

**NEW SEGNOSAURIDAE FROM
THE UPPER CRETACEOUS OF MONGOLIA***

In 1972, during the excavation at the Bayshin-Tsav locality (southeastern Mongolia) were found a skull, fragments of cervical vertebrae, and hind limbs of a carnivorous dinosaur, placed in a new genus — *Erlicosaurus*.

The erlicosaur has a series of specific features that considerably distinguish it from the majority of theropods. The erlicosaur stands closest to the representatives of the family Segnosauridae (Perle, 1979), to which it may be delegated conditionally as a consequence of the incompleteness of the material. Separation of the erlicosaur into a separate family at the present time has insufficient cause.

The bone-bearing layers of the location belong to the Bayn Shire suite, dated by the mollusk complex as lower Senonian (Barsbold, 1972). The preparation of material, kept in the Paleontological and Stratigraphical Laboratory of the Geological Institute of the Academy of Sciences of the Mongolian National Republic (PST) was conducted by L. Sambuy. S. M. Kurzanov entered a series of valuable observations into the text of the manuscript. I deeply appreciate his help.

F A M I L Y SEGNOSAURIDAE

G e n u s *Erlicosaurus* Perle, gen. nov.

G e n u s n a m e derived from Erlik, Mongolian, for an evil spirit in Mongolian folk mythology.

T y p e s p e c i e s — *Erlicosaurus andrewsi* sp. nov.; Upper Cretaceous Bayn Shire suite, southeastern Mongolia.

D i a g n o s i s . The symphyseal region of the dentary is curved medially. The external surface of the dentary has sharp crests in the upper part. The alveolus of the first tooth is located far from the symphysis. The teeth are straight, closely spaced, with evenly pointed crowns. The edges of the crowns are serrated. Number of teeth in the lower jaw is 31, in the upper 24 (25?). The ungual phalanges are highly laterally compressed.

S p e c i e s c o m p o s i t i o n . Monotypic genus.

C o m p a r i s o n . Besides *Erlicosaurus*, one other genus enters into the composition of the family — *Segnosaurus*. The symphyseal region of the dentary in *Segnosaurus* is weaker than in *Erlicosaurus*, it is curved inward and its external surface is flat. The posterior part of the dentary of *Erlicosaurus* is considerably lower than in *Segnosaurus*.

* Original citation: Perle, A. 1981. Novyy segnozavrid iz verkhnego mela Mongolii. In R. Barsbold, E. I. Vorobyeva, B. Luvsandan, L. P. Tatarinov, B. A. Trofimov, V. Y. Reshetov, & M. A. Shishkin (eds.), *Mongolian Vertebrate Fossils. Joint Soviet-Mongolian Expedition, Transactions* [Sovmestnaya Sovetsko-Mongol'skaya Paleontologicheskaya Ekspeditisiya, Trudy] 15:50-59. Translated by Catherine Siskron and Samuel P. Welles. Generously donated by the Museum of Paleontology, University of California, Berkeley and courtesy of Patricia Holroyd and William Clemens. Original typescript transferred to electronic format and edited by Matthew Carrano, Smithsonian Institution, October 2006.

The alveoli of the first tooth of *Erlicosaurus* is located much farther from the symphysis than it is in the *Segnosaurus*. In *Segnosaurus* the first teeth are slightly recurved, while the posterior ones are straight, while in *Segnosaurus* all the teeth are straight. The teeth of the erlicosaur are noticeably smaller, but considerably more numerous than the teeth of the segnosaur.

The radial and ulnar condyles of the humerus are more highly specialized than in the segnosaurid and are more closely approximated to each other. The proportional ratio of the metatarsal elements to the humerus are 0.36; in the segnosaur — 0.38.

The ungual phalanges of the pes in the erlicosaur are considerably more laterally compressed than they are in the segnosaur.

Erlicosaurus andrewsi, Perle sp. nov.

S p e c i e s n a m e in honor of the American scientist in Central Asia, R. C. Andrews.

H o l o t y p e PST No. 100/111. Skull and lower jaw, humerus and pes; MNR southeastern Gobi. Bayshin-Tsav locality; Bayn Shire suite, Upper Cretaceous.

E x t e r n a l s k u l l e l e m e n t s (fig. 1). Skull is relatively elongated and low, with large subrounded orbital openings. Lateral temporal fenestrae are small; 250 mm in length. The roof of the skull behind the frontals broadens noticeably, has a convex surface.

The frontals and parietals have fused in place. The sagittal crests of the parietals are separated from each other by a slightly concave area, located immediately before the contact with the supraoccipital. The general direction of the above-named crests is on a posterolateral slant toward the head of the quadrate. As a whole the parietals are relatively shortened.

The prefrontals are small, triangular, joined ventrally with the lacrimals. Their dorsal surface is smooth and even.

The nasals are relatively elongated, overlap dorsally the anterior part of the frontals. Anteriorly they continue to almost 2/3 of the length of the external narial fenestrae.

The premaxilla is relatively wide (at the beginning). The ventral edge of the premaxilla is pointed, during the life of the animal it was covered with a horny sheath. The anteroventral region of the bone is perforated by several foramina, distributed in an orderly fashion. Anteriorly from the external narial fenestra the surface of the premaxilla is noticeably concave.

The narial fenestrae are narrow, elongated and reach almost to the middle of the length of the nasals. Symphyseal surface is smooth.

The palatal plates of the premaxillae are considerably broadened and are connected to each other by means of the vomer. In the anterior part there is an opening, which opens dorsally and posteriorly and which is connected with the nasal passage.

The dorsal plates of the premaxillae are broadened, and are articulated with the maxillae at the level of the distal end of the vomer.

The maxillae are elongated, triangular. Their anterior parts form the ventral edges of the external narial fenestra. The maxillary fossa is relatively deep. The tooth row ends at the level of the antorbital fenestra. Along the ventral edge of the maxillary fossa are located three small fossae, varying in size, similar to the maxillary sinuses of *Allosaurus* (Madsen, 1976).

The lacrimals are broadened and thin, T-shaped. Dorsally they articulate by a labile contact with the prefrontals and nasals. The lateral surfaces are divided by low, vertical crests. Posteriorly from them in the dorsal part are located foramina for the lacrimal duct. The medial

surfaces are moderately concave, dorsally pass into a flat projection that forms the posterior edge of the antorbital fenestra.

The jugals are highly elongated and thin. Anteriorly they reach the level of anterior edges of the lacrimals. The ascending branches of the posterior forked processes are relatively higher than in other theropods. This is why they form not only the ventral edges of the lateral temporal fenestrae, but at the same time form the lower third of their posterior edge. The articular surfaces of the processes with the postorbitals are moderately convex, correspond to the depressions on the latter. The posterior forked process is very thin, ventrally and dorsally encloses the process of the quadratojugal, and forms the lateral edge of the quadrate foramen.

The quadrates are positioned vertically. Their pterygoid flanges are unusually broadened and fully overlap the basisphenoid laterally. The quadrate foramen is large, extended vertically. The quadrate limits the middle ear cavity laterally.

The postorbitals have their usual outlines for theropods, are lightly constructed, have processes that narrow considerably. The dorsal parts are flatter, with moderately convex surfaces.

The descending processes of the squamosals are relatively longer than those of others and consist of a noticeably broadened plate that is firmly attached to the anterodorsal surface of the quadrate flanges. The more massive posterior process articulates with the anterior surface of the paroccipital process, simultaneously touching the dorsal head of the quadrate. The medial part of the bone is flat, firmly attached to the parietal anteriorly and dorsally from the sagittal crest. The sutures between bones are well fused. The anterior process forms laterally a relatively deep groove, into which enters the process of the postorbital. In this manner, the processes of the squamosal form a fairly firm block with the surrounding bones, which comprise the posterolateral part of the skull.

C r a n i u m (fig. 2). The supraoccipital occupies relatively the same area as in some of the small carnivorous dinosaurs — *Saurornithoides* (Barsbold, 1974), *Velociraptor* (Osborn, 1924). But the shape of their supraoccipitals are different. The specific feature of this bone in *Erlicosaurus* is the vertical crest, which starts almost from the dorsal edge of the foramen magnum. The supraoccipital forms not only the posterior wall of the cranium, but at the same time part of the roof.

The sutures of the exoccipitals are fully fused. The exoccipital has a rather large area, which occupies the lateral part of the occipital condyle. The exit foramina for nerves IX–XII and the jugular vein are located near the occipital condyle, actually on the exoccipital.

The basioccipital is unusually broad laterally and fused with the basisphenoid. The low crest that projects from the ventral part of the occipital condyle divides the surface of the bone into two depressions.

The basisphenoid is highly peculiar. It forms a pear-shaped structure with very thin walls — the basisphenoid capsule. This feature of the erlicosaur is reminiscent of some small theropods — *Gallimimus bullatus* (Osmólska et al., 1972) and *Saurornithoides junior* (Barsbold, 1974). However in the given case the capsule is displaced considerably posteriorly and is directly adjacent to the quadrate flanges of the pterygoids. The basisphenoid capsule is separated from the otic by an extremely thin wall. At the base of the basisphenoid capsule, to the left from the parasphenoid process, are located the exit of the palatal branch of the facial nerve (VII).

The basipterygoid process are weakly developed and articulated firmly with the pterygoids. The interpterygoid vacuity is absent. The basisphenoid rostrum, or parasphenoid process, is relatively elongated; it articulates anteriorly with the forked end of the vomer,

projecting far into it. The ventral surface of the parasphenoid process is sharply convex, the pterygoids are firmly attached to its lateral surface.

Along the dorsal surface of the basisphenoid capsule and the parasphenoid process pass two high crests, separated from each other by a shallow furrow.

The orbitosphenoids (fig. 3) are very small, of semilunar shape. They are articulated with the frontals and the laterosphenoids forming the lateral edges of the exits for nerve II.

The laterosphenoids are weakly expressed and border posteriorly with the prootic by means of a serrated suture. The contacts of the bones start near the exits for the maxillary branches of the trigeminal nerve and continue farther along the upper edges of the exits for the mandibular branches, passing anteriorly and ventrally. Later the sutures become more clearly defined, particularly at the basisphenoid. At the very suture with the basisphenoid, almost at the base of *pita antotica*, is located an exit for the deep orbital branch of the trigeminal nerve. The upper part of the laterosphenoid supports the postorbital ventrally, as is the case in the majority of theropods. The lateroventral surface of the bone is highly convex.

The prootics are considerably broadened and fully form the exits for the branches of the trigeminal nerves, V_2 and V_3 . They form the anterior walls of the otic capsules, with which are firmly fused the pterygoid flanges of the quadrates. Simultaneously the prootic forms the anterior walls of the lateral depressions.

The lateral depression is formed by the prootic, opisthotic, and basisphenoid. On the posterior edge of this depression is located a relatively large opening that perforated the opisthotic — the fenestra ovalis. It is separated from the elongated, vertical foramen rotundum by a narrow crista interfenestralis. A little anteriorly and ventrally from the lower edge of the fenestra ovalis is located a relatively deep depression, in which apparently fit part of the saccus perilymphaticus. Almost parallel to the saccus perilymphaticus and slightly forward is located a relatively narrow canal, apparently for the lateral cerebral vein. And somewhat below the indicated canal, near the external exits for the trigeminal nerves, entered the internal carotid artery. It passed below the paroccipital process, almost parallel with the external wall of the otic capsule, turning ventrally and entered the cranium above nerve VII.

The endocranial cavity (fig. 5) is relatively long and high. Its ventral surface is moderately concave in the middle. The optic lobes of the midbrain were apparently well-developed.

A large pocket, analogous to the recessus intraacusticus of *Itemirus medullaris* (Kurzanov, 1976), is located in the region of the inner ear. Two very small openings are located on its bottom, most likely opening into the cavity of the middle ear. The surface of the walls of the pocket is even, almost smooth. Somewhat anterior and dorsal to the upper edge of the recesses intraacusticus is located an almost unnoticeable posterior foramen for the canal of the middle cerebral vein, while anteriorly, on the level of the lower edge of the pocket, is the exit for the above-mentioned vein. Ventrally from the pocket almost on the same level are located three foramina. The largest is the anterior — trigeminal, the other two are for the exits of the facial and acoustic nerves, located very close to one another. Closer to the condyle is located the jugular foramen, through which passed the glossopharyngeal and vagus nerves. Ventral to it and a little posteriorly, is located a small foramen, most likely a canal for an additional nerve. And the most posterior position is occupied by a relatively large foramen for the hypoglossal nerve.

The basiptyergoid articulation (fig. 6). Due to the close attachment of the pterygoids to the basisphenoid rostrum on both sides, the interptyergoid vacuity is completely absent. The pterygoids are articulated by means of a short suture with the anterior edge of the basiptyergoid

processes and give quadrate branches posteriorly from the basisphenoid articulation. The basiptyergoid articulation is immobile. The anterior part of the pterygoid, fully articulated to the parasphenoid rostrum, reaches the level of the posterior edge of the additional palatal opening.

The ectopterygoids are articulated with the dorsal surface of the palatines and are articulated by means of a wide suture with the ventral processes of the pterygoids. Their anterior ends, turning laterally, are connected with the medial surfaces of the jugals.

The lateral surfaces of the descending process of the bones are slightly concave, with clearly identifiable places for the attachment of pterygoid muscles.

The palatine bones are relatively elongated and thin. The anterior, ascending processes of the palatines, which form the posterolateral walls of the choanae, are highly flattened dorsoventrally and almost reach the center of the external maxillary fenestra, overlapping with the vomers.

The maxillary process is slightly shorter than the anterior rising and rests medially on the maxilla. The posterior part of the bone is closely adjacent to the pterygoid, reaching the base of the jugal process of the ectopterygoid ventrally. The dorsomedial edge of the bone is noticeably curved in, thus isolating the additional palatal opening.

The ventrolateral flange of the bone is broadened and connected with the ventral surface of the maxilla posterior to the tooth row.

The supposed remainder of the anterior palatal fenestra is closed posteriorly by the palatal plates of the premaxilla. It is relatively elongated in the anteroposterior direction and communicates with the anterior end of the vomer, where the latter wedges slightly in between the posterior ends of the plates.

The vomers are closely positioned near one another and carry high, vertical crests that form a paired base of the internasal septum. The anterior and posterior ends of the vomer are symmetrically forked. The internal nasal fenestrae are somewhat displaced posteriorly, are relatively large and elongated, medially they are separated by the high crests of the vomers. The lower jaw is low and long. Externally it seems quite similar to that of a segnosaur (fig. 7).

The dentary occupies 2/3 of the whole length of the lower jaw. Its anterior part is relatively wide in cross-section. The dorsal part of the external surface sharply protrudes laterally. The anterior end of the bone in the symphyseal region is curved medially. The Meckelian canal is relatively wide and deep. The posterior lateral process reaches the middle of the mandibular fenestra. On the external surface of the anterior half of the dentary are located several foramina of varying sizes, scattered irregularly and connected with the alveolar canal. Through them passed the mental branches of the mandibular artery and nerve. The dentary articulates with the surangular, as in the case of the segnosaur, by means of grooved connections.

The interdental plates are rather thin, sharply triangular in shape, exit medially toward the base of the teeth.

The splenial is very thin, elongated-triangular. Its anterior end reaches approximately the level of the tenth tooth. The medial surface of the bone is flat, but in the ventral part it is insignificantly convex. The prearticular overlaps the posterior edge of the splenial. The ventral process, which articulates with the angular, is slightly forked, the medial crest of the angular enters into it.

The surangular is elongated, occupies 1/2 the length of the jaw. The posterior end of the bone is located almost on the same level with the posterior edge of the articular and forms the external edge of the articular area.

The dorsomedial surface of the bone noticeably projects anteriorly over the lower jaw cavity, and passes into the adductor cavity. Dorsally the surangular is thick, posteriorly it is flat. The opening in the surangular, characteristic for the majority of theropods, is not developed.

The angular is closely attached to the external surface of the surangular, forming the lower part of the external mandibular fenestra. The anterior process projects anteriorly between the dentary and splenial. The medial surface of the bone is slightly concave dorsally, whereas ventrally it projects in the shape of a narrow crest.

The prearticular is elongated, wide, shaped like an arch. Its anterior part, connecting with the posterior edge of the splenial, almost reaches the anterodorsal edge of the surangular. The posterior part of the bone is firmly fused with the anterior ventral surface of the articular. Near their suture is located a small oval foramen for a canal that branched internally in two directions. The posterior branch, perforating the articular, exits dorsally on the surface of the articular, whereas the anterior opens into the Meckelian canal. The articular is relatively small, dorsally concave, irregularly shaped. Its lateral surface is fully overlapped by the surangular and angular.

The anterior dorsal projection, prearticular, or antarticular (Madsen, 1976) is sharply set apart. The middle depression, which accommodates the quadrate condyle, is deep. It is separated by the projection that enters into the inner depression of the condyle of the quadrate. The posterior, deeper depression, accumulates the posteroexternal condyle of the quadrate. On the anteromedial surface of this depression there is a small foramen, apparently an entrance for one of the branches of the sublingual nerve. As a whole, the articular is located slightly below the level of the alveolar surface of the dentary.

The teeth are narrow, straight, and noticeably flattened laterally. Their medial surfaces are insignificantly more convex than the lateral. The anterior and posterior edges are serrated. The crowns of the teeth are evenly pointed. The five anterior teeth are more widely spaced than the remaining posterior ones. The number of teeth on the upper jaw is 24 (25?), on the lower 31.

Postcranial skeleton. The postcranial skeleton of *Erlicosaurus* is represented by several fragments of cervical vertebrae, a complete humerus from the left forelimb, and an almost complete pes from the right hind limb.

The cervical vertebrae are elongated and massive. They have thick prezygapophyses, low neural arches, large parapophyses. They are most similar to the vertebrae of *Segnosaurus*, although in size they are considerably smaller. The poor preservation of the bones does not allow a more detailed description.

Humerus (fig. 8) is massive. Maximal length is 300 mm. The shaft is shortened. The deltopectoral crest is well-developed. The condyles for articulation with the radius and ulna are sharply set apart and divided by a narrow, furrow-like fossa and are very insignificant in size. The fossa for the ulnar process is moderately deep and wide. The proximal part of the bone is significantly broadened. The articular surface of the humeral head is convex and broad, in the middle it becomes narrow toward its edges. The internal roughness of the head, as in *Dromaeosauridae* (Ostrom, 1969), is well expressed. The top of the thick, high deltopectoral crest is located at a distance of approximately 1/3 of the length of the humerus from the proximal end. The supposed attachment site of the triceps muscle is located on the posterointernal surface of the shaft.

The metatarsus (fig. 9) is relatively short, composed of four elements. The first is considerably shortened (length 70 mm) and diverges noticeably distally from the second metatarsal. The proximal part of the metatarsal I is medially flattened, and its surface is highly concave, similar to the metatarsal of the segnosaurid. The distal condyle is moderately

broadened transversely and highly flattened ventrally. The lateral articular fossae are weakly expressed. The shaft is also flattened dorsoventrally.

The shaft of the second metatarsal is straight and slightly compressed dorsoventrally (length 110 mm). The proximal articular surface of the bone is slightly concave, the distal condyle is flattened ventrally. The lateral articular fossae are relatively deep.

The remaining elements of the metatarsus, that is metatarsals III and IV, are highly damaged and have only the distal parts.

The pedal phalanges are shortened. The first phalanx of digit I is moderately flattened dorsoventrally. The distal condyles are well set apart and have deep lateral articular fossae.

The proximal end diverges noticeably toward the posterior ventrally in correlation with the flatness of the distal part of metatarsal I.

The phalanges of digit II are more flattened dorsoventrally, and have well-defined distal condyles. The lateral articular depressions are shallow.

The phalanges of digit III are relatively reduced in size. Their proximal parts are slightly broadened vertically. The lateral articular fossae are even less expressed than in the phalanges of other digits.

The phalanges of digit IV are rather specific. The second and third phalanges are considerably shortened and are quite similar in structure to the sesamoid phalanges of the segnosaurid.

The ungual phalanges are almost the same as the ungual phalanges of the carnivorous dromaeosaurids (Ostrom, 1969). On all digits they are equally pointed, sharply curved, with well-developed tubercles for the attachment of the flexor tendons. They decrease considerably in size from the ungual of the first digit to the fourth.

O b s e r v a t i o n s . The above enumerated features allow the inclusion of the genus *Erlicosaurus* in the family Segnosauridae. However, the possibility is not excluded that this family, which also includes the genus *Segnosaurus*, has a higher taxonomic rank. By this is meant that some of the features of segnosaurids in their meaning correspond at least to the level of infraorder (Barsbold, 1976a). In such a case is likely the isolation of the genus *Erlicosaurus* into a separate family, for which, however, an examination of the pelvic region is necessary.

The comparative morphological examination of the skull and postcranial skeleton of *Erlicosaurus* indicated, that the representatives of the family Segnosauridae are not typical for either theropods nor for other dinosaurs.

It is sufficient to note the differences in the shape of the teeth and their absence on the premaxilla (the teeth are substituted by a cutting horny sheath), a highly shortened metatarsus and the supporting function of the four metatarsals.

Let us add that almost all theropods are considered swift and easily running animals. The proportional ratio of the length of the metatarsus to the length of the tibia is more than 0.5, whereas the number of supportive elements is three.

In the representatives of the family Segnosauridae, the above-mentioned ratio is less than 0.3, and the number of metatarsals functioning in a support capacity is four. This is why it is quite natural to suppose that segnosaurids moved slowly and relatively heavily.

The posterior displacement of the choanae, the considerable elongation in the anteroposterior direction of the external nares, the presence of the remains of the anterior palatine fenestra, a rather specific shape of teeth of the erlicosaur and the segnosaur, which occupy a middle ground between the teeth of theropods and sauropods, allow the supposition that the segnosaurids led an amphibious type of life.

Geologic age . Upper Cretaceous, Bayn Shire suite.

Locality . Mongolian National Republic, southeastern Gobi, Bayshin-Tsav.

L I T E R A T U R E

(Not listed.)

FIGURE CAPTIONS

Fig. 1. *Erlicosaurus andrewsi* sp. nov.; holotype No. 100/111.

Skull and lower jaw, lateral view; MNR, southeastern Gobi; Bayn Shire suite of the Upper Cretaceous. An – angular, Ar – articular, D – dentary, Ju – jugal, Fr – frontal, La – lacrimal, Mx – maxilla, Na – nasal, Pa – parietal, P.mx – premaxilla, P.Fr – prefrontal, P.or – postorbital, Pp – paroccipital process, Q – quadrate, Qju – quadratojugal, Sq – squamosal, Sur – surangular

Fig. 2. *Erlicosaurus andrewsi* sp. nov.; holotype No. 100/111, skull, posterior view; MNR, southeastern Gobi; Bayn Shire suite of the Upper Cretaceous.

Bo – basioccipital; Bs – basisphenoid; Eo – exoccipital; Mae – external auditory meatus; Occ – occipital condyle; Op – opisthotic; So – supraoccipital; V, VI, XII – exits for cranial nerves. Remaining notations the same as in Fig. 1.

Fig. 3. *Erlicosaurus andrewsi* sp. nov.; holotype No. 100/111, cranium, anterior view; MNR, southeastern Gobi; Bayn Shire suite of the Upper Cretaceous.

Ls – laterosphenoid, Pif – hypophyseal fossa, Pro – prootic, Os – orbitosphenoid. Remaining notations the same as in Fig. 1.

Fig. 4. *Erlicosaurus andrewsi* sp. nov.; holotype No. 100/111. Ear region of the lateral depression of the skull, lateral view; MNR, southeastern Gobi; Bayn Shire suite of the Upper Cretaceous.

Cc – canal for the internal carotid artery, Fo – foramen ovale, Fr – foramen rotundum, Plc – perilymphatic sac. Remaining notations the same as in Fig. 2.

Fig. 5. *Erlicosaurus andrewsi* sp. nov.; holotype No. 100/111. Endocranial region of the cranium, internal view; MNR, southeastern Gobi; Bayn Shire suite of the Upper Cretaceous.

Fj – jugular foramen, Ri – internal auditory region, VCMA – foramen for the anterior canal of the middle cerebral vein, VCMP – foramen for the posterior canal of the middle cerebral vein, SVCMA – groove for the middle cerebral vein. Remaining notations the same as in Fig. 2.

Fig. 6. *Erlicosaurus andrewsi* sp. nov.; holotype No. 100/111. Skull, ventral view; MNR, southeastern Gobi; Bayn Shire suite of the Upper Cretaceous.

Bs – basisphenoid, Ch – choana, Ecpt – ectopterygoid, Fpa – anterior palatine fenestra, Pal – palatine, P.Bpt – basipterygoid process, Pt – pterygoid, Spf – accessory palatine fenestra, V – vomer, VpPm – ventral lamina of the premaxilla. Remaining notations the same as in Figs. 1 and 2.

Fig. 7. *Erlicosaurus andrewsi* sp. nov.; holotype No. 100/111. Lower jaw, medial view; MNR, southeastern Gobi; Bayn Shire suite of the Upper Cretaceous.

AddF – adductor fossa, D – dentary, AnAr – antarticular, An – angular, Ar – articular, D – dentary, Ind – interdental plate, Mgr – Meckelian canal, mdF – mandibular fenestra, PrAr – prearticular, Spl – splenial, Sd – symphysis.

Fig. 8. *Erlicosaurus andrewsi* sp. nov.; holotype No. 100/111.

Humerus: a – medial view; b – anterodorsal view; MNR, southeastern Gobi; Bayn Shire suite of the Upper Cretaceous. CrDp – deltopectoral crest, It – internal tuberosity, H – humeral head, Rc – radial condyle, Uc – ulnar condyle.

Fig. 9. *Erlicosaurus andrewsi* sp. nov.; holotype No. 100/111.

Pes, anterolateral view; MNR, southeastern Gobi; Bayn Shire suite of the Upper Cretaceous. Mtt – metatarsals, Ph – phalanges, Un – ungual phalanx.