ART. XLIII.—*Note on American Pterodactyls;* by O. C. MARSH.

THE Jurassic deposits of this country, up to the present time, have yielded only a single species of *Pterosauria*—*Pterodactylus montanus* Marsh.* The known remains are all fragmentary, but some of them indicate the general characters of the species and genus. Among the remains now in the Yale Museum are portions of the wing bones, including the characteristic wing metacarpal and first phalanx. These bones, although pneumatic, show much thicker walls than the corresponding bones of other Pterodactyls, even those from the same formation in Europe, thus suggesting a less degree of specialization. The size of these specimens indicates a spread of wings about five or six feet. The scapula and coracoid do not appear to have been ankylosed. The vertebræ referred provisionally to this species are procœlian. The teeth found near the remains, and apparently belonging with them, are elongate, and more rounded than in most Pterodactyls.

The genus represented by these remains appears to be distinct from *Pterodactylus*, and may be termed *Dermodactylus*. The only known species will hence be *Dermodactylus montanus*.

AMERICAN CRETACEOUS PTERODACTYLS.

The representatives of the *Pterosauria* from the Cretaceous of this country all appear to be destitute of teeth, and have therefore been placed by the writer in the new order *Pteranodontia*, from the type genus *Pteranodon*. These are mostly of gigantic size, some having a spread of wings of nearly or quite twenty-five feet. These reptiles have one remarkable feature in the skeleton, unknown in any other animals. To aid the

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powerful wings in flight, the pectoral arch is strengthened, (1), by the anchylosis of several vertebra; (2) by the robust scapulæ articulating on opposite sides of the common neural spine of these vertebræ.* This is virtually a repetition of the pelvic arch, on a much larger scale. One genus of American Cretaceous Pterodactyls (*Nyctodactylus*) was apparently without this feature.†

In the same geological horizon with the gigantic forms (Pteranodon beds), the remains of a single small Pterodactyl have been found. This animal was more diminutive than the Jurassic species, having a spread of wings not more than three or four feet. The jaws were proportionally more slender than in the larger Cretaceous species, and no teeth have been found with them. The humerus had a small head, and an enormous radial crest, which curved downward. The scapula and coracoid were firmly ankylosed. Some of the trunk vertebræ have very long transverse processes, or ankylosed ribs, curved backward. Some dimensions of this specimen are as follows:

Length of humerus,	62mm
Greatest diameter of head,	12
Transverse diameter across radial crest,	30
Greatest diameter of distal end,	16
Vertical diameter of humeral glenoid cavity,	13
Transverse diameter,	6

This species may be called *Pteranodon nanus*. Its known remains were found by Mr. S. W. Williston, in the Middle Cretaceous of Western Kansas.

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* This peculiar neural spine with its opposite articular facets seems to be present also in some of the English Cretaceous Pterodactyls. Owen figured and described it as a "frontal bone (?)", (Pal. Soc. 1851, Sup. I, p. 12, Plate IV, figs. 6, 7 and 8), and Seeley regarded it as a "? vomer." (Ornithosauria, p. 88, Plate XII, figs. 15 and 16.)

† The name *Nyctosaurus*, applied by the writer to this group, appears to have been preoccupied, and hence may be replaced by *Nyctodactylus*. The only species known is *Nyctodactylus gracilis*.