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SOME DECAPOD CRUSTACEANS FROM THE LOWER CRETACEOUS OF POLAND AND ENGLAND

Abstract. — A new species of macrurous crustacean, *Glypheopsis sanctaecrucis*, is represented by two subspecies. The nominal subspecies is described from the Upper Albian of Poland. The other new subspecies, *Glypheopsis sanctaecrucis woodsi*, is described from the Upper Greensand of England. The species *Hoploparia longimana* (G. B. Sowerby) and *Hoploparia* cf. *minima* Tribolet are recorded for the first time from the Upper Valanginian of Poland.

INTRODUCTION

Hitherto, knowledge of decapod Crustacea from the Cretaceous of Central Poland has been confined to a record by Cieśliński (1965) of a species (neither described nor figured) of a *Glyphea* from the phosphatic beds of the Albian. The present material, collected by Dr. A. Radwański, Institute of Geology of the Warsaw University, allows *Hoploparia longimana* (G. B. Sowerby) and *Hoploparia* cf. *minima* Tribolet to be recorded from the Valanginian and also a new species of *Glypheopsis* to be described from the Albian.

The Valanginian specimens under description were found on the surface or inside siderite nodules embedded in fossiliferous black clays at Wąwał, near Tomaszów Mazowiecki, on the northwest Mesozoic margin of the Holy Cross Mountains (Góry Świętokrzyskie). Of the rather poor assemblage or fossils, the ammonites, *Saynoceras verrucosum* (d'Orbigny), *Polyptychites nucleus* (Roemer) and *Bochianites neocomiensis* (d'Orbigny) point to the Upper Valanginian for the age of the clays (Lewiński, 1932; Kokoszyńska, 1956). The nodules bearing decapod material are usually lacking in ammonites and contain only small pelecypods or hardly determinable shell detritus. The origin of the nodules has not yet been fully explained.

The Albian specimens come from the phosphatic beds cropping out at Annopol on the Vistula, on the northeast Mesozoic margin of the Holy

Cross Mountains. The phosphatic beds contain a very rich assemblage of fossils, i.e. sponges, brachiopods, pelecypods, ammonites, belemnites, as well as various fish and reptile remains (Samsonowicz, 1925, 1934; cf. also Radwański, 1968). The presence of ammonites, both *Callihoplites auritus* (J. Sowerby), *Anahoplites splendens* (J. Sowerby) and *Schloenbachia varians* (J. Sowerby) points to the age as being uppermost Albian, close to the junction with the Cenomanian (Samsonowicz, 1925, 1934).

Acknowledgements

I am indebted to Dr. A. Radwański, Warsaw University, and Mr. A. G. Brighton, Sedgwick Museum, Cambridge, for allowing me to examine the specimens. Dr. A. Radwański also supplied details and references concerning the deposits. My thanks are due also to Mr. C. W. Wright for helpful discussion and to Mr. E. Kentish who prepared the photographs.

SYSTEMATICS
(after Glaessner, 1960)

Suborder **Heterochelida** Beurlen & Glaessner, 1930
Infra-order **Glypheocarida** Beurlen & Glaessner, 1930
Section **Glypheidea** van Straelen, 1924
Family **Glypheidae** Winkler, 1883
Genus *Glypheopsis* Beurlen, 1928
Glypheopsis sanctaecrucis n. sp.

The species under consideration consists of two subspecies, both of them new, which are separately described below.

Diagnosis. — A *Glypheopsis* with a bifurcated dorsal carina and a sharply raised supra-hepatic lobe.

Glypheopsis sanctaecrucis sanctaecrucis n. subsp.
(Text-fig. 1; Pl. I, Figs. 1-2)

Holotype: In the collection of Dr. A. Radwański; Pl. I, Fig. 1 a-b.
Type horizon: Uppermost Albian.
Type locality: Annopol on the Vistula, NE Mesozoic margin of the Holy Cross Mountains, Central Poland.
Derivation of the name: The nominal subspecies is named from the Holy Cross Mountains, Poland — the general location of the specimens.

Diagnosis. — The carapace of the nominal subspecies has the branchial portion of the dorsal midline relatively straight. A line of granules

between the second and third carinae is weakly developed. Numerous fine granules make up the surface ornament.

Material. — Three cephalothoraces.

Measurements (in mm):

	Length (mid dorsal line)	Width (at cervical groove)	Height (at cervical groove)
Holotype	20.5	6.7	8.5
Paratype (I) . . .	21.7	7.0	6.5
Paratype (II) . .	17.5	6.5	6.0

Description. — The cephalothorax is subcylindrical. The dorsal suture is flanked by a carina composed of even sized, serrated granules, which extends from the base of the rostrum to the branchiocardiac groove. The anterior region is equal to nearly half the length of the cephalothorax from the base of the rostrum to the posterior margin. Three well developed, but thin carinae with granulated summits extend from the front to the cervical groove; the upper follows the dorsal curvature, near to the front it turns sharply up to the base of the rostrum, the lowest is slightly undulent and terminates at the antennar spine. There is a line of very small granules between the second and third carinae. The space between the second and first carinae is smooth. The triangular (subcarinal) area between the third carina and the ventral margin is covered with fine granules. The ventral margin slopes gently downward from the front, posteriorly it curves back slightly before bending sharply downward.

The cervical groove (*e* in Text-fig. 1) is deep, curving slightly backward at the mid dorsal line, then sloping gently at the sides as far as the

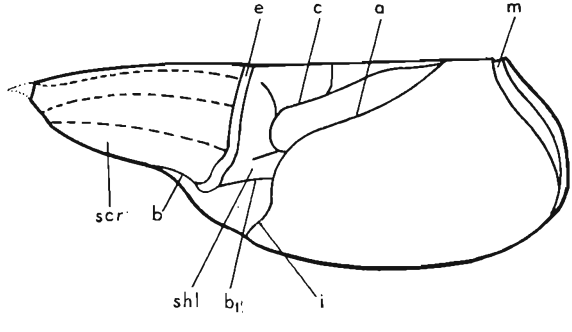

Fig. 1. — Sketch of the cephalothorax of *Glypheopsis sanctaecrucis* n. sp.: *a* branchiocardiac groove, *b* antennar groove, b_1 hepatic groove, *c* postcervical groove, *e* cervical groove, *i* inferior groove, *m* marginal groove, *scr* subcarinal area, *shl* supra-hepatic lobe (lettering of grooves after van Straelen, 1925); ×3.

third carina where it slopes more sharply round the suprahepatic lobe to the antennar groove. The branchiocardiac grove (*a*) starts at the midline at about a fifth of the distance from the posterior end to the cervical groove, it curves broadly forward from the mid dorsal line and is nearly straight or gently undulent on the side, increasing in depth as it progresses forward.

The postcervical groove (*c*) is broad, coming off the branchiocardiac groove close to the mid dorsal line, it progresses forward obliquely to the branchiocardiac to a point where it gives off a thin groove which passes upward to the mid dorsal line, it then turns down and progresses almost parallel to the branchiocardiac and in front it turns down to form a semi-circular junction with that groove. The inferior groove (*i*) is almost as deep as the branchiocardiac, sloping back for half its length, then curving forward. The hepatic groove (b_1) is almost straight and rather shallow at mid-length. The antennar groove (*b*) curves upward towards the front.

The hepatic lobe is sub-ovate and ornamented with numerous granules of even size, a short portion extends in front of the cervical groove. The supra-hepatic lobe is elongate and raised into a sharp ridge which forms almost a right angle with a low granulated ridge bounding the cervical groove anterior to the junction of the postcervical with the branchiocardiac groove. A broad depression delimits the supra-hepatic lobe dorsally.

The cardiac and branchial regions are covered with numerous granules which are somewhat larger in size than those on the subcarinal region; dorsally the granules are roughly arranged in rows as far as the branchiocardiac groove. A distinct ridge bounds the marginal groove.

The epistome is quadrate, strongly convex transversely and less so longitudinally. Anteriorly it is biconcave with a long median process curving upwards. This process has a shallow median cleft which broadens into a deep pit, then tapers into a notch posteriorly and broadens out into a triangular depression in the middle of which is a prominent ovate tubercle. The posterior margin is deeply excavated. A shallow furrow borders the portions either side of the front and a row of fine granules borders the furrows posteriorly and continues along the margins of the median cleft. A few coarser granules are scattered over the surface, becoming more numerous posteriorly.

Glypheopsis sanctaecrucis woodsi n. subsp.

(Pl. I, Fig. 3)

1925 (1927). *Glyphea* sp.; H. Woods, Fossil Macrurous..., Pl. 16, Figs. 10,11.

Holotype: Specimen B24194, Sedgwick Museum; Pl. I, Fig. 3.

Type horizon: Upper Albian (Upper Greensand).

Type locality: Roundway, Devizes, Wiltshire, England.

Derivation of the name: The subspecies is named after the late Mr. H. Woods, in recognition of his work on decapod Crustacea.

Diagnosis. — The cephalothorax closely resembles that of the nominal subspecies, but it differs principally in being rather more convex along the branchial portion of the dorsal midline; the branchiocardiac groove is a little deeper; the line of granules between the second and third carinae, and the granulation forming the surface ornament are more coarsely developed.

Material. — One cephalothorax.

Remarks. — The above described differences probably constitute no more than geographical variation within the species and in the event of further specimens (particularly of the British form) being found, both forms may prove to be conspecific.

Discussion

The presence of the bifurcated carinae flanking the dorsal suture distinguishes both subspecies from other members of the genus. In the disposition of the grooves they have affinities to both *Glypheopsis ornata* (Quenstedt) and *G. vosinskyi* (Lahusen), particularly the form "*Glyphea Bronni* Romer" figured by van Straelen (1925, p. 187, Fig. 90) from the Upper Jurassic, but in *G. ornata* the postcervical groove does not clearly unite with the branchiocardiac groove and in *G. vosinskyi* these grooves do not extend so far back posteriorly. The genus is not common in the Upper Cretaceous and the new subspecies differ from *G. cretacea* (McCoy) not only by the bifurcated dorsal carina, but in the presence of the row of fine granules between the second and third anterior carinae; the strong ridge on the supra-hepatic lobe is not developed in *G. cretacea*.

Suborder **Trichelida** Beurlen & Glaessner, 1930
Section **Nephropsidea** Alcock, 1901
Family **Nephropsidae** Stebbing, 1893
Genus *Hoploparia* McCoy, 1849
Hoploparia longimana (G. B. Sowerby, 1826)

(Pl. II, Figs. 1-2)

1826. *Astacus longimanus*; G. B. Sowerby, Zool. Journ., 2, p. 493.

1931. *Hoploparia longimana* (G. B. Sowerby); H. Woods, Fossil Macrurous..., p. 90, Pl. 25, Fig. 5; Pl. 26, Figs. 2-4 (see also for intermediate References).

Material. — Three specimens in the collection of Dr. A. Radwański: fragment of a cephalothorax and attached abdomen (Pl. II, Fig. 1);

cephalothorax (Pl. II, Fig. 2); portion of an abdomen, from the Upper Valanginian of Wąwał, near Tomaszów Mazowiecki, NW Mesozoic margin of the Holy Cross Mountains, Central Poland.

Remarks. — The nature of the grooves on the cephalothorax closely approximates that of typical examples from the Lower Greensand (Aptian) and Gault (Albian) deposits of England. A line of very fine granules bordering the posterior margin of the cervical groove (clearly seen in Woods' figure, 1931, Pl. 26, Figs. 4-4a) is well developed. The abdomens also conform with typical specimens from the English deposits mentioned above.

With the recording of these specimens from Poland, the known geographical range (cf. Woods, 1931) of the species is considerably extended and the species is recorded from the Valanginian for the first time.

Hoploparia cf. *minima* Tribolet, 1876

(Pl. II, Fig. 3)

Material. — A decorticated fragment of a left cheliped, in the collection of Dr. A. Radwański, from the Upper Valanginian of Wąwał, near Tomaszów Mazowiecki, NW Mesozoic margin of the Holy Cross Mountains, Central Poland.

Remarks. — *Hoploparia minima* Tribolet, 1876 was described from a fragment of a cheliped from the Upper Urgonian of St. Dizier, Haute Marne. The present fragmentary specimen, while almost twice the size of the type, agrees closely with Tribolet's figure (1876, Pl. 1, Fig. 3). The characteristic features preserved in both specimens are the straight, continuous lower margins of the hand and immoveable finger, and the arrangement of the teeth along the opposing margin of the immoveable finger. The moveable finger is not present in either specimen.

53, Oakhurst Grove, E. Dulwich
London S.E. 22
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J. S. H. COLLINS

O PARU SKORUPIAKACH DECAPODA Z DOLNEJ KREDY POLSKI I ANGLII

Streszczenie

Przedmiotem pracy jest opis szczątków morskich skorupiaków należących do Decapoda, Macrura, z dolnej kredy obrzeżenia Gór Świętokrzyskich oraz z hrabstwa Wilt w Anglii.

Z górnego albu Annopola nad Wisłą opisano nowy podgatunek *Glypheopsis sanctaecrucis sanctaecrucis* n. subsp., który jest reprezentowany przez kilka dobrze zachowanych głowotułowi (Fig. 1 oraz Pl. I, Fig. 1-2). Znaleziony w mniej więcej równowiekowych utworach górnego greensand hrabstwa Wilt w Anglii okaz (Pl. I, Fig. 3), różniący się pewnymi cechami drugorzędnymi, należy uważać za przedstawiciela nowego podgatunku *Glypheopsis sanctaecrucis woodsi* n. subsp., odpowiadającego być może odrębnej formie zoogeograficznej.

Wśród rozmaitych szczątków rakokształtnych skorupiaków z górnego walanżynu Wąwału koło Tomaszowa Mazowieckiego (Pl. II) stwierdzono występowanie izolowanych części pancerzy, należących do gatunku *Hoploparia longimana* (G. B. Sowerby). Spośród tych szczątków, jeden z okazów reprezentuje głowotułów wraz z odwłokiem i płetwą ogonową oraz trzema odnóżami (Pl. II, Fig. 1). Zapewne do gatunku *Hoploparia minima* Tribolet należy natomiast fragment lewego odnóża szczypcowego (Pl. II, Fig. 3).

Zebrany z obrzeżenia Gór Świętokrzyskich materiał (kolekcja Dra A. Radwańskiego) wskazuje, że morskie skorupiaki rakokształtne, nie opisywane dotychczas bliżej z kredy Polski, zasługują w przyszłości na większą uwagę.

И. С. Х. КОЛЛИНС

О НЕСКОЛЬКИХ ДЕСЯТИНОГИХ РАКООБРАЗНЫХ ИЗ НИЖНЕГО МЕЛА ПОЛЬШИ И АНГЛИИ

Резюме

Автором описаны остатки десятиногих ракообразных, найденные в нижнем мелу обрамления Свентокшиских Гор, а также в Англии, Уилтшир (Wiltshire).

Польские образцы происходят из альбского яруса Аннополя над Вислой. Они представляют собой несколько хорошо сохранившихся головогрудей (Фиг. 1; Табл. I, Фиг. 1—2). Автором установлен для них новый вид — *Glypheopsis sanctaecrucis* n. sp. Образец, найденный в отложениях того же возраста (Upper Greensand) в Уилтшир в Англии (Табл. I, Фиг. 3), представляет подвид описанный автором под названием *Glypheopsis sanctaecrucis woodsi* n. subsp. Не исключено, что он представляет собой географическую разновидность.

Среди разных остатков ракообразных, встречающихся в верхнем валанжине местности Вонвал, в окрестности Томашова Мазовецкого, были обнаружены отдельные части панцырей, принадлежащих *Hoploparia longimana* (G. B. Sowerby). Один из этих остатков представляет головогрудь с абдоменом, хвостовым плавником и тремя парами конечностей (Табл. II, Фиг. 1). Другой фрагмент, представляющий часть левой щупальцевой конечности (Табл. II, Фиг. 3), принадлежит вероятно *Hoploparia minima* Tribolet.

Собранная Dp. A. Радваньским коллекция из мела обрамления Свентокшиских Гор указывает на то, что морские ракообразные мела Польши, до сих пор не исследованные, заслуживают большего внимания.

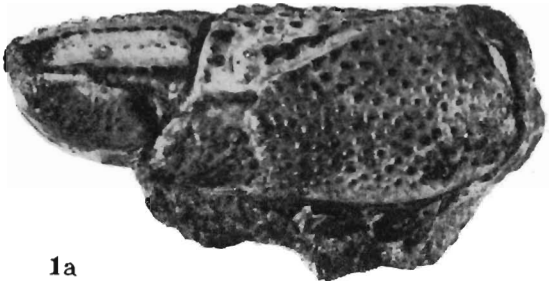
PLATES

Plate I

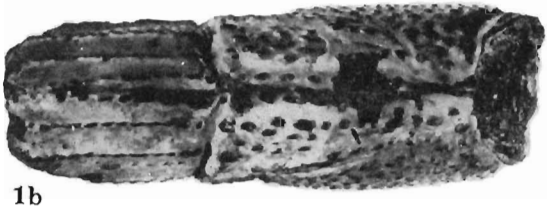
Figs. 1*a*-1*c*. *Glypheopsis sanctaecrucis sanctaecrucis* n. subsp. Holotype: 1*a* cephalothorax with subcarinal margin broken away showing lateral view of epistome, 1 *b* dorsal view, 1*c* underside showing epistome (Upper Albian, Annopol on the Vistula, Poland); ×3.

Figs. 2*a*-2*b*. *Glypheopsis sanctaecrucis sanctaecrucis* n. subsp. Paratype: lateral and dorsal views (Upper Albian, Annopol on the Vistula, Poland); ×3.

Figs. 3*a*-3*b*. *Glypheopsis sanctaecrucis woodsi* n. subsp. Holotype (B24194, Sedgwick Museum): lateral and dorsal views (Upper Albian, Roundway, Wiltshire, England); ×3.

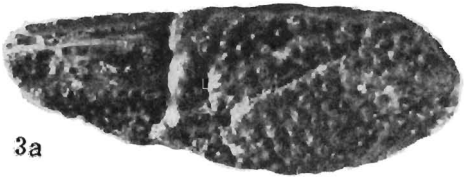


1a

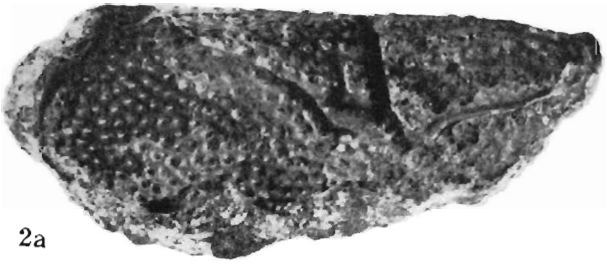


1b

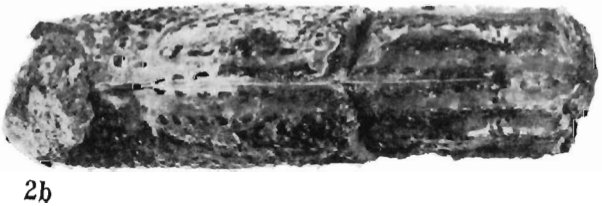
1c



3a



2a



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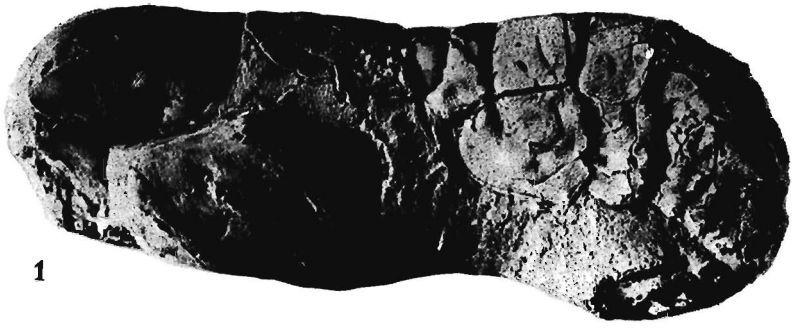
3b



1

2

3

Plate II

Fig. 1. *Hoploparia longimana* (G. B. Sowerby). Cephalothorax and abdomen, the basal joints of three walking legs and a portion of the tail-fan are also preserved; ×2.

Fig. 2. *Hoploparia longimana* (G. B. Sowerby). Fragment of a cephalothorax; ×2.

Fig. 3. *Hoploparia* cf. *minima* Tribolet. Fragment of a left cheliped; ×2.
(Upper Valanginian, Wąwał, Poland)