## ART. XXXIX.—*Contributions to Paleontology;* by F. A. LUCAS.

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### *1. A New Crocodile from the Trias of Southern Utah.*

THE following genus and species is based upon the imperfect anterior portion of the lower mandible of a crocodile comparable in size with *Tomistoma* among living and *Thoracosaurus* among extinct species. The mandibular symphysis is long, though less than in *Tomistoma*, and includes a considerable portion of the splenial. The teeth are very close to one another, being separated by an extremely thin partition of bone, and the tooth row lies in a broad shallow groove. The teeth are set obliquely, raking decidedly outwards, and they are compressed from before backward, the antero-posterior diameter being slightly less than the transverse. The two anterior teeth are round in section and vastly larger than the others, the end of the jaw being expanded for their accommodation. The surface of the bone is somewhat pitted, there is a deep narrow groove along the side of the jaw and there is no notch for the upper canines and no depressions for the reception of any of the upper teeth. The genus is characterized by the antero-posterior compression of the teeth, their closeness to one another, and by the great size of the two anterior teeth. The name *Heterodontosuchus ganei* is proposed for the genus and species, the specific name being given in honor of the discoverer Mr. H. S. Gane, by whom it was transmitted to Mr. Whitman Cross of the U. S. Geological Survey. The specimen is from Clay Hill, Southern Utah, and is from the Trias at the top of No. 10 of the section given by J. S. Newberry on page 99 of the Report of the Macomb Expedition. The horizon is said by Mr. Cross to be the same as that from which teeth of a crocodile—probably a *Belodon*—and of a species of *Palæoctonus* were obtained by him in the Telluride, Rico, and La Plata Quadrangle of southwestern Colorado. Type No. 4136, U. S. Natl. Museum.

### *2. A New Species of Dinictis (D. major).*

Among some specimens collected by Mr. N. H. Darton, of the U. S. Geological Survey, in 1897 is a species of *Dinictis* which proves to be new and the largest species of the genus yet discovered. The distinctive characters are the size of the animal, the feeble development of the mandibular flange for the protection of the upper canine, the robust character of the

feet and the presence of an ungual shield. The species, represented by the greater part of the skull, and many important portions of the skeleton, was the size of a small Puma, *Felis concolor*, but with much heavier feet. The upper canines are moderate, compressed, flattened on the inner face, with a slight keel on the antero-internal face and well-marked, serrated keel on the posterior edge. The anterior cusp is obsolete on the second, lower premolar, large on the third lower premolar. The mandible is rather deep, convex on the lower edge, and with the flange for the upper canine almost obsolete. The metapodials are stout, those of the hind feet especially so, being a trifle heavier, though slightly shorter, than the corresponding bones in a jaguar, *Felis onca*. The ungual phalanges have a well-developed shield. Some of the principal measurements are as follows:

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|---|---|
| Length of femur | ·230 |
| Articular breadth of femur | ·042 |
| Length of tibia—a little shortened | ·180 |
| Length of third metatarsal | ·070 |
| " " upper molar series | ·054 |
| " " lower " " | ·065 |
| " " " " " in *Dinictis felina* | ·052 |
| " " " " " in *Dinictis bombifrons* | ·055 |

The name of *Dinictis major* is proposed for this species on account of its size.

The specimen was obtained by Mr. N. H. Darton in the massive sand at Bird Cage Gap, Bad Lands of Western Nebraska. Type No. 3957, U. S. Natl. Museum.