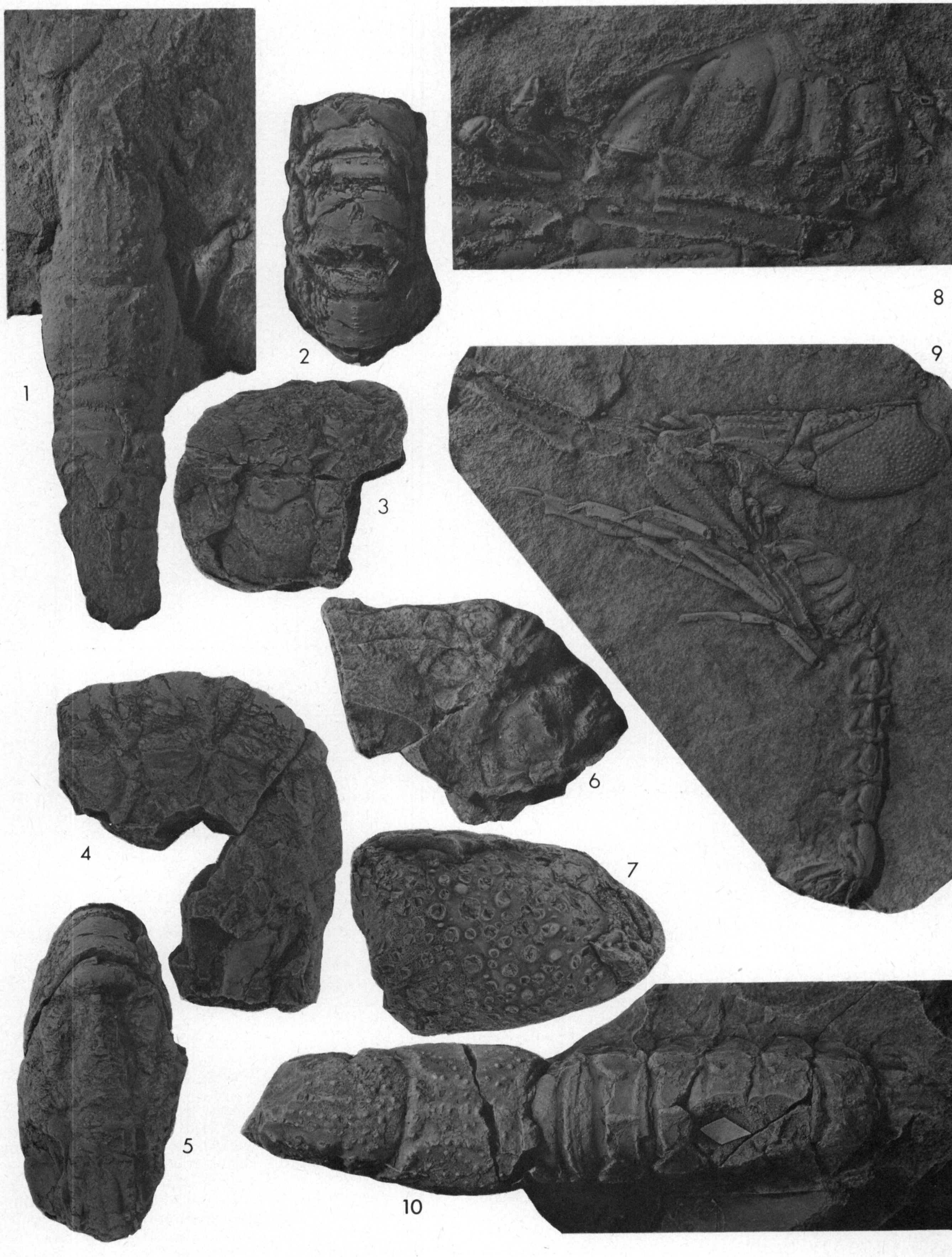
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TABLE 2

Measurements (in mm) taken on specimens of Glyphea robusta n. sp. P = pereiopod; L_1 - L_4 are illustrated on Figure 5; Roman numeral subscripts refer to somites of the abdomen and Arabic subscripts (P_1 - P_5) refer to the walking legs.

SPECIMEN	L_1	L_2	L_3	L_4	H	L_{XIV}	L_{XV}	L_{XVI}	L_{XVII}	L_{XIX}	L_{Telson}
GSC 61398 (Holotype)	29.9	26.1	12.4	3.4	11.6	>3.4	5.9	4.4	4.4	6.7	>5
GSC 61399 (Paratype)	52.5	44.5	21.5	-	19.5						
GSC 61400 (Paratype)	60.0	54.5	26.5	-	22.0						
GSC 61402 (Paratype)	50.6	43.0	20.5	2.5	20.4						
GSC 61403 (Paratype)	58.2	51.1	26.3	-	20.3						
GSC 61404 (Paratype)	55.3	49.1	23.5	-	-						

SPECIMEN	PEREIOPOD	MERUS L	MERUS H	CARPUS L	CARPUS H	PROPODUS L	PROPODUS H	DACTYLUS L	DACTYLUS H
GSC 61398 (Holotype)	P_1	17.4	4.8	7.7	> 3.4	> 17.6	4.4	-	-
	P_2	15.0	> 1.5	5.7	> 1.7	07.5	2.7	4.7	0.8
	P_3	14.8	2.1	5.5	1.5	07.7	2.2	> 2.0	0.8
	P_4	10.6	1.9	-	-	07.6	1.9	4.1	0.5
	P_5	07.3	1.6	4.2	1.5	08.2	1.5	-	-
GSC 61400	P_1	30.0	7.5	14.5	7.5	> 33.0	7.5	-	-

Palaeonephrops westoni (Woodward, 1900)

Plate 2, figures 2-7

Hoploparia westoni Woodward, 1900, p. 28, Pl. 17, fig. 1; non Rathbun, 1930, p. 181, Figs. 1-3.

Remarks. Woodward's original description of this species was based on fragments of a lobster which included a complete abdomen, the posterior portion and some of the cephalic portion of the cephalothorax, and the left manus of the first pereiopod. No other specimens appear to be referable to this taxon.

The posterior region of the cephalothorax seems to differ from the same region on Palaeonephrops browni. The outline of the cephalothorax on P. westoni is more angular than that of P. browni and the surface of the branchiostegite seems to be less heavily ornamented than on P. browni. In many other regards, however, the two species are similar enough to suggest referring Woodward's species to Palaeonephrops. The ornamentation of the pleura of the two species is apparently identical; however, the terga of the two species are quite different. That region on Palaeonephrops browni is ornamented by transverse ridges on the anterior and posterior margins of each segment and by a medial ridge. The terga are devoid of ornamentation on P. westoni except on the fifth somite where a weak medial structure is defined by a row of small pustules and on the sixth somite where a broad axial ridge seems to be present. No transverse ridges are evident on the preserved segments. Other points of comparison are discussed in the remarks on P. browni.

Rathbun (1930, p. 181) referred a specimen collected from the Bearpaw Formation to this species but the ornamentation of the terga on that specimen, as well as the outline of the carapace, would seem to suggest placement of it with P. browni.

Occurrence. Palaeonephrops westoni has been collected only from the type locality, Red Deer River, T23, R15, W of 4th, Alberta; syntypes GSC 5377, 5377a and 5378; Pierre-Fox Hills, Late Cretaceous; collected by T.C. Weston, 1889. [If township and range are correct, this must be in section 1 or 12, near base of Bearpaw Formation (Campanian).]

Infraorder PALINURA Latreille, 1803

Superfamily GLYPHEOIDEA Winckler, 1883

Family GLYPHEIDAE Winckler, 1883

Genus Glyphea von Meyer, 1835

Glyphea robusta n. sp.

Plate 2, figures 8, 9, Plate 3, figures 2-7, Figures 3-5

Description. Cephalothorax about average size for the genus (Table 2), height about two fifths total length. Dorsal margin nearly straight; posterior margin a sigmoid curve produced near posteroventral termination; posteroventral margin gently curved, deepest near the posterior; anteroventral margin nearly straight and inclined from anterior termination ventrally to near the posterior termination of the cephalic region where it curves abruptly ventrally to join posteroventral margin; anterior margin nearly vertical, rostrum short, smooth. Cervical groove straight, steeply inclined, intercepting dorsal surface at an angle of about 70° at a distance four ninths of total length of dorsal margin from anterior. Branchiocardiac groove oblique, approaching dorsal surface at an angle of about 30° and then curving abruptly dorsally to intersect the dorsal surface at an angle of about 70°. Postcervical groove nearly parallel branchiocardiac groove through most of its length, approaching but not intersecting it at dorsal surface and diverging slightly from it ventrally to a point near the middle of carapace where it curves abruptly ventrally and posterially to join branchiocardiac groove. Postcervical groove then curves anterially for a short distance where it intersects the inferior groove which is arcuate and extends to the ventral margin. Hepatic groove sinuous, connecting postcervical corner of cephalic region. All grooves relatively deep, narrow and well defined. Cephalic region tapering toward anterior, strongly attenuated, ornamented by three spinose lateral carinae and a dorsal carina increasing in height and strength ventrally. Subdorsal carina extends obliquely upward from its posterior origin to intersect the dorsal margin just posterior the rostrum; supraorbital carina nearly parallel the dorsal margin; antennal carina parallel dorsal margin; intersecting the anteroventral margin at its junction with the anterior margin. Rostrum short, slightly arched dorsally, keeled along midline, not spinose. Cephalic region ornamented primarily by spines on carinae and a single spine in the suborbital position near the cervical groove. Region between branchiocardiac groove and cervical groove spinose, spines increasing in size toward dorsal margin. Branchiostegite very narrow near dorsal margin broadening to a length of about 80% of ventral margin; spinose with spines increasing in size from the anteroventral region to posterodorsal termination. Marginal furrow well developed on posterior and ventral margin.

Endophragmal skeleton (Fig. 3) weakly calcified; pentagonal in outline, anterior margin nearly straight and inclined slightly toward posterior, anterodorsal margin parallel to and subjacent to branchiocardiac groove (Fig. 4), posteroventral margin obscure but apparently slightly concave and inclined from flexure in branchiocardiac groove to posteroventral margin of cephalothorax, posterior margin short and convex, ventral margin slightly convex overall with six concave reentrants marking positions of thoracic somites VIII-XIII, borders only slightly reflexed; all somites convex with shallow sulcus and low ridge marking anterior edge, separated from one another by deep, narrow grooves; mxp_3 triangular, slightly inclined toward anterior; p_1 quadrate, inclined toward anterior, largest of somites; p_2 and p_3 elongate, arcuate, inclined slightly toward anterior; p_4 quadrate, inclined toward posterior; p_5 small, quadrate, steeply inclined toward posterior. Pleurobranchial openings (pl_2-pl_5) ovoid, located near anteroventral corner of p_2 - p_4 and near center of p_5. Podobranchial openings (pb_1, pb_2, pb_5) obscure but present on coxa of mxp_3, p_1, and p_4 respectively, other coxa not visible. Fragments of maxillipeds preserved but not adequate for description.

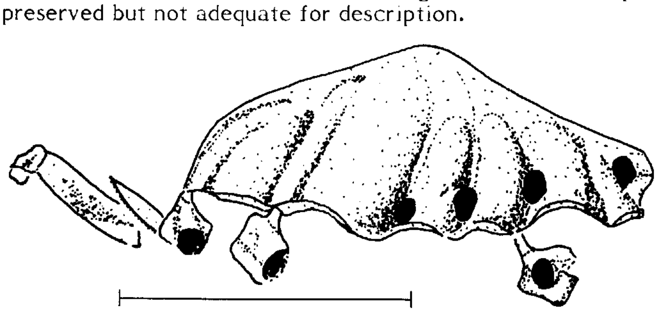

FIGURE 3. *Left lateral view of the endophragmal skeleton of Glyphea robusta n. sp. with attached fragments of a maxilliped and three coxae. The darkened regions are pleurobranchial and podobranchial openings. Bar scale = 1 cm.*

Abdomen well developed; first somite reduced, about half as long as second; second somite about one third longer than third through fifth somites which are of about equal length; sixth somite longer than the others. Tergal regions of all but first somite apparently nearly smooth, generally quadrate, bounded on all sides by a shallow sulcus and marginal ridge; tergum of first somite narrowest on midline and extends laterally to base of tergum. Pleura strongly developed, highly ornamented; antero- and posteroventral areas separated from medial region by smooth broad sulci extending obliquely from the points of articulation to near the ventral margin; major surface of pleura spinose or tuberculate; ventral and lateral margins finely punctuate; pleuron of second somite subrectangular, rounded on anteroventral corner and angular on posteroventral margin; pleura of third through fifth somites triangular with a small spine developed on the termination; pleuron of sixth somite reduced, triangular. Telson appears to be quadrate, bounded by raised ribs, axial region with bulbous protuberance and four small spines dorsal to anal region. Uropods poorly preserved, appear to be flabellate, longitudinally ribbed; no evidence of presence or absence of diaresis.

Antennal base elongate; first segment poorly preserved but appears to be quadrate; second segment about twice as long as high; third segment about six times as long as wide, flagellum slender; scaphocerite elongate, tapering, slender. First pereiopod elongate, slender, spinose. Merus about three times as long as high, widest near distal end, edges with numerous distally pointing spines, surface nodose; carpus narrow at proximal termination broadening distally so that maximum height is about three quarters the length, nodose; propodus at least seven times as long as high, nodose, terminating in a long arcuate spine on the inner surface; dactylus appears to rotate back onto this spine effecting a subchelate closure. Second through fourth pereiopod similar to first, decreasing in size posteriorly, terminations subchelate. Fifth walking leg smaller, smoother; termination unknown.

Type material. Holotype GSC 61398 (Pl. 2, figs. 8, 9), figured paratypes GSC 61399-61401 (Pl. 3, figs. 2, 7), and unfigured paratypes GSC 61402-61411 are deposited in the collections of the Geological Survey of Canada, Ottawa, Ontario.

Measurements. All measurements taken on the specimens of this species are recorded on Table 2. Those of the cephalothorax are illustrated on Figure 5.

Etymology. The trivial name alludes to the strength of the ornamentation on the branchiostegal region, a character that serves to distinguish this species from most other glypheids.

Remarks. Relatively few glypheids have been recognized in North America. Two forms, Triasiglyphea mulleri van Straelen, 1936, and Litogaster turnbullensis Schram,

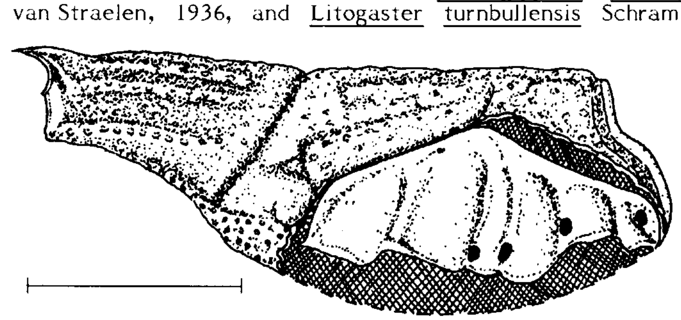

FIGURE 4. *Left lateral view of Glyphea robusta n. sp. with branchiostegite broken away to show inferred position of endophragmal skeleton. The reconstruction is based on the holotype GSC C-76307. Bar scale = 1 cm.*

1971, have been described from Triassic rocks in Nevada and Idaho, respectively. Two others, Glyphea(?) carolinensis Rathbun, 1923 and Glyphea sp. (Whiteaves, 1903) were described from Cretaceous rocks in North Carolina and British Columbia, respectively. Glyphea(?) carolinensis was based on two fragmentary specimens that rendered generic placement questionable and that make trivial comparisons difficult or impossible. Similarly, G. sp. Whiteaves was reported by Whiteaves (1903, p. 323) to have been so crushed and distorted that no complete description could be prepared. This material has never been illustrated and cannot now be located. Finally, Copeland (1960, p. 55) noted the occurrence of G. stonesfieldiensis van Straelen from the Wilkie Point Formation, Cape Canning, Prince Patrick Island. This specimen has not been examined but it may very well be G. robusta. Glyphea stonesfieldiensis is a junior synonym of G. rostrate (Phillips) (Woods, 1925-1931, p. 57). Therefore, the description of G. robusta, and the one to follow, represent the first notices of well preserved glypheids ranging into Jurassic and Cretaceous rocks on this continent.

Examination of specimens and illustrations of specimens assigned to previously described species of this genus leads to the conclusion that three, rather separate, sets of characters on the cephalothorax can be used as species discriminators. With regard to the groove pattern, one group of species has a small groove that connects the midpoints of the branchiocardiac and postcervical grooves. In this group, typified by G. regleyana (Desmarest), the postcervical groove is generally not straight but has a depressed region at the point where it joins the branchiocardiac region. The second group, containing among others G. rostrata (Phillips), G. cretacea McCoy, G. calloviensis Woods and G. robusta n. sp., has no such connection but does have straight or gently curved postcervical grooves.

A second key character useful in distinguishing species in this genus is that of the number of spinose or nodose ridges on the cephalic region. Some, such as G. calloviensis Woods, possess more than three such ridges which serve to distinguish them from a second group characterized by development of only three ridges. Included in this latter group are G. cretacea McCoy, G. prestwichi Woods, and G. robusta n. sp.

Finally, some species, for example G. regleyana (Desmarest), G. calloviensis Woods and G. cretacea McCoy, are ornamented over part, or all, of the cephalic region between the ridges whereas others, G. rostrata (Phillips), G. prestwichi Woods, G. robusta n. sp., tend to be smooth in this region.

Using these three sets of criteria it is possible to narrow down the number of comparable species efficiently and precisely and suggest that the three species morphologically most closely related to Glyphea robusta are G. vectensis Woods, G. tomesi Woodward, and G. rostrata (Phillips). Each, however, differs from Glyphea robusta in significant ways. Glyphea vectensis Woods is ornamented by much finer nodes on the branchiostegite and has an accessory groove which extends from the postcervical groove anteriorly and dorsally to the midline. Glyphea tomesi Woodward can be distinguished readily from G. robusta by noting that the postcervical and branchiocardiac grooves join before reaching the dorsal midline on G. tomesi. Glyphea rostrata (Phillips) differs from G. robusta in possessing a median ridge on the cephalic region, in having slightly undulatory cephalic ridges, and finer ornamentation of the branchiostegite.

The holotype GSC 61398, exhibits remarkable preservation. Molds of the interior of the carapace of both right and left sides are preserved in great detail and permit detailed, complete description of the entire cephalothorax and abdomen. In addition, the endophragmal skeleton is preserved well enough to permit detailed description, only the second such description known to the writers (Feldmann et al., 1977, p. 1168). Study of this structure has never before been possible in a glypheid and reveals gill placement and rather advanced somite development similar to that of recent nephropids, such as Homarus, the genus that has received most study (e.g. Secretan, 1973). When details of the internal anatomy of the one living glypheid, Neoglyphea inopinata Forest and Saint Laurent, are known we will have an opportunity to describe the evolution of this strucutre.

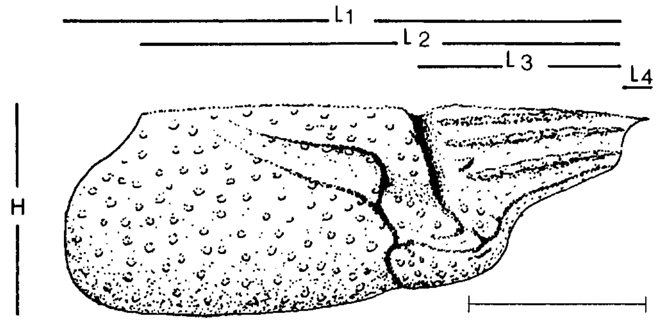

FIGURE 5. Diagrammatic sketch of cephalothorax of Glyphea robusta n. sp. showing position of grooves, cephalic ridges, and ornamentation. Orientation of measurements taken on this region is also shown. Bar scale = 1 cm.

The holotype also represents one of the best examples of ecdysis known from the fossil record. Examination of molted skeletons of modern crayfish reveals that, when the molted skeleton is not agitated, the cephalothorax is simply rotated dorsally around an axis passing through a point near the antennal region. This orientation is referred to as Salter's position (Schäfer, 1972, p. 435). Any agitation of the carapace results in its being separated completely from the endophragmal skeleton and abdomen. The latter two elements tend to remain attached to one another much more firmly than either does to the carapace. The holotype of G. robusta shows just such rotation, exposure, and preservation of the endophragmal skeleton, and only very slight separation of the carapace from the remainder of the skeleton. Curiously, even though preservation of the internal skeleton is extremely rare, two specimens, the holotype and one of the paratypes (GSC 61401), reveal the structure. These forms must have lived and been preserved in a very low energy environment but the rate of burial must have been rather rapid, otherwise this delicate arrangement would not remain.

Occurrences. Glyphea robusta has been collected from the following localities in Arctic Canada:

1. Intrepid Inlet, Prince Patrick Island, 91-93.5 m interval, Latitude 76°33', Longitude 117°55'; GSC loc. C–76307; holotype GSC 61398; Wilkie Point Formation, late Bajocian, Middle Jurassic.

2. Intrepid Inlet, Prince Patrick Island, Latitude 76°30', Longitude 117°51'; GSC loc. C-76329; paratype GSC 61409; Wilkie Point Formation, Middle-Late Jurassic. [The Wilkie Point Formation is never younger than Callovian, and is in a marine fossiliferous facies only as young as middle Bathonian.]

3. Melville Island, from section extending from Latitude 76°16'10", Longitude 115°42'15" (start), to Latitude 76°23'45", Longitude 115°19'30" (finish); GSC loc. C-63341; paratype GSC 61407; Lower Shale, Wilkie Point Formation, Toarcian-Bajocian, Early-Middle Jurassic.

4. Oyster River, Borden Island, Latitude 75°23', Longitude 110°47'; GSC loc. C-76361; paratype GSC 61409; Borden Island Formation, Sinemurian, Early Jurassic.

5. Middle part of a nameless rocky ridge extending across the alluvial plain [northeast of Jurassic Butte] about 3.2 km south of Bug Creek [West side of Mackenzie Delta northern Richardson Mountains, NWT]; loc. 27004, Field No. F. 17/6; paratypes GSC 61399-61406; [Middle part of Jeletzky's (1958) informal shale-siltstone Division, Barremian], Early Cretaceous; collected by J.A. Jeletzky, Aug. 6, 1955, in association with Crioceras fauna.

6. Oyster River, Borden Island, Latitude 78°23'N, Longitude 110°47'W; GSC loc. C-76368; paratype, GSC 61410; Borden Island Formation [Sinemurian, Early Jurassic].

7. Prince Patrick Island at head of Jamieson Bay; [GSC loc. C-11494; paratype GSC 61411; Wilkie Point Formation, Middle Bajocian]; collected by Atlantic Richfield Co., July, 1971, submitted by W.W. Nassichuk.

Glyphea jeletzkyi n. sp.

Plate 3, figure 1, Figure 6

Description. Cephalothorax moderately small for genus. Dorsal and posterior borders not well preserved; posteroventral margin gently convex, deepest near base of cervical groove; anteroventral border concave; all of anterior and most of anteroventral margin not preserved. Cervical groove deeply impressed, nearly perpendicular to dorsal margin in upper two thirds and gently curved anteriorly in the lower one third terminating at hepatic groove. Postcervical groove weak, steeply inclined, intersecting dorsal margin at about 33°, straight in upper portion and curving through nearly 90° to intersect the branchiocardiac groove. Branchiocardiac groove deeply impressed, intersecting dorsal surface at 45° and straight from dorsal surface to point of intersection with postcervical groove where it curves ventrally to join hepatic groove. Inferior groove arcuate, deeply impressed. Hepatic groove moderately impressed, curving anteriorly then anteroventrally to the point of intersection with the cervical groove. Antennar groove weak, paralleling ventral border. Cephalic region with two spinose ridges on a field ornamented only by tiny pustules. Antennal carina inclined from the elevation of postcervical-branchiocardiac intersection anteroventrally toward the ventral margin, slightly curved, ornamented by fine spines.

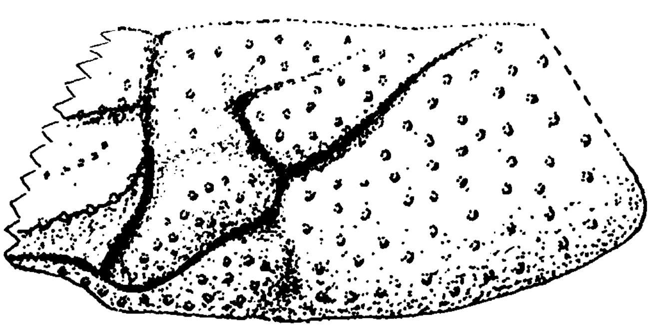

FIGURE 6. Diagrammatic sketch of Glyphea jeletzkyi n. sp. showing the major morphological features of the cephalothorax. Bar scale = 1 cm.

Suborbital carina slightly inclined anteriorly, low, ornamented by fine spines. Subdorsal carina, if it exists, not preserved. Region between cervical and branchiocardiac grooves lobose, ornamented by coarse spines. Adductor testis muscle insertion reniform, well defined by surrounding grooves. Branchiocardiac region ornamented by spines increasing slightly in size from anteroventral margin to posterodorsal margin. All spines in this region smaller than those on the cardiac region.

Type material. Holotype, and sole specimen, GSC 61412 (Pl. 3, fig. 1), is deposited in the collections of the Geological Survey of Canada, Ottawa, Ontario.

Etymology. The trivial name honours J.A. Jeletzky of the Geological Survey of Canada both for his discovery of the specimen and for his outstanding contributions to the study of the Mesozoic of Canada.

Remarks. This species appears to fall into the same category as G. robusta in that the postcervical and branchiocardiac grooves are not joined medially, the cephalic region does not appear to be ornamented between the cephalic ridges, except by minute pustules, and the number of cephalic ridges appears to be fewer than four. The single specimen of this species, however, is incomplete so that there is no way to determine the precise number and nature of subdorsal ridges.

The species is clearly distinct from other glypheids, including G. robusta. One of the most distinctive characters is the antennal carina which is inclined obliquely to the ventral margin and, if that trend were to continue, would intersect the ventral margin in advance of the front. In most other species, the antennal carina tends to parallel the ventral margin or parallel the dorsum. The ornamentation of the region between the cervical and branchiocardiac grooves is also distinctive. In Glyphea robusta this region is uniformly and sparcely pustulose whereas in G. jeletzkyi the dominant ornamentation is three subparallel rows of pustules aligned with the postcervical and branchiocardiac grooves. Finally, the adductor testis area on G. jeletzkyi is reniform in outline whereas the same region in G. robusta is ovoid.

Occurrence. On the south wall of the canyon of Longstick Creek opposite its first northwesterly confluence, northern Richardson Mountains, NWT; GSC loc. 35625, Field No. JA-F 58-83-16; holotype GSC 61412; informal Upper Sandstone Division of Jeletzky (1958), late Barremian or Aptian, Early Cretaceous; collected by J.A. Jeletzky, 1958.

Glyphea sp.

Glyphaea sp. Whiteaves, 1903, p. 323.

Glyphea sp. Rathbun, 1926, p. 134

Remarks. The material of this species has apparently been lost (Bolton, pers. com., 1978) and was never properly figured or described. Therefore, it is included here only for completeness.

Occurrence. Shale in roof of coal mine at No. 1 shaft, Vancouver Island, British Columbia; Nanaimo Group, Late Cretaceous; collected by W. Harvey, September, 1901. [Douglas Seam, in middle part of Extension-Protection Formation, middle Campanian.]

Family MECOCHIRIDAE Van Straelen, 1925

Genus Meyeria M'Coy, 1849

Meyeria(?) harveyi Woodward, 1900

Meyeria(?) harveyi Woodward, 1900, p. 434; Whiteaves, 1903, p. 323; Rathbun, 1926a, p. 128; Förster, 1971, p. 409.

Remarks. This species has been referred to by the authors cited in the synonymy and by some subsequent authors (Feldmann and West, 1978) and nothing new can be added here. The type material has apparently been lost for some time (Bolton, pers. com., 1978) and, therefore, it is unlikely that anyone has seen the material since the time of Woodward and Whiteaves.

Förster (1971, p. 409) noted that, because the material was never illustrated or completely described, the name should be considered a nomen nudum but that from the sketchy description given by Woodward the specimen might well be referable to M. vectensis (=M. magnus), a relationship first noted by Woodward.

Occurrence. Hornby Island, British Columbia; Late Cretaceous; collected by W. Harvey, 1895. [Probably the Spray Formation, but possibly the older Northumberland Formation of intervening Geoffrey Conglomerate, late Campanian to early Maastrichtian.]

Family PALINURIDAE Latreille, 1802

Genus Linuparus White, 1847

Linuparus canadensis (Whiteaves, 1884)

Plate 4, figures 1, 3, 5, Plate 5, figures 4, 9, 10

Hoploparia(?) canadensis Whiteaves, 1884, p. 237; 1885, p. 87, Pl. 11.

Podocrates canadensis (Whiteaves), Whiteaves, 1895, p. 133.

Linuparus atavus Ortmann, 1897, p. 293, Figs. 1-3; Woodward, 1900, p. 396.

Linuparus (Podocrates) canadensis (Whiteaves), Woodward, 1900, p. 396, Pl. 1, fig. 1.

Linuparus canadensis (Whiteaves), Whiteaves, 1903, p. 325; Rathbun, 1935, p. 36; Hattin, 1962, p. 97.

Podocratus canadensis (Whiteaves), Rathbun, 1926a, p. 134, Pl. 35, fig. 2; Pl. 36; Rathbun, 1926b, p. 185, Pl. 63, figs. 12, 16.

Remarks. Linuparus canadensis is one of the most widely distributed decapods in Cretaceous rocks in North America. It has been reported from Tennessee, Louisiana, Kansas and South Dakota in the United States and from British Columbia and Alberta in Canada. This distribution in the Atlantic Coastal Plain, Midcontinent, and Pacific faunal provinces is not known in any other decapod taxon on this continent. In addition, two other closely related species, L. grimmeri Stenzel, 1945 and L. watkinsi Stenzel, 1945, are known from Texas. Finally, Linuparus vancouverensis (Whiteaves) occurs with L. canadensis in British Columbia. Examination of specimens in the United States National Museum, which were collected from Louisiana and Tennessee and identified by Miss Rathbun, clearly indicate that they are conspecific with the Canadian forms. All are characterized by possession of a spinose medial ridge that extends from the postcervical groove to the posterior margin and widens toward the posterior. This and the nature of distribution of spines anterior of the postcervical groove serve to distinguish Linuparus canadensis from other North American species. Ortmann's specimens, originally assigned to L. atavus, have not been examined by the authors personally but, based on his original illustrations, there seems to be little doubt that they should correctly be assigned to L. canadensis, as was originally determined by Rathbun (1935, p. 36).

Some aspects of the morphology of the species have not been discussed previously. Most species of the genus have a cephalothorax that is quadrate in cross-section. In many, including L. canadensis and L. vancouverensis (which will be discussed later), the lateral axes are much longer than the dorsoventral axes. Therefore, specimens are often preserved in positions such that their ventral surfaces are exposed. This contrasts markedly with that of most macrurans which are preserved with their lateral surfaces parallel to planes of weakness in the rock. Preserved in this position, it is possible to examine the sternal elements of several specimens and to note that a significant difference exists between these species and other species of the genus in which the sterna are preserved. Linuparus canadensis has a triangular sternum that consists of six elements serving as the bases of attachment of maxilliped 3 and the five pereiopods. The regions of attachment of the sternum with the coxa of the pereiopods are elevated, thickened, and coarsely denticulate on at least segments 4-6, corresponding to pereiopods 1-3. Axial to the posterior edge of each segment is a pair of deep pits and axial to the anterior edge of each segment is a pair of deep pits and axial to the anterior edge of each segment is a pair of small spines. On specimens of L. vancouverensis, in which the same region is visible, the articulations are very finely denticulate, the axial pits are shallower, and the axial spines are absent.

PLATE 3

All figures x1, unless otherwise indicated

Figure 1. Glyphea jeletzkyi n. sp.
Left lateral view of holotype GSC 61412, x2, showing part of the cephalic region and most of the thoracic region.

Figures 2-7. Glyphea robusta n. sp.

2. Fragmentary specimen, GSC 61401, showing part of left side of cephalothorax and anterior part of endophragmal skeleton.

3. Right lateral view of nearly complete cephalothorax, GSC 61399.

4. Right lateral view of nearly complete cephalothorax and parts of walking legs, GSC 61400.

5. Counterpart of GSC 61401.

6. Anterior portion of counterpart of GSC 61401, showing base of antenna and antennal spine, x1.5.

7. Counterpart of GSC 61400.