SMITHSONIAN MISCELLANEOUS COLLECTIONS
VOLUME 61, NUMBER 5

A NEW DINOSAUR FROM THE LANCE FORMATION OF WYOMING

BY

CHARLES W. GILMORE

(PUBLICATION 2184)

CITY OF WASHINGTON
PUBLISHED BY THE SMITHSONIAN INSTITUTION
MAY 24, 1913

The Lord Baltimore Press
BALTIMORE, MD., U. S. A.

A NEW DINOSAUR FROM THE LANCE FORMATION OF WYOMING

By CHARLES W. GILMORE

ASSISTANT CURATOR OF FOSSIL REPTILES, U. S. NATIONAL MUSEUM

INTRODUCTION

In July, 1891, Messrs. J. B. Hatcher and W. H. Utterback discovered in Wyoming an articulated skeleton of a small Orthopodous dinosaur. Until quite recently this specimen had remained in the original packing boxes and it was in the nature of a surprise upon first examination to discover that it represented an undescribed form. I therefore propose to make this animal the type of the new genus, *Thescelosaurus*. The present paper may be considered preliminary, as upon the completion of the preparatory work now in progress a more detailed account of the skeletal anatomy, and a discussion of its affinities, will be given.

THESCELOSAURUS, new genus

In the present communication the characters of this genus are included in the description that follows of *Thescelosaurus neglectus*, the type species.

THESCELOSAURUS NEGLECTUS, new species

Type.—Cat. No. 7757, U. S. N. M. This specimen consists of a nearly complete articulated skeleton, the skull and neck being the only important parts missing.

Type-locality.—Doegie Creek, Converse County, Wyoming.

Paratype.—Cat. No. 7758, U. S. N. M. A second individual consisting of a few cervical, dorsal, and caudal vertebræ, portions of both scapulæ, ribs, bones of fore and hind feet, and portions of limb bones. Collected by Mr. O. A. Peterson, 1889.

Locality.—Lance Creek, Converse County, Wyoming.

Horizon.—Both specimens from the Lance formation, Upper Cretaceous or Lower Tertiary.

Description.—The vertebral column is present from the anterior dorsal region to the tip of the tail. The centra of the median dorsals

measure 40 mm. in length; arches low with thin flattened spinous processes; centra broadly rounded transversely, without lateral cavities; ends of centra slightly biconcave throughout the series. Anterior and median caudals about same length as dorsals mentioned above. Median caudals have sides of centra bisected by a sharp longitudinal ridge.

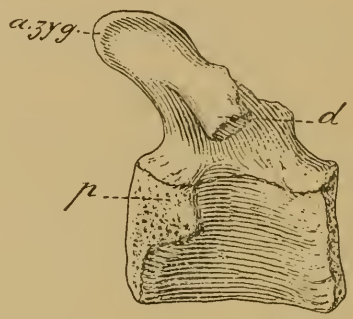
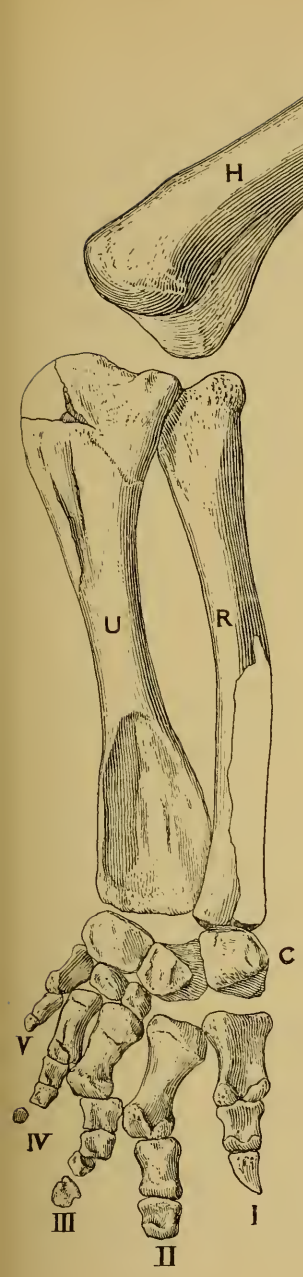


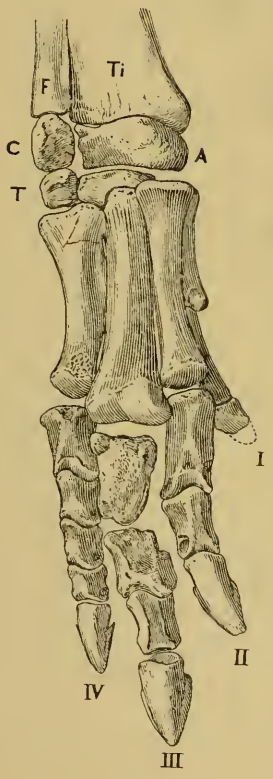
FIG. 1.—Cervical vertebra of *Thescelosaurus neglectus*. Paratype. Cat. No. 7758 U. S. N. M. about ⅔ nat. size. Viewed from left side. *a. zyg*, anterior zygapophysis; *d*, diapophysis; *p*, parapophysis.

The back of this animal is strengthened by ossified tendons extending along either side of the neural spines from the median dorsal

FIG. 2.—Left scapula of *Thescelosaurus neglectus*. Paratype. Cat. No. 7758 U. S. N. M. ½ nat. size. Viewed externally.

region nearly to the tip of the tail. A cervical pertaining to the paratype No. 7758 (see fig. 1.) shows the sides of the centra below the neuro-central suture to be pinched in, but to a less degree than in the cervicals of *Camptosaurus*. Ventrally there is a broad, flat, roughened





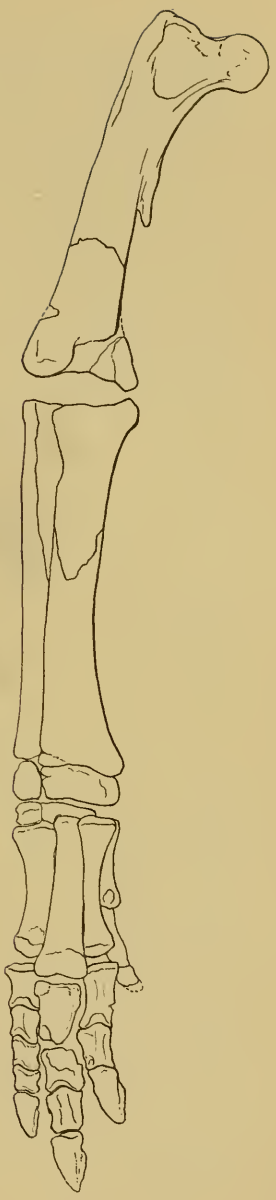


FIG. 3 FIG. 4 FIG. 5

FIG. 3.—Left fore limb of *Thescelosaurus neglectus*. Type. Cat. No. 7757 U. S. N. M. ½ nat. size. Palmar view of foot shown as found *in situ*. *C*. carpus; *H*, humerus; *R*, radius; *U*, Ulna; I, II, III, IV, and V, digits one to five.

FIG. 4.—Right hind foot of *Thescelosaurus neglectus*. Type. Cat. No. 7757 U. S. N. M. ¼ nat. size. Shown as found *in situ*. *A*, astragulus; *C*, calcaneum; *F*, distal end of fibula; *T*, distal row of tarsals; *Ti*, distal end of tibia; I, II, III, and IV, digits one to four.

FIG. 5.—Right hind leg of *Thescelosaurus neglectus*. Type. Cat. No. 7757 U. S. N. M. About ⅙ nat. size. Shown as found articulated.

surface extending the entire length of the centrum, being wider behind than in front. Cervical ribs free. Dorsal ribs of good length, T-shaped above but flattening out into a broad distal portion. Calcified sternal ribs present.

In the pectoral arch the scapula is remarkably short with widely expanded blade, much as in *Camptosaurus* (see fig. 2). The proximal portion of this bone not known. Ossified sternum present. Only the distal half of the humerus known, but the proportions between upper and lower bones of the fore limb appear much the same as in other bipedal predentate dinosaurs. Carpus ossified, though its elements have not yet been definitely determined. There are five digits in the manus, having the phalangial formula 2, 3, 4, 3, 2. The first three digits are tipped with pointed unguals, the terminals of the fourth and fifth, however, have been reduced to small rounded bony nodules; the fifth digit is borne by a small metacarpal and is comparatively feeble. Ungual digit II missing.

The pelvic arch has not been developed sufficiently to show all its features, but the presence of a rounded rod-like pubis with a long, slender postpubic process reaching the end of the ischium is observed. The ischia have flattened shafts meeting on the median line but without especial enlargement of their distal ends.

The femur is longer (355 mm.) than the tibia (300 mm.), slightly curved and with pendant trochanter on the postero-inner face of the shaft. As in *Camptosaurus* this trochanter is developed just above the middle of the shaft. The finger-like great trochanter is present on the antero-external angle of the proximal end. The head is globular and separated from the shaft by a well-defined neck. Fibula slender with distal third closely applied to the tibia.

The astragulus and calcaneum as usual form the proximal row of the tarsus. The distal row consists of two flattened bones articulating with the proximal ends of metatarsals III and IV, the inner element extending somewhat over the top of metatarsal IV, as shown in figure 4 of the articulated foot. There are four digits in the hind foot; metatarsal I being reduced; digit V is wanting. The phalangial formula is 2, 3, 4, 5, 0. All digits are terminated by pointed claw-like unguals.

Typically *Thescelosaurus neglectus* is of moderate size, having a total length of perhaps twelve feet, and standing a little over three feet at the hips. The fore-limbs are somewhat more than half as long as the hinder pair, and this disproportionate length of limb would appear to indicate an animal normally using a bipedal mode of progression.

Relationships.—The non-union of the pubes in front of the sacrum, the slender post-pubic processes extending parallel to the ischia, and the characteristic bird-like hind feet show *Thescelosaurus* to be a true member of the suborder Orthopoda or Predentate dinosauria. Provisionally this genus is here referred to the family *Camptosauridæ*. From *Dryosaurus, Laosaurus,* and the English *Hypsilophodon* it may at once be separated by the greater length of femur as compared with the tibia. From *Camptosaurus* it is to be distinguished by the rounded rod-like pubis as compared to the flattened blade-like pubis of that genus. Additional characters are to be found in the fore-feet, *i. e.,* an additional phalanx in digit III, and the non-coalescence of the first metacarpal with the carpus.