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广东南雄的爬行动物化石*

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1962—1963 和 1963—1964 年两个野外季度，古脊椎动物与古人类研究所在广东南雄作了详细的野外调查和化石发掘工作。在两个野外季度的工作中，发现了大量的恐龙蛋化石和属于第三纪初期的脊椎动物化石。但是在中生代的地层中，除了在乌逕腊树园(6225)发现了比较完整的乌逕南雄龟（*Nanhsiungchelys wuchingensis* Yeh）以外，几乎所有骨化石，都很破碎甚至不能鉴定。由于和蛋化石一起也保存有象龟那样比较完好的骨化石，所以很难冒然得出结论，认为这些地区，就沒有丰富的骨化石，或者生蛋的地方，不是动物活动的地方。

以下所描述的骨化石，虽然破碎，但在本文加以报导，可以补充南雄地区的脊椎动物化石全貌。

1. 蜥蜴类，属种未定（(?) Lacertilia gen. et sp. indet.） 三个脊椎骨，若干破碎的四肢骨。最大的一个背脊椎(?)宽仅 26 毫米，四肢骨也很小，可能为一比较大的蜥蜴类，未能作进一步鉴定。地点：南雄城南约一公里(?)，野外号：6215。

2. 虚骨龙类，属种未定 A (Coelurosauria gen. et sp. indet. A.) 一右股骨末端，宽 40 毫米，其他两骨未能定，骨壁较薄表示可能归虚骨龙类。地点：南雄乌逕高山坑，野外号：6221 (图 1, A)。

3. 虚骨龙类，属种未定 B (Coelurosauria gen. et sp. indet. B) 一右胫骨的近端，宽 63 毫米，前后长 47 毫米，骨壁也很薄，所以可能也为虚骨龙。因为这个胫骨比上述的股骨约大三分之一，不大可能属于一种，可能代表另一较大的虚骨龙类。地点：同上，野外号：同上(图 2, B)。

这一较大的虚骨龙，在大小上和始兴的虚骨龙未定种（杨、周，1962）的趾骨有些相近，可能属于一种。这也多少加強了南雄标本为虚骨龙的看法。

4. 肉食龙类，属种未定 (Carnosauria gen. et sp. indet.) 一大的肉食龙类牙齿，近根，外表长 40 毫米，宽 17 毫米，尖端破失。前后沿均有较细的锯齿状结构。代表一较大的肉食类动物。地点：南雄风门坳东南约 1 公里(图 2, B)，野外号：63095[1]。

5. 蜥脚类，属种未定 (Sauropoda gen. et sp. indet.) 一殘破的牙，保存部分长 52 毫米，中间冠根部宽 11 毫米，虽然殘破，可看出牙身很直，尖端显然成勺状结构，珐瑯质也很薄，且光滑，是可归于棒状结构的蜥脚类牙齿。地点：南雄湖口长青山北约 1 公里，野外

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1) 近来在广东南雄档风山北 250 米处发现了另一肉食类恐龙牙(图 2, A)比前者为小，但较完整。这一牙齿可能和南雄的牙同属一种。

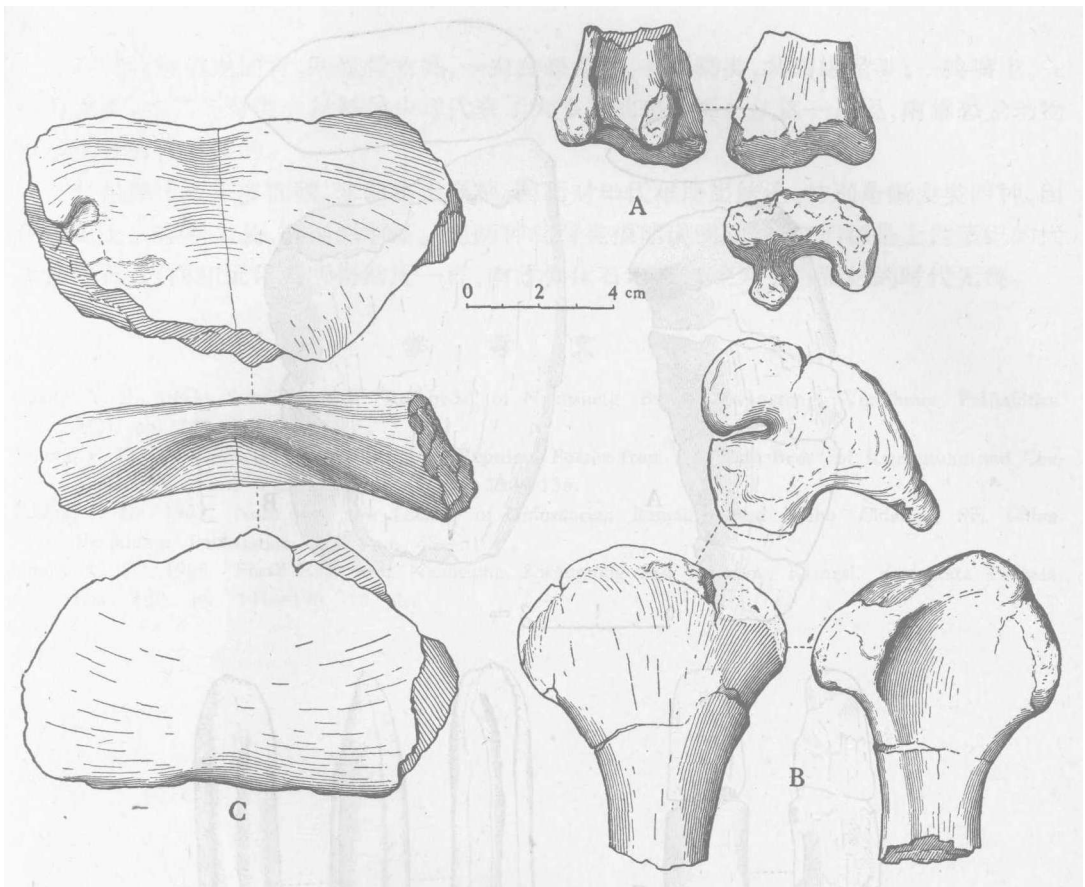

图 1.　A. 盘骨龙属种未定，右股骨远端。
B. 盘骨龙属种未定，一右胫骨近端。
C. 结节龙属种未定，一骨板。均 $\frac{1}{2}$。

Fig. 1.　A. Coelurosauria indet. Distal part of a right femur.
B. Coelurosaurian indet. A right tibia.
C. Nodosauria indet. A dorsal scute in two views. All $1/\frac{1}{2}$ nat. size.

号：63094（图 2, C）[1]。

6. 鸭嘴龙类，属种未定（Hadrosauria gen. et sp. indet.）　冠部完好，根部未保存，牙面完全未磨蚀，当为新出而尚未用之牙。保存长 43 毫米，由一般形状判断显然代表一鸭嘴龙类。惜未能定出属种。地点：南雄主田北约 1 公里，野外号 63089（图 2, D）。

7. 结节龙，属种未定（Nodosauria gen. et sp. indet.）　为一骨板，保存相当完整，至少有一边缘未受损坏，由腹侧的直沟看，当为中间骨板。背侧无显著的凸起，也沒有任何明显的结节，腹侧弓形较为明显。保存宽 114 毫米，长 64 毫米，可能属于绘龙或宁夏龙。地点：南雄城南 1—2.5 公里。野外号：6215（图 1, C）。

8. 另一种为乌逕南雄龟，已有另文，不详叙。

以上除龟类以外的七种化石，除可能属于蜥蜴类化石未能进一步确定外，其他六种恐

1）顺便附提一下，地质博物馆所收藏的采自四川广元河西区的两牙，一为典型的勺状蜥脚类牙齿（V. 1307），另一为可归于长鼻北碚鳄（V. 1306）。还有一上颚骨碎块（V. 1305）未能定，可能为一肉食恐龙。

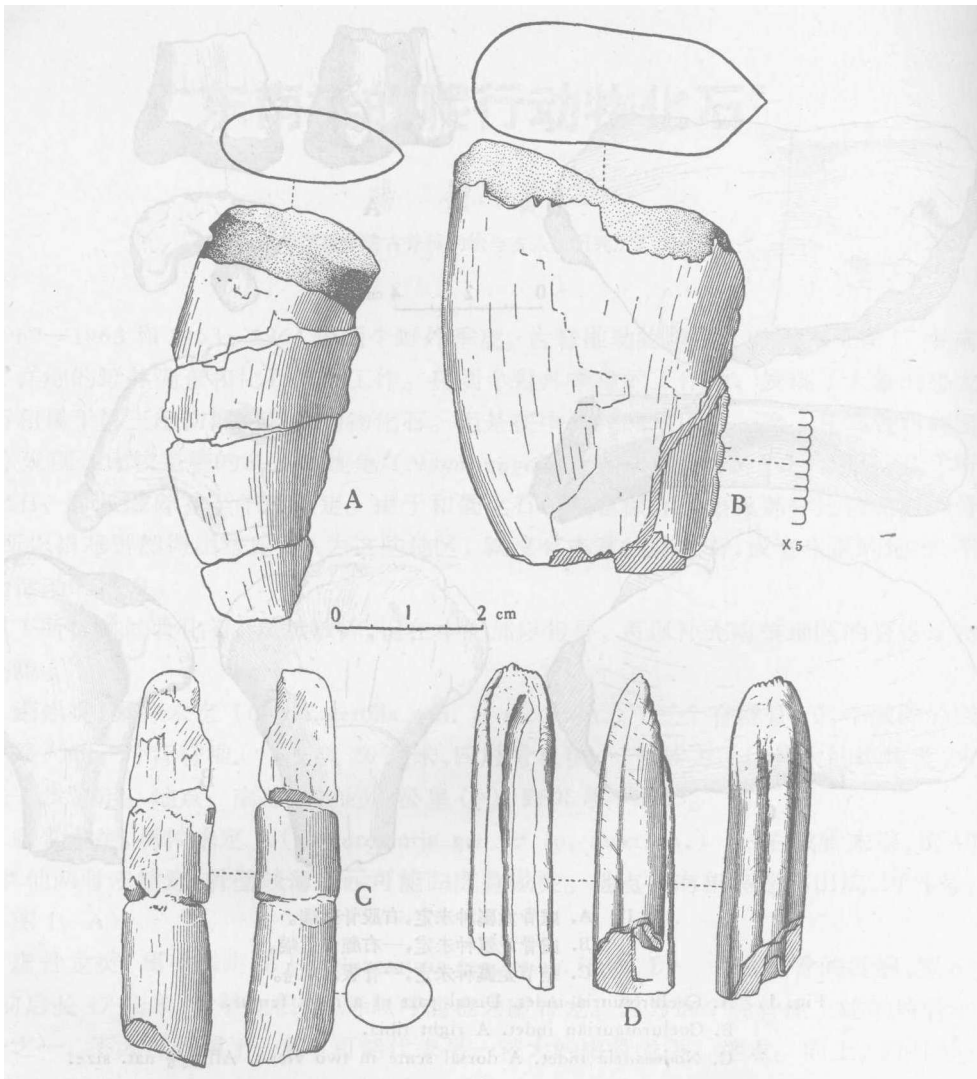

图2. A. 肉食龙牙；
B. 肉食龙牙；
C. 蜥脚类牙；
D. 鸭嘴龙牙。均原大。详见正文。

Fig. 2. A. Carnosauria indet. Tooth from Chaling, Hunan.
B. Carnosauria indet. Tooth, 63095.
C. Sauropodian indet. A tooth.
D. Hadrosauria indet. A tooth. All 1/1 nat. size.

龙化石虽然破碎难定出属种，但大多数的科或亚目是比较明确的。这些化石虽然极不完整，但至少可以得出以下结论：

1. 可以断言，南雄和始兴的白垩纪地层中，有骨化石存在。虽然经过两个野外季度调查工作，未能发现更多而保存较好的化石，但未必绝无希望。此种情况有两种可能。一是化石的确稀少，含化石地层不是动物的生活地区，而为经过搬运的。这一情况可能性不太大，因为多数的成窝蛋和龟化石均保存完好。另一可能是化石产地还未暴露或还未找

到。

2. 就六种恐龙而言，两虚骨龙类，一肉食恐龙类，一蜥脚类，共四蜥龙类；一鸭嘴龙，一结节龙类，共二鸟臀类。材料虽少却代表了大多数的恐龙类。从这一点说，南雄恐龙动物羣是十分有代表性的。

3. 虽然化石不多而破，未能定出属种，因而对年代难得出结论，特别是蜥龙类四种，因在地史上生存期太长，难据以判断。但两种鸟臀类很能说明问题，它们都是上白垩纪的代表性化石，因而和蛋化石所得结论一样，南雄蛋化石地层当然为上白垩纪的时代无疑。

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NOTE ON THE REPTILIAN REMAINS FROM NANHSIUNG, KWANGTUNG

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During the field seasons of 1962—63 and 1963—64 a field party of the Institute of Vertebrate Paleontology and Paleoanthropology collected many fossil eggs, mostly of dinosaurs, and vertebrate remains from the Early Tertiary beds. With the exception of the nearly complete skeleton of a large turtle, *Nanhsiungchelys wuchingensis* Yeh, the other bones of the cretaceous beds are extremely rare and fragmentary and unable for a closer determination.

In order to give a complete view of the vertebrate fauna of the region, it is, nevertheless, necessary to describe those fossils in the present note.

1. ? Lacertilia indet. Three vertebrae and some broken limb bones. Breadth of the better preserved dorsal (?) vertebra, 26 mm. The limb bones are rather small. They represent probably a larger lacertilian. Locality: About one kilometer S. of Nanhsiung city. Field no. 6215.

2. Coelurosauria indet. A. Only represented by the distal part of a right femur and two other undeterminable broken bones. The distal breadth of the femur, 40 mm. The wall of the bone is very thin, indicating that it may be a coelurosaurian. Locality: Kaoshankong, Wuching, Nanhsiung. Field number 6221 (Fig. 1, A).

3. Coelurosauria indet. B. Represented by the proximal part of a right tibia (Breadth, 63 mm; length, 47 mm). The wall of the bone is also rather thin, possibly also a coelurosaurian. Since the present bone is much larger than the precedingly described one, it may represent a second form of the same sub-order. Locality and field number same as in 2 (Fig. 1, B).

This larger coelurosaurian fits in size with the foot bones from Shihsing (Young and Chow, 1962) and possibly referable to the same form. This fact supports in some way the view that the Nanhsiung tibia is a coelurosaurian.

4. Carnosauria indet. A large carnosaurian tooth. Length near the base of the crown, 40 mm; breadth, 17 mm. Tip damaged. It is finely serrated both anteriorly and posteriorly. It is certainly a rather large dinosaurian tooth. Locality: Fengmenao, Nanhsiung. Field number 63095[1]. (Fig. 2, B).

5. Sauropoda indet. A broken tooth. Preserved length, 52 mm; breadth near the base of the crown, 11 mm. Although damaged it is clear shown that the tooth is rod-like and without the spatulated crown. Enamel very thin. It belongs to a sauropod

1) An other carnivorous tooth from Nanhsiung is somewhat smaller but may be regarded as the same general form as that of Fengmenao (fig. 2, A).

2) It is interesting to note parenthetically that a tooth of spatulated type of sauropod and another one of *Peipehsuchus teleorhinus* collected by the Museum of Geology Peking. An upper maxilla kept in the same Museum may be a carnivorous dinosaur. The facts show that the Kuangyuan, N. Szechuan is a good cennter for hunting dinosaur remains.

with the peg-like teeth. Locality: Chingshan, Hukou, Nanhsiung. Field number 63094 (Fig. 2, C)[2].

6. Hadrosauria indet. A newly erupted tooth with the root somewhat damaged. Preserved length, 43 mm. The shape of the tooth suggest a large hadrosaur. Locality: Chutian, Nanhsiung. Field number 63089 (Fig. 2, D).

7. Nodosauria indet. Represented by a dermal plate. It is rather complete with at least one border intact. It is somewhat arched with a longitudinal furrow at the ventral side, suggesting a plate of the median row. Preserved breadth, 114 mm. It is possible that it may belong to *Pinacosaurus* or *Ninghsiasaurus* known in Inner Mongolia. Locality: 1—2.5 km. S. of the Nanhsiung city. Field number 6215. (Fig. 1, C).

With the exception of the doubtful lacertilian remains, all the others are pertaining to dinosauria. Owing to the fragmentary state of preservation, all of them cannot be determined specifically. But their belonging as to the suborders are certain, some of them to families. In addition, there is a better preserved turtle, *Nanhsiungchelys wuchingensis* to be described separately by Yeh. Instead of the fragmentary specimens, the following conclusion can be drawn:

1. Although all the fossils from the Nanhsiung and Shihsing are very poor after diligent research during two-season work, but it shows clearly that the beds are fossiliferous. The poorness of the fossils may be explained in two ways. First, it is truly poor in preservation, the fossiliferous beds did not represent the place where the animals were lived and the bones were transported a long distance before deposition. This explanation is, however, not very sound, because we have rich remains of both eggs and turtle found in the same condition. Secondly, the exposures with rich bones are not yet weathered out or they have been, nevertheless, escaped from the eyes of our fossil hunters.

2. As far as the six dinosaurs are concerned, there are two coelusaurians, one carnosaurian, one sauropodian, altogether four saurischians; one hadrosaurian, one nodosaurian, altogether two ornithischians. It is very interesting to point out that inspite of the poor preservation of all the fossils, they are rich in forms, representing most of the suborders or families of the dinosauria.

3. As shown in foregoing lines, we are not able to determine all the fossils specifically and thus it is very difficult to draw a definite conclusion as concerning to the age of the fossil-bearing beds. The four saurischians are known from Upper Jurassic to Upper Cretaceous, but the two other ornithischians are only known in the Upper Cretaceous. The large carnivorous dinosaur points most probably to the same conclusion. Therefore it is pretty sure to conclude that the age of the fossiliferous part of the red beds including also the egg remains are Upper Cretaceous in age.