

NOTES ON THE CHLAMYDOSAURUS OR FRILLED LIZARD OF QUEENSLAND (*Chlamydosaurus Kingii*, GRAY), AND THE DISCOVERY OF A FOSSIL SPECIES ON THE DARLING DOWNS, QUEENSLAND.

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[Read 13th July, 1875.]

This remarkable lizard was first described by Mr. John E. Gray, in 1827, and published in the appendix to the "Narrative of a Survey of the Intertropical and Western Coasts of Australia, by Captain P. P. King, R.N. He considers it closely allied to the Agamæ, but differing from them in the peculiar frill that is appended to the neck, and named it *Chlamydosaurus Kingii*. This interesting lizard was found by Mr. Allan Cunningham, who accompanied Captain King's Expedition as His Majesty's Botanical Collector for Kew Gardens, on the branch of a tree in Careening Bay, at the bottom of Port Nelson. Mr. Cunningham's journal contains the following remarks respecting it, he says:—"I secured a lizard of extraordinary appearance, which had perched itself upon the stem of a small decayed tree. It had a curious crenated membrane like a ruff or tippet round its neck, covering its shoulders, and when expanded, which it was enabled to do by means of transverse slender cartilages, spreads five inches in the form of an open umbrella. I regret that my eagerness to secure so interesting an animal, did not admit of sufficient time to allow the lizard to show by its alarm or irritability, how far it depended upon, or what use it made of this extraordinary membrane when its life was threatened. Its head was rather large, and eyes, whilst living, rather prominent, its tongue, although bipfid, was rather short and thick, and appeared to be tubular." The colour of the tongue and inside of the mouth was yellow. The discovery of the fossil species occurred as follows:—In a letter dated Toowoomba, Queensland, July 22nd, 1874, received from my son, Mr. G. F. Bennett, he says:—"I have just returned from a visit to Gowrie Station, on the Darling Downs, and was successful in securing a good specimen of the jaw of *Notoherium Mitchellii*, a portion of the jaw of *Diprotodon*, and other specimens, but the most curious of all is a small portion of a jaw with a good many teeth, either of a fish or snake." On receiving this specimen and examining it very carefully under a powerful lens, I considered it was decidedly reptilian. On afterwards showing it to Mons.

Henri Filhol, one of the naturalists attached to the Museum of Natural History of Paris (this gentleman had just arrived at Sydney *via* Batavia and Singapore, forming one of the French Expedition for observing the Transit of Venus at Campbell's Island, South Pacific, and brought a letter of introduction to me), he kindly gave it a very attentive examination, confirming my opinion as to its reptilian character, and on the following day informed me that he considered it a fossil of an extinct species of the *Chlamydosaurus* or Frilled Lizard of Queensland. I immediately transmitted it by post, by the mail steamer, to my friend Professor Owen, and in a letter dated November 5th, 1874, received the following reply:—"I lose no time in acknowledging yours of September 3rd, 1874, and the small box therein referred to, which has safely reached me. The portions of jaw with teeth, are those of a *Chlamydosaurus*; but of a species with a shorter, more obtuse, and higher head than *Chlamydosaurus Kingii*. I have therefore entered it, and shall find a place for it in some plate for figuring fossils, as of a *Chlamydosaurus Bennettii*. By the way, I should like to have from some competent and trustworthy observer an opinion whether the Frilled Lizard walks erect on its hind legs, or ever walks at all, or in any fashion, on that pair solely, after the manner of birds. I can understand its sitting itself up, and outspreading its frill, and perhaps snapping its teeth when attacked. But some, here, have rested their argument on *Iguanodon*, etc., walking on their hind feet, on a statement in Krefft's list of specimens in your Museum, that *Chlamydosaurus* does so."

In reply to the enquiry of my distinguished friend respecting the Frilled Lizard walking on its hind legs, I communicated to him the information I had obtained from several competent and trustworthy observers, and which led to the conclusion that the *Chlamydosaurus* did move solely on the hind legs occasionally, but when in that position the mode of progression was more hopping than walking, in some degree resembling the mode of progression as observed in the kangaroos. Mr. Krefft, who had an opportunity of observing these reptiles alive in a very large cage, says:—"It rises occasionally on its hind legs, squatting like a kangaroo. When suddenly disturbed it has this habit more particularly, sometimes it hops not unlike a bird for a short distance, say one or two yards, and then takes to all fours again. The common Lace Lizard (*Hydrosaurus varius*) has similar habits, and I have noticed some of them rise up and start, body erect, for fifteen or twenty yards. The Lace Lizard only rises up when on the ground, but the 'Frilled Lizard' does so when in trees, and probably jumps from branch to branch." The movement of the "Frilled

Lizard" on its hind legs was mentioned to me by Mr. Brown, who observed them in the vicinity of Rockhampton, and we have further confirmation of the fact by the following letter from Mr. Charles Coxen, of Brisbane, dated February 27th, 1875, who says:—"Respecting the locomotion of the *Chlamydosaurus Kingii* or 'Frilled Lizard,' I will state what came under my own observation. While on a visit in 1871 to my friend Mr. W. Archer, of Gracemere, near Rockhampton, my attention was aroused early one morning by seeing one of these reptiles standing erect on the garden path, with its head and nose in a line with its body. Not wishing to disturb it, I stood still and observed its movements, when seeing there was no desire on my part to disturb it, it quietly walked with its nose in the air amongst the shrubs; on my following it rather quickly, it ran away on its four legs for a short distance, but not being further interfered with, it again took to its bipedal progression, but on being startled a second time, it started off on all fours and ran up a tree. On mentioning this to Mr. Archer, he appeared to be aware of this peculiar habit of the reptile, and informed me that this lizard had been for a long time a denizen of his garden, and that the creature was tame, no one being allowed to frighten or interfere with it. Since making these observations, I have had an opportunity of stuffing one for the Queensland Museum, and have placed it in the bipedal position I have just described, with its frill in repose, that being in accordance with my observation of the one I saw at Gracemere, for I believe it is only when at bay, or showing fight, that the frill is erected."

In part illustration of these notes, I have sent a specimen of the "Frilled Lizard" (*Chlamydosaurus Kingii*) in spirits for the Museum of the Society.

Sydney, N. S. Wales,
May 20th, 1875.