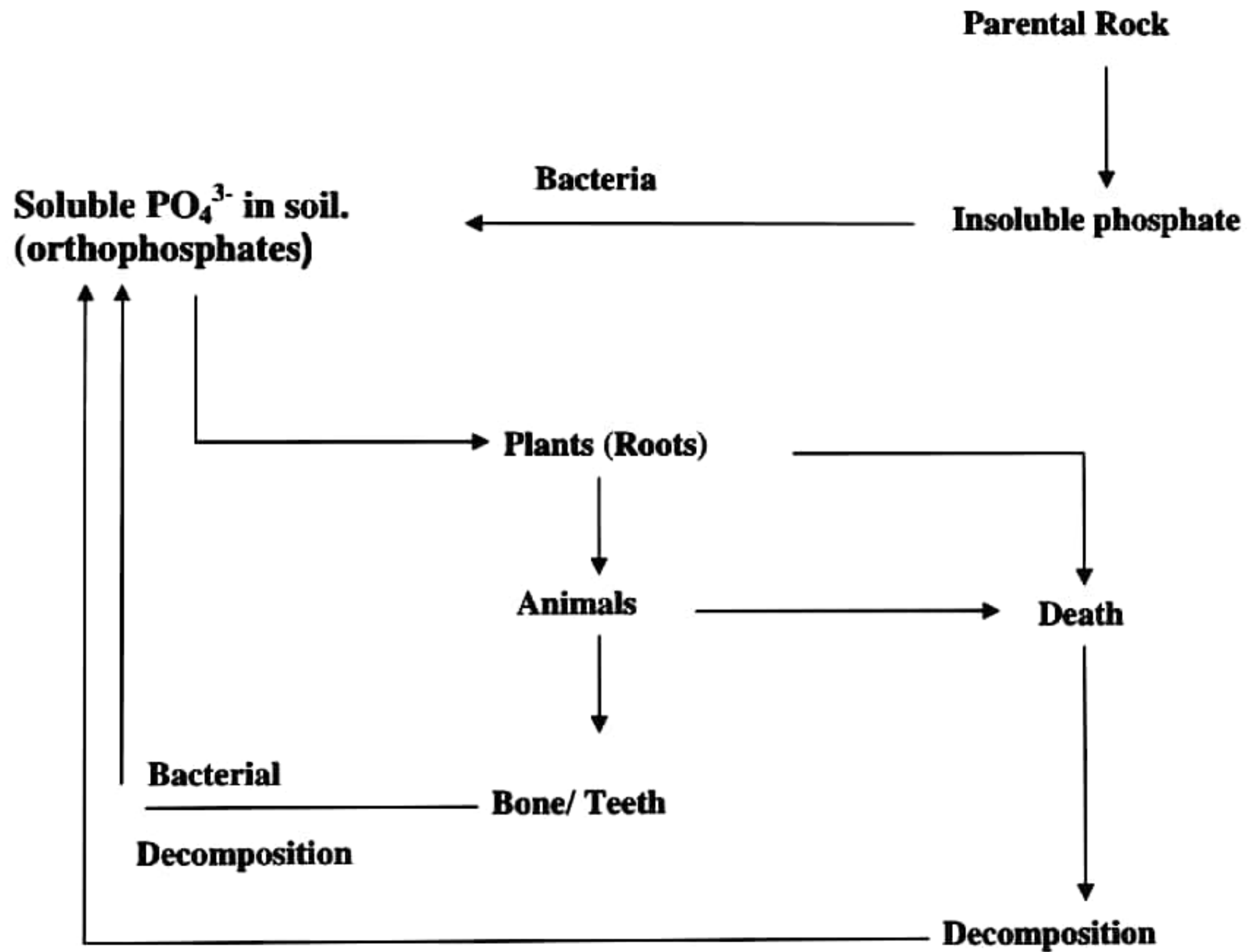


### **2.11.3 PHOSPHOROUS CYCLE**

- ❖ The only cycle that does not have a gaseous state
- ❖ Inorganic phosphate  $\text{PO}_4^{3-}$  is released from rocks and sediments through the action of erosion.
- ❖ Soil  $\text{PO}_4^{3-}$  is absorbed by plants and incorporated into nucleic acids, phospholipids and ATP.
- ❖ Animals obtain most of their  $\text{PO}_4^{3-}$  by consumption of other animals and from water.
- ❖  $\text{PO}_4^{3-}$  is released to the soil again by decomposers.
  - Dissolved  $\text{PO}_4^{3-}$  gets absorbed by algae and aquatic plants
  - Decomposers break down waste and returns  $\text{PO}_4^{3-}$  to sediments on the seabed.
  - Some returns to terrestrial environment through geologic processes and via seabirds. Guano



**Fig.2.11.3 Phosphorus Cycle**