

A NEW GIANT *PURUSSAURUS* (CROCODYLIFORMES, ALLIGATORIDAE) FROM THE UPPER MIOCENE URUMACO FORMATION, VENEZUELA

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The Miocene beds of the Urumaco Formation, Venezuela, show a high variety of crocodylians, including Gavialidae, Crocodylidae, Nettosuchidae and Alligatoridae. Among them is the giant Alligatoridae *Purussaurus*, previously known from the upper Miocene Solimões Formation in Brazil (*P. brasiliensis*) and middle Miocene of La Venta Formation in Colombia (*P. neivensis*). The *Purussaurus* specimens collected along several field trips to the Urumaco Formation is different from previously known species, representing a new form. Its fossils include three-dimensional articulated skull and mandibles and disarticulated and usually broken postcranial bones obtained individually from surface exposures in the field and housed at Universidad Nacional Experimental Francisco de Miranda, Coro, Estado Falcón, Venezuela, under number UNEFM 1369 (holotype) and at Alcaldía del Municipio Urumaco, Venezuela, under number AMU-CURS-135 (paratype). The geological units from which the specimens were obtained are the middle and upper members of the Urumaco Formation, which consists mostly of claystone and sandstone with microfossils and vertebrate remains such as reptiles, mammals (terrestrials and aquatics), marine and freshwater fish, as well as coprolites and wood. The palaeoenvironments are interpreted as inner sub-littoral and coastal lagoon environments with riverine and estuarine (middle member) to tropical near shore marine and low coastal savannas with freshwater rivers (upper member). The skulls show all characters that diagnose *Purussaurus* gender, like the long and wide narial aperture surrounded by a large narial fossa. Moreover, show the following differential characters: skull elongated and flatter than in *P. brasiliensis* and *P. neivensis*; snout with an elongated median depression, wider than in *P. brasiliensis* and *P. neivensis* and very large narial opening, with almost 60% of rostral length, with parallel margins that reach 390 mm long and 205 mm transverse diameter; premaxilla-maxilla suture extend posterior to the fourth maxillary alveolus, and has an inverted 'V' suture shape on the palatal face; a large incisive foramen that extend anteriorly between the occlusive fossae for first mandibular alveoli, not so extend in *P. neivensis* and *P. brasiliensis*; concave posterior dorsal margin of the skull table (squamosal and supraoccipital), with a linear contour, whereas it is rounded in *P. neivensis* and *P. brasiliensis*. The dental formula consists of 5 premaxillary, 14 maxillary and 21 mandibular teeth. The total skull length and mandible UNEFM 1369 is 1260 and 1450 mm, respectively. The Urumaco *Purussaurus* was likely the largest predator in its swampy environments and its prey was mostly large herbivores, including giant turtles (like *Stupendemys*), semi-aquatic rodents (like *Phoberomys*) and large fishes.