Bol. Soc. Geol. Mexicana, t. XXX, n. 1. p. 1-4, 2 figs. (1967)

ADDITIONS TO EL GRAMAL LOCAL FAUNA NEJAPA, OAXACA, MEXICO

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ABSTRACT

A mammalian fauna of Late Miocene age was described by Stirton in 1954 and consisted of *Merychippus* sp., represented by a partial skull and an upper check tooth and ?*Oxydactylus* represented by the distal end of a cannon bone. To these can now be added *Gomphotherium* sp. and ?protoceratid. The small but important fauna was collected on the west side of the Isthmus of Tehuantepec near Km 668 on Federal Highway 190 near the village of Nejapa, Oaxaca, Mexico. The fauna is characteristic of continental North America.

In February of 1968 accompanied by C. J. Schlaepfer I made a short visit to a fossil vertebrate locality described by Stirton (1954) south of the city of Oaxaca, Mexico. Tuffaceous sands and conglomerates exposed near the village of Nejapà near kilometer 668 on Federal Highway 190 had yielded a small fauna; *Merychippus* sp. represented by part of a palate, a fragmentary upper tooth of *Merychippus* and the distal end of a cannon bone referred to ?*Oxydactylus*. The fragmentary upper tooth had been found by A. R. V. Arellano, who for so long has been prominently associated with the science of vertebrate paleontology of Mexico. Stirton (1954) gave the name El Gramal local fauna to forms from this locality.

In a very short time the general area of the locality was rediscovered and bone fragments were found. C. J. Schlaepfer discovered another upper molar of *Merychippus* (I.G.M.* 68-45, Fig. 1) and Wilson found fragments

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* The abbreviation I.G.M. is used for Instituto de Geología de la Universidad Nacional Autónoma de México.

of the tusk of a mastodont and upper tooth fragment of a ?*Proxyinthetoceras* (I.G.M. 88-46, Fig. 2). The latter are new to the El Gramal local fauna. At this time we can add nothing new to Stirton's description of the local stratigraphy but I did think it important to draw attention to the new additions to the local fauna.

The specimens are deposited in the collection of the Instituto de Geología de la Universidad Nacional Autónoma de México. I am grateful to Ing. G. P. Salas, Director of the Instituto for providing trasportation and the most valuable field consultant, C. J. Schlaepfer. I am also grateful to Z. de Cserna for numerous helpful discussions concerning the stratigraphy and structural geology of Mexico.

All the fossils were recovered from the first road-cut beyond kilometer 668 on the left hand side of Highway 190 as you drive toward Tehuantepec. The *Merychippus* tooth (I. G. M. 68-45) is an M3, the length is 18.2 mm, the width 17.4 mm measured about the middle of the tooth. The enamel of the ectoloph is broken off at the occlusial surface so the measurement of crown heigth was taken from the base of the enamel to the enamel on the inner edge of the peracone. This heigth is 36.3 mm. The tooth is approximately the same size as the specimen (I. G. M. 52-1), collected by A. R. V. Arellano and described by Stirton.

The tooth is larger than *Merychippus* teeth from the Cold Spring fauna of the Texas Coastal Plain and smaller and lower crowned than those from the Lapara Creek Fauna (Quinn, 1955). This supports Stirton's dating of the El Gramal fauna as Barstovian.

The tusk fragments (I. G. M. 68-46) indicates a moderate sized tusk with a broad enamel band. The largest fragment is larger than the proximal end of the tusk referred by Hay (1925) to *Gomphotherium cimarronis* from the Noble Farm locality in the Fleming Formation of Central Texas. Neither specimen, however, is complete so the full size can only be estimated. To my knowledge, this is the first record of a Miocene gomphothere in Mexico. Its association with *Merychippus* this far south during the Barstovian Age is added evidence for an earlier than Pliocene time of arrival of the mastodonts in North America.

A very small fragment of an upper tooth (I. G. M. 68-48) is tentatively identified as protoceratid. A high median pillar and the adjacent portions of the inner selenes is all that is preserved, but the identification is reasonable. Protoceratids are common on the Coastal Plain of Texas during the Miocene and Whitmore and Stewart (1965) tentatively identify a protoceratid in Early Hemingfordian of Panama.

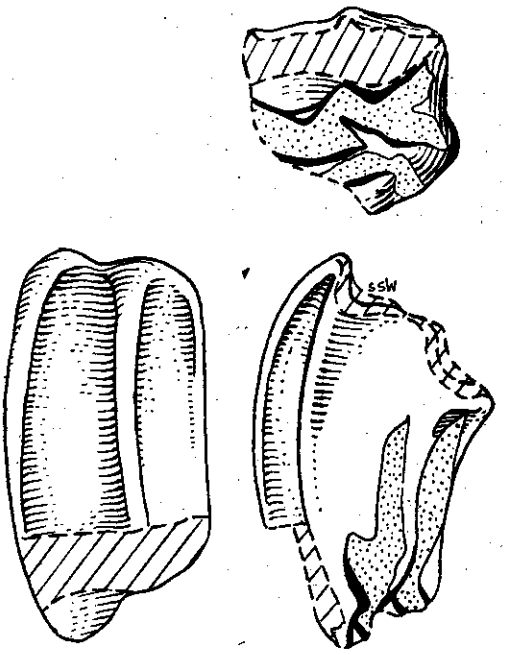

Fig. 1. *Merychippus* sp., I.G.M. 68-45, M^3, occlusal, posterior and external views X 2.

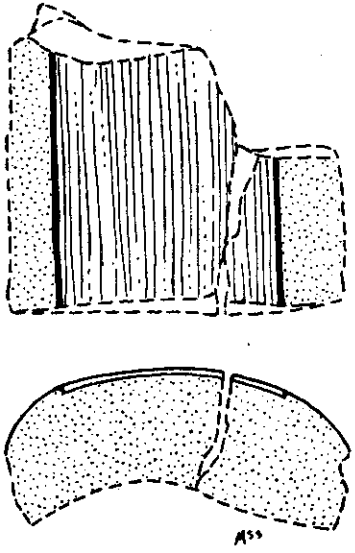

Fig. 2. Fragment of gomphothere tusk showing emamel band. X 1.

The addition of the gomphothere and the ?protoceratid to the El Gramal local fauna add that much more support to Whitmore and Stewart's contention that the North American continental vertebrate fauna extended without interruption to Central America. I hope to be able to add significantly to the El Gramal local fauna in the near future.

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