

广西哺乳动物化石

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廣西哺乳動物化石

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廣西哺乳動物化石目錄

(附圖版三插圖五)

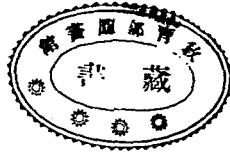
張席禔

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廣西哺乳動物化石目錄



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廣西哺乳動物化石

(附圖版三張)
(插圖五)

張席祺

一·緒言

中國哺乳動物化石，六十餘年前，西人早有研究，其較爲著名者，如歐文 (Owen, 西歷一八七〇)，高德瑞 (Gandy 一八七一)，寇根 (Kohn, 一八八五)，李德克 (Lydekker 一八八五，一八八六，及一八九一)，與斯羅塞 (Schlosser 一九〇三，一九二四)，諸古生物學家。斯羅塞對於中國哺乳動物化石之研究，貢獻尤大，厥功不朽。前人所研究之中國哺乳動物化石，大都出自中國北部及中部，其來自中國南部者，尙屬寥寥。

民十八年，吾友楊鍾健博士曾作「廣西哺乳動物化石之記載」一文，該項研究材料，係民十七年夏，丁文江博士，自廣西梧州採得者。楊君所研究者，僅爲鹿之牙齒及下顎骨，與齧齒動物化石一種。

客歲中央研究院，地質研究所李捷君，於廣西桂林北門外之石灰岩洞中，發見哺乳動物化石。去冬作者由廣州因事北旋，在南京小留，借機將李君採得之材料稍爲一觀，該項哺乳動物化石，俱爲鹿之零星牙齒及肢骨，均甚破碎。至今尙未研究發表。

本年春，兩廣地質調查所徐君瑞麟，往廣西西北部考察地質，由武鳴縣境內，騰翔西南五里

許，採得哺乳動物化石多種，據徐君云，該項化石，係埋沒於二疊紀石灰岩之山洞中者，此外尚有近代之腹足類及瓣腮類化石，及各種石器。該項哺乳動物化石，俱爲零星牙齒，及破碎之肢骨。含化石之岩質，爲紅色，微紅，或微黃之泥岩。多數之牙齒，已完全石化，其中僅有二齒，石化較輕者。化石之本身，係白色，黃白，或灰白色。

本所何成鑾君，今春在奉議縣境內，亦由鄉人贈得犀牛之齒二，保存尙佳，所可惜者，其的確之產地，未之知也。

茲依照系統，將此篇所研究之廣西哺乳動物化石，排列于下：

- (一) 中國犀牛一種 (*Rhinoceros sinensis*, Owen) —— 屬單蹄類之犀牛科。
- (二) 中國獾一種 (*Tapirus sinensis*, Owen) —— 屬單蹄類之獾科。
- (三) 古豬一種 (? *Propotanschoenus salinus*) —— 屬雙蹄類之豬科。
- (四) 鹿一種 (*Cervus simplicidens*, Lydekker) —— 屬雙蹄類之鹿科。
- (五) 鹿一種 (*Tragocervus cf. lokani*, Schlosser) —— 屬雙蹄類之洞角科。
- (六) 牛一種 (*Bos cf. primigenius*, Bojanus) —— 屬雙蹄類之牛科。
- (七) 靈長類之下顎骨一塊，帶有破碎之牙齒三，殊難鑑定其種屬。

一·種 屬 之 研 究

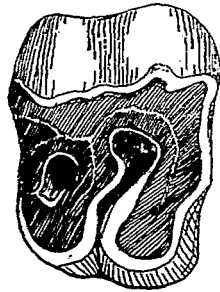
茲將此篇所研究之廣西哺乳動物化石種屬，擇要述之於下。

甲·犀牛科 *Rhinocerotidae*, Gray.

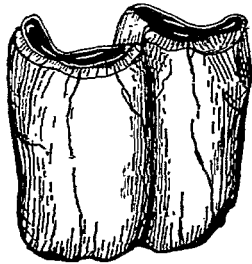
屬於此科者，有中國犀牛 *Rhinoceros sinensis*, Owen 一種，所採得之材料，俱為零星之牙齒，不幸該項牙齒，多數曾經過長期之咀嚼，磨擦甚重，齒之構造，不易研究。在此種材料中，僅有二齒，尚為咀嚼較輕者，一為上顎之第四前臼齒 (P^4) 其他為下顎之第一臼齒 (M_1)，二齒均屬右邊者，保存尚佳，珞瑯質較厚，均完全石化，齒上帶有些少之黃土質。

齒之體積：

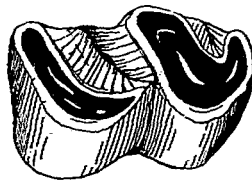
P^4 . . . 長 三十九纏(最長邊)至二十三纏(最短邊)



第一圖 中國犀牛
上顎第四前臼齒 (P^4) 之下面



第三圖 中國犀牛
下顎第一臼齒 (M_1) 之外形



第二圖 中國犀牛
下顎第一臼齒 (M_1) 之上面

寬	五十五纏(最寬邊)至四十五纏(最狹邊)
高	三十五纏
三：長	四十五纏至三十五纏(最短邊)
寬	二十五纏至二十三纏(最狹邊)
高	四十纏

此外屬於此種犀牛者，尚有左邊下顎之白齒及前白齒各一，下顎右邊之白齒一，前二齒或出於一種動物。上述各齒，均歷長時期之咀嚼，其保存情形甚壞。

最初研究此種犀牛者，為英國古生物學家歐文(一八七〇)，中國犀牛 *Rhinoceros Sinensis* Owen 之種名，即係歐氏所命名，但該種材料之的確產地，則未之知也。此種犀牛，冰期時代時，在中國分佈頗廣。

乙·獾科 *Tapiridae*, Gray.

屬於此科者，有中國獾 *Tapirus sinensis* Owen 一種，由此種採得之材料，僅有前白齒一，係下顎左邊之第三前白齒 (P_3)，保存尚佳，此前白齒之構造，與白齒大致相同(白齒化 *Molariformed*)，齒上有二橫脊，與齒之直軸，畧成垂直，脊中小突起 (*Cusps*) 與前方之小阜 (*Cingulum*)，俱甚發達，琺瑯質亦頗厚。

此齒與德國古生物學家斯羅塞，以前由湖北宜昌採得者，齒之形狀，大致相同，但較小。與歐文所研究之中國獾相比較，形狀大小，俱甚相若。與麥修及葛蘭佳 (Matthew & Granger) 由四川萬縣所採得者相比較，形狀及構造相若，但甚小。此次由廣西武鳴採得之材料，此種僅有一齒，無從比較，余姑定爲中國獾。

獾，現代只生於亞洲之南部及南美洲，但由古生物上前人之研究，及此次廣西之新發現，可推知中國本部，冰期時代，尙有獾之存在焉。

丙·豬 科 *Suidae*, Lin.

由廣西武鳴採得之材料，屬於此科者，僅有一白齒，係上顎右邊之第三白齒 (N^3)，保存甚佳，並經咀嚼磨擦甚微。該齒係隸于 *Propotamochoerus* 一屬者，其特別之性質，係齒之構造，甚爲簡單，肥而短，齒尖成圓椎形或乳頭形，與柱齒象 (*Mastodon*) 齒之構造頗相似。齒冠有兩行橫脊，每行復分爲兩個乳頭狀之齒尖，脊間以溝，較深，溝中尙俱有小突起 (或稱小齒尖)，但較主齒尖小而低。後突起 (*Posterior salton*) 甚爲顯著，前邊之齒根圍 (*Anterior alveolus*) 亦甚顯著。齒之結構，厚而堅，色白。齒之構造及形狀，可以下圖表之 (第四圖及第五圖)。

與 *Pekin* 在印度古生物誌上所研究之一種，構造及形狀頗相似，惟該齒較之廣西武鳴者，畧較小耳。

齒之大小：

M²：長 卅四纏

寬(前齒脊) 二十纏

寬(後齒脊) 十五纏

高 十五纏

丁·鹿 科 Cervicornia, Sch.

losser.

屬於此科者，有 *Cervus simplicidens*,
Lylekker 一種，僅有一單齒，係上顎
左邊之第二白齒 (M²)，該齒經咀嚼
時期較長，磨擦甚重。齒冠甚高，外
壁之柱形物 (Pillars) 及兩褶襞甚顯著
，底柱 (Basal pillar) 亦甚顯明，較高
。齒之琺瑯質甚薄，微有褶紋。

此齒與李德克所研究印度 *Sivaliks*



第五圖 古猪一種
上顎第三白齒(M²)之外形



第四圖 古猪一種
上顎第三白齒(M²)之上面

之一種，形狀極少差別，僅齒內
面之柱，不甚顯著而較短，齒之
大小亦相同。

與斯羅塞氏所研究中國之 *Cer-
vus off. simplicidens* 形狀大小，俱甚
相若，惟斯氏所研究之齒，係第
三白齒，而現在由廣西所採得者
，係第二白齒耳。

齒之大小列下：

M²：長 二十三纏

寬 二十三纏

高 二十纏

戊·洞科角 *Carvico*

rina, Schlosser.

屬於此科者，僅有 *Tringocorynus*

of. *Kokeni*, Schlosser 一種，只有一齒，係下顎左邊之第三白齒 (M_3)，齒甚高 (*Hypsodont*)，經長期之咀嚼，齒色白，未帶泥質，齒根破壞。

此齒之形狀及構造，與斯羅塞所研究中國之一種，稍較狹耳。因無比較材料，余姑定爲此種。

齒之大小列下：

M_3 : 長 二十七纏

寬 十纏

高 二十二纏

巳·牛 科 *Bovinae* Gray.

代表此科者，僅有原牛 *Bos cf. primigenius* 一種，只有一齒，係下顎左邊之第二白齒 (M_2)，成高柱狀 (*highly primate*)，底柱極發達，甚高。此齒之形狀，與日人 (*Masumoto*) 由中國河南所採得者，大致相似，惟稍狹耳。

齒之大小列下：

M_2 : 長 二十八纏

寬 十二纏

高 七十六纏

庚、靈長類 *Primates*

代表此類者，僅有破碎下顎骨之一部，兩端俱折斷不完全，有齒三，不幸齒冠已壞，不能作詳審之鑑定。但就下顎之形狀及大小，齒之方位，及破碎齒床之形狀，可認定其爲靈長類無疑也。齒床成方形，具齒根四，尙明瞭易辨。後二齒爲臼齒，前一齒已非臼齒，而爲前臼齒，或爲一幼年期之動物。究係靈長類之何種，因材料破碎太甚，不能鑑定。僅將此種情形，彙誌於此，俟後如有較好材料之發現，當再爲詳審之研究。

三、結論

就以上哺乳動物化石之產狀而論，係岩洞中之沈積，所可異者，該項動物化石，純係偉大之動物如犀牛，獾，鹿，及牛類等，而較小之動物，如啮齒類動物等，則毫無發現。此後如在該洞內，作詳細之發掘工作，定得較爲完全之動物化石羣。

此外最有興趣之事，卽如上所述，該動物化石羣中，採得一靈長類動物之遺跡，並在該岩洞中，採得各種不完全之石器多件，頗足以證明在該地質時期，岩洞中或其附近，定有較簡單之人類生存焉。此後如繼續發掘，或可得到更有興趣之發現。

再者，此篇所研究之哺乳動物化石，與德國古生物學家斯羅塞氏，昔日所研究之中國哺乳動

物化石，詳爲比較，顯與彼所謂「洞穴動物化石羣」之產狀相符合，而非似中國北部，黃土中之產物，其地質時代，約爲冰期時代之下期。

最後所應著意者，卽中國南部哺乳動物化石之發現，較之中國北部及中部，非常之少，如斯羅塞及李德克二氏之研究，實屬希罕，因此之故，廣西乳哺動物洞穴沈積之發現，從此又可增加一新地點矣。

刊後附言：

今年夏，作者與徐君瑞麟，特往廣西武鳴柳州桂林各地，採集哺乳動物化石，並研究其產狀，及地質情形。此行約五星期，採得材料，種屬甚多，計有象，犀牛，馬，牛，獾，鹿，豬，熊，肉食類，嚙齒類及靈長類等。所可惜者，均係零星牙齒，無全副骨骼，對於研究上，興趣較差。而多數含有哺乳動物化石之岩洞，已被鄉人發掘，出售于藥店中，誠爲憾事耳。現時能作大規模開採者，尙無新發現。茲當特刊第十五號「廣西哺乳動物化石」一文，行將付梓，此次採得骨化石之材料，未克同時付印，俟經過詳審之研究後，當再繼續出版云。

第一至第三版圖說明

EXPLANATIONS OF PLATES I-III

第一版圖說明

EXPLANATION OF PLATE I.

Rhinoceros sinensis Own.

Fig. 1. Right upper P¹, lower view

Fig. 2. Ditto, outer view

Fig. 3. Right lower M₁, upper view.

Fig. 4. Ditto, outer view.

Tayirus sinensis Own.

Fig. 5. Left lower P₃, upper view.

Fig. 6. Ditto, outer view.

All figures in natural size.



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第二版圖說明

EXPLANATION OF PLATE II.

Rhinoceros sinensis Owen.

Fig. 1. Left lower M_1 , upper view.

Fig. 2. Ditto, outer view.

Fig. 3. Right lower M_1 , upper view.

Fig. 4. Left lower P_1 , upper view.

? *Propotamochoerus sinensis* Pilgrim.

Fig. 5. Right upper M^3 , lower view

Fig. 6. Ditto, outer view.

Tragocercus cf. kokeni Schlessen.

Fig. 7. Left lower M_3 , outer view.

Fig. 8. Ditto, upper view.

All figures in natural size.



1



2



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4



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第三版圖說明

EXPLANATION OF PLATE III.

Bor cf. primigenius Bojanus.

Fig. 1. Left lower M_2 , outer view.

Fig. 2. Ditto, inner view.

Fig. 3. Ditto, upper view.

Cervus simaliciensis Lydekker.

Fig. 4. Left upper M^2 , lower view.

Fig. 5. Ditto, outer view.

Primates (indeterminable)

Fig. 6. Broken jaw of the left side with three teeth, upper view.

Fig. 7. Ditto, outer view.

All figures in natural size.



1



3



4



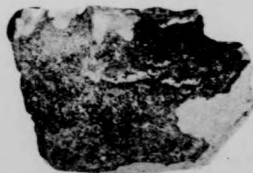
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inside of the cave deposits some stone implements are discovered as well. This proves, that during that time there must be some primitive mankind living in or not very far from the cave. By further exploration, we can discover perhaps more interesting things.

Further more, by careful comparison of the present described fauna, with that described by M. Schlosser from China in 1903, it corresponds fairly well to the so called "Höhlen Fauna" by this author, and its geological time is very probably *Old Pleistocene*.

And, last of all, the fossil mammals from South China are far less known than those from North China with the exception of those described by Schlosser, Lydekker and few others. Therefore, the present discovery from Kwangsi will, no doubt, establish a new locality of occurrence in South China.

POSTSCRIPT.

This summer Mr. J. L. Hsü of the Survey and the author made a long geological trip to Wu-chow (梧州), Nan-ning (南寧), Wu-ming (武鳴), Liu-chow (柳州) and Kwei-lin (桂林) districts in Kwangsi province especially for the study of the cave deposits of the fossil mammals and for the collecting of materials. The journey lasted for about 5 weeks and a lot of materials were collected. Unfortunately, the great majority of the fossil mammals are isolated teeth, while complete jaws are totally absent. Most of the cave deposits have been already excavated by the countrymen near by for searching after the bones and teeth used for medicinal purposes. The fossil mammals which we have collected this time belong to the following:—Rhincerotidae, Elephantidae, Equinae, Tapiridae, Cervinae, Bovinae, Suidae, Ursidae, Rodents, Hyaenidae and Primates. Since this Special Publication No. XV. "On Some Fossil Mammals from Kwangsi, South China" will soon be off the press, the newly collected materials have to be described seperately after making a careful study.

LITERATURE

- | | | |
|------------|-------|---|
| Gaudry, A. | 1872. | Sur le Ossements d'animaux Quarternaires que M. l'abbé David a Recueillis en Chine. Bull. Soc. Geol. de France, Ser. 2. |
| Koken, E. | 1885. | Ueber Fossile Säugetiere aus China. Plaeont. Abh., Bd. III, Heft 2. |

1915. *Bos primigenius* Matsumoto, On some fossil mammals from Ho-nan, China. The Science Rep. Tohoku Imp. Univ., Sendai, Japan. Vol. III, No. I, p. 32 (4), Pl. XII, figs. 1-6.

This species is represented only by an isolated molar. It is the second, lower molar of the left side. The tooth is highly prismatic. The basal pillar is well developed and exceedingly high. The general shape of this molar corresponds fairly well with the species described by Matsumoto in 1915 which was found from Ho-nan, China; it is only a little bit narrower in size.

Dimensions:

Length of M_2 28 mm.

Width of M_2 12 mm.

Height of M_2 76 mm,

Primates

Pl. III, Fig. 6-7.

From this group only a broken lower jaw is represented. The anterior part or the symphysis and the coronoid process are both broken. The alveolar border is still occupied by three teeth. The crown of all the teeth are broken and therefore a closer determination cannot be made. The last two teeth are molars, while the first one seems to be a premlar.

Judging from the shape as well as from the size of the lower jaw, and the outline of the teeth, this lower jaw belongs undoubtedly to the group of *Primates*. For a closer study of it, better preserved material must be needed.

CONCLUSION

As seen from the above described species, it is remarkable that, as a cave fauna, the remains of big animals such as *Rhinoceros*, *Tapirus*, *Deers* and *Bos* are so abundant and varied, while the microfauna such as *rodents* are entirely wanting. By further and more careful exploration, we can find perhaps a more complete fauna from this cave deposit.

Another interesting fact is, that from this group of fauna, the remains of *Primates* have also been found, however imperfect and badly preserved they are. Moreover,

Width of the same 23 mm.

Height of the crown on the outer wall 22 mm (in Maximum)

Family **Carvicornia**, Schlosser

Sub-family **Boodontia** Schlosser

Group **Pseudotraginae** Schlosser

Genus **Tragocervus** Gaudry

Tragocervus cf. kokeni Schlosser

Pl. II, Figs. 7-8.

1903. *Tragocervus kokeni*, Schlosser, Dis Säugetiere Chinas. Abh. d. k. bayr. Akademie der Wiss. II. Cl. XXII. Bd. I. Abt., p. 145, Taf. XII, Fig. 14-19.

From this genus *Tragocervus* there is only one isolated tooth at my disposal for study. It is the lower third molar of the left side. The tooth is much worn and moderately hypsodont. Its color is white and quite free from clay or any other rock matrix. The roots are broken.

The general structure of this molar is quite similar with the species *Tragocervus kokeni* described by M. Schlosser in 1903; only the present described molar is a little narrower in size. For the wanting of comparison materials, I would determine it preliminarily as *Tragocervus cf. kokeni* Schlosser.

Dimensions of the M_3 :

Length of M_3 27 mm.

Width of M_3 10 mm. (Maximum)

Height of M_3 22 mm.

Group **Bovinae** Gray

Bos cf. **Primigenius** Bojanus

Pl. III, Fig. 1-3.

1914. *Bos primigenius*, Freudentberg, Die Säugetiere des alteren Quartars von Mitteleuropa. Geol. u. Pal. Abh. New Folge, Bd. XII, Hft. 4/6, p. 96, Textfig. 47, Pl. III, fig. 7; Pl. IV, Fig. 10; Pl. V, Fig. 4.

Genus *Cervus* Linn.*Cervus simplicidens* Lydekker

Pl. III, Figs. 4-5.

1876. *Cervus simplicidens*, Lydekker, Palaeont. Indica Vol. I, part 2, P. 51, Pl. VII, Fig. 3.
1884. *Cervus simplicidens*, Lydekker, loc. cit. Vol. II, Part III, P. 15, Pl. XIII, Fig. 6.
1885. *Palaeomeryx?*, Koken, Palaeont. Abh. Bd. III, Heft. 2., P. 56, Taf. III, Fig. 3.
1903. *Cervus* aff. *simplicidens*, Schlosser, Die Säugetiere Chinas. Abh. d. k. bayr. Akademie der Wiss. II. Cl. XXII, Bd. Abt., p. 122, Taf. X, Fig. 22-24, 26.

From this species I have only one single upper molar available for study. The tooth is the second molar (M^2) of the left side. It has been much worn and the two inner crecets a little broken. The crown is moderately hypsodont. The vertical pillars on the wall and the two folds of the paracone and metacone are all very marked. The basal pillar between the hypocone and the protocone is very prominent and rather high. The enamel is very thin and slightly wrinkled.

Compared with the *Cervus simplicidens* described by Lydekker from Siwaliks, India, the general form of the present described species has very little difference, so far as can be seen from the figure (Pl. VIII, fig. 3, Lydekker, 1876), only the basal pillar between the hypocone and the protocone on the inner side of the crown of the Siwalik's forms is not very marked and a little shorter. Even the size of both forms is very much the same.

Compared with that Chinese species described by M. Schlosser in 1903 (Taf. X, Fig. 24), there is not any difference both in the general form and in size; only that molar figured by the said author is the third molar (M^3), while the present molar described is the second one.

Dimensions of the described M^2 :

Length of M^2 23 mm.

The described molar consists of two main rows of transverse crests; each crest is subdivide into two mammiform bosses. The crests are seperated by valleys of moderately depth. Inside the valley there are small cusps which are much inferior in size and in height than the main bosses. The posterior talon is very marked and consists of one main cusp and several small ones besides. The anterior cingulum is also very marked. The enamel of the molar is pretty thick, solid, and white in color.

The main structure of the molar of this species can be shown by the textfigures 4 and 5.



Fig. 4. *Propotamochocerus salinus*
M³, Lower View. (Nat. Size)



Fig. 5. *Propotamochocerus salinus*
M³, Outer View. (Nat. Size)

Compared with the species described by Pilgrim, (Pl. VII, fig. 6), the structure of the molar is very much alike; only that the last molar, which is still in situ of the cranium, is a little inferior in size.

Dimensions of the M³

Length of the tooth 34 mm.

Width of the tooth on the anterior crest 20 mm.

Height of the crown 10 mm. (in maximum).

Family **Cervicornia** Schlosser.

Sub-family **Cervinae** Gray

Compared with the species described by Owen (Pl. XXIX, fig. 6), they resemble both in size and form. The general form of the teeth of the species *Tapirus* (*Megatapirus*) *augustus* described by Matthew and Granger in 1923 from Szechuan, China, is also quite similar with the present described form, but much larger in size. For the wanting of comparison materials and only basing upon this single tooth of the Genus *Tapirus* collected from Kwangsi, I hereby described it preliminarily as *Tapirus sinensis* Owen.

Dimensions of the P_3

Length 25 mm.

Width of the posterior crest 20 mm.

Width of the anterior crest 15 mm.

Height of the present crown 10 mm.

From the report of the different authors above mentioned and from the present described material, we know, that the *Tapir* still existed in China in *Pleistocene*, while this animal exists only in the tropical America and in Southern Asia in the present day.

Sub-Order Artiodactyla Owen

Family Suidae Lin.

Genus *Propotamochoerus* Pilgrim

? *Propotamochoerus salinus* Pilgrim

Pl. II, Figs. 5-6.

1926. *Propotamochoerus salinus*, Pilgrim, the fossil suidae of India. Palaeont. Indica, New Ser. Vol. VIII, No. IV, P. 23, Pl. VII, Figs. 6, 7.

Among the materials collected from Kwangsi I have only one upper molar of this genus on hand. The tooth is the last molar of the right side. It is still well preserved and untouched from worn. The distinctive character of the molar of this genus is that the teeth is pretty stout and of comparatively simple type, as Pilgrim has already noticed. Its rounded cone-like cusps are very similar with those of the *Mastodon* teeth.

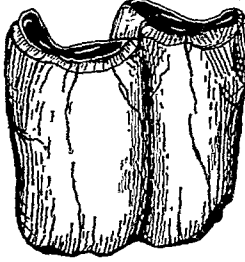


Fig. 3. *Rhinoceros sinensis*
 M_2 , Outer View. (Nat. Size)

Besides the above described teeth of this species there are still one P_4 , one M_1 of the left side and one M_1 of the right side. The former two teeth belong perhaps to the same individual. All those teeth are much worn and badly preserved. (See Pl. I, Figs. 1-4)

Family **Tapiridae** Gray

Tapirus sinensis Owen

Pl. I, Figs. 5-6.

1870. *Tapirus sinensis*, Owen, Quart. Journ. Geol. Soc. London, Vol. XXVI, P. 426, Pl. XXVIII, figs. 8, 9; Pl. XXIX, figs. 4, 5, 6.
1885. Koken, Fossile Säugetiere aus China. Palaeont. Abh. Band III, P. 34, Taf. IV, Fig. 12-19; Taf. V, Fig. 1-5.
1903. Schlosser, Die fossilen Säugetiere Chinas nebst einer Odontographie der recenten Antilopen. Abh. der k. bayer. Akademie der Wiss. II. Cl. XXII Bd. I. Abt. P. 72, Taf. III, Fig. 13, 15.

To the Genus of *Tapir* there is only one premolar of the lower jaw in my hand. The described tooth is the third premolar (P_3) of the left side. It is still well preserved. The premolar is quite molariformed. The two transverse crests direct nearly at right angles to the longitudinal axis of the crown. The inner cusp and the anterior cingulum are well developed. The enamel of the tooth is pretty thick.

Compared with the P_3 described and figured by M. Schlosser from I Chang, China (Taf. III, fig. 13), it is quite similar in general form, but much inferior in size.

Dimensions of P_4 and M_1 :

	Length	Width	Height
P_4	39 mm. maximum	55 mm. max.	
	23 mm. minimum	45 mm. min.	35 mm.
M_1	45 mm. max.	25 mm. max.	40 mm.
	35 mm. min.	23 mm. min.	

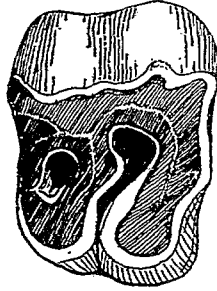


Fig. 1. *Rhinoceros sinensis*
 P^4 , Lower View. (Nat. Size)

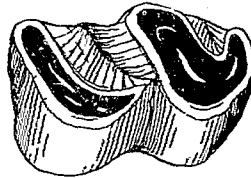


Fig. 2. *Rhinoceros sinensis*
 M_1 , Upper View. (Nat. Size)

1870. *Rhinoceros sinensis*, Owen, Quart. Journ. Geol. Soc. London, Vol. XXVI, P. 424, Pl. XXIX. figs 1-3.
1885. *Rhinoceros sinensis*, Koken, Palaeont. Abh. Vol. III, Taf. III, Fig. 1; Taf. VI, Fig. 2.
1885. *Rhinoceros sivalensis*, Koken, Loc. cit., P. 39, Taf. V.
1885. *Rhinoceros simplicidens*, Koken, Loc. cit., p. 32, Taf. V, Fig. 7, 8.
1886. *Rhinoceros sivalensis*, Lydekker, Catalogue of Fossil Mammalia in the Brit. Mus., Pt. III, P. 130.
1923. *Rhinoceros sinensis*, Matthew & Granger, Bull., Amer. Mus. Nat. Hist., Vol. XLVIII, Art. XVII, P. 5, 6, 7. Figs. 1-2.
1915. *Rhinoceros sinensis*, Matsumoto, Science Rep. Tokoku Imp. Univ. Sendai, Japan, Vol. III, No. I, P. 11, Pl. V, Figs. 5 and 6.
1930. *Rhinoceros sinensis?* Teilhard de Chardin et Jean Piveteau, Annales de Palaeont. Tome XIX, P. 13, Pl. II, Fig. 1, 2, and 2a.

This species is represented by many isolated teeth. Unfortunately, these teeth are much worn and they are very unfavorable for study. Among the materials there are only two fresh teeth at my disposal. One upper last premolar (P^4) and another lower first molar (M_1) of the right side are still well preserved.

P^4 is moderately hypsodont. Its outer wall is rather thick. Metaloph and protoloph are both well developed and gently curved. Crechet prominent, crista and ante-crochet are absent or weak. Postfossette can be well observed. Both external ribs on the outer wall prominently seen and the anterior rib appears stronger, while the posterior one is somewhat weaker.

The lower first molar (M_1) is still fresh and less worn and highly hypsodont. The metalophid and the hypolophid bent almost at right angles. Both the anterior and the posterior sides of the M_1 have basalband.

The enamel of the P_3 and M_1 are moderately thick. Both teeth are well fossilized. Very little yellowish clay matrix were attached to the teeth.

The fossil mammals described here in the present paper may be grouped systematically as follows:

Ungulata

Perissodactyla

Fam. **Rhinocerotidae**

Rhinoceros sinensis Owen

Fam. **Tapiridae**

Tapirus sinensis Owen

Artiodactyla

Fam. **Suidae**

? *Propotamochoerus salinus* Pilgrim

Fam. **Cervicornia**

Cervus simplicidens Lydekker

Fam. **Carvicornia**

Tragocervus cf. *kokeni* Schlosser

Bos cf. *primigenius* Bojanus

Primate

One lower jaw with broken teeth of indeterminable *Primates*.

DESCRIPTION OF SPECIES

Order **Ungulata**

Sub-Order **Perissodactyla** Owen

Family **Rhinocerotidae** Gray

Genus **Rhinoceros** Gray

Rhinoceros sinensis Owen

Pl. I, Figs. 1-4; Pl. II, Figs. 1-4.

ON SOME FOSSIL MAMMALS FROM KWANGSI, SOUTH CHINA.

With 3 Plates and 5 Textfigures.

By CHANG HSICHH 張席程

INTRODUCTION

Since many years ago fossil mammals from China were recorded by Owen (1870), Gaudry (1871), Koken (1885), Lydekker (1885, 1886, and 1891), Schlosser (1903 and 1924) and others. For an immortal and immense knowledge of the Chinese fossil mammals, we are greatly indebted to the famous author, Prof. Max Schlosser. The great majority of those Chinese fossil mammals, studied by the above mentioned authors, came from North and Central China, but only few of them came from South China.

In 1929 my old friend Dr. C. C. Young described some fossil mammals from Kwangsi province, South China. Those materials were collected by Dr. V. K. Ting in summer, 1923 from Wu-Chow, Kwangsi province. The species described by Dr. Young are only some remains of deers and a kind of rodent.

In 1923 Mr. Lee Tsieh, the geologist of the Geological Research Institute in Nanking, discovered some fossil mammals from a limestone cave in Kwei-lin (桂林), Kwangsi province. Last winter I was fortunate enough to have a chance to look over those materials collected by Mr. Lee, in my home journey from Canton to Peiping. Those materials are teeth and limb bones of deers and are very fragmentary, which have not yet been described.

This spring Mr. J. L. Hsü also collected some fossil mammals from Wu-ming (武鳴), about 150 li north of Nan-ning (南寧), during his recent geological trip in Kwangsi. According to Mr. Hsü's report, those bones were buried in a limestone cave together with many shells and stone artifacts. The bones are all isolated teeth and some broken limb bones. The stone matrix is a kind of sandy clay of red or reddish and yellowish color. Most of the bones are well fossilized except two isolated teeth which are only slightly fossilized. The fossil bones are white, yellowish white or grayish white in color.

Mr. C. L. Ho of the Survey secured also two teeth of *Rhinoceros* of very good preservation, presented by his countryman at Feng-I (奉議), but unfortunately the real locality of the bones is not known.

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LIANG-KWANG TI-CHIH TIAO-CHA-SO

(THE GEOLOGICAL SURVEY OF KWANGTUNG & KWANGSI)

HO CHIEH, DIRECTOR.

SPECIAL PUBLICATION

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With 3 Plates & 5 Textfigures.

By
CHANG HSICHIH.

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