

Remarks.—This species agrees with *H. niger*, and differs from *H. equinus*, in that the medial surface of the horn-core is flattened so that the cross-section is more nearly D-shaped than regularly oval.

Trivial name *nirö*, Masai=brown, the colour of the holotype.

Family Giraffidæ.

Genus SIVATHERIUM Falconer & Cautley, 1836.

Sivatherium olduvaiensis (Hopwood).

1934. *Helladotherium olduvaiensis* Hopwood, Ann. & Mag. Nat. Hist. (10) xiv. p. 549.

Palmated antlers of the *Sivatherium* type from Olduvai (M 14954–14955), Bed II., and from Kagua (M 14956) make it reasonably certain that the short-legged member of the giraffe group should be referred to *Sivatherium*. The antlers are not so widely palmate as in *S. giganteum* and terminate in a recurved point.

Genus GIRAFFA Zimmermann, 1780.

Giraffa cf. *capensis* subsp.

Bones and teeth of long-legged giraffes closely allied to *G. capensis* were collected from the Olduvai beds in 1931 and the following years. The same species is represented by a crushed skull and partial skeleton (M 14957) collected at Rawi by the expedition of 1934–1935. The skull shows no trace of a median horn.

LXVIII.—*On a new Ammonite Genus* (Sphenarmites) *from the Lias of Baluchistan.* By L. F. SPATH, D.Sc., F.G.S.

(a) INTRODUCTION.

On various occasions since 1921* and again recently † I have had occasion to mention a suite of Liassic fossils in the British Museum (Cook, ex Geological Society, Collection) from Kelat, Baluchistan, chiefly because

* Spath, "On Cretaceous Cephalopoda from Zululand," Ann. S. Afr. Mus. vol. xii. pt. vii. no. 16. p. 272.

† Spath, "Bajocian Ammonites and Belemnites from Eastern Persia (Iran)," Mem. Geol. Surv. India, Pal. Indica, n.s. vol. xxii. Mem. no. 3.

it includes an example of the rare genus *Bouleiceras*, a characteristic element of the Domerian-Toarcian fauna of Madagascar. In addition, there are specimens of various forms of *Phylloceras*, *Rhacophyllites*, *Lytoceras*, *Dactylioceras*, *Porpoceras*, *Fuciniceras*, *Protogrammoceras*, *Polyplectus*, &c., and an entirely new sphenodiscoid and involute ammonite with a simplified *Staufenia*-like suture-line, which is the subject of the present paper. *Pseudopygaster*, a new type of irregular echinoid, described by Prof. H. L. Hawkins* in 1922, is based on two specimens from the same assemblage, but the remainder of the ammonites consists of types well known from the Apennines and from Sicily, and, at present, need not be considered in detail.

(b) DIAGNOSIS.

Whorls platygyral (whorl-height=54 per cent. of diameter), subleptogyral (thickness=25 per cent.), per-angustumbilicate (width of umbilicus=4 per cent.). Whorl-section sphenodiscoid, with periphery extremely acute, but sides gently convex, and greatest thickness near rounded umbilical border. Sides (of internal cast) perfectly smooth. Suture-lines degenerate, with very low saddles and irregularly bifid first lateral lobe; about 42 to the whorl. Length of body-chamber and aperture unknown. The holotype includes only a small portion of the body-chamber, there being eight more septal edges (partly corroded) after the three shown in the figure.

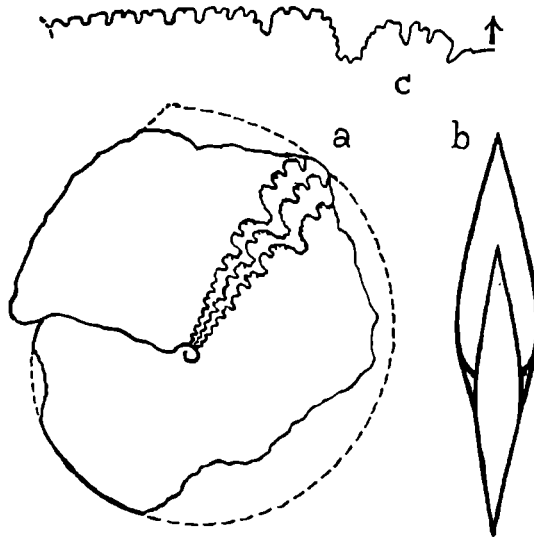
(c) AFFINITIES AND AGE.

Oxycones—that is, involute and discoidal shells with a sharp periphery—were developed in many ammonite stocks between the Lower Lias and the Cretaceous, and generally represent end-forms, showing loss of ornamentation, reduction of the suture-line, or both. The present genus, no doubt, is a similar development of the Harpoceratids (subfamily Hildoceratinæ), that is of a discoidal genus like *Polyplectus*, Buckman †, involving not only

* "Morphological Studies on the Echinoidea Holoctypoida and their Allies.—XII. *Pseudopygaster*, a new Type of the Echinoidea Exocyclica from the Middle Lias of Persia," *Geol. Mag.* vol. lix. 1922, pp. 213-22.

† "Inferior Oolite Ammonites," *Monogr. Pal. Soc.* pt. iv. (1890), p. 214, Suppl. (1904), p. lvii.

loss of the sickle-ribbing, but degeneration of the suture-line, which, however, retains its eight lateral and auxiliary lobes. *Polyplectus* itself is represented in the Baluchistan fauna by a form close to the type-species, *P. discoides* (Zieten) *, and its varieties, but with a more falcate radial line than the examples figured by Buckman and d'Orbigny † and with the periphery contracted,



Sphenarpites hawkinsi, gen. et sp. n.

(Upper ?) Lias, Kelat, Baluchistan. Holotype, with outline whorl-section, natural size, and suture-line, enlarged $\times 2$.

so as to resemble a true keel. The genus *Polyplectus* had been defined by Buckman as closely connected with *Harpoceras*, the absence of a septicarina being perhaps due to degeneration. In *Sphenarpites* the periphery has become as sharp as a knife-edge, and the umbilicus has closed and lost its steep wall; but while the degenerate suture-line still shows the general plan and the individual elements of that of *Polyplectus*, all ribbing has been lost.

* 'Versteinerungen Württembergs,' 1830, pl. xvi. fig. 1.

† Pal. Française, Terr. Jurass. vol. i. 1845, p. 356, pl. cxv.

Hudlestonia Buckman*, 1891, a reduced (Upper Toarcian) derivative of *Phlyseogrammoceras* Buckman (subfamily Grammoceratinæ) is less closely comparable to *Sphenarpites* than *Starufenia* Pompeckj, 1906, which has a somewhat similar suture-line and discoidal shape †, but a distinct umbilical wall. It has been correctly described as a descendant of *Leioceras* (subfamily Leioceratinæ), and is of later (Lower Bajocian) age. The Toarcian genus *Paroniceras* Bonarelli, 1893, which includes some slenderer and more discoidal species ‡ than the well-known genotype, *P. sternale* v. Buch sp., is another smooth and suturally reduced member of the Hildoceratinæ, *i. e.*, of the stock that also gave rise to *Frechiella*, but it differs considerably from *Sphenarpites* in most characters. It is interesting, however, to note that four species of *Paroniceras* have been described by Monestier§ from the Upper Toarcian zone of *Polyplectus discoides*, which seems to point to an Upper Liassic age for the form here described. But it is probable that the Baluchistan fauna above referred to also includes Middle Liassic elements, or at least ammonites (e. g., *Fucinicerus* and *Protogrammoceras*) much lower in the Toarcian than the European beds with *Polyplectus*; and it must not be forgotten that the range of the last genus itself remains uncertain ||.

Moreover, there are Domerian fore-runners of *Harpoceras* (s.s.) that may have given rise to both *Polyplectus* and *Sphenarpites* independently, e. g., involute types like *Argutarpites* Buckman, 1923 (= *Platyharpites* Buckman, 1927 = *Protogrammoceras* Fucini, 1921, *pars* ¶) and *Lio-*

* "Inferior Oolite Ammonites," Monogr. Pal. Soc. pt. v. (1891), p. 225.

† See, e. g., Quenstedt, 'Ammoniten des Schwäbischen Jura,' vol. ii. 1886, pl. lvii. fig. 2 (*Amn. discus densiseptus*).

‡ E. g., *P. buckmani* Bonarelli in Renz, "Vergleiche zwischen dem südschweizerischen, appenninischen und westgriechischen Jura," Verh. naturf. Ges. Basel, vol. xxxiv. 1923, pl. xii. figs. 4, 4 a, b.

§ "Ammonites rares ou peu connues et Ammonites nouvelles du Toarcien supérieur du S.E. d'Aveyron," Mém. Soc. géol. France, Pal. vol. xxiii. fasc. 2, 1921, p. 8.

|| See Meister, "Zur Kenntnis der Ammonitenfauna des portugiesischen Lias," Zeit. Deutsch. Geol. Ges. vol. lxxv. (1914), p. 573.

¶ "Fossili domeriani dei dintorni di Taormina," pt. ii. Pal. Italica, vol. xxvii. pls. iii., iv. *Bassaniceras* Fucini, 1929 (*ibid.* vol. xxix.-xxx. p. 63), is a synonym of *Protogrammoceras* Spath, 1913, emend. 1919 ("Notes on Ammonites.—Pt. IV.," Geol. Mag. dec. 6, vol. vi., April 1919, p. 174).

ceratoides Spath, 1919 (= *Præleioceras* Fucini, 1929). In England a few of these early forms of *Harpoceras* occur in the Marlstone (*spinatum* zone), but the only two Hildoceratids in the *margaritatus* zone are *Seguenzicerus* (*algovianum-nitescens* group) and *Leptaleoceras* (*leptum-pseudoradians* group). The former is found together with *Amaltheus clevelandicus* (Young & Bird), the Yorkshire counterpart of the Dorset *A. stokesi* (J. Sowerby), and is therefore of lower *margaritatus* age. The second is found chiefly in the *pseudoradians* (so-called Eype nodule) band of Dorset, about 120 feet above the Three Tiers, or nearly 160 feet up in the *margaritatus* zone. It also occurs in some undefined "marlstone or associated beds" inland (Somerset, Gloucestershire), but has not been found farther north, where only *Seguenzicerus* seems to occur. Unfortunately, the exact horizon of nearly all the members of the prolific Mediterranean Hildoceratid faunas remains to be established, so that the Toarcian age of the new genus here described is by no means proved.

LXIX.—*Note on the Habitat of Neotrephes usingeri* China (*Hemiptera*, Helotrephidæ). By W. E. CHINA, M.A., Department of Entomology, British Museum (Natural History).

THE following information was received from Mr. Fritz Plaumann too late for inclusion in the paper on this species in last month's issue of the 'Annals' (pp. 527-538).

Mr. Plaumann writes as follows:—"This bug I have found only in a little mountain stream called 'Wasserfall,' which is devoid of vegetation and very rapid. The bottom is very rocky and full of stones. The bugs live in holes in the rocky bottom which are filled with soil and covered with a thin layer of mud. They are very rare and local. To every one or two kilometres there is only one hole, in which live two or three specimens. The bug appears to live on the soil from these holes. This region is situated in the primæval forest of the River Uruguay and is very mountainous. The latitude and longitude are 27° 11' south and 52° 23' west. Up to now I have found the bug only in this stream."

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LXI.—*The Hemiptera of Christmas Island.* By R. J. IZZARD, Department of Entomology, British Museum (Nat. Hist.).

THIS paper is based on a collection made by Dr. F. Harms during the first four months of 1933. It has been thought advisable, however, to collect together all the previously known records for the Island, so that the list will be more or less complete.

The first species of Hemiptera from Christmas Island were collected in 1887 by J. J. Lister, the naturalist accompanying H.M. Surveying-ship 'Egeria.' These were described by W. F. Kirby in the Proceedings Zool. Soc. p. 553 (1888), and consisted of five species, all new.

In 1900 the Trustees of the British Museum published a monograph of Christmas Island based on the collections made by the late Dr. C. W. Andrews. The Hemiptera were again worked out by Kirby, who recorded twelve additional species, ten of which were new to science. Kirby only included the more easily determined species in his report, and stated that about twice as many species were represented in the collections than were noticed in his paper. The following year Distant recorded in the 'Annals and Magazine of Natural History,' (7) viii. pp. 465-507, seven more Lygæids from Andrews's material including five new species, thus bringing the total to

Ann. & Mag. N. Hist. Ser. 10. Vol. xvii. 39