PALEONTOLOGY. — *New bones of large dinosaurs in the Jurassic-Cretaceous Taguelft Basin (Beni-Mellal Atlas, Morocco)*. Note (*) of Mr. **Michel Monbaron**, presented by Mr. Georges Millot.[*]

Two new dinosaur localities were found in the Lower Cretaceous of the Cretaceous Taguelft Basin (Beni-Mellal Atlas); one revealed the left humerus of a large sauropod (perhaps *Rebbachisaurus garasbae* Lavocat); the other, prospected, contained the important part of a skeleton, notably a vertebral column in place.

1. HISTORICAL. — The Jurassic-Cretaceous dinosaur localities of Morocco have been noted for a long time. R. Lavocat carried out numerous works in southern Morocco during the years 1948-1952 (1), which permitted him to discover numerous identifiable bones in the "Continental Intercalaire" and to define a new genus and species: *Rebbachisaurus garasbae*, a large sauropod.

In the Jurassic-Cretaceous synclines of the Upper Atlas limestone, J. Bourcart and colleagues (2), joined by H. Termier (3), noted fragments of indeterminable sauropod bones of Jurassic affinity. For G. Duvar (4), they were rather Jurassic bones remaining at the base of the Cretaceous.

The fragmentary character of the bones discovered then did not encourage the researchers to push their works further. However, two recent discoveries in the Cretaceous Taguelft Basin (Beni-Mellal Atlas, *fig.* 1) restarted interest in research into this domain of vertebrate paleontology in Morocco. They were registered in the context of cartographic geology works, carried out in the territory of the 1:100,000 Beni-Mellal regular page by the Director of Geology of the Ministry of Energy and Mines of the Kingdom of Morocco (5).

II. HUMERUS FROM IGHREM SGAT. — Discovered in May 1978 by A. Laaroussi and M. Monbaron, this bone (*fig.* 2) is 95 cm long. Its width is 40 cm at the proximal end, which is in the form of a concave palette on its internal face; this last also presents a crested part. The distal end has an oval cross-section, with a large diameter of 20.5 cm and a small diameter of 10 cm. However, the bone is amputated at its distal end; what remains represents around 2/3 of its initial length. It is broken in several places by fissures, probably of tectonic origin, that render it rather fragile; however it is in good condition and very identifiable.

It is the left humerus of a sauropod dinosaur, provisionally attributable to *Rebbachisaurus garasbae* Lavocat (6); a more certain determination cannot yet be made.

The bone, manifestly in place and not altered, rests in banks of sandy pelites with intercalations of red-brown, beige, and gray marls, a formation attributed to the Lower Cretaceous and situated 110 to 120 m below the lower basaltic Jbel Sgat coulee. The specimen is preserved in the collections of the Geological Mapping Service of Morocco.

---

[*] Original citation: Monbaron, M. 1978. Nouveaux ossements de Dinosauriens de grande taille dans le bassin jurassico-crétacé de Taguelft (Atlas de Beni-Mellal, Maroc). *Comptes Rendus de l'Académie des Sciences à Paris*, série D, 287:1277-1279. Translated by Matthew Carrano, Department of Anatomical Sciences, Stony Brook University, July 2002.

III. VERTEBRAL COLUMN FROM AÏT WISSADANE. — The nearly fortuitous discovery of this well-preserved bone, in a region that had up to now revealed only poorly identifiable fragments, encouraged the pursuit of researches. They were materialized by the discovery on 24 August 1978, 1 km west-southwest of the Aït Wissadane school (7), of the important part of a skeleton of a large dinosaur in place in the faded beds of the sandy-pelitic and sandy-conglomeratic Early Cretaceous formation of the Taguelft Basin.

At the outcrop, the locality presents large vertebrae without apparent processes aligned oriented N155°E in the form of an alignment over several meters. In addition, the soil is strewn with innumerable scattered debris of bones of all kinds: long bones, remains of vertebrae and processes, ribs, etc. These are incontestably serious indications of an interesting locality, undoubtedly with the important part of a skeleton buried, a locality that the geologist of the terrain was not able to excavate without the indispensable presence of a sauropod dinosaur specialist.

IV. CONCLUSION. — These recent discoveries appear to agree with H. Termier, who predicted the discovery of large Mesozoic vertebrates in Morocco (3). The researches carried out this year, in addition to the two discoveries cited here, permitted localizing (or rediscovering) numerous other localities. In this continental formation with discontinuous, lenticular horizons, a type of "lithological environment" has been determined to which the vertebrate localities seem connected, which can constitute a precious research guide.

The important part of a skeleton, or the complete skeleton, of a large dinosaur can reasonably be expected to be extracted from these levels soon; this would constitute the first in Morocco and the Maghreb.

(*) Meeting of 20 November 1978.
(1) R. LAVOCAT, *Comptes Rendus*, 232, 1951, p. 169 and *C. R. XIX Congr. géol. internat. Alger*, 13, no. 15, 1952, p. 65-68.
(2) J. BOURCART, A. F. DE LAPPARENT and H. TERMIER, *Comptes Rendus*, 214, 1942, p. 120.
(3) H. TERMIER, *Bull. Soc. géol. France*, 5th series, 12, 1942, p. 199-207.
(4) G. DUBAR, *XIX Congr. géol. internat. Alger*, guidebook, Moroccan series 4, 1952, p. 24.
(5) M. MONBARON, unpublished letters, 1977-1978.
(6) P. TAQUET, personal communication, 19 July 1978.
(7) *Carte du Maroc, coupure régulière au* 1/50,000, page NI-29-VI-2*b*, Tilougguit.

Geological Maping Service,
Ministry of Energy and Mines, Rabat, Morocco.

FIGURE CAPTIONS

Fig. 1. — Sketch of the region.

Fig. 2. — The humerus from Ighrem Sgat (internal face) during its removal.