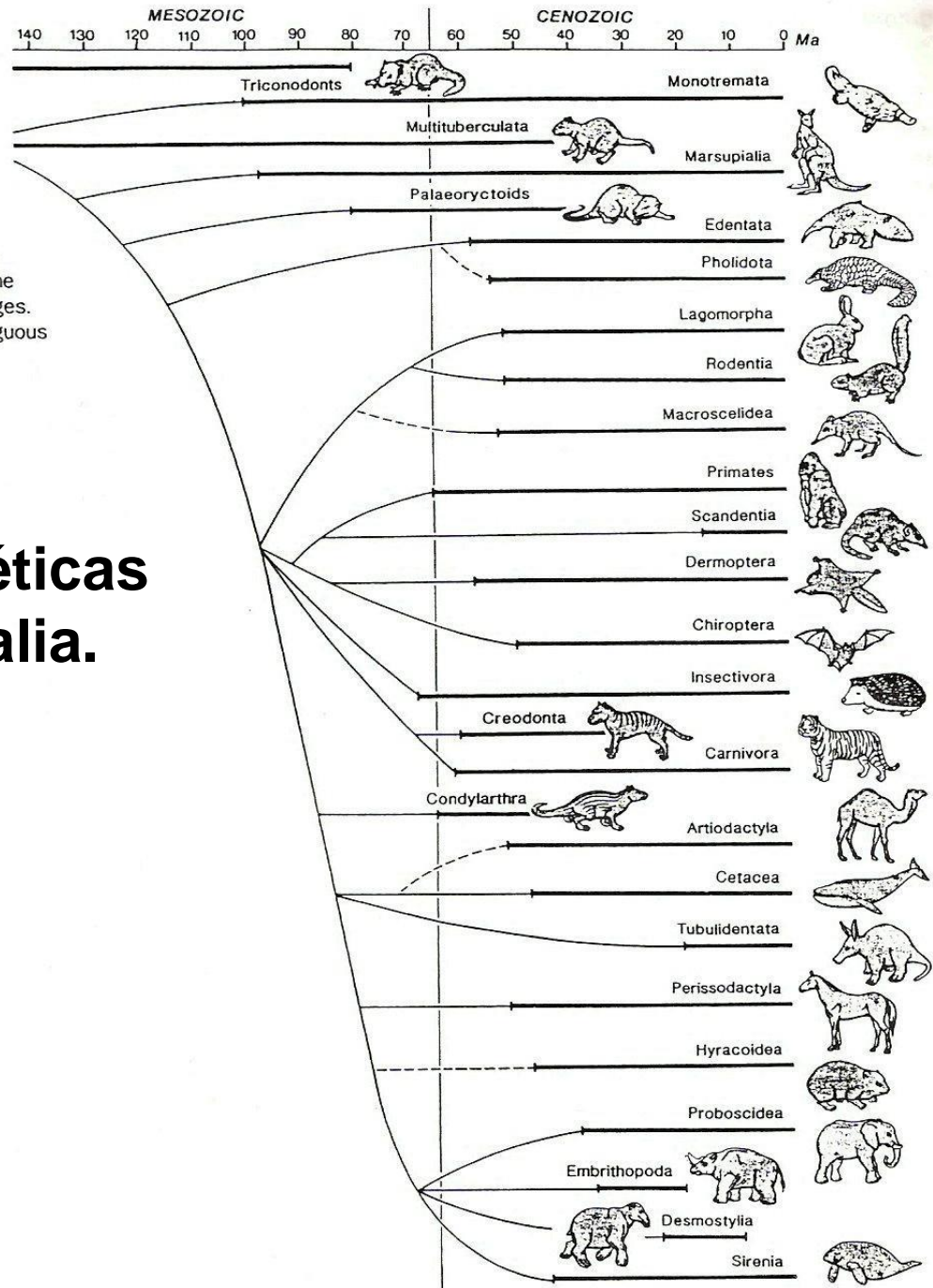


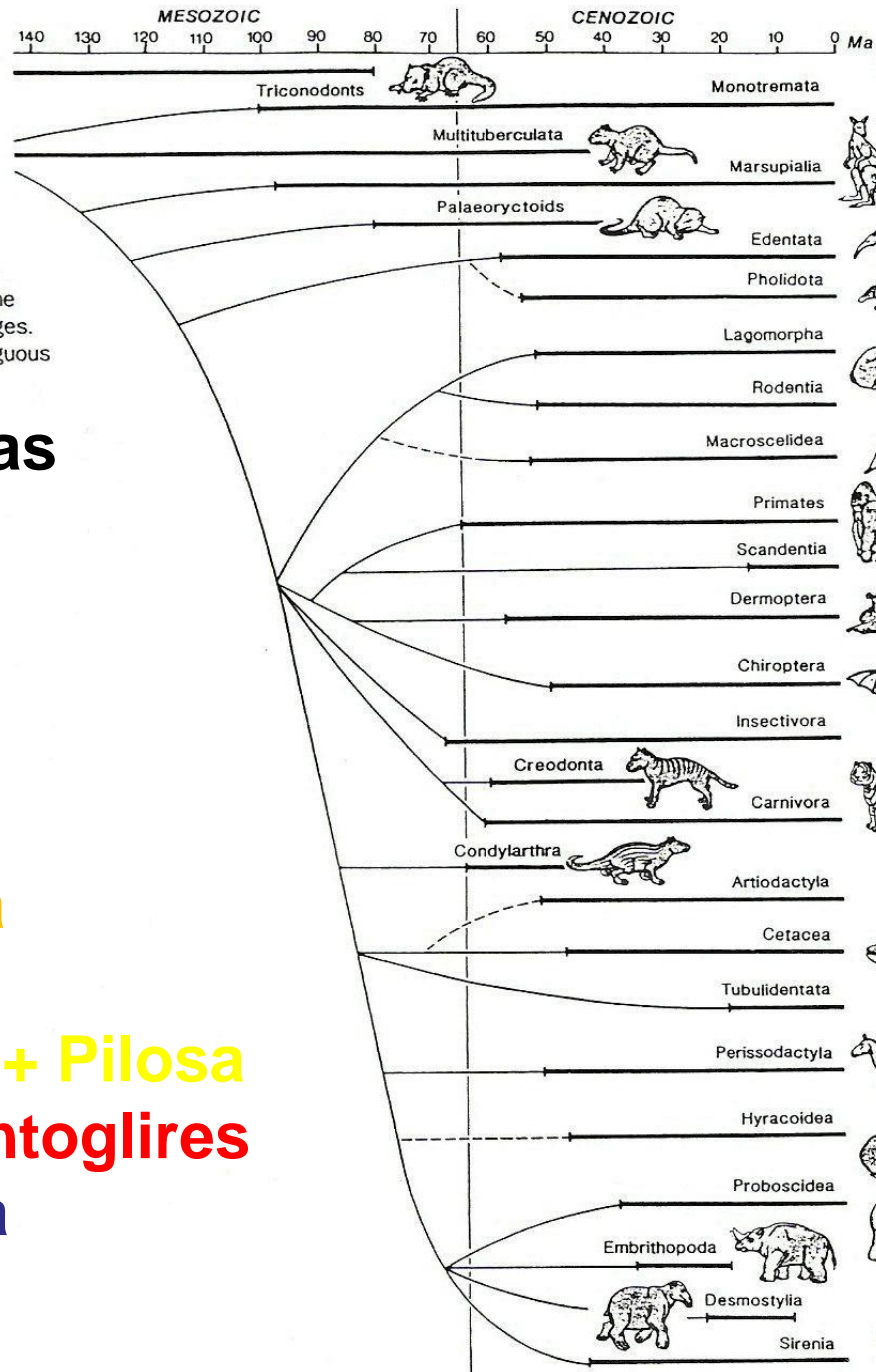
1 A phylogenetic tree showing relationships among the major mammalian clades. The solid horizontal bars indicate the age range of the clade on the basis of dated first appearance in the fossil record. Solid lines indicate the branching sequence, although the date of the actual splitting event can only be inferred from the relationships of the clades and their known ages. Dashed lines indicate relatively more ambiguous relationships.



Relações filogenéticas dentro de Mammalia.

Fonte: Novaceck, 1992.

1 A phylogenetic tree showing relationships among the major mammalian clades. The solid horizontal bars indicate the age range of the clade on the basis of dated first appearance in the fossil record. Solid lines indicate the branching sequence, although the date of the actual splitting event can only be inferred from the relationships of the clades and their known ages. Dashed lines indicate relatively more ambiguous relationships.



Relações filogenéticas dentro de Mammalia.

Fonte: Novaceck, 1992.

Código de cores:

Laranja: Prototheria

Roxo: Metatheria

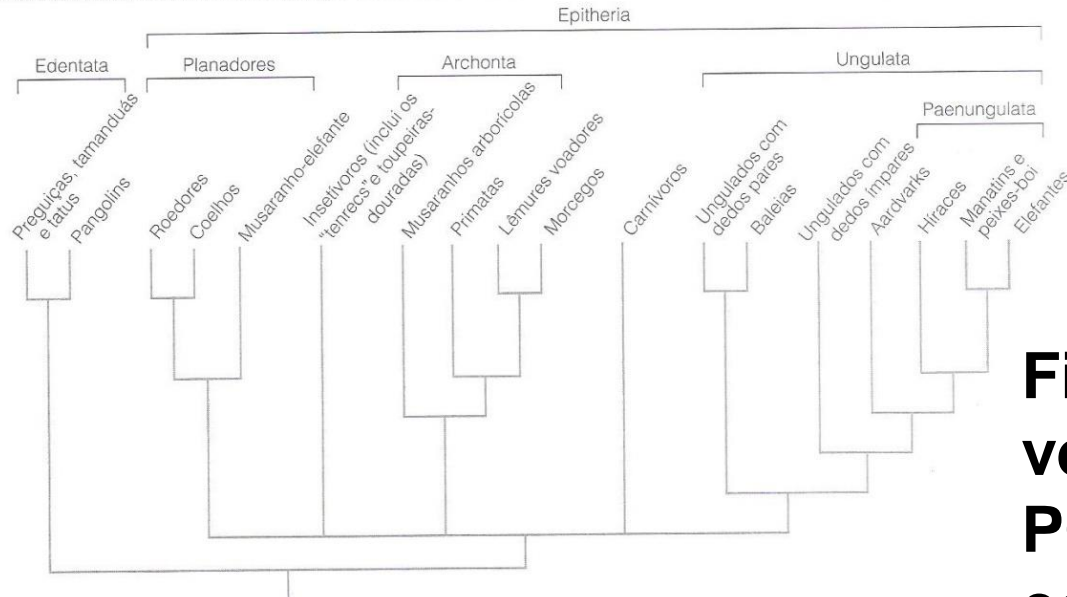
Amarelo: Cingulata + Pilosa

Vermelho: Euarchontoglires

Azul: Laurasiatheria

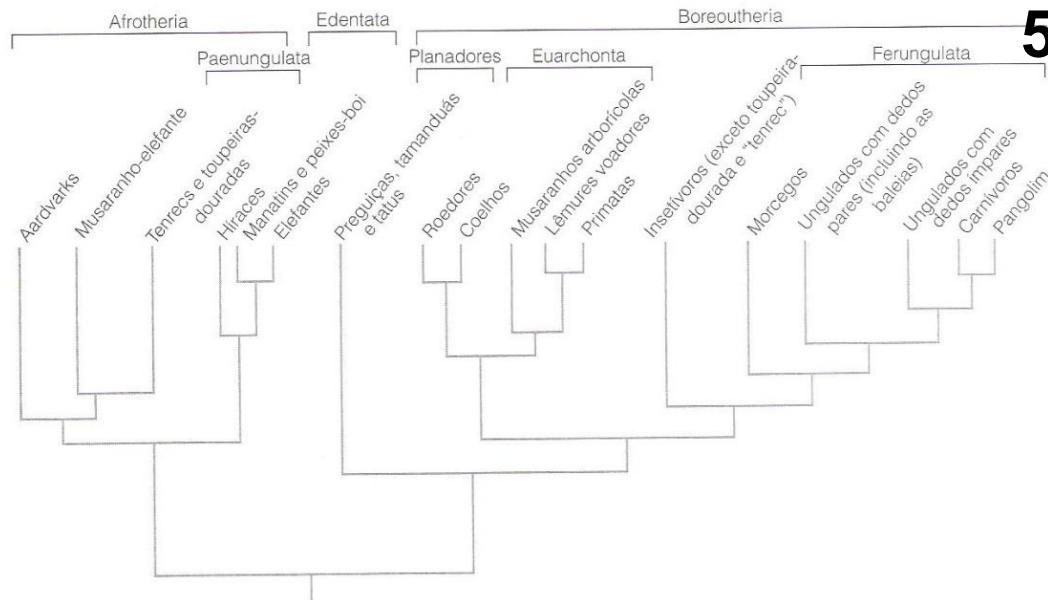
Verde: Afrotheria

A. CLADOGRAMA A PARTIR DE INFORMAÇÕES MORFOLÓGICAS



Filogenias morfológicas versus moleculares; POUGH et al., 2006, 4ª ed., figura 20-18, página 543

B. CLADOGRAMA A PARTIR DE INFORMAÇÕES MOLECULARES



▲ **Figura 20-18** Filogenias contrastantes das inter-relações dentre as ordens de mamíferos eutérios.

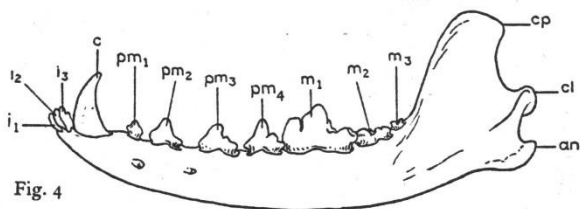
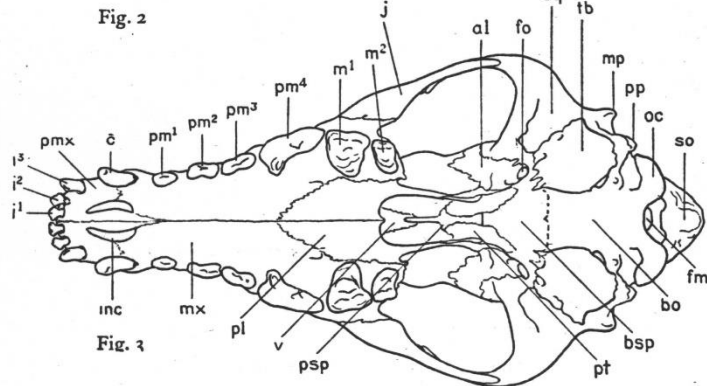
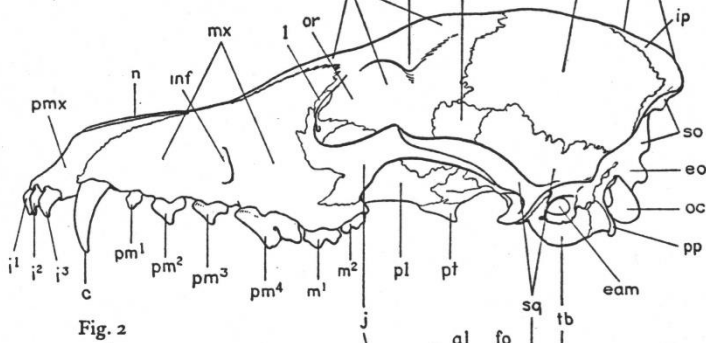
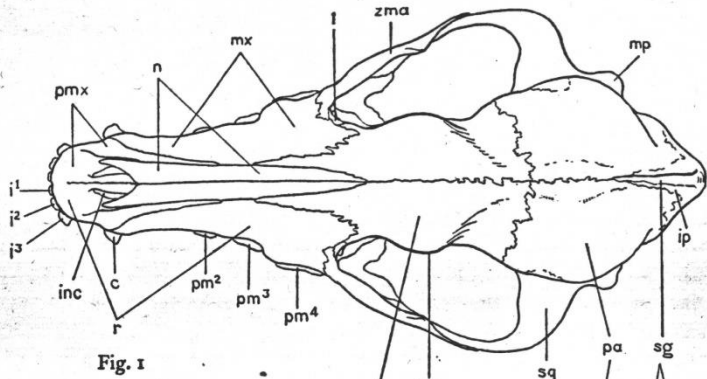
Crânio em Mammalia – estrutura diagnóstica para identificação em nível específico.

- Palato secundário**
- Órbita – lacrimal**
- Côndilos occipitais**
- Arco zigomático**
- fenestra temporal**
- mandíbula**
- bula timpânica**

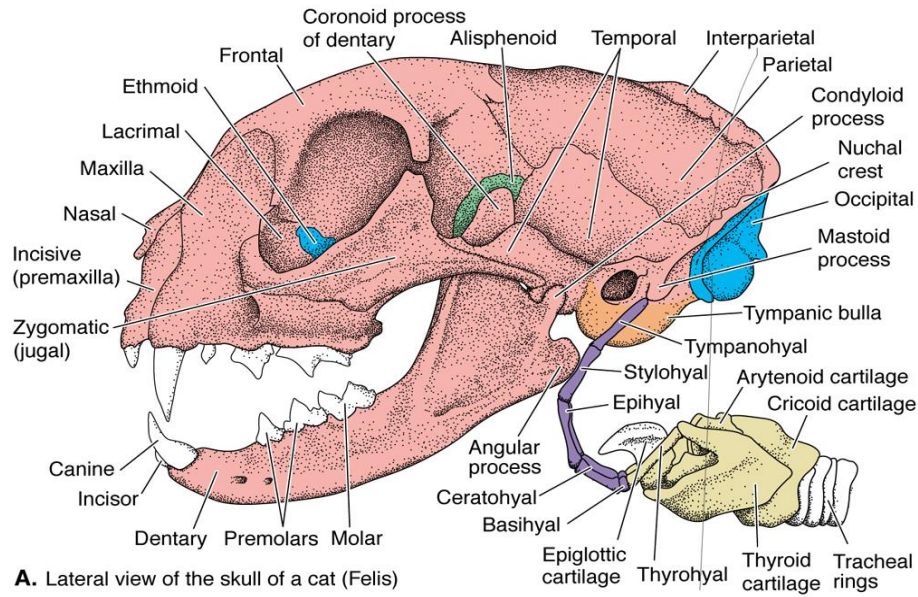
Porque estudar crânios ???



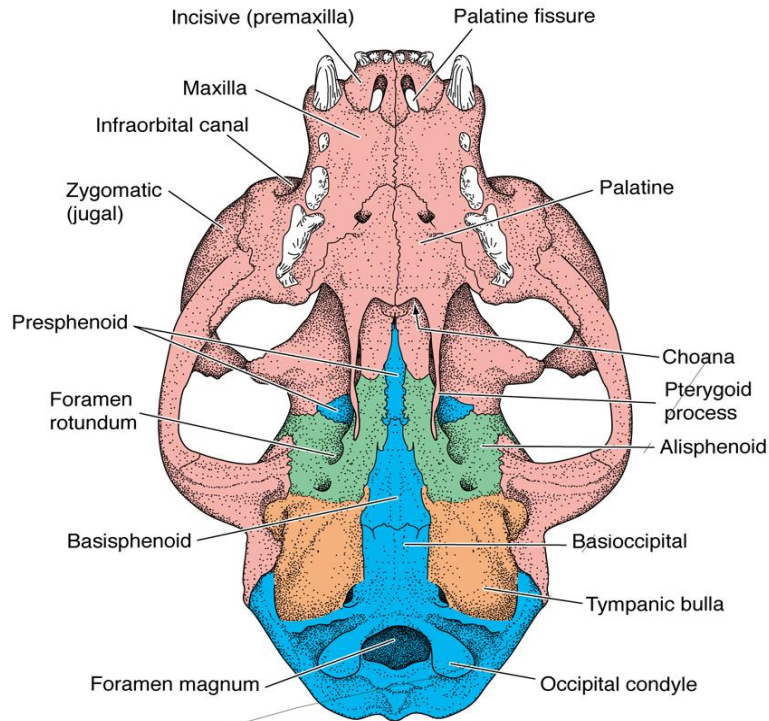
Skull of coyote (Carnivora: Canidae; *Canis latrans*).

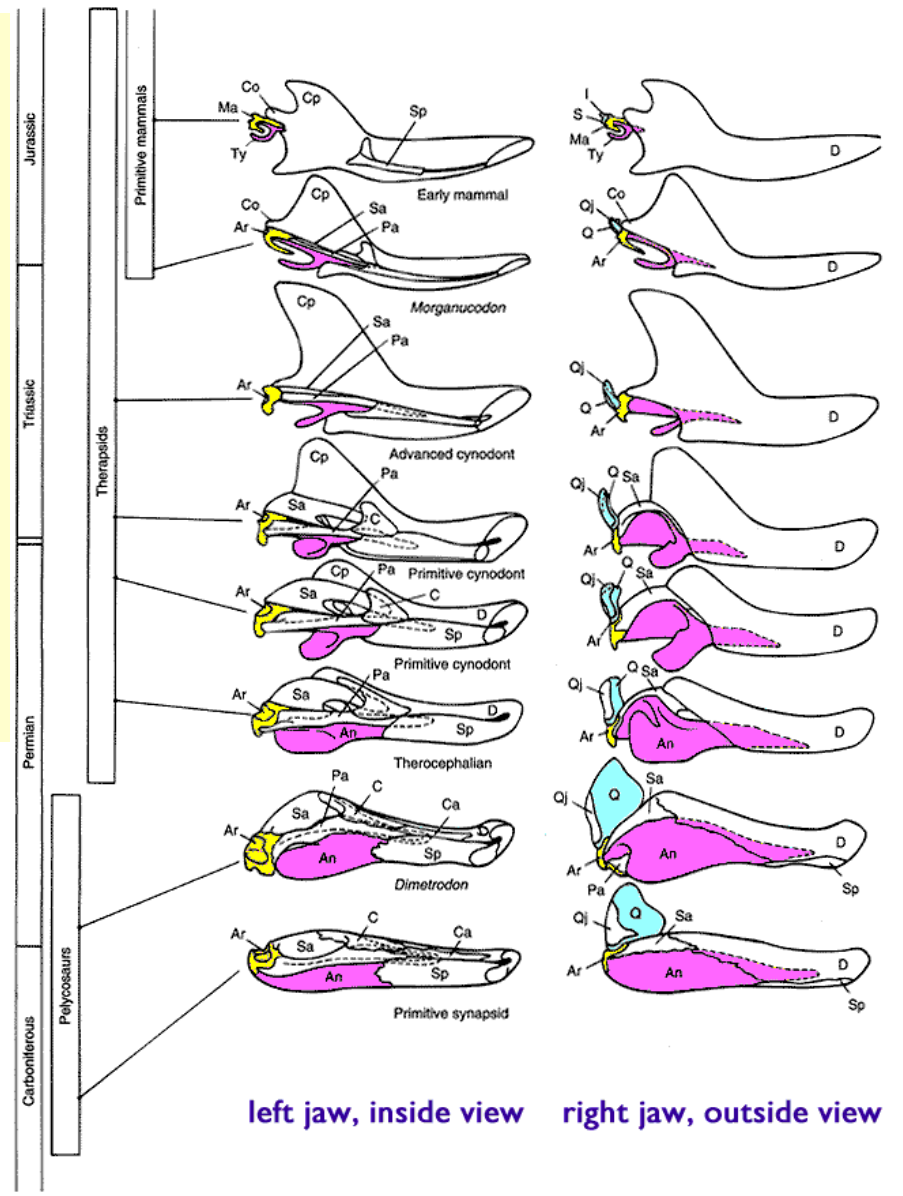
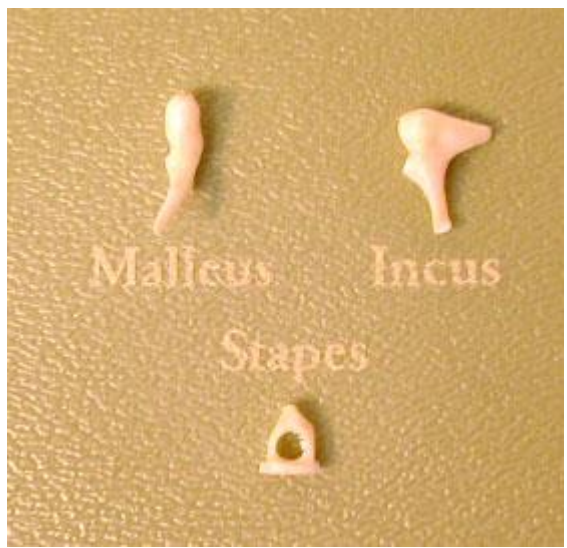
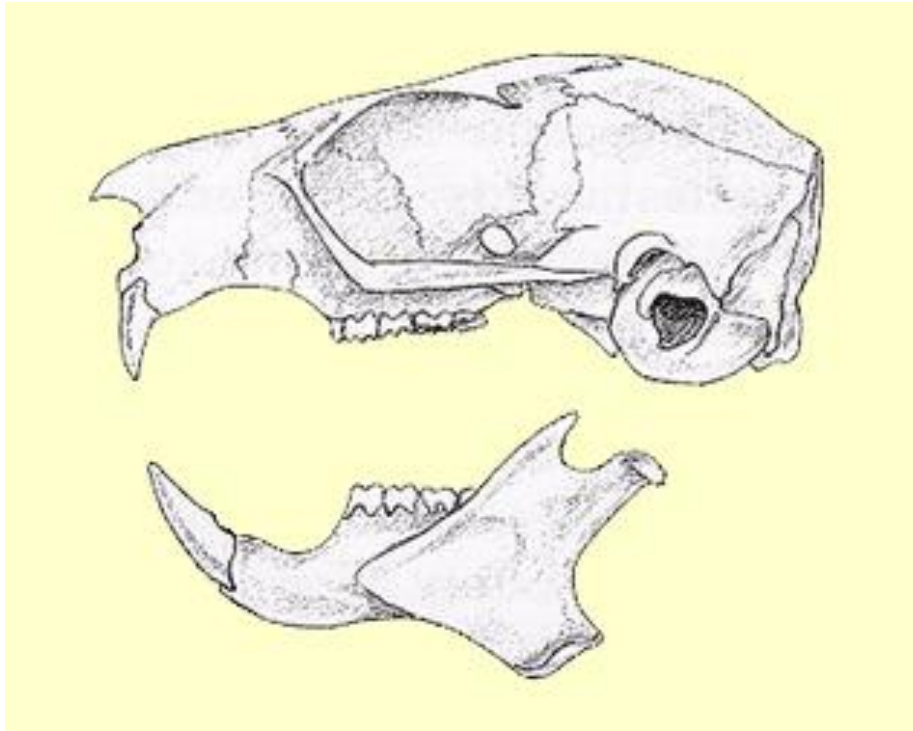


Crânio de gato, *Felis sp.*



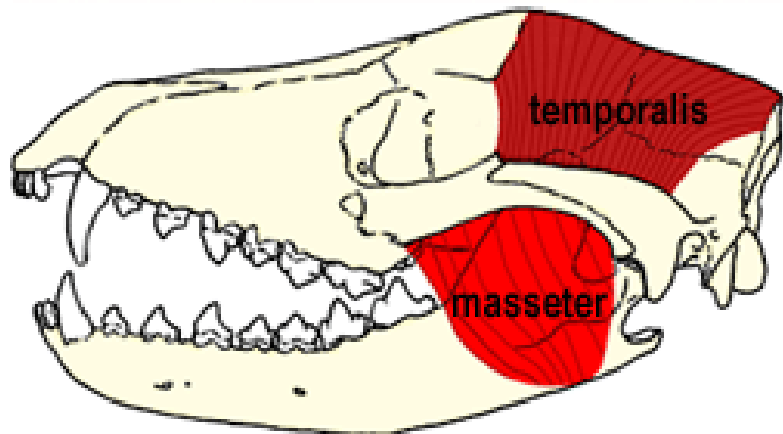
A. Lateral view of the skull of a cat (*Felis*)



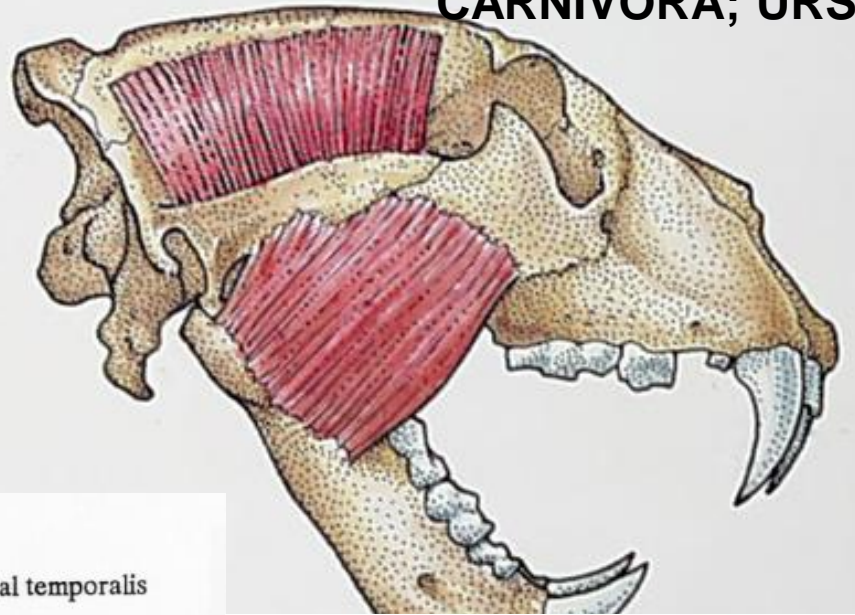


left jaw, inside view

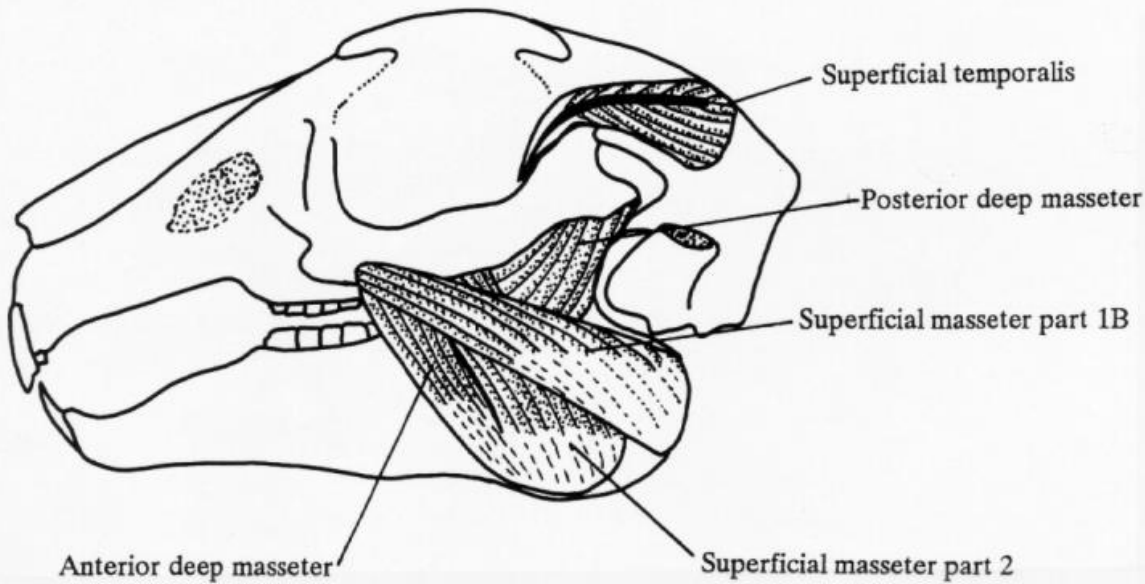
right jaw, outside view



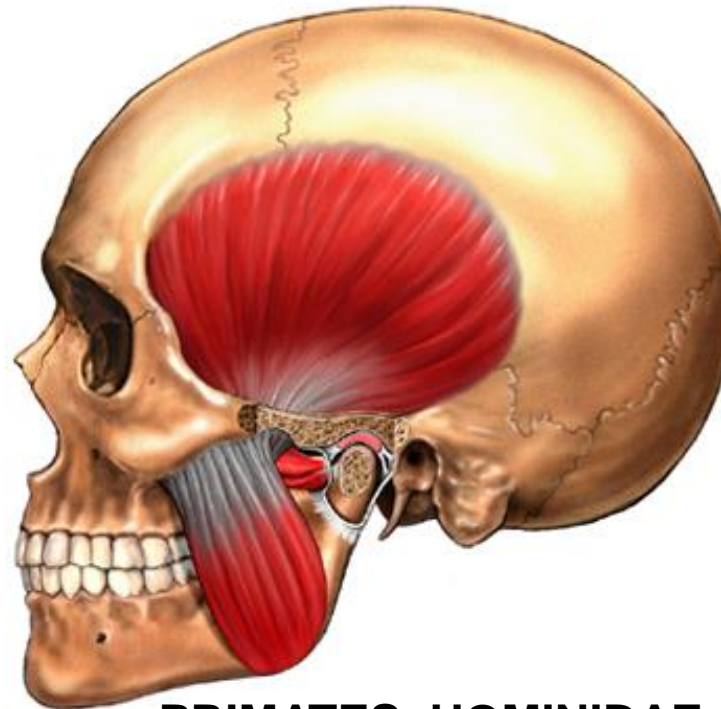
CARNIVORA; CANIDAE



CARNIVORA; URSIDAE



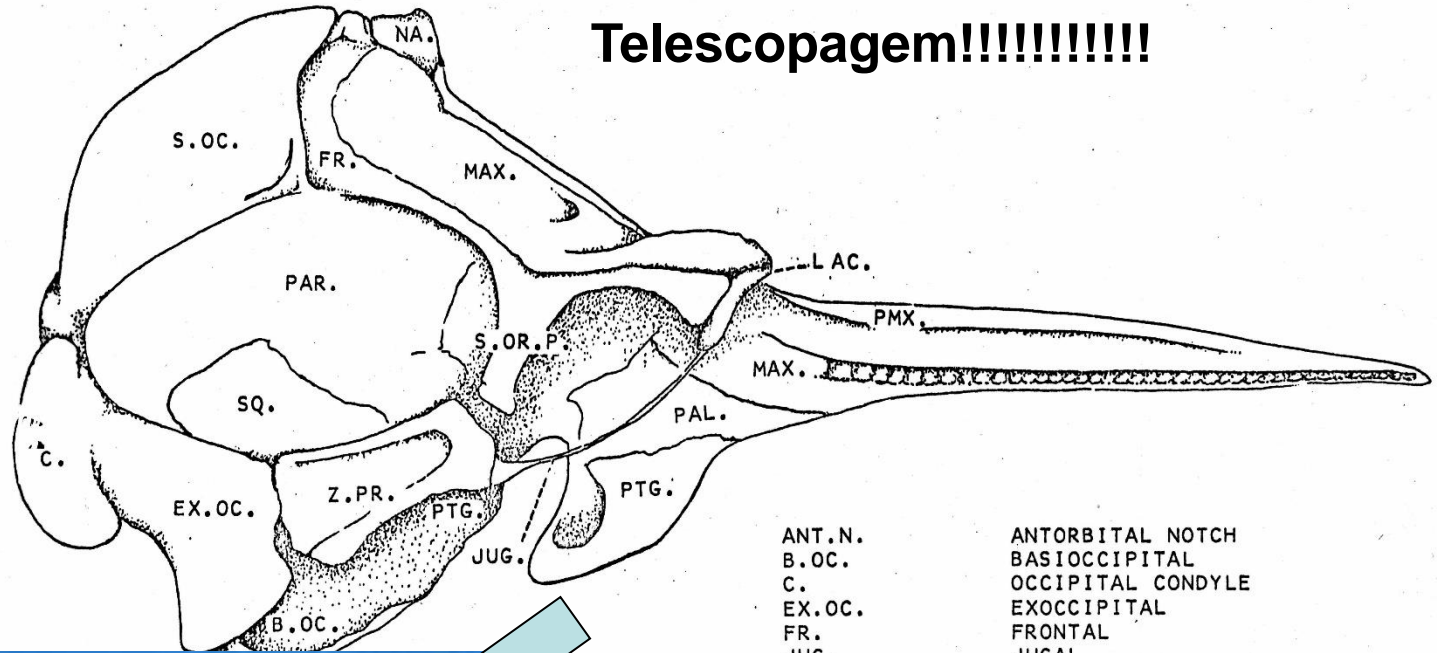
RODENTIA



PRIMATES, HOMINIDAE

Crânio de Odontocetáceo

Telescopagem!!!!!!!!!!!!!!

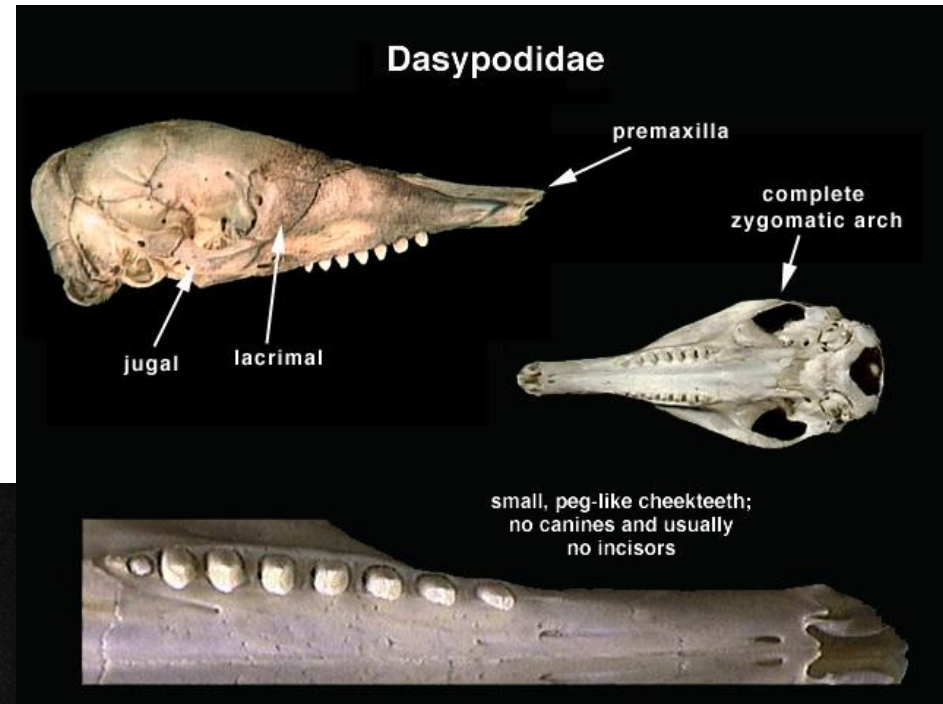


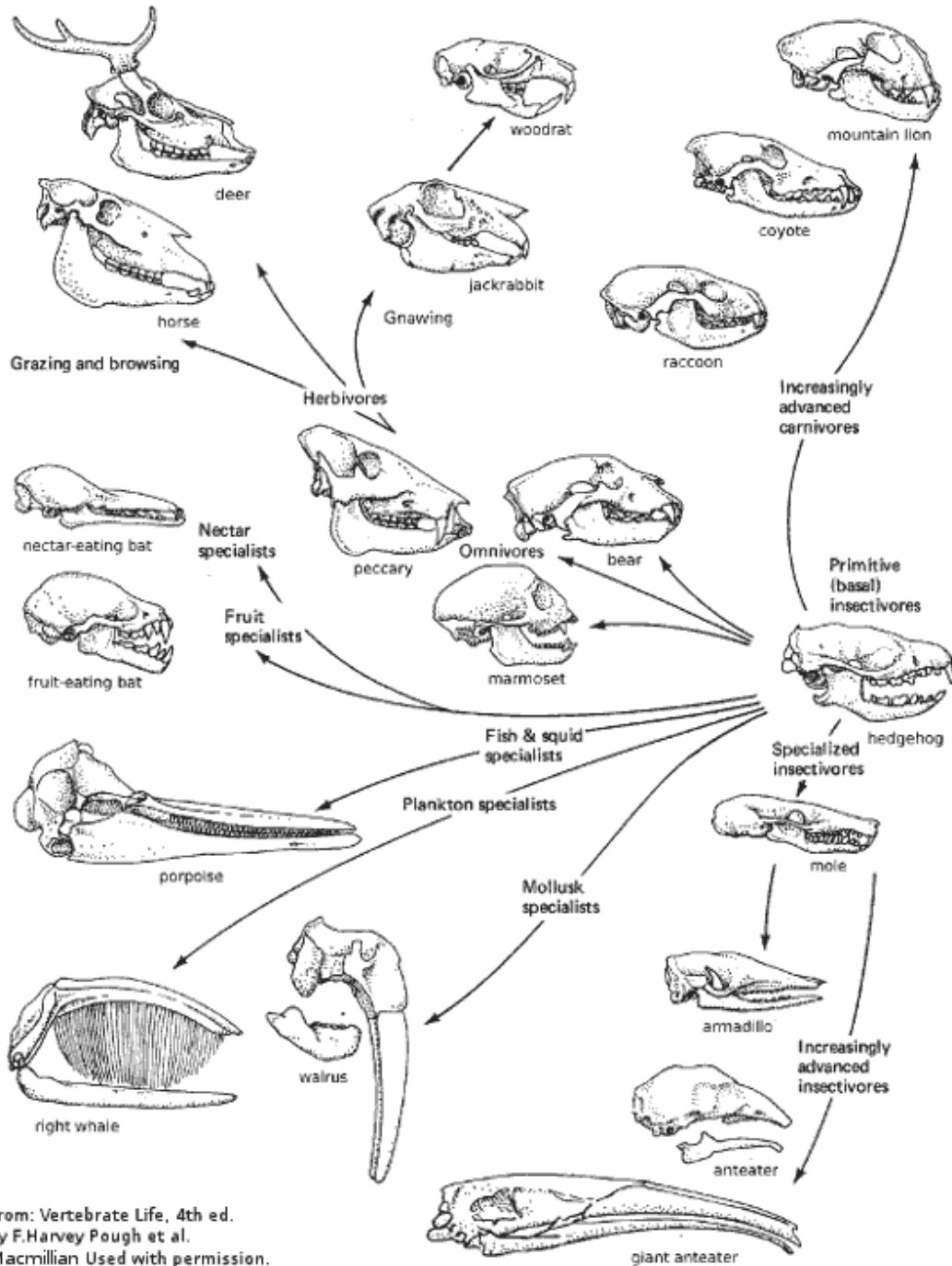
- | | |
|---------|---------------------------------|
| ANT.N. | ANTORBITAL NOTCH |
| B.OC. | BASIOCCIPITAL |
| C. | OCCIPITAL CONDYLE |
| EX.OC. | EXOCCIPITAL |
| FR. | FRONTAL |
| JUG. | JUGAL |
| LAC. | LACHRYMAL |
| MAX. | MAXILLARY |
| NA. | NASAL |
| PAL. | PALATINE |
| PAR. | PARIETAL |
| PMX. | PREMAXILLARY = INTERMAXILLARY |
| PTG. | PTERYGOID |
| S.OC. | SUPRAOCCIPITAL |
| S.OR.P. | SUPRAORBITAL PROCESS OF FRONTAL |
| SQ. | SQUAMOSAL |
| VO. | VOMER |
| Z.PR. | ZYGOMATIC PROCESS OF SQUAMOSAL |



DENTIÇÃO – função basicamente trófica.

- Heterodontia – 4 tipos diferentes de dentes, cumprindo funções tróficas diferentes, como regra geral; reversões secundárias à homodontia como por ex. em odontocetáceos, alguns “edentados” e em Pinnipedia.





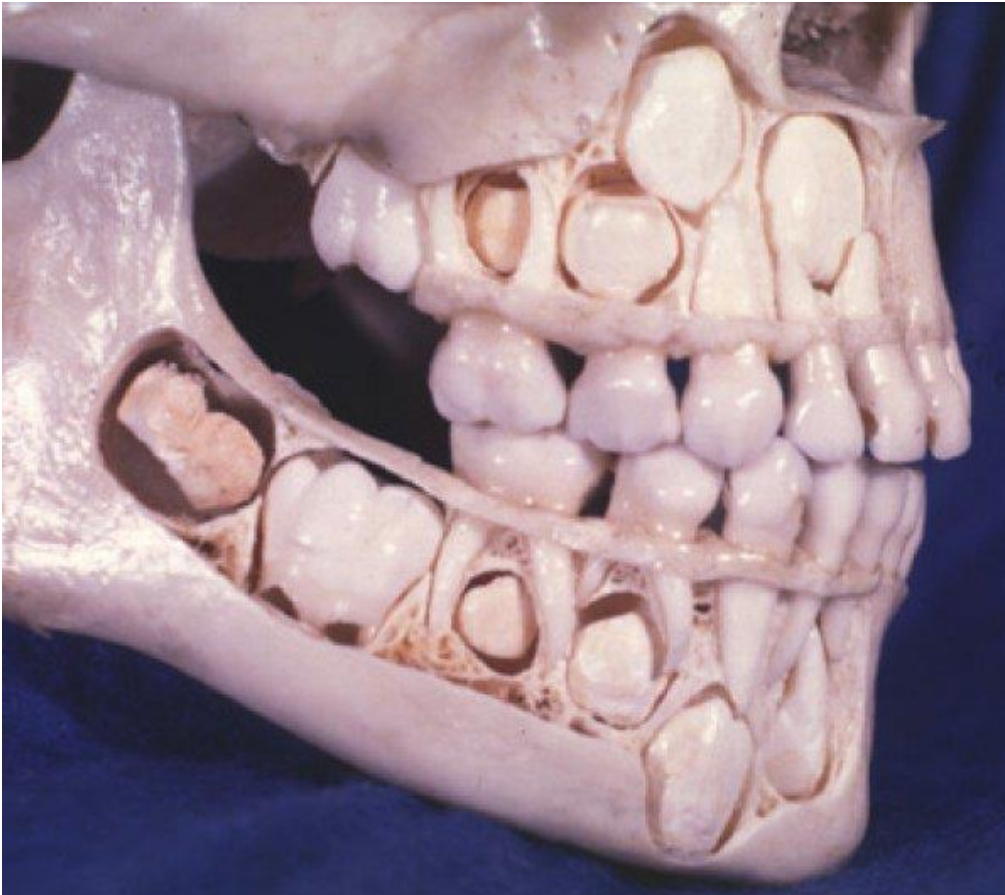
Diversidade/adaptativa de craniana em Mammalia, página

METADE

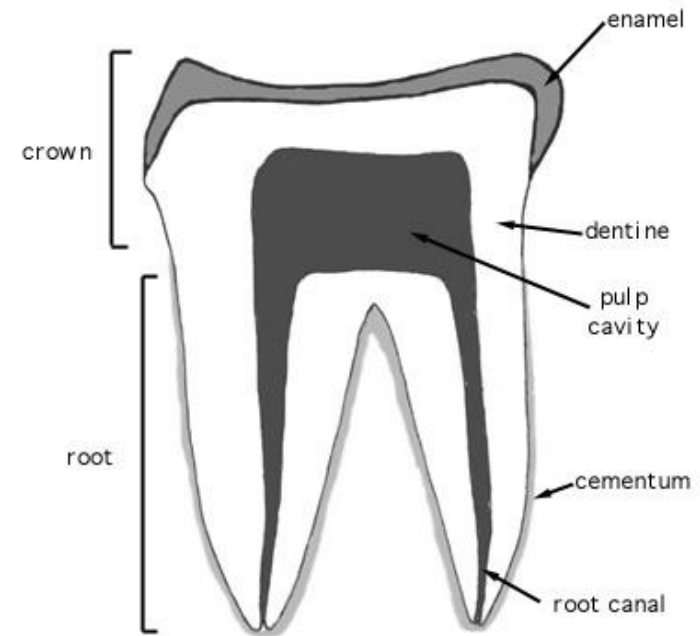


Difiodontia – substituição dentária. Ocorre em tempos variáveis, de acordo com o grupo (ordem, família) considerada!!

- Dentição decídua ou de leite**
- Dentição definitiva ou permanente**
- P. S.: molares não têm substituição!!!!**



Cross section of a tooth



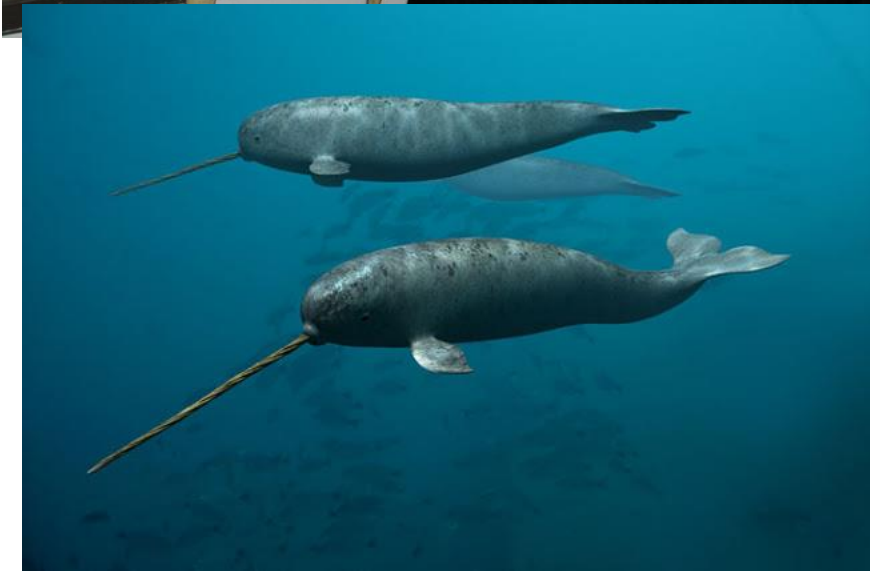
FUNÇÃO NÃO TRÓFICA DOS DENTES – DISPLAY!!!!

Ordem Proboscidea, família Elephantidae,
Loxodonta africana, *L. cyclotis*.

MARFIM



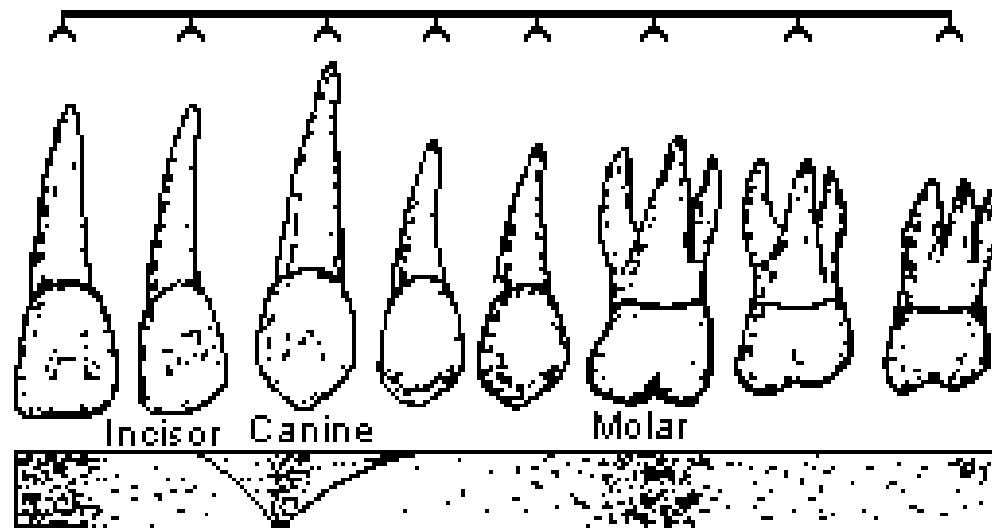
**Ordem Pinnipedia, família Odobenidae,
Odobenus rosmarus, morsa.**



**Narval, Odontoceti:
*Monodon monoceros***

Tipos de dentes:

- Incisivos – mais anteriores na arcada; função básica – corte do alimento. Raiz e coroa simples e reduzidas! **SUPERIORES LOCALIZADOS SEMPRE NO PRÉ-MAXILAR !!!!**
- Caninos – posteriores aos incisivos; função rasgar o alimento. Raiz e coroa simples mas, em geral, hipertrofiadas.
- Pré-molares – trituração grosseira do alimento. Raízes e coroa complexas – várias cúspides.
- Molares – trituração fina do alimento. Raízes e coroa hipercomplexas - multicuspidadas



Importância evolutiva do processamento intenso do alimento na cavidade oral:

-Nutrientes disponíveis o mais rápido possível;

-Altas taxas metabólicas/endotermia;

-Alta atividade;

-QUAL O PRINCIPAL TRADE OFF? Buscar alimento quase que permanentemente! Crítico para mamíferos de pequeno porte !!!

Fórmula dentária – notação correta posicional e numérica dos dentes dos mamíferos.

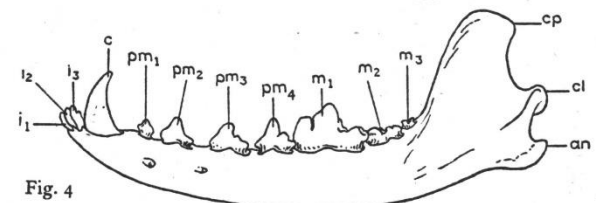
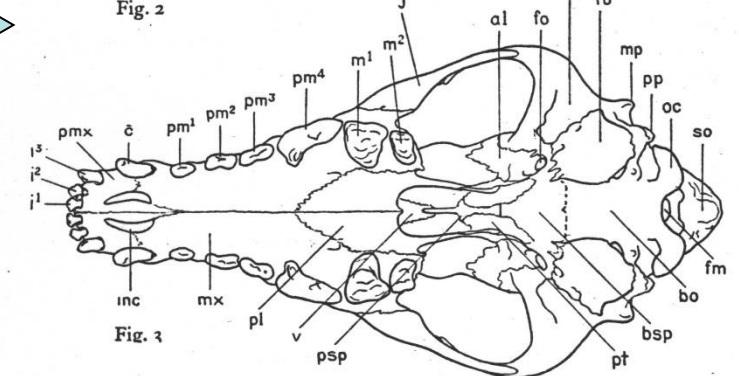
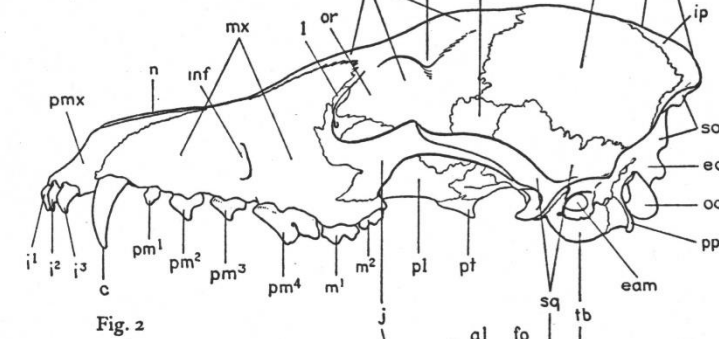
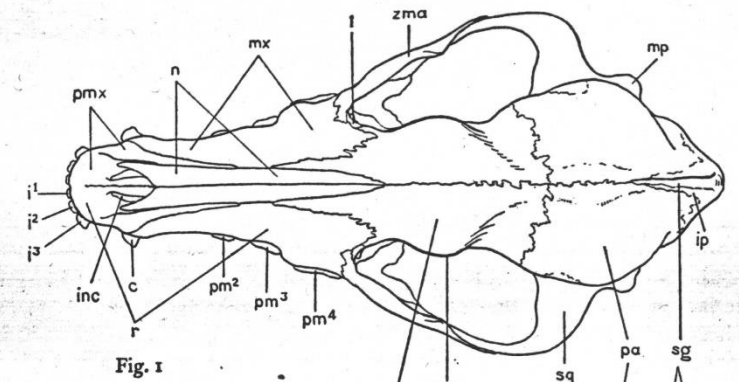
Conservadora para espécie, mas pode ser usada para gênero e até família – apenas uma metade do síntrico (ao final multiplica-se por 2). As letras indicam o tipo de dente e a barra indica se a posição é superior – pré-maxilar ou maxilar – ou inferior – dentário!

$$I3/3, C1/1, PM\ 4/4, M2/3 \times 2 = 42$$

$$I\ 3/2, C1/1, PM\ 2/2, M\ 3/3 \times 2 = 34$$

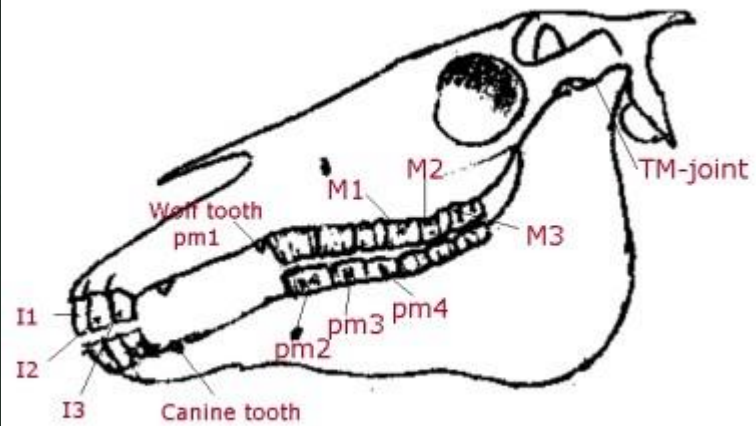
$$I\ 1/1, C\ 0/0, PM\ 2/2, M2/2 \times 2 = 20$$

$$I2/2, C1/1, PM\ 2/2, M3/3 \times 2 = 32 - \text{humana}$$





Family Myrmecophagidae
Myrmecophaga tridactyla
 R. H. Furber
 ASM - MHL



Macho ou fêmea?



Carnivore teeth (Canidae)

3/3 incisors



carnassials

