

Affinities of Metatheria

DEGREE-1

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Metatherians are pouched mammals lacking true placenta and specifically found in Australian region. Young ones are born immaturely and transferred into a small pouch called marsupium. They exhibit a mixture of primitive and advanced characters.

Affinity with Prototheria:

Metatherians share following certain primitive characters with Prototheria:

1. Cloaca Present
2. Clavicles, epipubic bones present
3. Ring like tympanic present
4. Tympanic bulla absent
5. Brain, relatively simple
6. Large olfactory lobes and anterior commissure,
7. No corpus collasum
8. True allantoic placenta absent

However, metatherians differ from prototherians in having characters such as:

1. Viviparity
2. Permanent marsupial pouch
3. Teats in mammary glands
4. Well-developed external ears
5. Vertebrae with epiphyses
6. Bicephalous ribs
7. No interclavicle and -Separate coracoids,
8. Teeth in the adult
9. Cochlea spirally coiled
10. Bifid penis

11. Testes in scrotal sacs
12. uterine gestation

Affinity with Eutheria:

Metatheria possess many characters similar to higher placental mammals such as:

1. Hairs and external ears
2. Mammary glands —sebaceous and with teats
3. 4 optic lobes in brain
4. Cochlea spirally coiled
5. Coracoids reduced
6. No interclavicle absent
7. Ribs bicephalous
8. Teeth heterodont
9. Male with penis
10. Testes in scrotum
11. Presence of uterus and vagina
12. Female viviparous
13. Ova small, yolkless
14. uterine gestation and placenta

However, metatherians differ from eutherians mainly in following characters:

1. Restricted distribution
2. Having shallow cloaca
3. marsupium
4. Flat small cranium,

5. no tympanic
6. epipubic bones
7. Palate perforated
8. No Corpus callosum
9. Two vaginae and two uteri
10. Bifid penis, scrotal sac in front of penis
11. Gestation period small
12. No true allantoic placenta, etc.

Systematic position:

Metatherians are more developed than the primitive, reptile-like, Prototheria. They are more close to eutherians, but not in the same grade of evolution. Hence, they are given a separate status as an infraclass — Metatheria, and the rest of the higher and truly placental mammals are placed in another infraclass — Eutheria.

Phylogenetic consideration:

Comparative study of marsupial and placental mammals reveals that marsupial are "2nd grade, mammals" and often regarded by zoologist as transitional step in the evolution of mammals and coenozoic placentals. Now it is considered that placental mammals and marsupials evolved individually from some common panthotherian ancestorin (late Jurassic period) side by side.

