Cingulates, the armadillos (Dasypodidae), glyptodonts (Glyptodontidae) and pampatheres (Pampatheriidae), are perhaps the most distinctive xenarthrans, as their bony carapaces make them easily recognizable. Dasypodids are known from the late Paleocene to the Recent and glyptodonts and pampatheres from the late Eocene (following Kay et al., 1999) and Miocene (Carlini et al., 1989; Carlini and Scillato-Yané, 1993) to the Pleistocene–early Holocene of South America (Scillato-Yané, 1995). They were abundant, and in the Pliocene all three families dispersed into North America as part of the Great American Biotic Interchange (Stehli and Webb, 1985). They are taxonomically diverse; systematically complex, and distinguished mainly on characters of ornamentation of the carapace and caudal tube. Herein we report the presence of an enigmatic cingulate from the late Miocene of Uruguay (collected in late 1988 by Luis R. Castiglioni) that we tentatively consider as a glyptodont belonging to the genus Neoglyptatelus, of the poorly known subfamily Glyptatelinae.

Paula Couto (1979) recognized only four subfamilies within the Glyptodontidae, Propalaeohoplophorinae, Hoplophorinae, Doedicurinae and Glyptodontinae. However, a fifth, the Glyptatilinae, which includes the earliest and most primitive glyptodonts, is also generally recognized (Castellanos, 1932; Hoffstetter, 1958; Scillato-Yané, 1977; Carlini et al., 1997; McKenna and Bell, 1997). Glyptatelines are known from a minimum of three genera, Glyptatelus (late Eocene to late Oligocene; Mus- terson and Deseadan LMAs, following Kay et al., 1999), Clypeotherium (late Oligocene; Deseadan LMA), and Neoglyptatelus (middle to late Miocene; Laventan and Huayquerian LMAs).

**Abbreviations—**LMA, Land Mammal Age; x, average; s, standard deviation; n, sample size; OR, observed range; MNHN, Museo Nacional de Historia Natural de Montevideo, Uruguay.

**SYSTEMATIC PALEONTOLOGY**

Superorder XENARTHRA Cope, 1889

Order CINGULATA Illiger, 1811

Family GLYPTODONTIDAE Gray, 1869

Subfamily GLYPTATILINAE Castellanos, 1932

**NEOGLYPTATELUS** Carlini, Vizcaíno, and Scillato-Yané, 1997

**NEOGLYPTATELUS** sp.

**Referred Specimen—**MNHN 1483, 45 complete and 12 broken isolated osteoderms belonging to the same individual (Fig. 1).

**Locality and Horizon—**Uruguay, San José Department, erosional surface of Puerto Ararazí Beach, 3 to 4 km east of El Sauce Creek (Fig. 2); greenish sandy basalt mudstone of the upper Miocene Camacho Formation (Ubilla et al., 1990; Perea et al., 1994, 1996).

**Measurements (mm)—**Length: x = 13.98, s = 2.49, n = 38, OR = 10.6–19.7. Width: x = 12.76, s = 1.71, n = 37, OR = 9.2–16.4. Thickness: x = 6.81, s = 0.84; n = 39, OR = 5.4–8.2.

**Description—**Most of the osteoderms are pentagonal or hexagonal in outline (Fig. 1). Their size is within the range of Neoglyptatelus originalis, and much smaller (approximately one third to one half in length) than the older glyptatelines, Glyptatelus and Clypeotherium. The surface is smooth as in Glyptatelus and N. originalis. They have a straight-sided principal figure that frequently reaches the posterior margin, as in N. originalis. The principal figure is separated from three to six peripheral figures by the principal sulcus. The peripheral figures are well developed on the anterior and lateral sides and less developed or absent along the posterior margin (Fig. 1). The peripheral figures are separated by radial sulci. As in N. originalis, foramina are located in the intersection of the principal and the radial sulci. They are interpreted as hair follicles as in living armadillos. The number of foramina correlates with the number of peripheral figures. The most conspicuous difference from N. originalis is that the foramina are more numerous and smaller.

**DISCUSSION**

In addition to Glyptatelus, Clypeotherium, and Neoglyptatelus, two other taxa have tentatively been included in the Glyptatelinae: the poorly known Eocene Lomaphorellus depstus Ameghino by Mones (1986) and the late Pliocene–early Pleistocene (Blancan and Irvingtonian LMA) Pachyarmatherium leiseyi Downing and White by McKenna and Bell (1997). L. depstus is based on a very poorly preserved osteoderm without diagnostic features (Scillato-Yané, 1977), so it is regarded here as a nomen dubium.

Webb et al. (1989–96) noted the presence of “a new small glyptodont” in the early Pleistocene of Florida. However, in the formal description of Pachyarmatherium leiseyi, Downing and White (1995) provisionally regarded it as a dasypodoid with a combination of features associated with armadillos and glyptodonts. While the characters that would indicate dasypodoid rather than glyptodontoid affinity were based primarily on features not related to the carapace, they noted that its osteoderms resembled those of Glyptatelus. While there is much more to be learned about this animal, especially its cranial features, it was tentatively listed by McKenna and Bell (1997) as a glyptateline glyptodontid. Much of the evidence that P. leiseyi was a dasypodoid and not a glyptodont was based on a “poorly restored and mounted specimen under less than ideal conditions” (Downing and White, 1995:384) that belonged in a private collection and was not figured in the paper.

Pachyarmatherium leiseyi has a glyptodont-like carapace, but it differs from those of classic glyptodonts in being divided into two parts with a movable “hinge” between them. However, the presence of movable bands represents the primitive condition for glyptodonts, as they are present in the early Miocene Propalaeohoplophorinae (Scott, 1903–04). The osteoderms of Pachyarmatherium are very similar to those of Neoglyptatelus (SFV, pers. obs.), and the large foramina make them more similar to N. originalis than those of MNHN 1483. Thus, Neoglyptatelus could be a junior synonym of Pachyarmatherium. Nevertheless, the available information on other parts of the skeleton is not definitive enough to demonstrate conclusively this synonymy.

The description of the postcrania of P. leiseyi by Downing and White (1995) would indicate an armadillo-like form. Nevertheless, most of the characters, such as the presence of claws instead of hooves and free dorsal vertebrae, are primitive features of cingulates. Free dorsal vertebrae were also reported with material of Neoglyptatelus from Colombia (Carlini et al., 1997). It is noteworthy that glyptatelines are one of the oldest groups recognized as glyptodonts and that their postcrania are almost unknown. Therefore, they could have retained many pleiomorphic features. On the other hand, Carlini et al. (1997) tentatively attributed a very glyptodont-like mandible with teeth to Neoglyptatelus, as is that of Glyptatelus (Simpson, 1948).

Several questions remain to be addressed. First, the similarity of osteoderm morphology suggests that Neoglyptatelus and Pachyarmatherium are the same genus, and the latter should be the valid name. But