

NEW DICYNODONT FROM *SINOKANNEMEYERIA*- FAUNA FROM SHANSI

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Reptilian fossils were collected in recent years by the Institute of Vertebrate Paleontology from Triassic beds in Shansi belonging to a rich *Sinokannemeyeria* fauna consisting of cotylosaur, cynodont, pseudosuchian, and many large and small dicynodonts.

The present paper is intended to put on record the description of small dicynodont from this fauna. The materials consist of four broken skulls and three complete skulls, one of which was associated with nearly complete postcranial skeleton. So far as is known, it is among the best preserved skeleton of dicynodontidae.

The writer is deeply indebted to Prof. C. C. Young for his guidance in this work.

Sub-order Anomodontia

Family Dicynodontidae

Genus *Shansiodon* gen. nov.

With the diagnosis of the type species *Shansiodon wangi* described below:—

Shansiodon wangi sp. nov.

Material A nearly complete skeleton with skull, trunk, sacrum, pectoral and pelvic girdles, right fore-arm and part of other limbs. Except the skull, all are more or less twisted, especially the fore-arm. V. 2415.

Horizon and Locality Middle or upper part of Lower Triassic; upper part of Erh-ma-ying Series, Triassic System. Hsiao-tu-kou, Yin-chiao, yu-she, Shansi. Field No. 5673A.

Diagnosis Small dicynodont, skull triangular in outline and with its greatest width at the occiput. Face wide and short, tip of the snout bent downward. Nasal boss conspicuous. Intertemporal region extremely narrow forming a sharp parietal crest. Jugal flattened dorso-ventrally, squamosal expanded laterally, occiput broad and low. Alveolar border of maxilla extended downward, semicircular shape in side view, and with a round and thick posterior border. A pair of tusks present, no precanine and post-canine teeth. Temporal opening large, with its antero-posterior diameter about one third the whole length of the skull. Orbital opening relatively small, oval in outline and its

size is as large as half of the temporal. Pineal foramen placed in front of the parietal crest, and with its anterior border attached with tongue-like preparietal. Dorsal vertebrae typically amphicoelous. Sacrum five in number. Limbs slender comparatively, humerus twisted and with a considerable angle between the proximal and distal planes. Acromial process and olecranon developed. Femoral head mammal-like.

Description

Skull The skull associated with lower jaws is well preserved, only the anterior part of left squamosal and the tip of the parietal crest were damaged. Most of the sutures of the skull are obscure. The skull is triangular in form and with a broad and short face which bends anteriorly and downward. The length from postorbital to tip of the snout is about half the length of the skull. Premaxilla small, bent extremely downward. Two remarkable nasal boss occupied respectively the broad nasal bones which were separated by a slight mid-nasal ridge extended from nasal to preparietal. The prefrontal is nearly round, forming the anterior part of the upper border of the orbital opening. The structure of the intertemporal region is very interesting. It does not form a more or less plain area as in typical *Dicynodon*, but is a long and sharp parietal crest. In front of the parietal crest is a round pineal opening with its anterior edge in connection with the small preparietal.

In side view the alveolar border of maxilla extends downward considerably as that in kannemeyerids, and the posterior border is obtuse. The tusk, a single pair of teeth of the mouth, pointed mainly downwards and slightly backwards. The septomaxilla is a comparatively large bone situated at the posterior superior part of the external naris, behind it is a lacrimal with its posterior end reached the anterior border of the orbital opening. All sutures of these bones, as those of the face, can not be distinguished clearly.

A part of occiput of the skull was covered by several neck vertebrae crowded together. Two squamosals were expanded laterally and are about 80 mm in width. The whole occiput is 170 mm in width and 70 mm in height. Bones of the occiput are fused together to form a single unit, the occipital plate, but the general structure of them is the same as in *dicynodont*.

The occipital condyle is broad transversely, with its breadth about two times of its height. The two lateral ends of the occipital condyle is slightly convex, and the middle part of it is slightly concave. Thus it seems to be divided into two parts.

The palate and braincase are invisible, because they were filled by hard rocks. But in palatal view of the premaxilla, there are two low longitudinal ridges separated by a shallow longitudinal groove as those in common *dicynodonts*.

Measurements of the skull (in mm.)

Greatest length of the skull (from the posterior end of squamosal bent to the tip of snout) 230

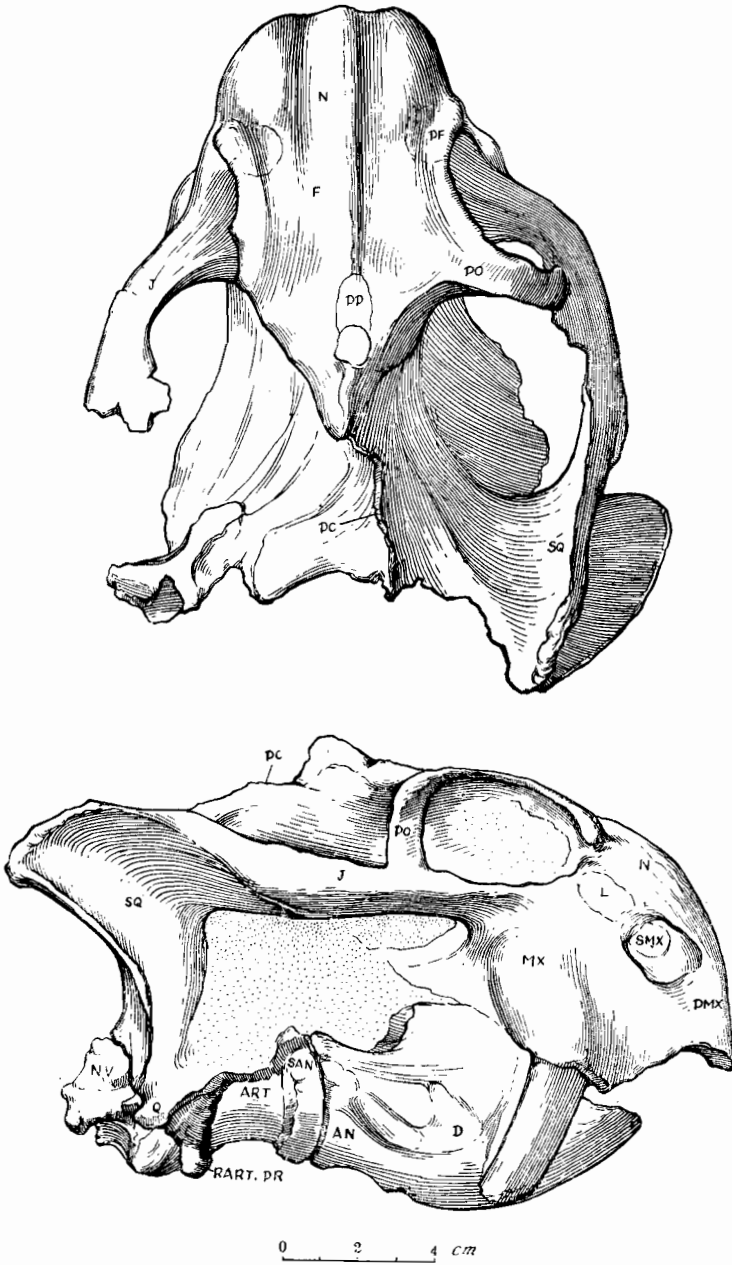


Fig. 1 *Shansiodon wangi* Yeh, gen. et sp. nov. Skull in dorsal (upper) and lateral (lower) views. ca. 1/2 nat. size. pc., parietal crest; rart. pr., retro-articular process; smx., septomaxilla. Other abbreviations as usually adopted.

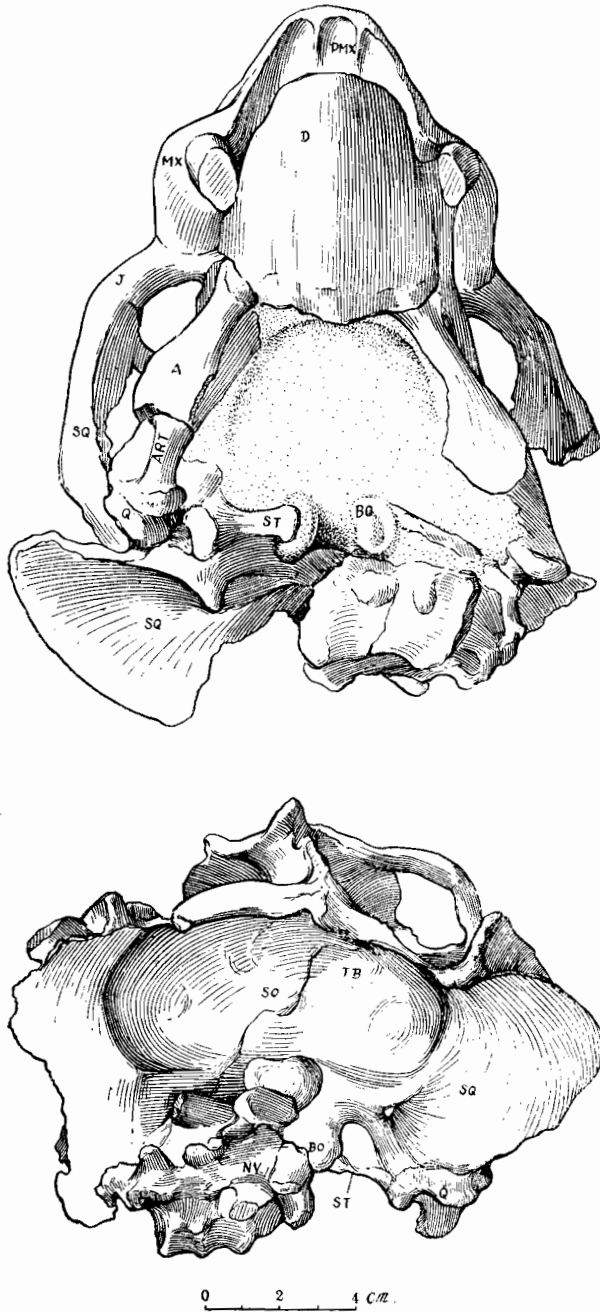


Fig. 2 *Shansiodon wangi* Yeh, gen. et sp. nov. Skull in ventral (upper) and posterior (lower) views. 1/2 nat. size. Abbreviations as usually adopted.

Estimated greatest width of the skull (occiput, including the expansion of two squamosals)	170
Length from anterior border of the pineal opening to the tip of snout	131
Length from anterior border of orbital to the end of parietal	130
Breadth of intertemporal (being a thin parietal crest, but the tip of it was broken) ...	3-4
Breadth of the middle part of orbits	54
Breadth between lacrimal area	62
Breadth between external nares	34

Lower jaw Two lower jaws are still in connection with the skull in natural position (with maximum length 115 mm.). As a whole, the lower jaw is somewhat robust and massive, especially the dentary and angular. The two dentaries are fused closely and with a long symphysis and an upturned anterior cutting edge. The retro-articular process is well developed and projected downwards greatly, but the lower jaw fossa is comparatively small, only about 20 mm in length and with its posterior portion sloping upward.

Vertebrae The vertebrae are mainly preserved in three discontinuous blocks, they are 32 (or 33) in number. The first block, as mentioned above, includes three (or four) neck vertebrae and is connected with skull; the second block contains 17 vertebrae, which as the case in the first one, are crushed leftwards after the ninth vertebra. The form of the trunk of this animal preserved also turned leftwards; thus it suggests that the animal might struggle wildly when it was dying. Many ribs, incomplete and comparatively slender, attaching to these vertebrae, are round in form. With the exception of the last rib of this block can be seen with a single head, those of the others are all invisible. The third block is the best preserved one, composed of five sacral vertebrae associated with the pelvic girdle by sacral ribs. In addition to the vertebrae mentioned above there are four isolated vertebrae in collection, they are pre-sacral vertebrae. The tail vertebrae were mostly lost, only two discontinuous damaged centra were preserved.

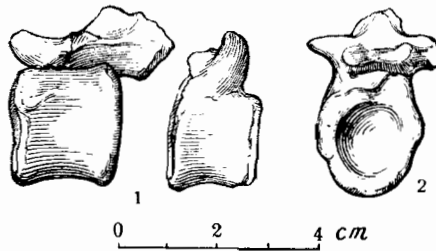


Fig. 3 *Shansiodon wangi* Yeh, gen. et sp. nov. 1. Two dorsal vertebrae in side view; 2, one dorsal vertebra in anterior view. $2/3$ nat. size.

Considering that there may be one or two vertebrae missing between the segments preserved, and the tail vertebrae were mostly lost, it is suggested that the total number of vertebrae in our specimen is no less than forty.

All the centra of the vertebrae are short and strong, and noticeably amphicoelous in shape. Spina and transverse processes are developed in well preserved vertebrae, and the anterior and posterior zygapophyses are visible on isolated vertebrae. The size of dorsal vertebrae increases posteriorly, the sacrum, however, decreases posteriorly. In short, the vertebrae of our specimen are typical dicynodont.

Pectoral girdle Two pectoral girdles are preserved, but the scapula and coracoid of right side were damaged slightly. The left one has its three bones connected in natural position.

The scapula is narrow and tall, with a maximum height of 101 mm. It is broader in the distal part (50 mm) and gradually decreases in breadth downwards. The acromial process is well developed, and pointed forward sharply. Supraglenoid foramen and scapular spine are not seen.



Fig. 4 *Shansiodon wangi* Yeh, gen. et sp. nov. Left pectoral girdle in external view. 2/3 nat. size.

The coracoid and precoracoid are better preserved on the left side, too. The former is larger than the latter. They are connected together in a straight line and form a slightly arched lower border. Since the coracoid extended laterally, the precoracoid is not in

the glenoid region, which is directed ventrally and formed by scapula and coracoid only. No coracoid foramen is visible except a shallow concavity on the posterior part of the upper side. The total antero-posterior length of the two bones just mentioned is 70 mm.

The clavicles and the interclavicle, especially those of the right side, are poorly preserved, and nothing can be said about them.

Fore-limbs The right arm is the most complete one preserved in our specimen. All the bones are connected together. Unfortunately, the arm with its palm upturned was crushed particularly in its lower part. Of the left side, the humerus is well preserved, but the ulna and radius are represented only by two proximal parts respectively. In addition to these there are several isolated phalanges and claw bones probably belonging to the left arm.

As a whole, the structure of the humerus is of typical dicynodont type. It is short and strong with its proximal and distal planes twisted considerably (nearly 60°), and this is generally considered to be a primitive feature of the humerus. The head of the humerus and the deltopectoral crest are conspicuous, the ectepicondyle is well developed. The supinator process begins from middle part of the bone and forms a bony ridge

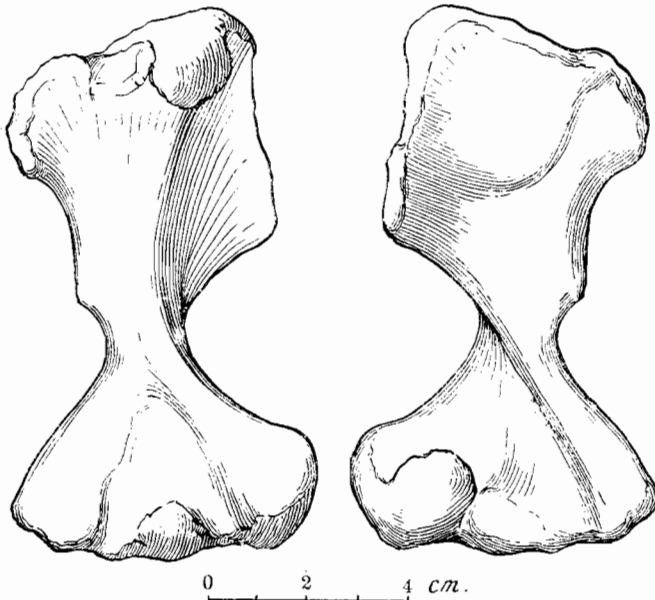


Fig. 5 *Shansiodon wangi* Yeh, gen. et sp. nov. Right humerus in external (left) and internal (right) views. 2/3 nat. size.

extending downward to fuse with the ectepicondyle finally. The trochlea and the capitellum are also well developed, the latter is almost in the form of a rounded ball. The

oval entepicondylar foramen is invisible in dorsal view, but it can be seen in ventral or posterior lateral view.

- Maximum length of the right humerus 112 mm.
- Maximum breadth of the left humerus 62 mm.
- Minimum breadth of the middle part of the right humerus 15 mm.

It is interesting to note that there is a remarkable olecranon on the ulna in our specimen. There is generally no olecranon in dicynodonts except in the more advanced forms. Therefore, it seems that the specimen from Shansi represents a specialized dicynodont which differs from all typical forms such as genus *Dicynodon* and its allies. There is a notch in the distal plain of the humerus for the articulation of the projected olecranon. Both the ulna and radius are rather flattened, especially the former and the middle part of the latter. The length of the ulna (including the length of olecranon) is longer than the radius, but both are somewhat slender.

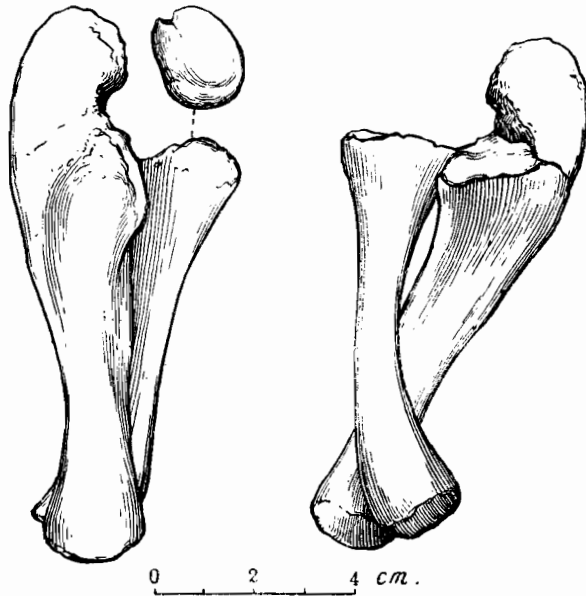


Fig. 6 *Shansiodon wangi* Yeh, gen. et sp. nov. Crushed right ulna and radius about in external (left) and internal (right) views. 2/3 nat. size.

	Length	Proximal maximum breadth	Distal maximum breadth
Ulna (right)	108 mm.	36 mm.	21 mm.
Radius (right)	75 mm.	20 mm.	22 mm.

Though all parts of the manus are preserved in our specimen, but, as said above, they are piled up and distorted. Thus, their natural position is not known. However, judging from the characters of the slender phalanges and the round claws, one can pre-

sume that *Shansiodon* was impossible to be an aquatic form but terrestrial.

Pelvic girdle The ilia of the pelvic girdle, the left one which is complete, are well preserved, but only the proximal ends of the ischium and pubis were preserved and they form the acetabulum together with the ilium. As a whole, the pelvic is still attached

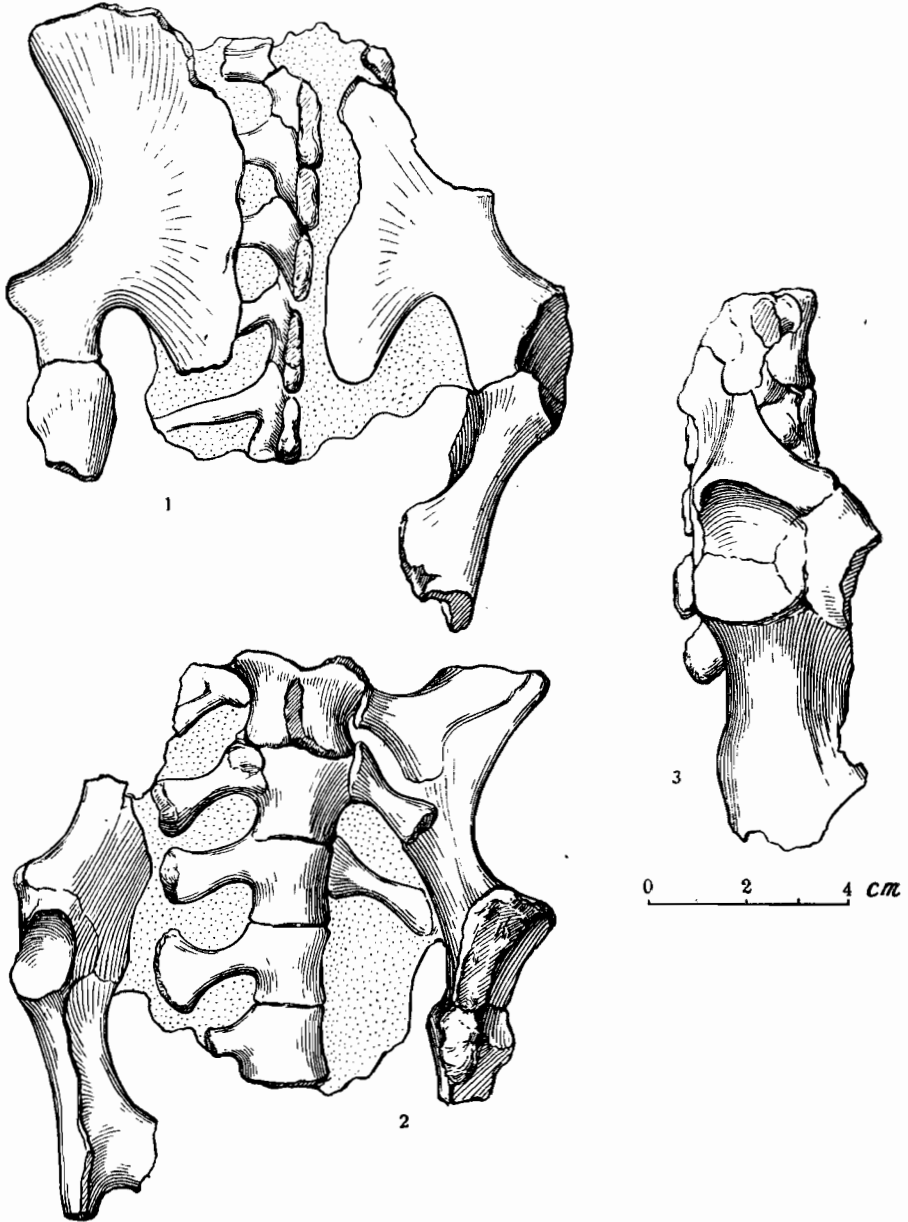


Fig. 7 *Shansiodon wangi* Yeh, gen. et sp. nov. Sacrum and pelvic girdle in dorsal (1), ventral (2) and right side (3) views. 2/3 nat. size.

with the sacrum.

The ilium expands mainly antero-posteriorly and slightly outward in anterior border. Its anterior and upper borders arched slowly, but its posterior border is compressed suddenly and forms a deep notch of only 21 mm in breadth.

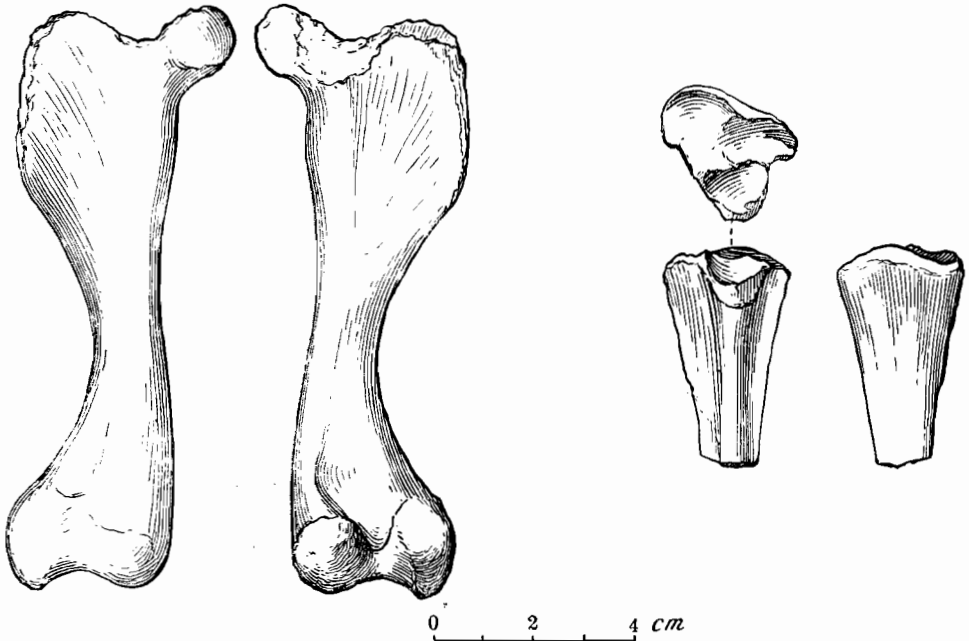


Fig. 8 *Shansiodon wangi* Yeh, gen. et sp. nov. Left: right femur in anterior and posterior views; right: proximal part of right tibia in internal and external views. 2/3 nat. size.

From the observation of the connection of the remained ischium and pubis in the acetabular region we can see clearly that the ischium was extended posteriorly and the pubis downward mainly from the acetabulum, a quite deep cavity with a maximal diameter of 26 mm. It seems impossible that the two halves of the pelvic girdle can be connected by themselves in living. The same condition was seen in some dicynodonts too, but the explanations are different. Whether it was connected by a cartilaginous or ligamentous structure in living or separated widely originally is still disputable.

Hind-limbs The preservation of the hind-limbs is not very well, except the right femur which is complete. There are only a proximal part of right tibia and a shaft probable of left femur.

The femur is somewhat slender and flattened dorso-ventrally. It is 115 mm long, 3 mm longer than humerus. Distally there are two well developed condyles with which the tibia was articulated. It is interesting to note that there is a conspicuous femoral head of round shape and connected by a more or less "neck"-like constriction with the shaft of the bone. So far as is known, it is an advanced feature and is found today

only in mammals. It seems to be reasonable to suggest that our specimen is a specialized form of dicynodonts.

Comparison and Discussion

The dicynodonts are common mammal-like reptiles of Permian and Triassic especially in Karroo Formation of South Africa. But, so far as is known, the discoveries of them were limited almost to skulls only. Of the postcranial skeletons there only a few damaged bones were known. The description of the postcranial skeleton of *Shansiodon* is thus worthy of consideration.

By the characters of the skull of our specimen described above, one can easily distinguish *Shansiodon* from the other genera except *Dicynodon* which contains more than one hundred species now. As pointed out by Cox, the length of the skull of this genus varies from 50 mm to 550 mm, the intertemporal region may be very wide or very narrow, the tusk may be present or absent, and the breadth of the face and the bony boss and ridge also vary. Thus it is difficult to find any special character of this genus to be distinguished from those related to it. However, the conspicuous parietal crest, the short and wide face and the advanced features in the postcranial skeleton in *Shansiodon* afford criteria for differentiating it from the genus.

According to the classification of Zittel (1932), there is no parietal crest in *Dicynodon*, but it is present in *Kannemeyeria*; further, in the monograph on the mammal-like reptiles of South Africa by Broom (1932), fifty-seven species of *Dicynodon* were described, but none of them has parietal crest. Although the intertemporal region of some forms is relatively narrow (such as *D. macrorhynchus* which is only 8 mm in breadth), but it did not form a parietal crest. *D. njalilus*, described by Huene in 1942, has a long and narrow intertemporal region and a facial form more or less like *Shansiodon* as is seen in the figure, but no parietal crest was mentioned in the text.

There were two specimens with more or less complete postcranial skeletons can be compared with *Shansiodon*. One is *Kingoria* and the other one is *Dicynodontidae* indet. from Sinkiang. The size of the former is smaller than our specimen, and the characters such as the structure of the pelvic girdle, the presence of a scapular spine are quite different from *Shansiodon*. On the contrary, the size of the Sinkiang specimen is larger than ours, and there were no olecranon and well developed femoral head.

It is clear now that the specimen from Shansi is not a common dicynodont but a specialized one, for which I propose the name *Shansiodon wangi*, new genus and new species. The species name is dedicated to Mr. C. Y. Wang of the Institute of Vertebrate Paleontology who discovered this interesting specimen.

Shansiodon wuhsiangensis sp. nov.

Holotype A nearly complete skull slightly crushed (V. 2416). It is preserved in

a block together with an another damaged skull composed of only occipital and inter-temporal region (V. 2416a).

Paratype An incomplete skull associated with a posterior part of lower jaw (V. 2417). In the same locality there are an isolated anterior part of a lower jaw, a proximal part of left ulna, and a distal part of left fibula and other broken bones (V. 2417a).

Locality Holotype—Pei-pang-ting, Shih-pi, Wuhsiang, Shansi; field number 5523; paratype—Shi-pien-kou, Lou-tse-yu, Wuhsiang, Shansi; field number 5537.

Horizon Middle or upper part of Lower Triassic; upper part of Erh-ma-ying Series, Triassic System.

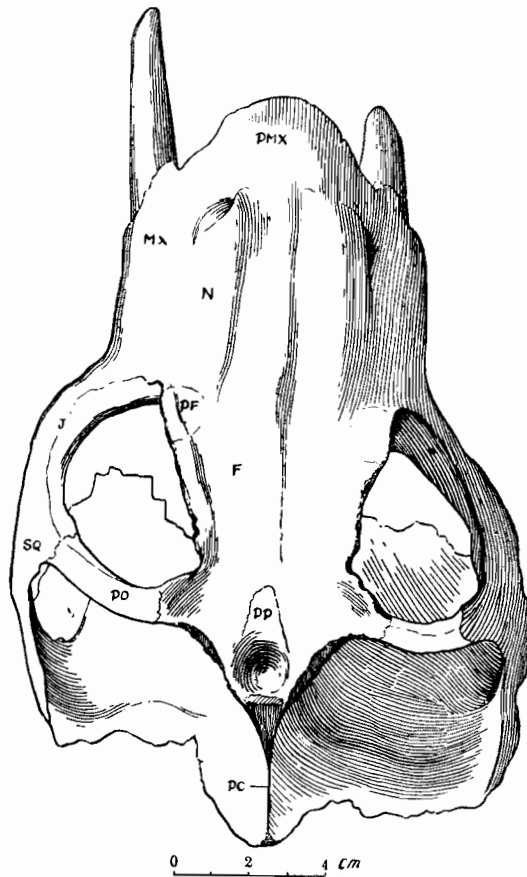


Fig. 9 *Shansiodon wuhsiangensis* Yeh, sp. nov. Skull of holotype in dorsal view, ca. 1/2 nat. size. pc., parietal crest. Other abbreviations as usually adopted.

Diagnosis Skull small, narrowed antero-posteriorly; tip of snout extended mainly forward. Face long and narrow, length from anterior edge of pineal opening to tip

of snout about two thirds the length of skull. Orbital opening large, temporal opening relatively small. Jugal flattened laterally, intertemporal region extremely narrow, forming a long and sharp parietal crest. Alveolar border of maxilla extended downward, relatively slender and with a lean and thin posterior border.

Description

With the exception of the preparietal, most sutures of two skulls are obscure.

The skull is oval in form, with a long and narrow face. The tip of the snout turned down slightly when compared with *S. wangi*. Both the nasal and the frontal are long and narrow too, and the length from the anterior edge of the pineal opening to the tip of the snout is about two thirds that of the skull. The nasal boss is remarkable and differs from those of the generic species by its slender form. The mid-nasal ridge from the nasal to the anterior border of the preparietal is comparatively conspicuous. The intertemporal region is compressed extremely, thus a very narrow and long parietal crest was formed and its anterior end ends behind the pineal opening. The appearance and the situation of the preparietal and the prefrontal resemble to *S. wangi*.

The orbit is large in size and oval in shape, but the temporal opening is slightly smaller when compared with *S. wangi*. The degree of the expansion of the zygomatic arch of the specimen described here is less than that of the generic species. The jugal is flattened laterally, and the alveolar border of the maxilla is lean and slender, while the posterior side of it is thin and nearly straight. Except a tusk extending from the alveolar border of the maxilla there is no other tooth in the mouth. The tusk is somewhat slender and pointed mainly downward. The septomaxilla is large, but the suture of the stepomaxilla and lacrimal is unclear.

There is some difference between the occiput of the holotype and paratype. The former is slightly low and wide, while the latter is slightly narrow, but the lateral extent of the squamosal of two skulls is less than *S. wangi* in common. Concerning the structure of various bones of occipital region the reader may refer to the figure shown by generic species.

Measurements of the skulls (in mm.)

	Holotype	Paratype
Maximum length of the skull (from posterior end of squamosal bent down to tip of snout)	240	235*
Estimated maximum breadth of skull (including the lateral extent of squamosal)	148	—
Length from pineal opening to tip of the snout	155	155*

* Including the length of the damaged tip of snout.

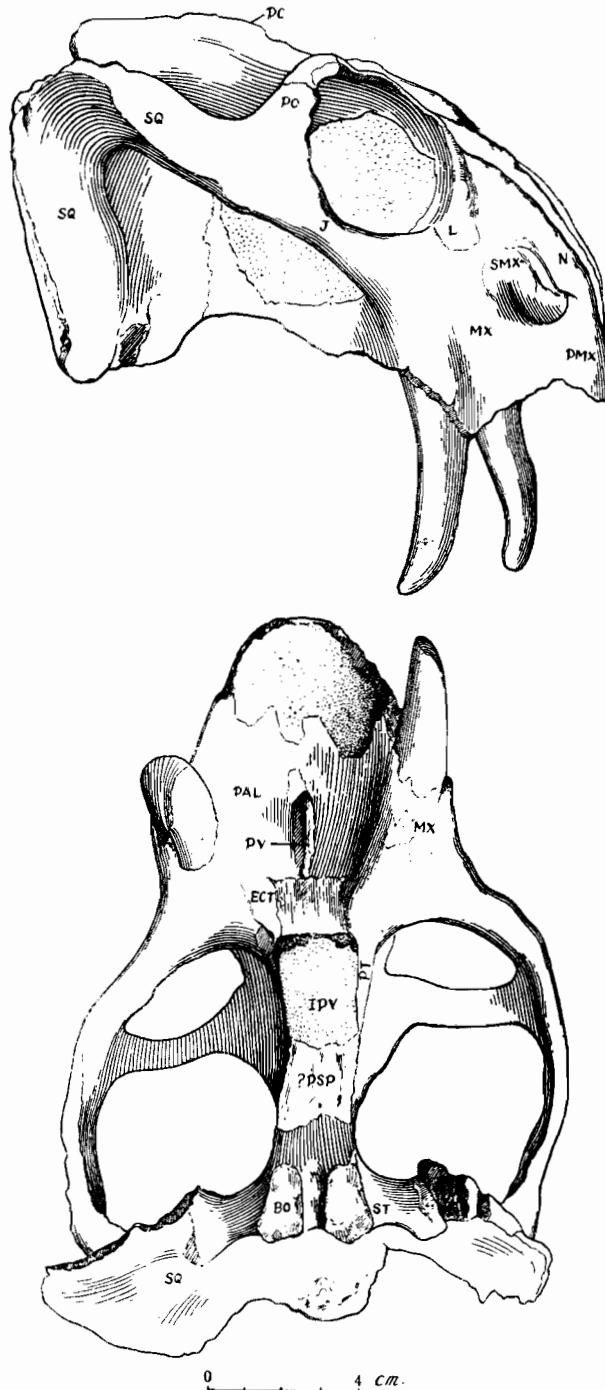


Fig. 10 *Shansiodon wuhsiangensis* Yeh, sp. nov. Skull of holotype in right side (upper) and palatal (lower) views. ca. 1/2 nat. size. ipv., interpterygoid vacuity; pc., parietal crest; psp., parasphenoid-basisphenoid complex. Other abbreviations as usually adopted.

Length from anterior border of orbit to posterior end of parietal region	135	143
Breadth of intertemporal (i. e. breadth of parietal crest)	2—3	2—3
Breadth between orbits	45	51
Breadth between lacrimal area	55	51
Breadth between nares	30	22

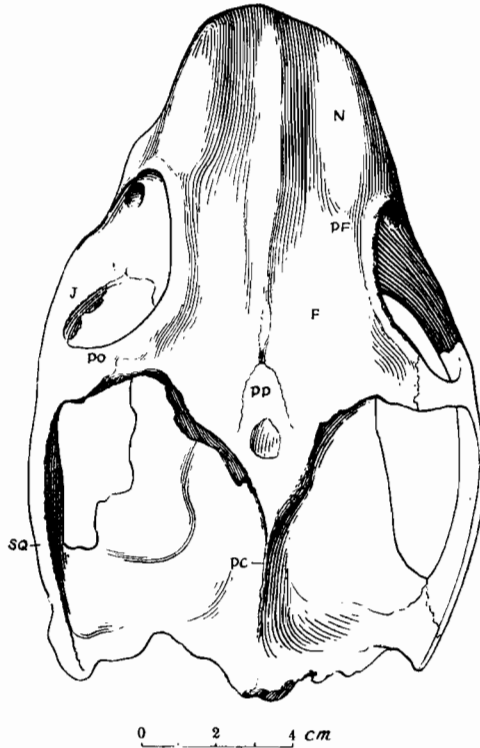


Fig. 11 *Shansiodon wuhsiangensis* Yeh, sp. nov. Skull of paratype in dorsal view. ca. 1/2 nat. size. pc., parietal crest. Other abbreviations as usually adopted.

The palate region of the holotype is the only visible one of the three complete skulls described in this paper. Unfortunately the sutures of this region are unclear too, and the forms of bones can not be drawn accurately.

The palatine is large and wide, forming together with the prevomer a large part of the secondary palate. In the middle part of the palate the prevomer is compressed laterally to form a thin and rather high ridge (about 7 mm in height). Due to the large size of the interpterygoid vacuity, the palatine ramus of pterygoid was displaced laterally and forms a very thin piece embracing the vacuity. The shape of the quadrate ramus of pterygoid of our specimen seems more straight backward than that of general dicynodonts which was running laterally and backward. The suture of the parashenoid and basisphenoid is invisible, probably they were fused together and form a parasphenoid.

basisphenoid complex already.

The form and the structure of the intertemporal and the occipital region of the broken skull discovered in the same locality with holotype are like very much those of holotype. As mentioned above, there are a damaged lower jaw, a distal part of left fibula, a proximal part of left ulna found together with the paratype. The lower jaw has only its anterior part preserved and represents another individual of our collection, because it can not be attached to the lower jaw of the paratype, just the anterior part of which was missed. The broken fibula is not special. The broken ulna is very interesting, because there is no olecranon in the proximal part and its size and form are the same as *S. wangi*. Therefore, if the ulna actually belongs to the paratype of *S. wuhsiangensis*, then the difference of the postcranial skeletons between *S. wangi* and *S. wuhsiangensis* would far exceed the specific criterion.

Comparison and Discussion

By the diagnosis and description of the skulls of the new species given above, one can distinguish *S. wuhsiangensis* from *S. wangi*, the differences between them are mainly as follows:

<i>S. wuhsiangensis</i>	<i>S. wangi</i>
Skull narrowed antero-posteriorly, oval in outline	Skull rather broad, triangular in outline
Face long and narrow	Face flat and wide
Tip of snout extended anteriorly mainly	Tip of snout extended downward mainly
Temporal opening comparatively small	Temporal opening rather large
Orbit comparatively large	Orbit comparatively small
Jugal flattened laterally	Jugal flattened dorso-ventrally
Extent of alveolar border of maxilla slender	Extent of alveolar border of maxilla stout

The difference between them is rather remarkable. If the ulna which is without olecranon belongs to *S. wuhsiangensis*, it would be probable that we have got a new genus (or subgenus) related to *Shansiodon*. However, since (1) the relationship of ulna is uncertain, (2) the chief characters of skulls, such as its size, the conspicuous parietal crest, and the nasal boss and mid-nasal ridge, etc. are in common with *Shansiodon*, and (3) both species are from near locality and same horizon, it is better to be considered as a new species, *S. wuhsiangensis*, of genus *Shansiodon*. The specific name indicates where the materials were collected.

The author has noticed that there are also some minute differences between the holotype and the paratype, such as the shape of the occiput, and these are considered to be the result of crushing or individual variation.

Shansiodon sp.

In addition to the materials from *Sino-kannemeyeria*-fauna from Shansi being discussed already, there are several broken skulls and bones from the same fauna which may belong to *Shansiodon* too. They are: (1) a damaged skull with its left side preserved and other broken limb bones (V. 2418) from Lang-wo-kou, Lou-tse-yu, Wu-hsiang; (2) a broken anterior part of skull (V. 2419) from Shengh-si, Shih-pi, Wu-hsiang (field No. 5521); (3) another badly preserved anterior part of skull (V. 2420) from Ta-yang-po, Ni-ho-chang, Yin-chiao, Yushe (field No. 56175). All these materials are found in same horizon as those two species discussed above. Unfortunately, they are too poor for making a specific determination.

The skull from Lang-wo-kou has a long and narrow face, and bears a parietal crest and a mid-nasal ridge. All these are similar to *S. wuhsiangensis*. The other two broken skulls also have board faces and in one of them (V. 2419) the nasal boss and mid-nasal ridge were still preserved. They look somewhat like *S. wangi*.

Summary

1. In *Sino-kannemeyeria*-fauna from Shansi we have found a new dicynodont, *Shansiodon*, represented by eight individuals belonging to two species.

2. *Shansiodon* is a small dicynodont (about one meter long) representing a specialized branch of typical small dicynodont.

3. *Shansiodon* bears some advanced characters sharing with kannemeyerids, such as the presence of the parietal crest and the olecranon, but it bears some more advanced features which are generally wanted in kannemeyerids (such as the well developed femoral head). Therefore, *Shansiodon* and kannemeyerids may represent two parallel branches of dicynodonts (as whole), and do not have a direct relationship; they may be independently derived from early primitive dicynodont.

4. So far as is known, the dicynodonts of China are known from two regions only, i. e. Sinkiang and Shansi; in the former region they are represented mostly by *Lystrosaurus* and with subordinate *Dicynodon*; and in Shansi the kannemeyerids dominate in addition to the specialized dicynodont (*Shansiodon*). The fact that no *Lystrosaurus* or typical *Dicynodon* was found in Shansi until now seems to indicate that the geological horizon of Sinkiang yielding the dicynodont remains is somewhat lower than that of Shansi.

5. All the fossil of the *Sino-kannemeyeria*-fauna of Shansi are collected from the upper part of Erh-ma-ying Series of Triassic. According to the stratigraphical section at Lou-tse-yu, Wuhsiang, this Series contains five fossil-bearing strata representing from middle part of Lower Triassic to lower part of Middle Triassic. With the exception of a

damaged skull (V. 2419), the horizon of fossil-bearing stratum is uncertain (probably it belongs to the fifth zone), all the specimens described in this paper are collected from the third fossiliferous horizon and they are most probably of the middle or late part of early Triassic age.

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EXPLANATION OF PLATES

- Plate I *Shansiodon wangi* Yeh, gen. et sp. nov. Skull in dorsal (upper) and lateral (lower) views. ca. 2/3 nat. size.
- Plate II *Shansiodon wangi* Yeh, gen. et sp. nov. Skull in ventral (upper) and anterior (lower) views. 2/3 nat. size.
- Plate III *Shansiodon wuhsiangensis* Yeh, sp. nov. Skull of holotype in dorsal (lower) and anterior (upper) views. ca. 2/3 nat. size.
- Plate IV *Shansiodon wuhsiangensis* Yeh, sp. nov. Skull of holotype in palatal (upper) and lateral (lower) views. ca. 2/3 nat. size.
- Plate V Lower and middle: *Shansiodon wuhsiangensis* Yeh, sp. nov. Skull of paratype in dorsal view; an isolated broken lower jaw (V. 2417a) in superior view. ca. 2/3 nat. size. Upper: *Shansiodon* sp., A broken skull (V. 2418) in dorsal view. 2/3 nat. size.
- Plate VI *Shansiodon wangi* Yeh, gen. et sp. nov. Whole skeleton in preservation. 1/3 nat. size.



