SOUTH AMERICAN LUNGFISH: SPECIES OF THE DAY

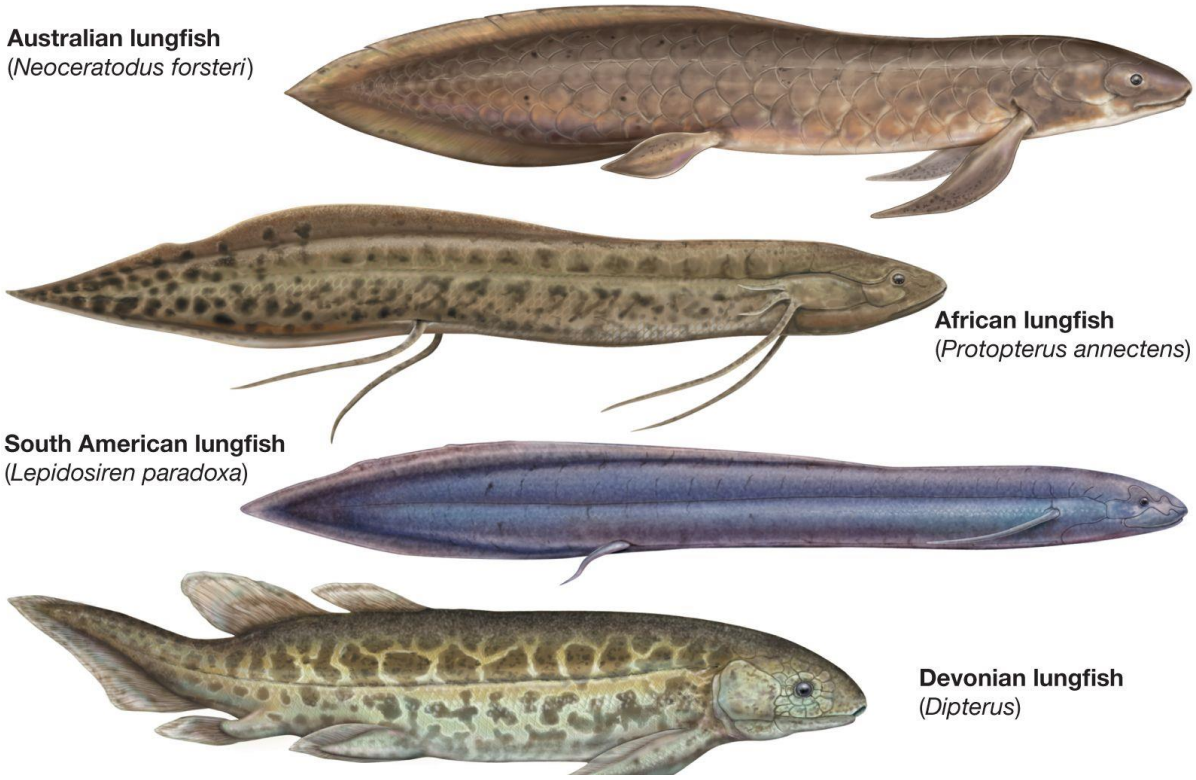
Recent study revealed that the South American lungfish genome grew massively during the past 100 million years.

South American Lungfish:

- Known scientifically as Lepidosiren paradoxa, this species is a freshwater lungfish.
- It represents the closest living link to the first land vertebrates, sharing a lineage that dates back over 400 million years.
- Predominantly found in the sluggish and still waters of Brazil, Argentina, Peru, Colombia, Venezuela, French Guiana, and Paraguay.

Genetic Characteristics:

- **Exceptional Genome Size**: Possesses the largest genome recorded in any animal, with its DNA capable of extending up to 60 meters if stretched out, compared to about 2 meters for the human genome.
- **Comparative Genome Size**: The lungfish's genome is over 50 times larger than that of humans.
- **Repetitive DNA**: Approximately 90% of its genome consists of repetitive sequences.



Historical and Biological Insights:

- Emerged during the Devonian Period, a crucial era in evolutionary history when aquatic life began transitioning to terrestrial forms.

- This period marked the evolution of fish with specialized lungs and robust fins, setting the stage for the rise of tetrapods.

Adaptive Features:

- **Respiratory Adaptation**: Unlike typical fish that rely solely on gills, the South American lungfish has developed lung-like organs to aid in breathing.
- **Habitat Adaptation**: Thrives in oxygen-poor environments such as the swampy regions of the Amazon and Parana-Paraguay River basins, supplementing its aquatic oxygen intake with air-breathing.