REPTILIA : SPHENODON

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Question:

 What is sphenodon? Write the anatomical peculiarities of sphenodon. Marks. 2+6

Answer:

 The sphenodon belongs to order Rhynchocephalia is commonly known as “tuatara”. Sphenodon is the oldest surviving Lepidosaurian reptile and a Mesozoic fossil shows the continuity of the race. Sphenodon also called living fossil because it retains origin ancient characteristics.

**Anatomical peculiarities**:

1. Sphenodon has a lizard like form. Body measuring about 70cm in length.
2. The body is dull olive green in color with yellow spot above an whitish below.
3. The tail is bilaterally compressed. The tail can regenerate, if it is lost.
4. Except the lower side where the scales form transverse row of large square plate, the body is covered by small granular scale.
5. A median raw of erect spine extent from the top of the head to the tip of the tail but is interrupted at the neck region.
6. The eyes are large, dark and brown in color.
7. The cloacae aperture is a transverse slit.
8. The male lack copulatory organ.
9. The skull is typically built on the lepidopsauran plan.
10. The caudal vertebrae are divided by7 septum.
11. In rhynchocephalia, the teeth’s are accordant and are fused with the subsequent bone.
12. The heart is typically reptilian.
13. The brain is simple with a very well developed parietal organ or pineal eye.
14. The third eye is the prominent characteristics of sphenodon. The third eye is made up of a lens, a retina with a nerve connected to the brain, but iris is absent.
15. They feed mainly on insects with an occasional gecko or baby sea bird. The life process of sphenodon is slower than on other reptiles and the eggs take more than a year to hatch. They attain sexual maturity at the age of twenty.

AFFINITIES OF SPHENODON: marks :4

 Question.

 Write the affinities of sphenodon.

Spenodon possesses many peculiar features. It shows many structural similarities with the lizard. sphenodon is un doubtly a primitive and generalized type of reptile.

Affinities with dinosaurs: similarities.

1. Skull is of diapsid type and the quadrate is fixed.
2. Presence of uncinate process and abdominal ribs.
3. Disimilaries:
4. Ribs are single headed in sphenodon but they are double headed in dinosaurs.
5. The teeth in sphenodont are accordant while they are thecodont in dinosaurs.

Comment: all the above characteristics reveals that sphenodon very close similarities with primitive reptiles.

Affinities with crocodile: similarities:

1. The quadrate is immovable.
2. The skull is diapsid type.
3. Abdominal ribs are present.
4. Ribs bear uncinate process.

Dissimilarities:

1. The teeth are accordant in sphenodon but thecodon in crocodile.
2. clavicle is present in sphenodon but absent in crocodile.

Affinities with chelonian: similarities

1. The quadrate is immovable.
2. Urinary bladder is absent.
3. Caudal ribs are fused with vertebrae.

Dissimilarities:

1. In sphenodon the vomer is paired but in chelonian, it is unpaired.
2. In sphenodon sternum is present but it is absent in chelonian.
3. The oviduct is sphenodon opens dorsally but in chelonian the opening is ventrally.

AFFINITIES WITH AMPHIBIA.

1. In sphenodon three(3) main arterial trunks come off from a short common trunk probably representing the conus arteriosus of the amphibians. In other reptiles such common trunk is absent.
2. The course of blood through arteria interossea is present in both sphenodon and amphibian.

COMMENT: because of its primitiveness sphenodon shows affinity with caudate amongst amphibians. But the reptilians’ features of sphenodon are numerous and all that can be said is that sphenodon is the most primitive amongst the reptiles.