

A COLLECTION OF EURYPTERIDS FROM THE SILURIAN OF LESMAHAGOW COLLECTED PRE 1900

by Dean R. Lomax, James C. Lamsdell and Samuel J. Cieurca, Jr



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A rediscovered collection of scientifically significant eurypterid fossil specimens, assigned to *Slimonia acuminata* and *Erettopterus bilobus*, is held in the Doncaster Museum and Art Gallery. The specimens are from the historically important late Silurian Lesmahagow inlier of Lanarkshire, Scotland and are described herein. The material ranges from partial to complete specimens, with a wide range in size of both genera. Most specimens have either no or minimal damage. Some interesting features include the orientation and preservation of the eurypterids.

Dean Lomax, Doncaster Museum & Art Gallery, Chequer Road, Doncaster, DN1, UK; email skalidis7@hotmail.com; James Lamsdell, Department of Geology and Paleontological Institute, University of Kansas, 1475 Jayhawk Boulevard, Lawrence, KS 66045, USA; email lamsdell@ku.edu; Samuel J. Cieurca, 2457 Culver Road, Rochester, New York 14609, USA; email paleoresearch@yahoo.com. Received 23rd May 2011.

Introduction

Eurypterids, commonly referred to as "sea scorpions", represent a group of extinct Palaeozoic (late Ordovician to the late Permian) aquatic chelicerate arthropods, known from at least 200 species (Tetlie 2007). The first eurypterid was described by DeKay (1825) from the Silurian of North America, while the first recognised specimens from the United Kingdom were discovered by quarrymen in Scotland (Salter 1856). Eurypterid fossils are found around the world, although complete eurypterids are rare with body and appendage fragments often the only parts preserved (Selden 1984). They include the largest arthropods to have ever lived, the pterygotids (Braddy *et al.* 2008), which may have attained such sizes through competition with armoured fish (Lamsdell and Braddy 2010).

The importance of old or misplaced/recovered collections to current research on all aspects of eurypterid palaeobiology has been noted in recent publications. Lost holotypes are often necessarily replaced by material preserved in museum collections, thus specimens such as this recovered collection are important (Tetlie and Rabano 2007 and Tetlie *et al.* 2007). This paper briefly describes 23 eurypterid specimens held in the palaeontology collection at Doncaster Museum and Art Gallery, discusses how the fossils were acquired by the museum their original donor and details of their probable provenance and history. Each specimen is also briefly described.

History of the eurypterid collection

The eurypterids and a few phyllocarid specimens were donated to the Doncaster Museum and Art Gallery in the 1960s by the Dick Institute in Kilmarnock, Scotland (C. Howes, pers. comm. 2010). They were part of a larger private collection donated to the Dick Institute in the late 1890s by Dr Hunter-Selkirk for its opening in April 1901. In 1963-64 the Dick Institute donated a relatively small collection of natural history specimens to the newly formed Doncaster Museum and Art Gallery (previously Beechfield House Museum) including bird skins and animal remains that were catalogued into the museum's ever growing collection.

Unfortunately, no written recollection (bar a few minor labels) of the eurypterids was catalogued into the museum's collections, but it appears that the eurypterids were donated in 1963-64 and remained uncatalogued due to a shortage of specialised staff. A small minority of the eurypterid specimens have their original labels from the Dick Institute, some of which include the name of Dr Hunter-Selkirk.

John Hunter-Selkirk was a prolific collector and fossil hunter who amassed a large collection of fossils, antiquities and early printed books (Macnair and Mort 1908). Perhaps Selkirk's most important fossil held in his collection was the Scottish Silurian scorpion; *Allopalaeophonus caledonicus* previously described as '*Palaeophonus hunteri*' (Dunlop *et al.* 2011), held in the Dick Institute (formally the

Kilmarnock Museum) (Pocock 1901). Specimens such as *A. caledonicus* have been prepared in the exact same way as those held in the collection at Doncaster Museum; they have white markings spread around the entire edges of the matrix, probably chisel markings and which also suggests they were originally part of the same collection (D. Lomax, personal observation). Dr Hunter-Selkirk's collection (known as the 'Braidwood Collection') was touted as one of the most important private collections brought together in this country by one individual (Macnair and Mort 1908), and his donation of major portions of his large collection to the town was instrumental in the establishment of a museum in Kilmarnock.

Geological Setting and Age

The collection of eurypterid specimens has very little data accompanying it. A few of the specimens have brief descriptions and basic locality information; some do include remarks to the localities of Logan Water, Muirkirk/Lesmahagow and the age identified as the Upper Ludlovian (Ludlow Series). Many important Silurian fossils have been discovered near the Lesmahagow inlier in Lanarkshire, Scotland and surrounding region. The inlier is a palaeontologically significant exposure containing an array of rare, important vertebrate and arthropod fossils and exposes a section of Silurian sediments dating to the Upper Llandovery and Wenlock ages (Phillips 2007) surrounded by sediments of Carboniferous age. It consists of shales, sandstones and occasional pebble conglomerates (Rolfe 1992) and it is most probable that the eurypterid specimens were derived from this locality.

Although the eurypterid specimens were initially tentatively identified as being Ludlow in age the entire collection of specimens derive from either the Llandovery or Wenlock stages of the Silurian Period. Most of the Lesmahagow eurypterid fossils have come from the Kip Burn and Patrick Burn Formations (Rolfe 1992) both of which have yielded the eurypterid genera identified in the collection.

Almost all of the eurypterid specimens are preserved as dark (carbonaceous) structures in a dark, almost black siltstone matrix similar to the lithology of both formations (Rolfe 1992, Tetlie and Braddy 2004). However, both DONMG:ZG2326 and DONMG:ZG2327 have a predominantly red-brown to pinkish brown colour that may be due to their having been exposed to a fire, it is possible that these specimens were caught in the fire that burnt down the Dick Institute in 1909.

Systematic Palaeontology

General eurypterid terminology follows Tollerton (1989) and Selden (1981), with denticle terminology following Miller (2007).

Order EURYPTERIDA Burmeister, 1843
Suborder EURYPTERINA Burmeister, 1843
Superfamily PTERYGOTOIDEA Clarke & Ruedemann, 1912
Family PTERYGOTIDAE Clarke & Ruedemann, 1912
Genus ERETTOPTERUS, Salter in Huxley & Salter 1859
Species BILOBUS Salter, 1856

Description

A total of ten specimens have been attributed to *Erettopterus bilobus*.

DONMG:ZG25 and DONMG:ZG2303 - Figure 1 and Figure 2. Part and counterpart. Isolated pair of complete pterygotid chelicerae, each consisting of fixed and free ramus and elongate basal podomere (peduncle). The rami of both appendages preserve fine detail of the denticles and correspond well to the denticulation patterns of *Erettopterus bilobus* as reconstructed by Waterston (1964). The fixed ramus has an angular terminal denticle and up to five principle denticles with no denticles on the base of the ramus, while the free ramus has a more rounded terminal denticle and three principle denticles that align with the central three principle denticles on the opposing ramus. The principle denticles on both appendages show excessive wear. The uppermost appendage measures 19.5 cm in length and 2.7 cm at its widest point. The lower appendage is positioned slightly more ventral to the upper, measuring 20.5 cm in length with a maximum width of 2.3 cm.

DONMG:ZG26 - Figure 3. A nearly complete specimen with 12 opisthosomal segments preserved along with the base of the telson with probable median carina. Displaced type B genital appendage is visible underlying the third segment; more narrow than in *Erettopterus osiliensis* (Ciuarca and Tetlie 2007); it is viewed dorsally so that the lateral flange is completely exposed. The anterior section of the specimen consists of fragments of doublure, carapace and appendages. The basal segments of two enlarged chelicerae are angled to the right. The carapace is displaced and positioned anteriorly, exposing the coxae in their original arrangement. At least four other appendages are also preserved. Appendage VI is poorly preserved and appears to be of a modified *Hughmilleria*-type, with the median groove running



Figure 1. DONMG:ZG25. *Erettopterus bilobus*. Specimen showing paired chelicerae. Scale bar = 10 cm.



Figure 2. DONMG:ZG2303. *Erettopterus bilobus*. Counterpart to DONMG:ZG25. Scale bar = 10 cm.

up podomere 7 similar to that in *E. osiliensis*. Three narrow, non-spiniferous appendages (that do not correspond to any appendage type in the system of Tollerton, 1989) are located anterior to the paddle, gracile in aspect and preserved flexed back against

the prosomal region. The specimen is 12.6 cm long, with a maximum width of 2.4 cm. The largest and longest appendage (one of the chelicerae) has a total length of 3.2 cm and width of 0.5 cm.

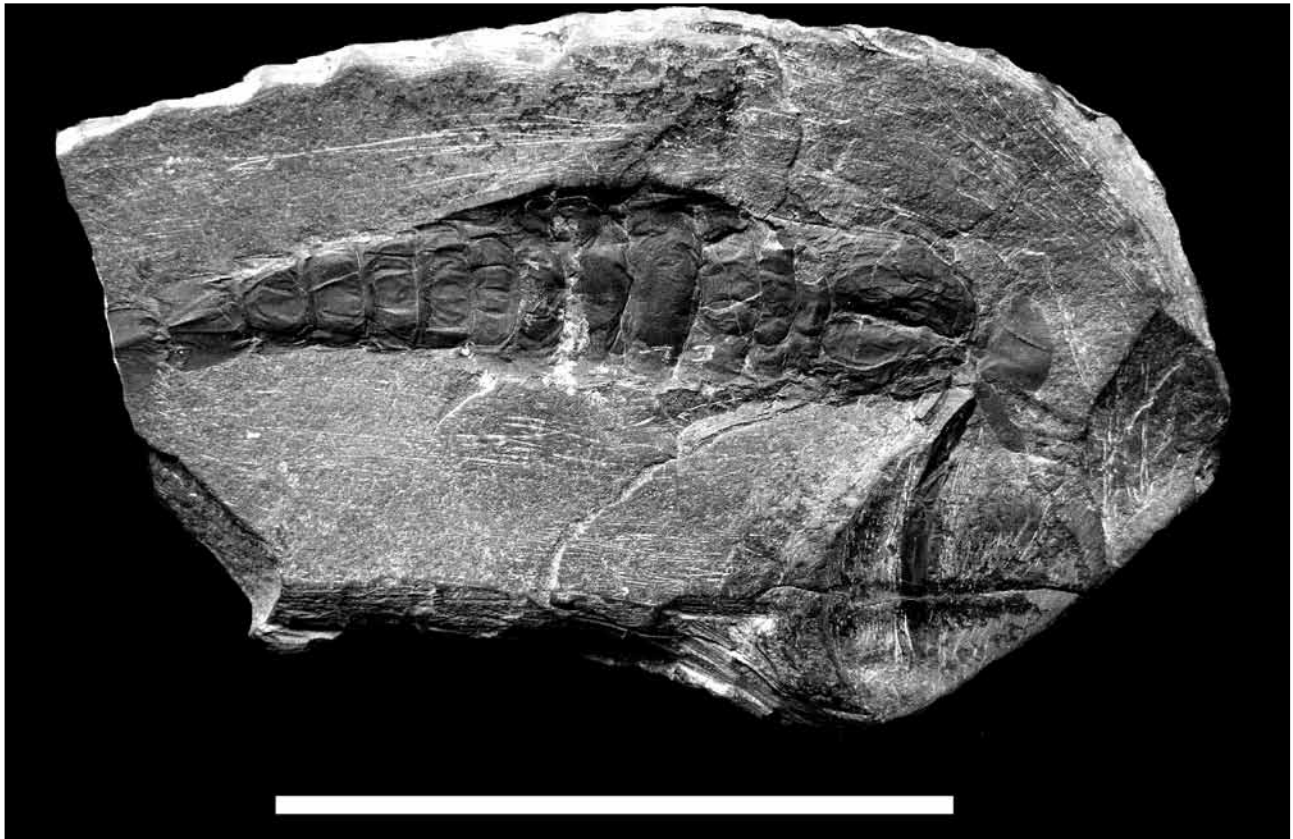


Figure 3. DONMG:ZG26. *Erettopterus bilobus*. Relatively complete specimen. Scale bar = 10 cm.

DONMG:ZG2305 - Figure 4. Complete specimen with prosomal region, 12 tergites and a bilobed telson. The first tergite is reduced compared to the others, while the metasomal segments have paired striations running down their length with segments 11 and 12 also possessing a median carina. The mesosoma is broad and rather squat, a characteristic of *E. bilobus*, while the carapace is semi-circular and preserves two large lateral eyes, oval in shape and positioned antero-marginally. Both paddles are present, resembling those of *E. osiliensis*, while at least two of the small, gracile appendages are preserved curving backwards. The enlarged chelicerae are reversed, with the fixed and free rami positioned closest to the carapace. The length of the specimen (curved) is 12 cm and would be approximately 13.5 cm if straight, with a maximum width of 2.8 cm. The most anterior appendage pair have lengths of 4.2 cm and 4 cm with widths of 0.3 cm and 0.4 cm respectively. The uppermost swimming leg measures 2 cm in length and 0.3 cm in width while the lower swimming leg is 1.5 cm long and 0.4 cm wide.

DONMG:ZG2306 - Figure 5. Near complete specimen with whole broad body, missing only the most distal end of the telson, with both swimming legs preserved and possible eyes. The telson appears bilobed but is mostly lost although carinae are present on both the telson and pretelson. The genital

appendage is faintly preserved, and appears to be of type B. Prosoma poorly preserved, doublure of *Pterygotus*-type with epistomal plate missing, suggesting that the specimen represents an exuvium. Coxae VI preserve gnathobases and both paddles are preserved, the left appendage better than the right. The margin of podomere 8 is somewhat serrated, and in general morphology they correspond well to *E. osiliensis*. The matrix is reddish-brown in the centre, although the general colour of the surrounding matrix is grey. It measures 13.6 cm in length with a maximum width of 3.6 cm. Swimming legs measure 3.2 cm and 2.9 cm in length with widths of 0.5 cm and 0.6 cm respectively.

DONMG:ZG2311 - Figure 6. Nearly complete specimen lacking appendages. Body elongate with a gentle curvature at the metasoma. The opisthosoma preserves all 12 segments and the bilobed telson with carina, also present on the two posterior segments. The majority of the prosoma is missing and only a minor section of the chelicerae is preserved. The specimen is 15.5 cm long with a maximum width of 4 cm. The incomplete appendage length is 1.2 cm with a width of 0.7 cm.

DONMG:ZG2315 - Figure 7. Almost complete specimen. The body is broad, with paired striations on the postabdomen. The carapace is fragmentary with faint

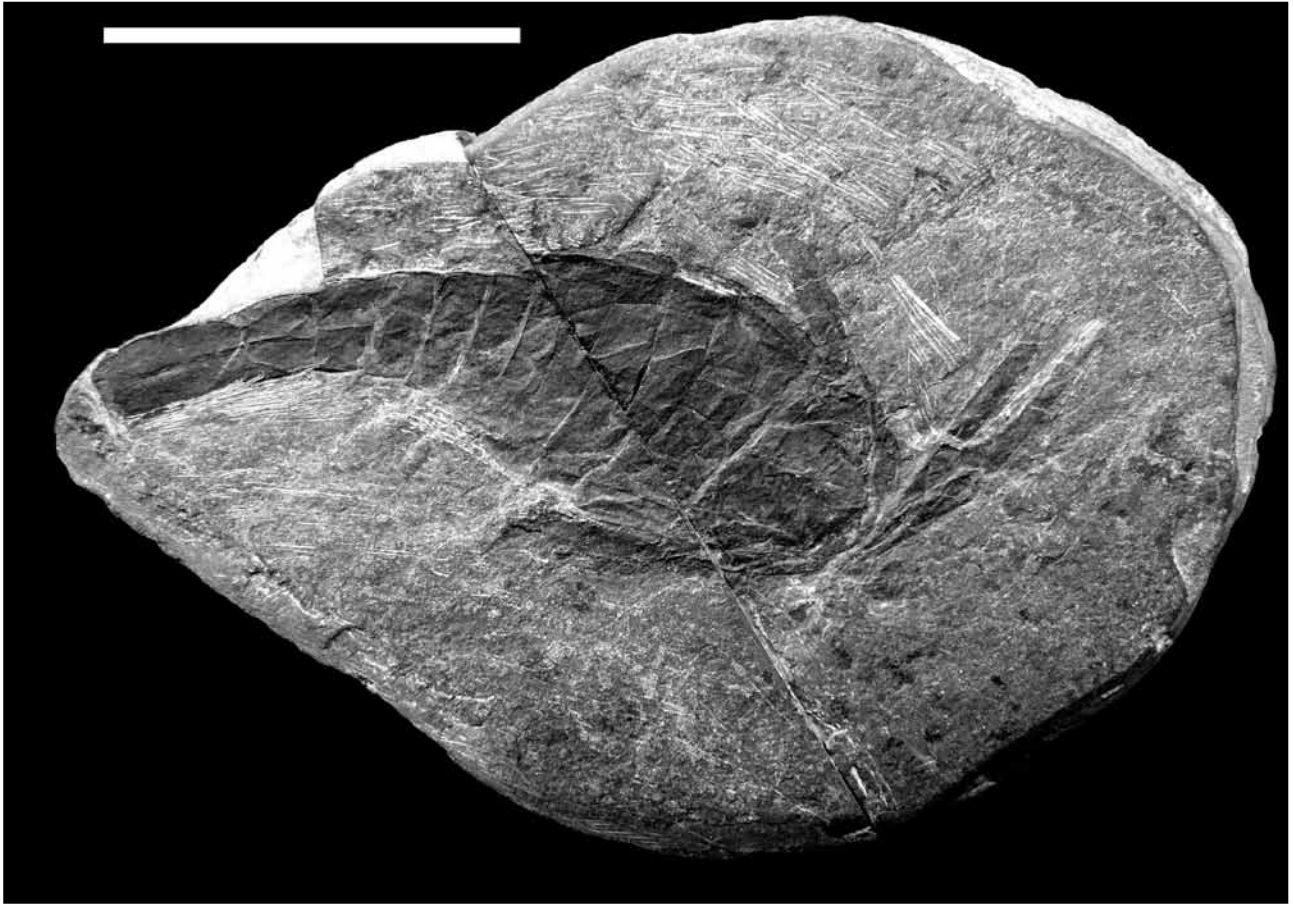


Figure 4. DONMG:ZG2305. Erettopterus bilobus. Complete specimen with chelicerae disarticulated and reversed. Scale bar = 10 cm.

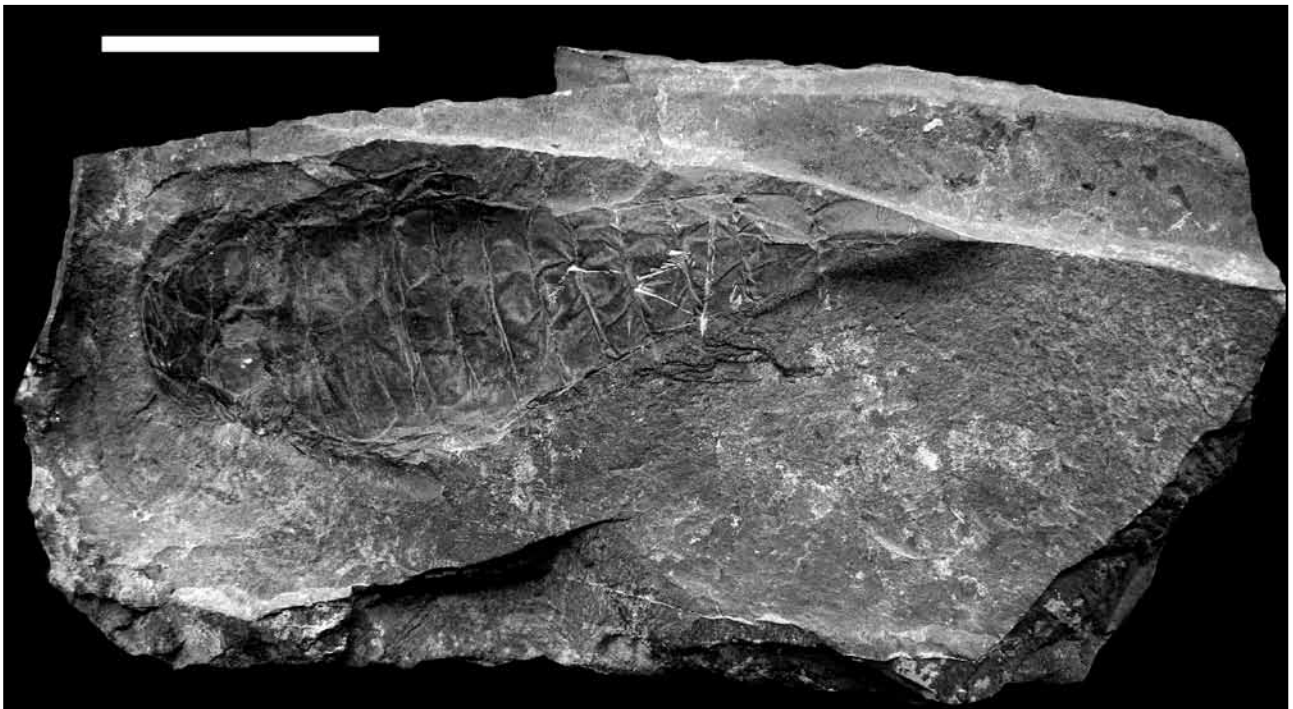


Figure 5. DONMG:ZG2306. Erettopterus bilobus. Relatively complete specimen showing detail of the swimming paddles. Scale bar = 10 cm.

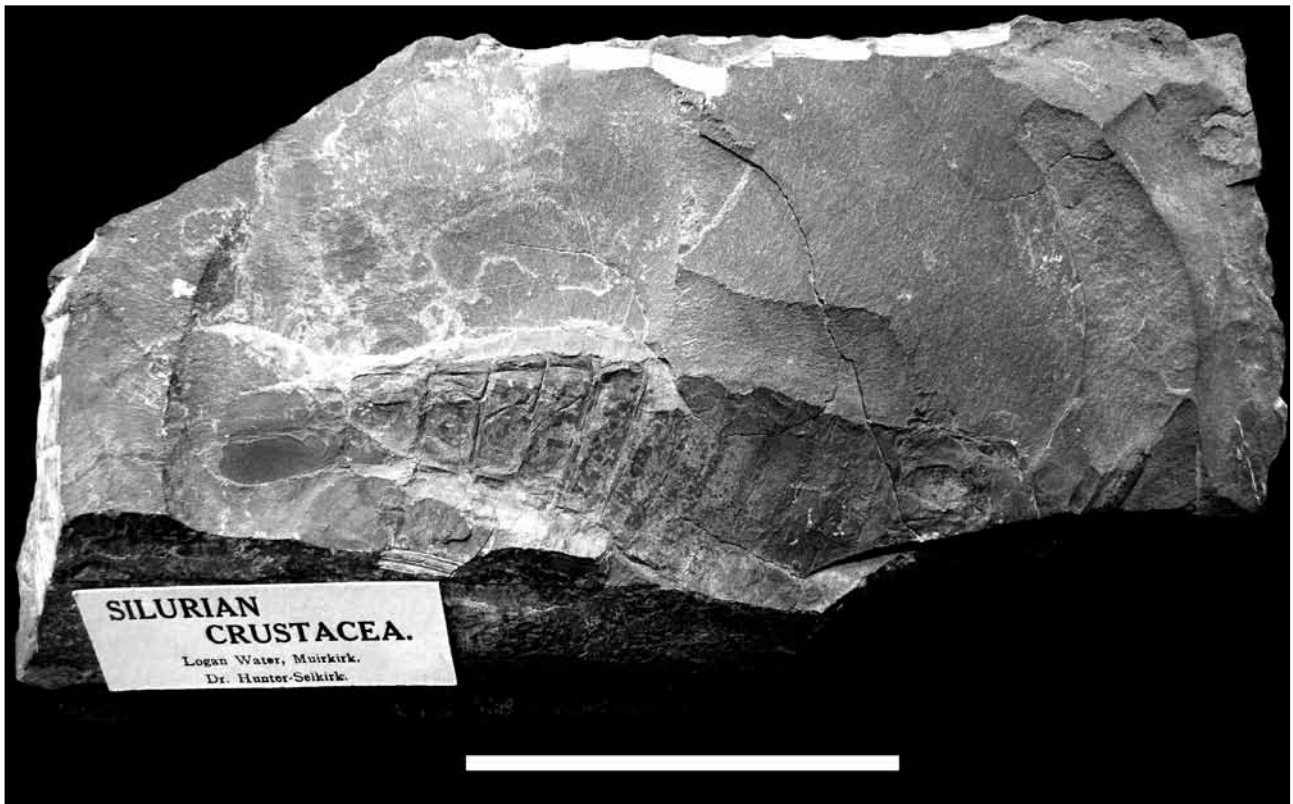


Figure 6. DONMG:ZG2311. *Erettopterus bilobus*. Specimen showing opisthosoma and telson. Scale bar = 10 cm.

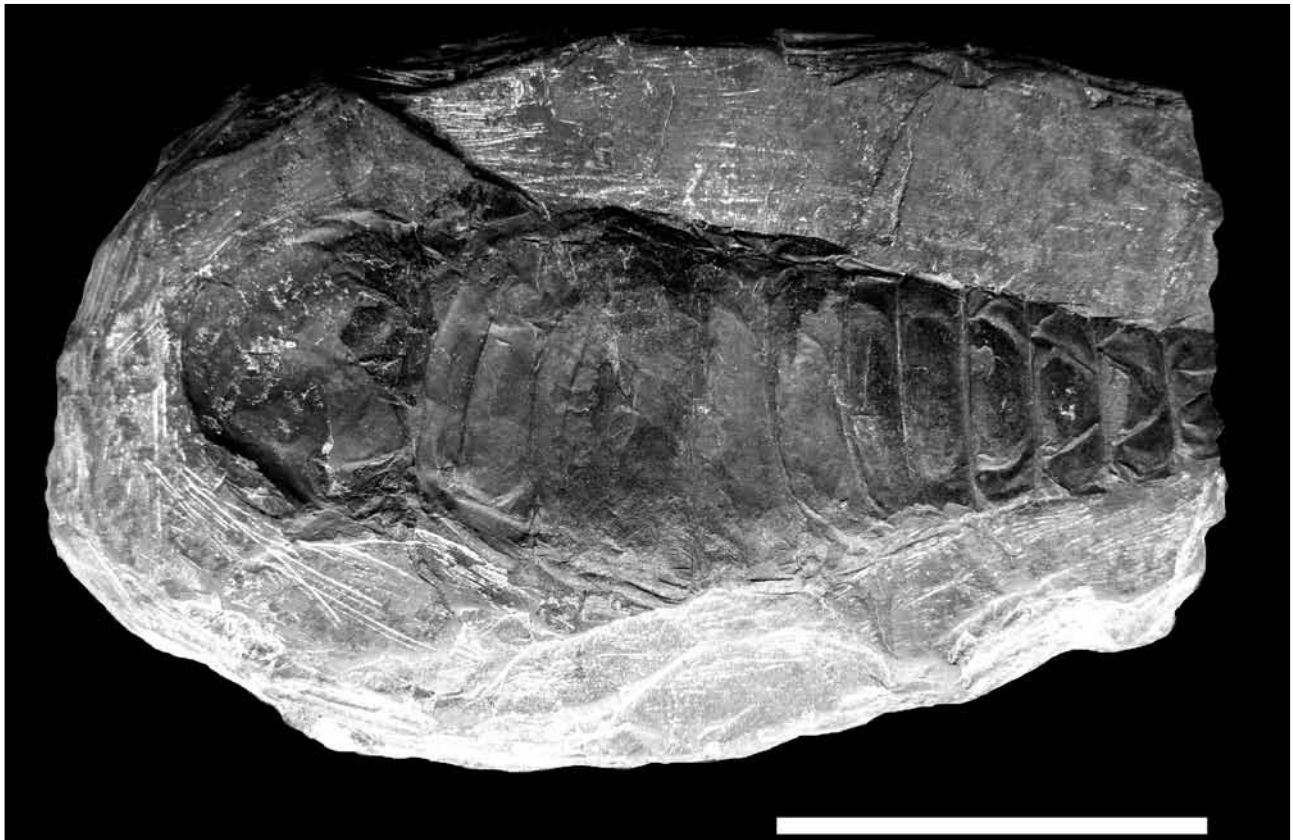


Figure 7. DONMG:ZG2315. *Erettopterus bilobus*. Specimen showing paired folds or ridges on the metasoma. Scale bar = 10 cm.

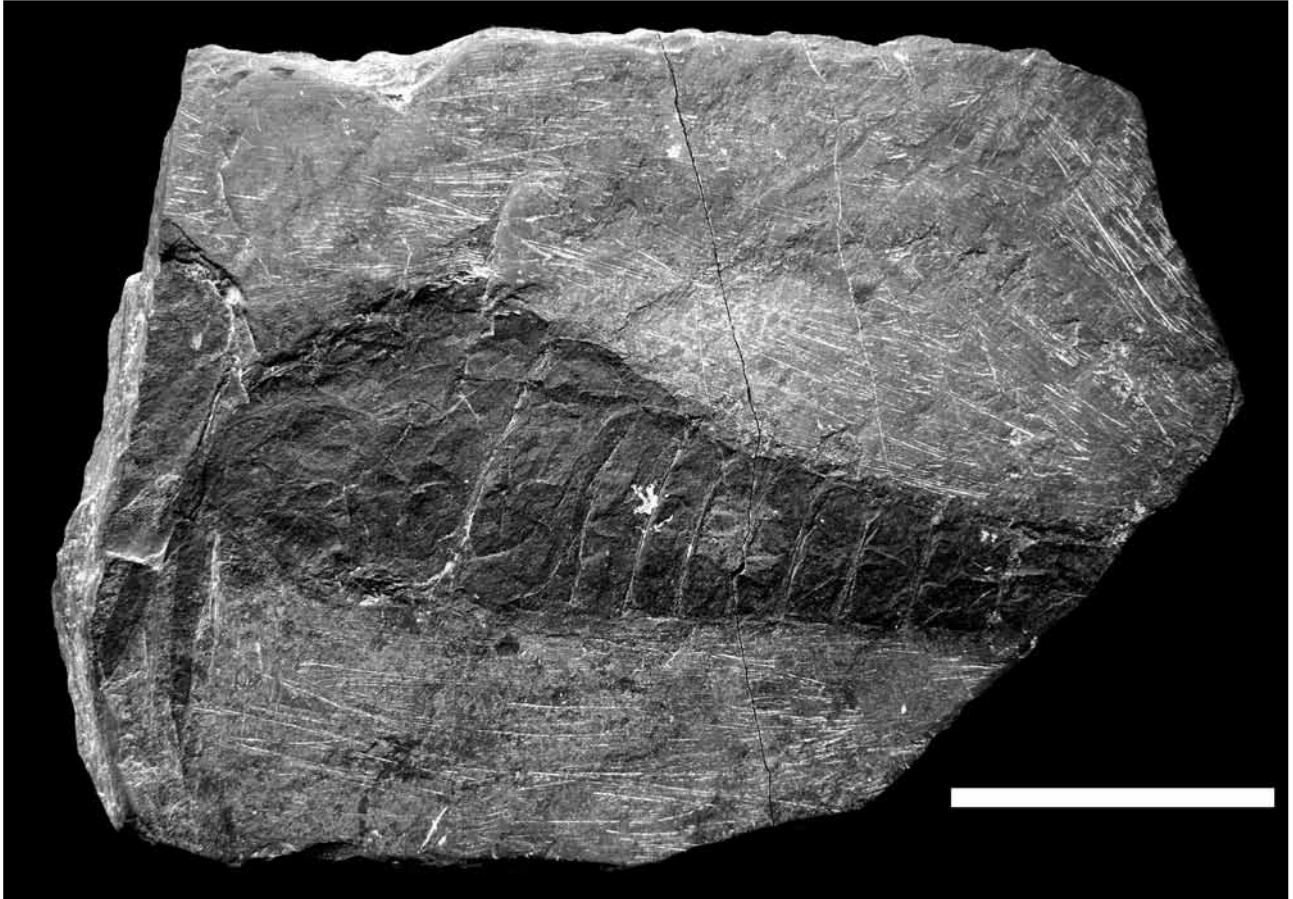


Figure 8. DONMG:ZG2316. *Erettopterus bilobus*. Relatively complete specimen. Scale bar = 10 cm.

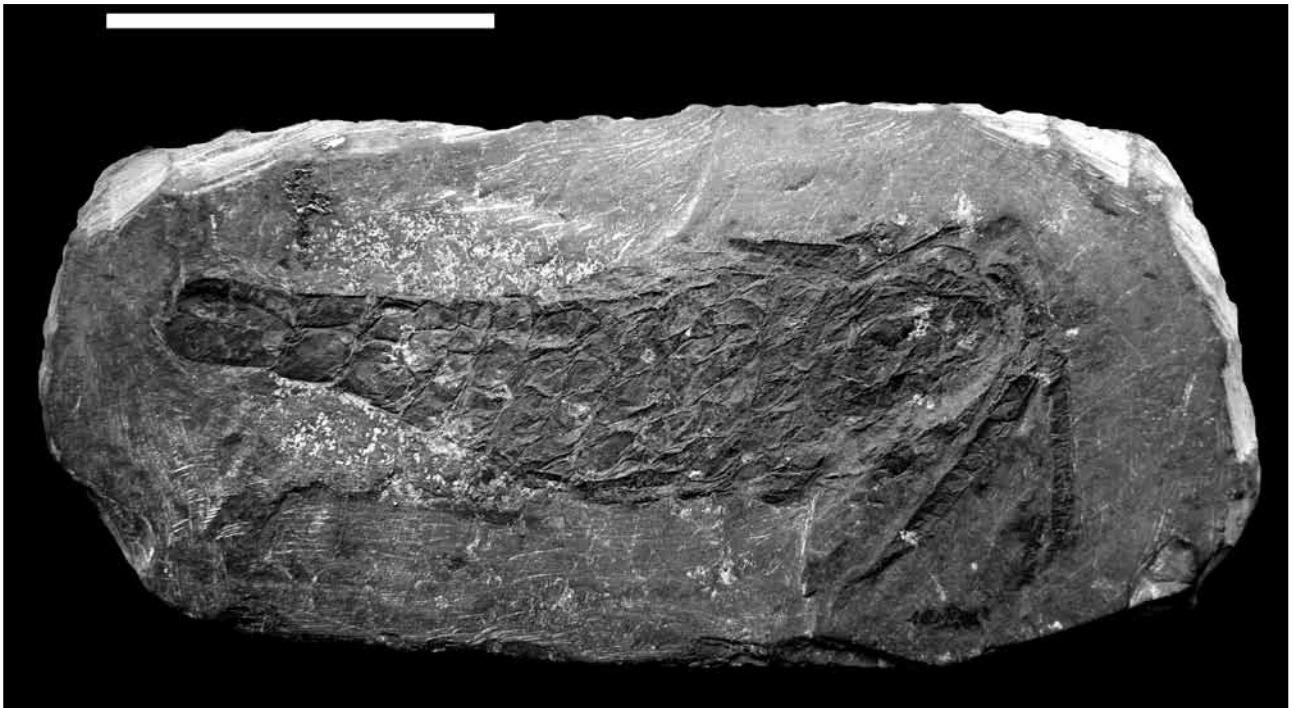


Figure 9. DONMG:ZG2319. *Erettopterus bilobus*. Almost complete specimen showing the vertical rudder on the telson. Scale bar = 5 cm.

evidence of appendages, while the opisthosoma consists of 12 segments. The mesosoma is wide and bulky and the metasoma is elongate and tapers almost triangularly. The specimen is 11.3 cm long with a maximum width of 4.1 cm.

DONGM:ZG2316 - Figure 8. Unusually orientated, nearly complete specimen. The mesosoma is uneven along one side, perhaps due to it having been partially enrolled. A total of 12 tergites are preserved, with the mesosoma again broad and segment 11 and the

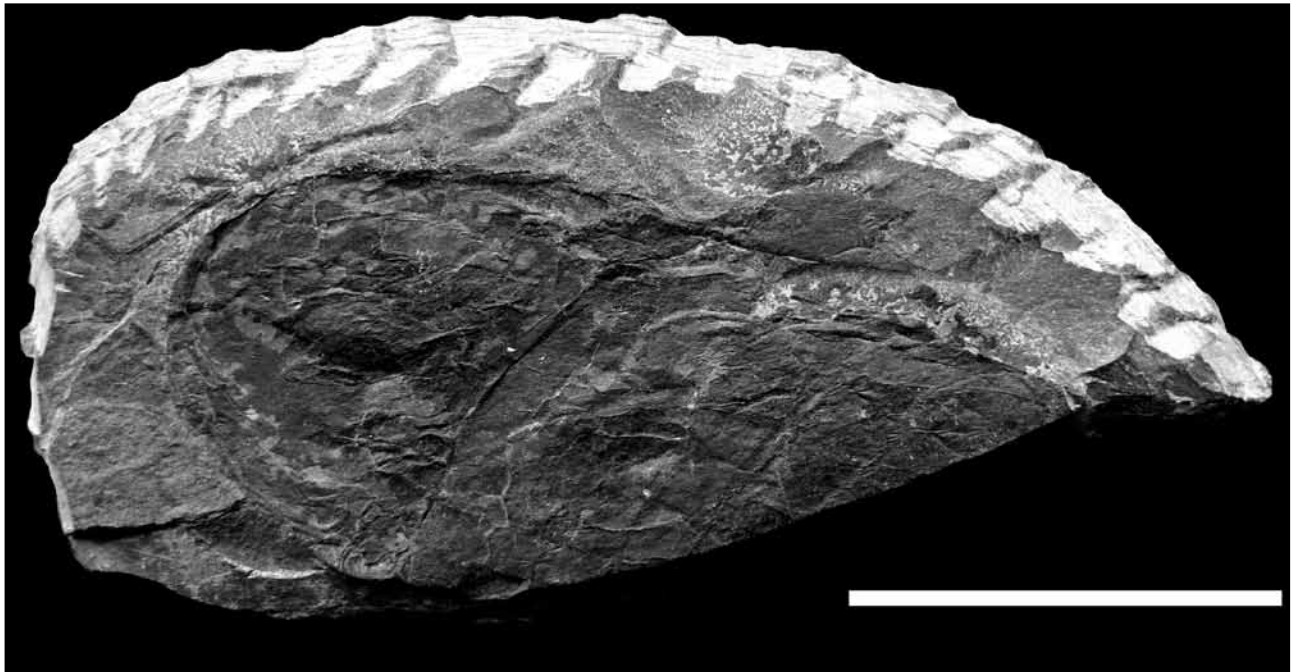


Figure 10. DONMG:ZG2322. *Erettopterus bilobus*. Specimen showing prosomal region and anterior mesosomal segments. Scale bar = 10 cm.

pretelson having carina. The proximal portion of the telson is also present, and it is straight sided and bears a median carina. The tergites have paired ridge-like striae throughout, distinct from the elongate nodules of *Slimonia*. The prosomal region is poorly preserved, however an oval metastoma can be seen as can the proximal portion of two enlarged chelicerae. The total body length is 13.3 cm with a maximum width of 4.3 c. The appendage lengths are 3.2 cm and 3.5 cm with widths of 0.3 cm and 0.3 cm respective-

ly. The specimen is in two separate sections; repair may be necessary.

DONMG:ZG2319 - Figure 9. Complete specimen with a total of 12 tergites and prosomal region preserved. The body is broad through the mesosoma. Gnathobases of coxae are present in the prosomal region while the distal portions of the paddles are preserved either side, one with slight serrations on podomere 7. Large chelicerae are clearly preserved

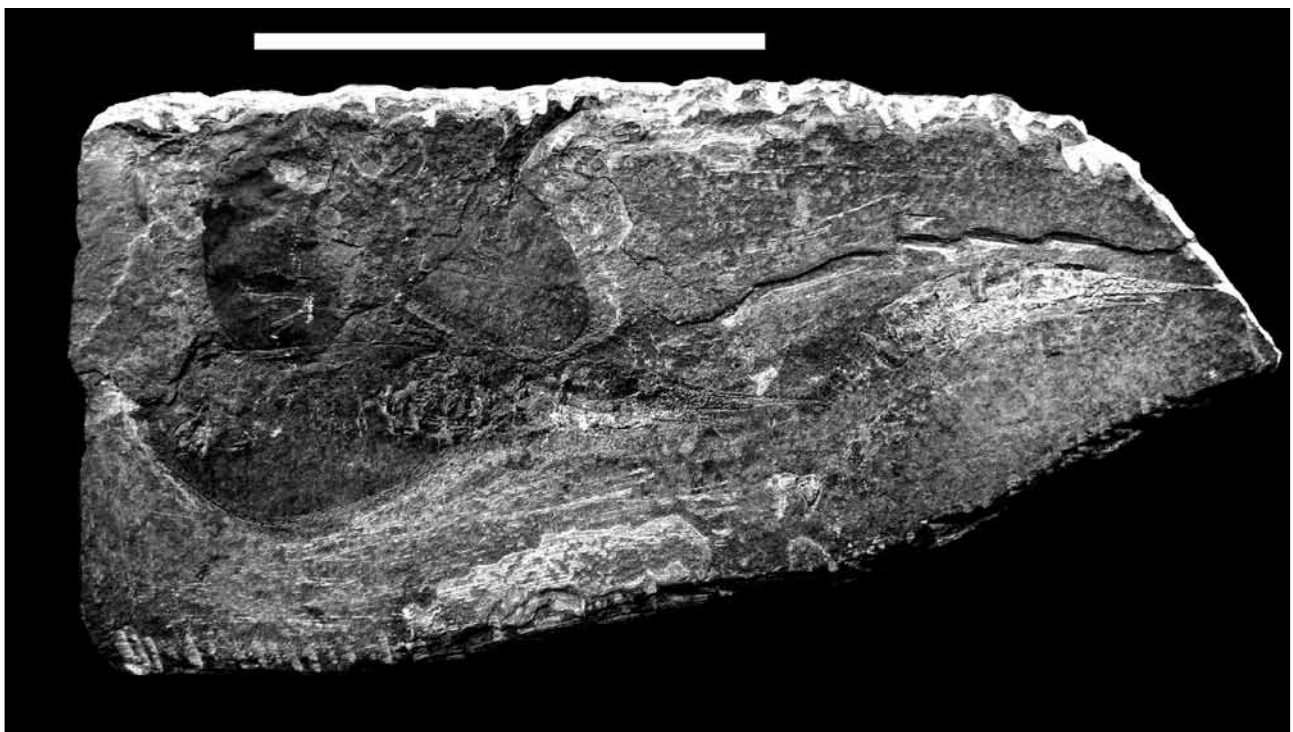


Figure 11. DONMG:ZG2323. *Ceratiocaris sp.* and *Erettopterus coxa*. Specimen showing *Ceratiocaris* in dorsal view with *Erettopterus coxa*. Scale bar = 10 cm.

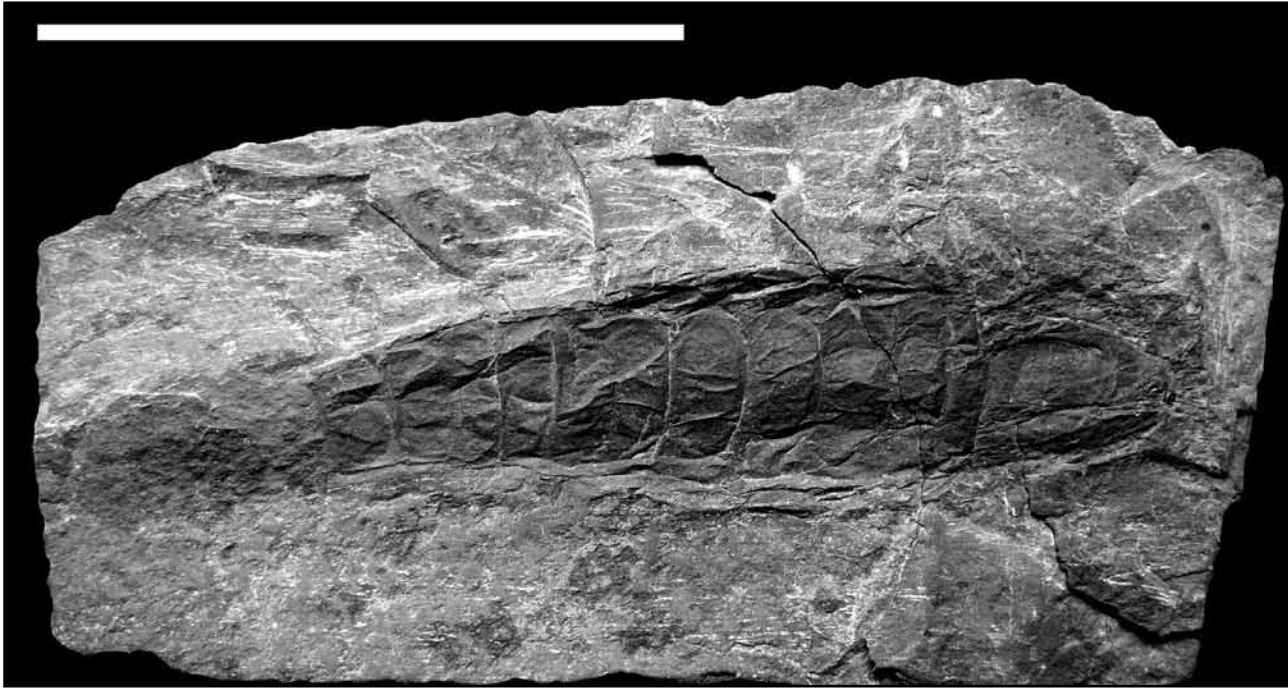


Figure 12. DONMG:ZG2324. *Erettopterus bilobus*. Laterally compressed specimen. Scale bar = 10 cm.

anteriorly, displaced towards the right. The telson is bilobed and shows a median vertical rudder folded over towards the left side. The entire length of the specimen is 11.5 cm with a maximum width of 2.8 cm. The appendages lengths are 2.8 cm and 3.4 cm with widths of 0.3 cm and 0.3 cm respectively.

DONMG:ZG2322 - Figure 10. Small incomplete specimen; only the prosomal region and anterior mesosomal segments are preserved. The right paddle is preserved but with individual podomere boundaries indistinct. Striate ornamentation along the posterior of tergites indicates this specimen is also assignable to *E. bilobus*. The length of the specimen is 9.8 cm with a width of 4.1 cm.

DONMG:ZG2323 - Figure 11. Block matrix largely consisting of *Ceratiocaris*, however alongside there is an anterior gnathobasic portion of coxa (probably coxa VI) pertaining to *E. bilobus*.

DONMG:ZG2324 - Figure 12. Nearly complete specimen with 11 opisthosomal segments preserved, however the telson and pretelson are absent. The prosomal region is poorly preserved, although ventral impression of coxae VI and the oval shaped metastoma are present. The length of the specimen is 15 cm with a maximum width of 3 cm. A few minor cracks are apparent on the anterior section of the specimen.

Remarks

Erettopterus bilobus is an old species that has not received much attention since its original description and is ideally in need of revision accommodating a modern understanding of eurypterid systematics and evolution beyond the treatment received herein.

Lamsdell and Legg (2010) cautioned against the use of cheliceral denticulation for generic-level assignment, however denticulation patterns can be a good species-level character. The chelicerae held in the collection match those described for *Erettopterus bilobus* by Waterston (1964), and the bilobed telson found on a number of specimens confirms this assignment. Kjellesvig-Waering (1964) cited the presence of a vertical rudder in *E. bilobus* based off a single specimen in his personal collection, as discussed by Cieurca and Tetlie (2007). DONMG:ZG2319 confirms the existence of this structure in the species and corresponds well with the specimen figured by Kjellesvig-Waering.

The broad body of *E. bilobus* may indicate that many of these specimens are juveniles, as the opisthosoma of juvenile eurypterids tends to be comparatively broader than in adults (Andrews *et al.* 1974). While the broad nature of the mesosoma is less pronounced in larger specimens it is still comparatively broader than in *E. osiliensis* and so it seems that this may be a genuine trait of the species.

Description

A total of thirteen specimens are here attributed to *Slimonia acuminata*.

DONMG:ZG365 - Figure 13. The largest eurypterid specimen identified in the collection, almost complete but lacking a recognisable prosomal region. Consists of 10 opisthosomal segments (3-12), with the genital operculum preserved anteriorly, and the telson with its very distal end missing. The genital operculum (Fig 13.1) is reversed and of type A, bearing deltoid plates and the proximal segment of the genital appendage preserved with lateral flanges and a median groove that corresponds to the type A appendage of *S. acuminata* (Waterston 1960). The telson is foliate. The integument bears a pitted triangular-like pattern that corresponds well to the ornamentation of pterygotids. The mesosomal segments may show a median suture that would correspond to the fused ventral operculae, while the pretelson and telson have a median carina. The length of the specimen is 68 cm with a maximum width of 21.5 cm.

DONMG:ZG366 - Figure 14. Almost complete carapace with the preabdomen tapering dorsoventrally to the lower part of the matrix. The carapace is long rectangular in shape with a median constriction. The lateral eyes are oval and located anterolaterally. The carapace marginal rim is broad anteriorly between the lateral eyes

but narrow posterior to the eyes along the lateral edge of the carapace. The anterior marginal rim is ornamented with pustules. A paddle is preserved at the top of the specimen, and another alongside it. Next to the lowermost paddle is another genital appendage of type A. The specimen - probably a moult - has a wrinkled exterior throughout the anterior portion of the carapace that indicates in life it was inflated. During the taphonomic stage of preservation, the weight of overlying sediments flattened the moult. The ornamentation is again pterygotid-like and paired elongated nodes run down the centre of the body. The anterior segment is reversed and also possesses the paired ridges. The body length of this specimen is 18 cm with a width of 11 cm. The pro-

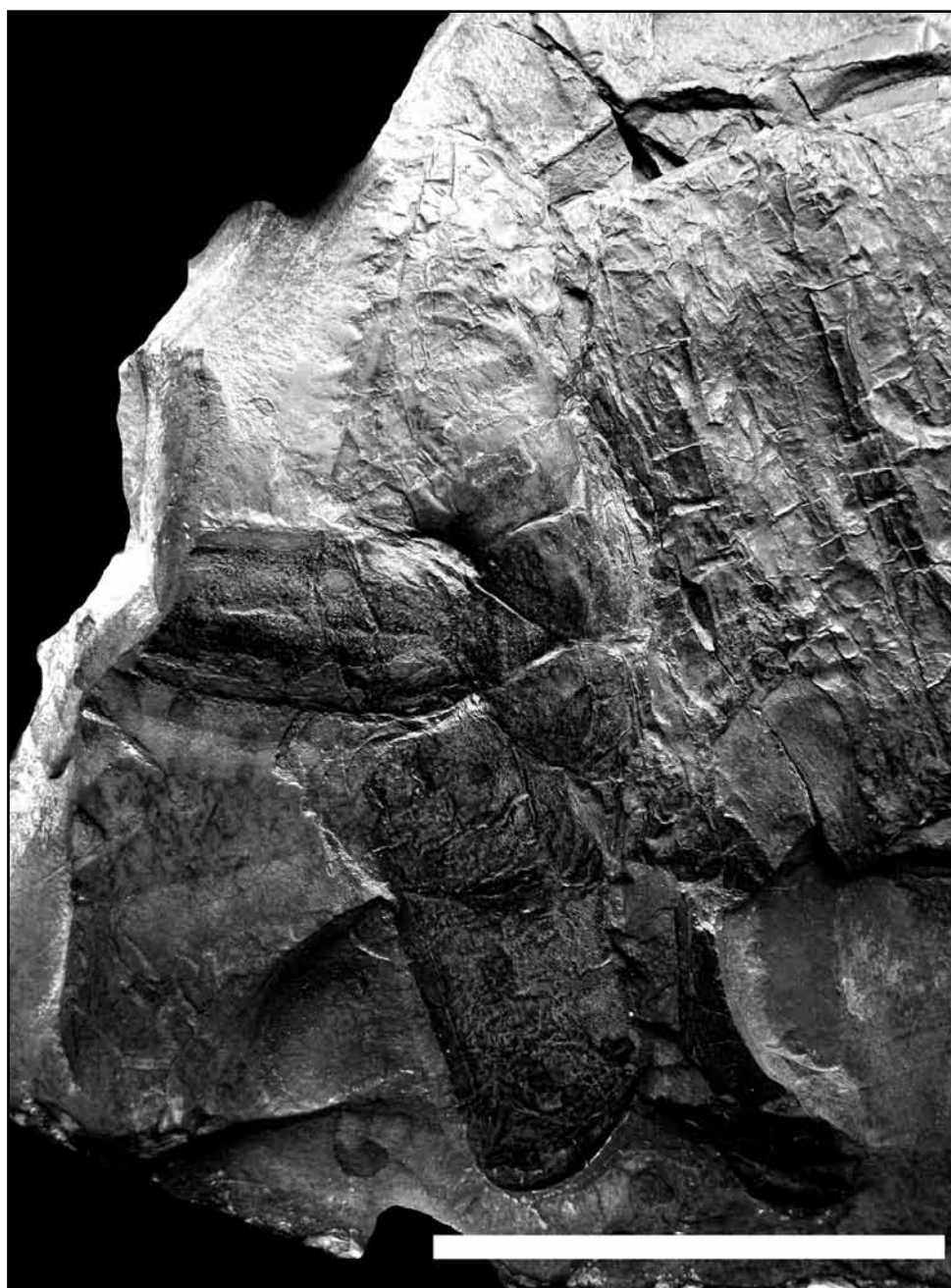


Figure 13.1. DONMG:ZG365. *Slimonia acuminata*. Enlarged view of genital operculum. Scale bar = 10 cm.



Figure 13. DONMG:ZG365. *Slimonia acuminata*. Large specimen with reversed genital operculum. Scale bar = 10 cm.

soma length is 21.1 cm with a width of 2 cm. The specimen is unusually orientated; possibly suggesting the specimen was transported prior to burial.

DONMG:ZG2304 - Figure 15. Well preserved carapace specimen. Carapace is long rectangular shaped. Both oval shaped lateral eyes are preserved in the anterolateral corners and are elongate, measuring

over 1 cm. The anterior marginal rim is ornamented by pustules that appear to form two rows offset from one another, with pits on the carapace posterior to the marginal rim. The carapace has been flattened, and in life the centre was inflated as shown by the wrinkling of the cuticle. The carapace has a length 11 cm with a width of 10 cm.

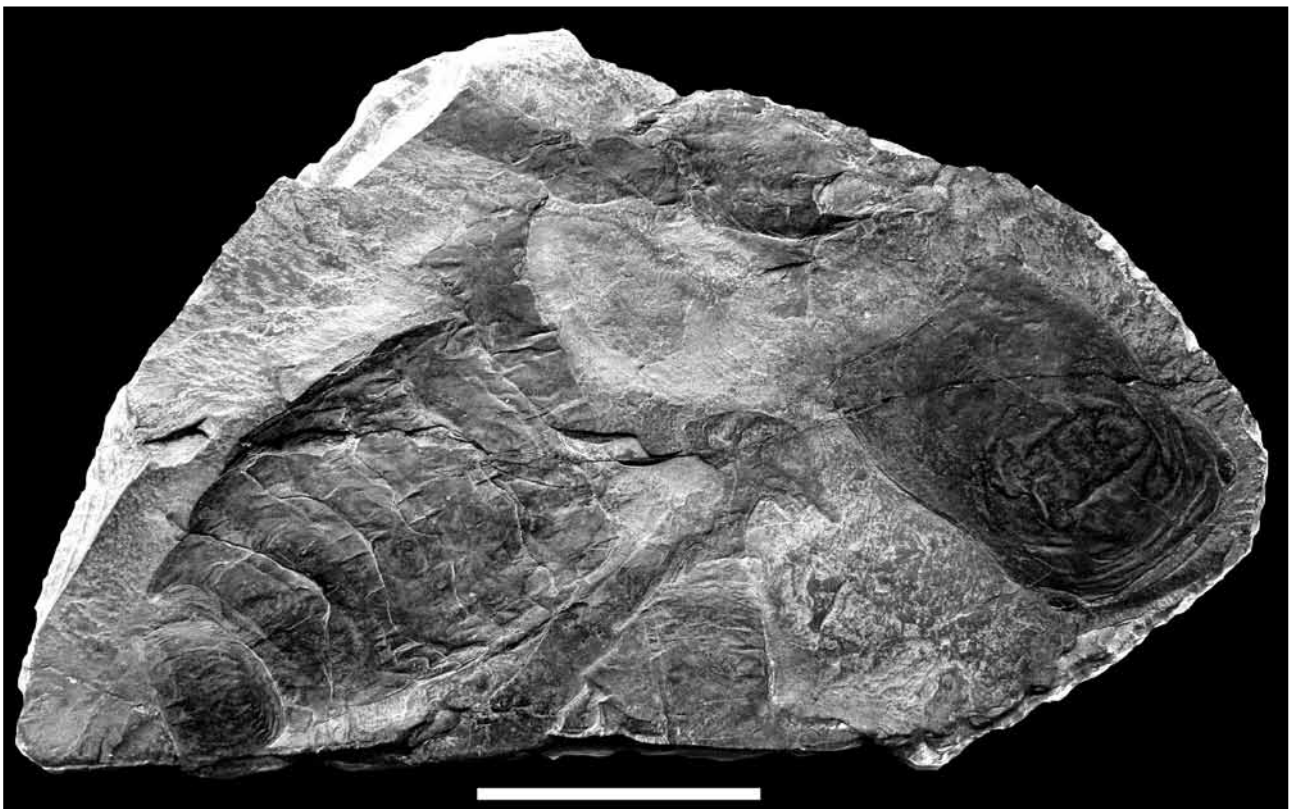


Figure 14. DONMG:ZG366. *Slimonia acuminata*. Disarticulated specimen showing ornamentation of the tergites. Scale bar = 10 cm.

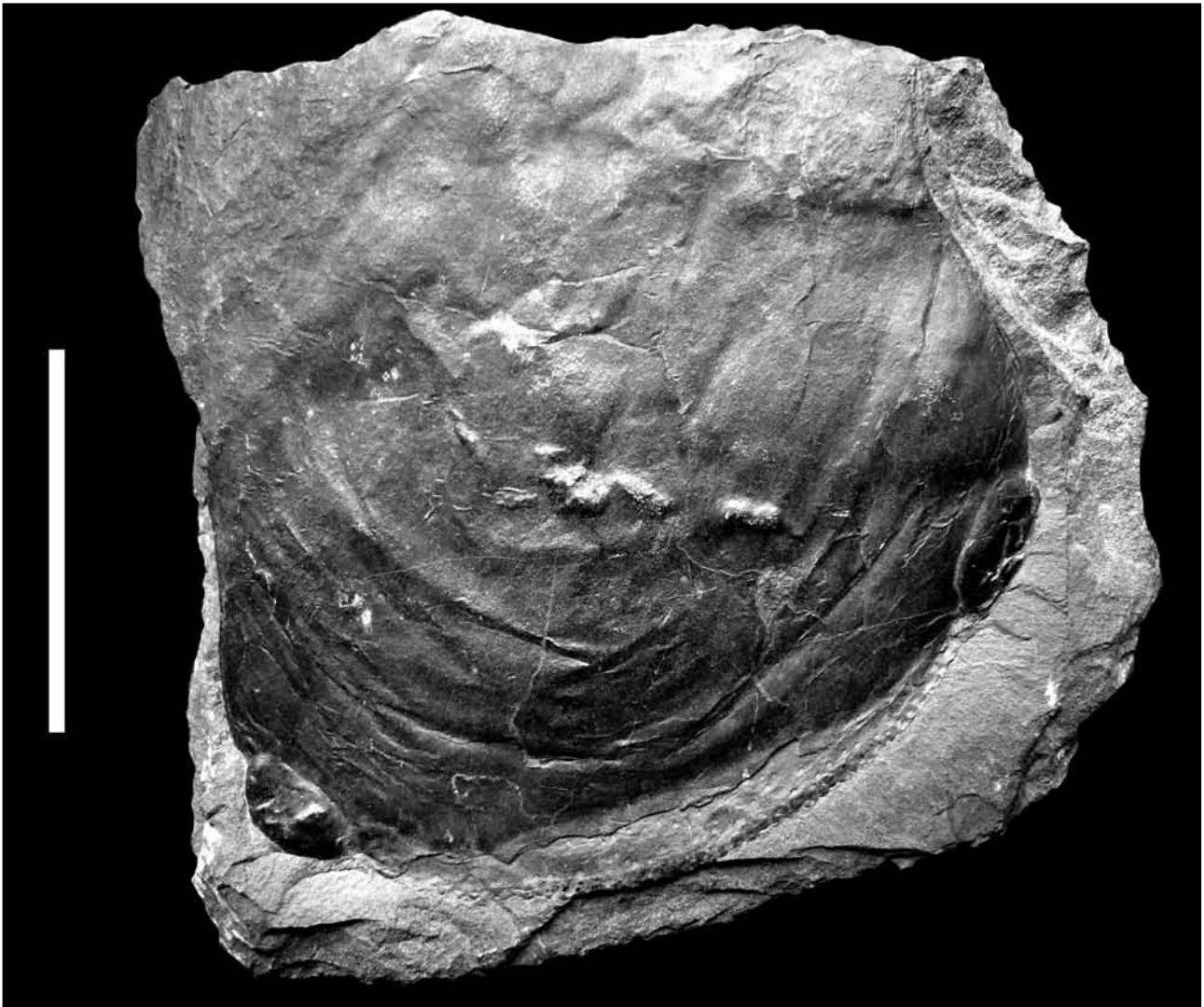


Figure 15. DONMG:ZG2305. *Slimonia acuminata*. Isolated prosoma. Scale bar = 10 cm.

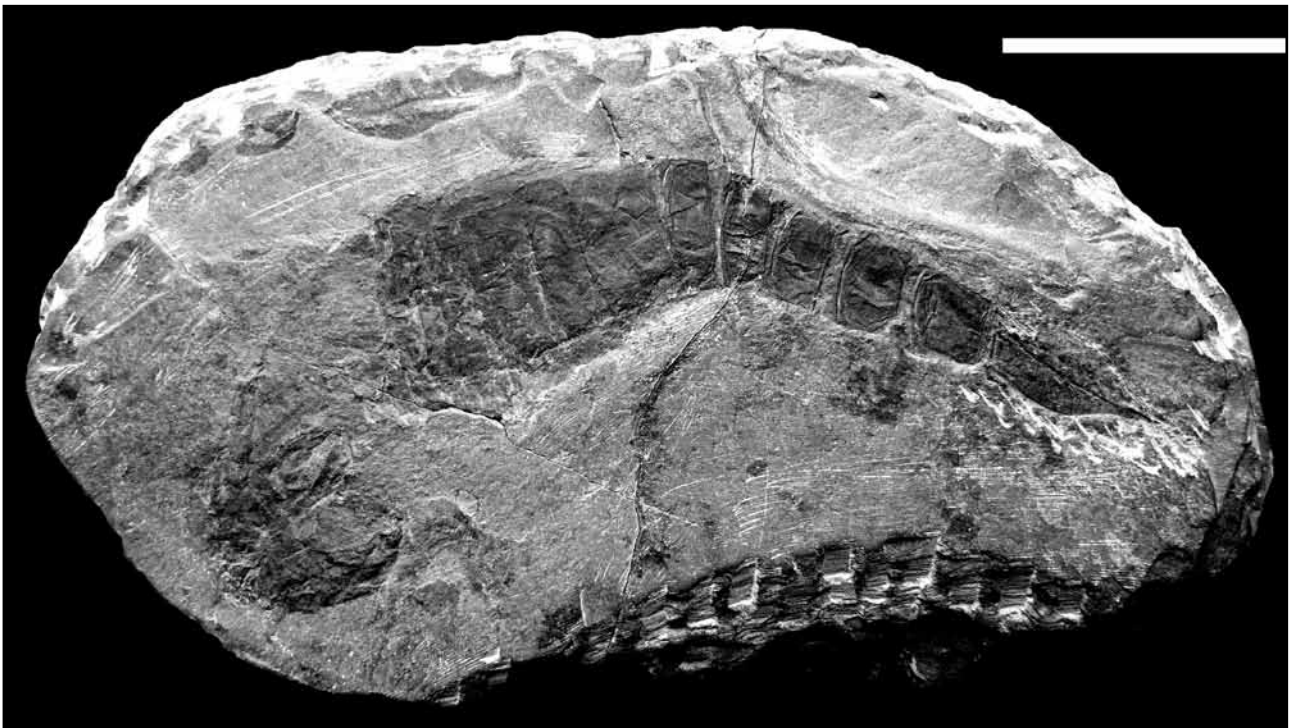


Figure 16. DONMG:ZG2307. *Slimonia acuminata*. Specimen consisting of articulated prosomal and isolated prosomal region. Scale bar = 10 cm.

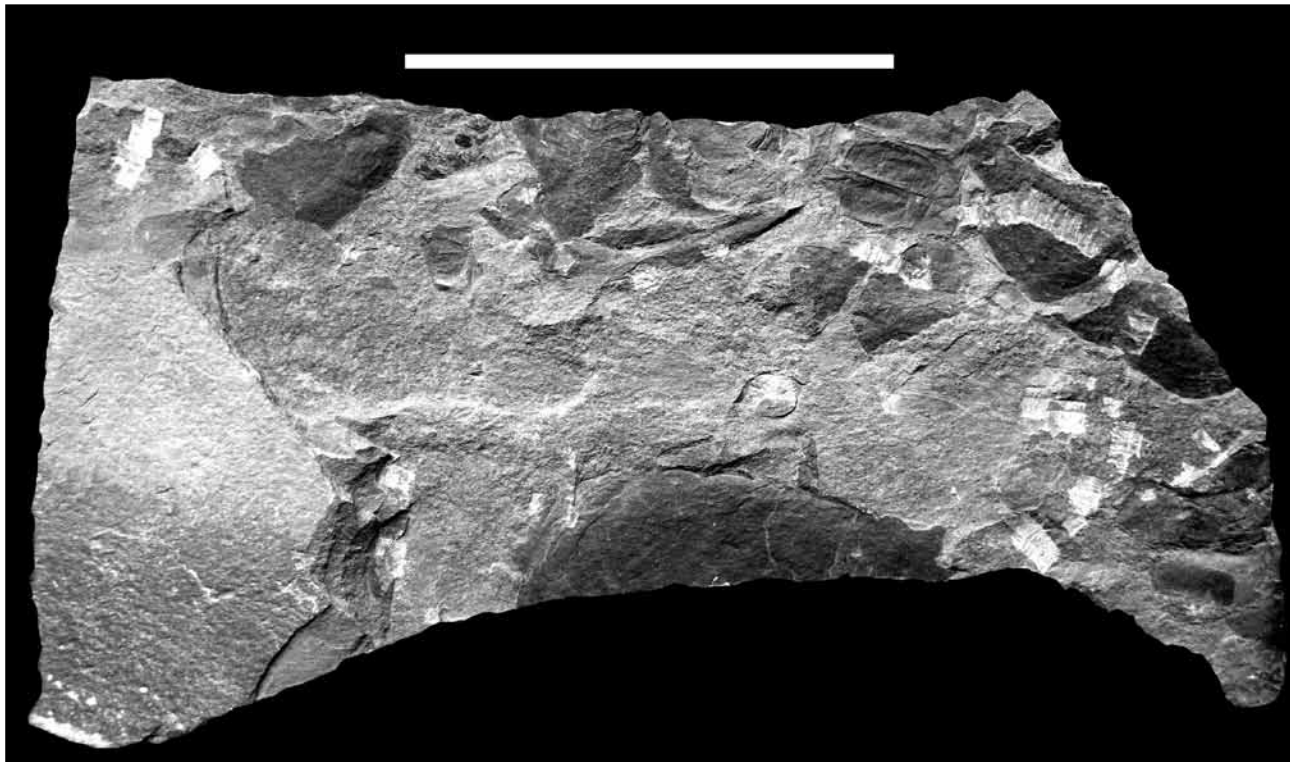


Figure 17. DONMG:ZG2308. *Slimonia acuminata*. Cuticle fragments including *Slimonia telson*. Scale bar = 10 cm.

DONMG:ZG2307 - Figure 16. Nearly complete specimen consisting of opisthosoma, telson, and disarticulated prosoma. Opisthosoma consists of 12 segments articulated with the telson, which is foliate. The prosoma is disarticulated from the rest of the body, with the anterior appendages relatively well preserved. These are of the *Slimonia*-type, with spines distally fringing the podomere boundaries. The specimen has a length of 11.8 cm measured with the curvature and without the poorly preserved prosoma section. Its maximum width is 2.7 cm. Both the swimming legs are apparent and measure respectively, 3.5 cm and 3.5 cm in length with widths of 0.3 cm and 0.5 cm.

DONMG:ZG2308 - Figure 17. Conglomeration of disarticulated fragments, yielding a small array of eurypterid tergites three of which are articulated at the lowest point of the matrix. Towards the centre of the specimen a foliate telson may be seen. There are also a further two possible carapaces and six tergites visible.

DONMG:ZG2309 - Figure 18. Large, complete telson surrounded by cuticular fragments. The telson is foliate, with a serrated margin comparable to DONMG:ZG2304. The length of the telson from the very distal tip end measures 12 cm with a width of 6.6 cm.

DONMG:ZG2310 - Figure 19. A pair of *Slimonia*-type appendages each consisting of 8 podomeres, including the coxa. Gnathobases are present on the coxae with spines fringing the podomeres distally. The specimen was at some point in several sections and has been reassembled. A pitted ornamentation runs across some areas of the specimen where the integument has been preserved. Its maximum length is 15.8 cm.

DONMG:ZG2321 - Figure 20. Isolated type A genital operculum. The deltoid plates, lateral flange and central groove are preserved. Spatulae, which are normally considered absent, are preserved either side of the genital appendage and their presence suggests that Caster and Kjellesvig-Waering (1956) were correct in suggesting these are present on all eurypterids but normally folded dorsally. The total length measures 15.2 cm with a maximum width of 3.3 cm. The appendage measures 2.3 cm in length and 0.4 cm in width.

DONMG:ZG2325 - Figure 21. Very large, elongated carapace. Carapace long rectangular in shape with cardiac lobe preserved at its posterior. Lateral eyes oval and positioned marginally. Three rows of pustules are present on the anterior marginal rim, similar to DONMG:ZG2304. The length of the carapace is 16.9 cm with a maximum width of 9 cm.

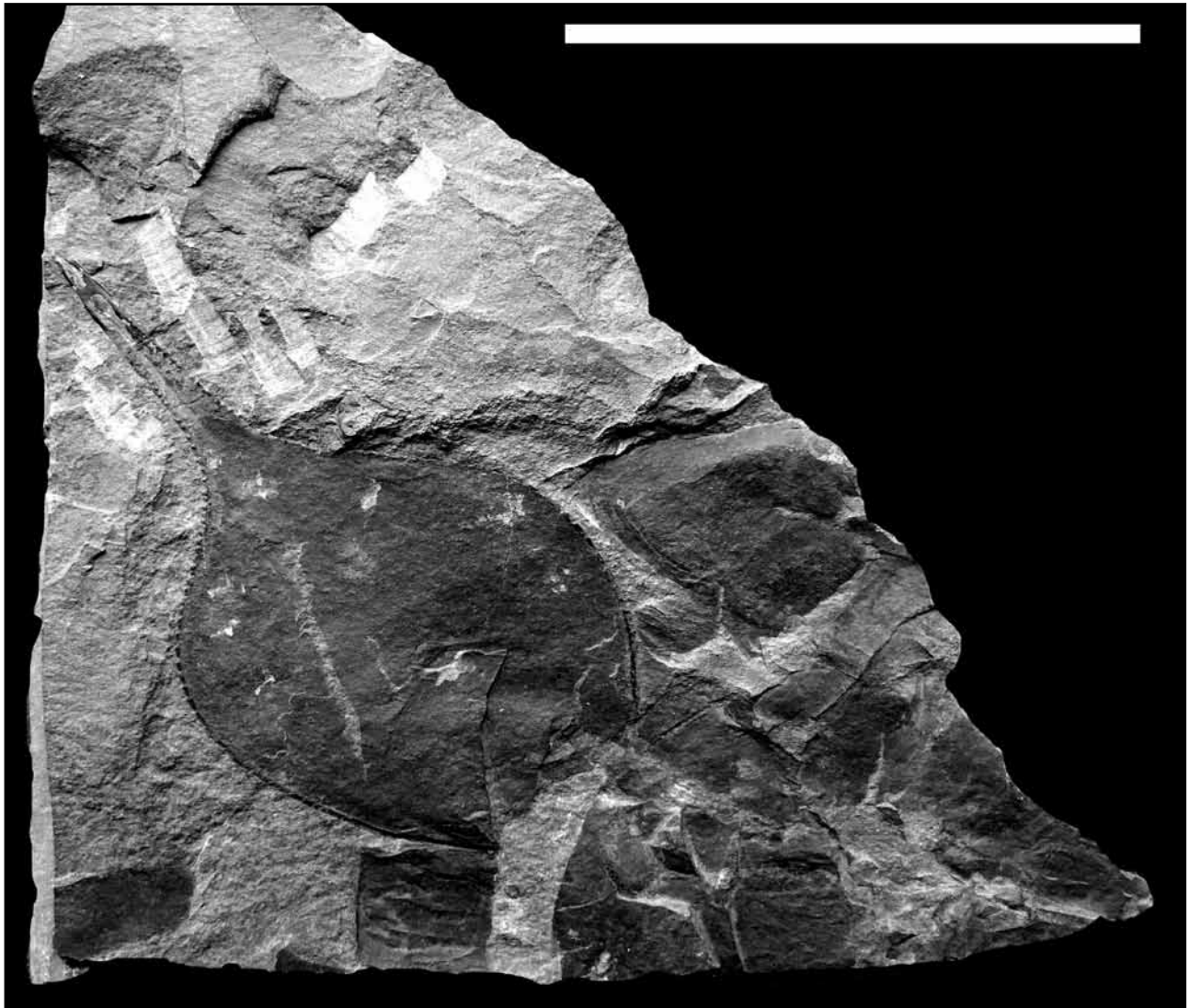


Figure 18. DONMG:ZG2309. *Slimonia acuminata*. Large telson. Scale bar = 10 cm.

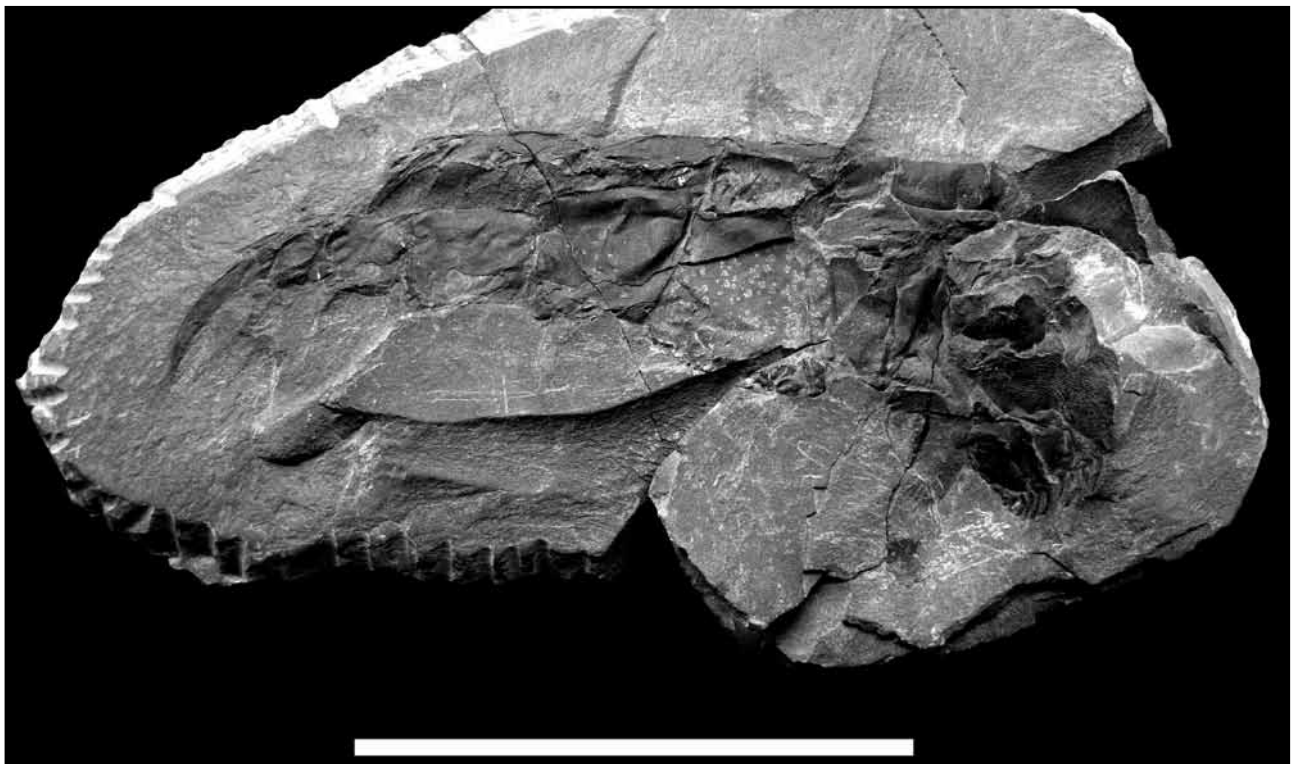


Figure 19. DONMG:ZG2310. *Slimonia acuminata*. Isolated anterior prosomal appendages. Scale bar = 10 cm.

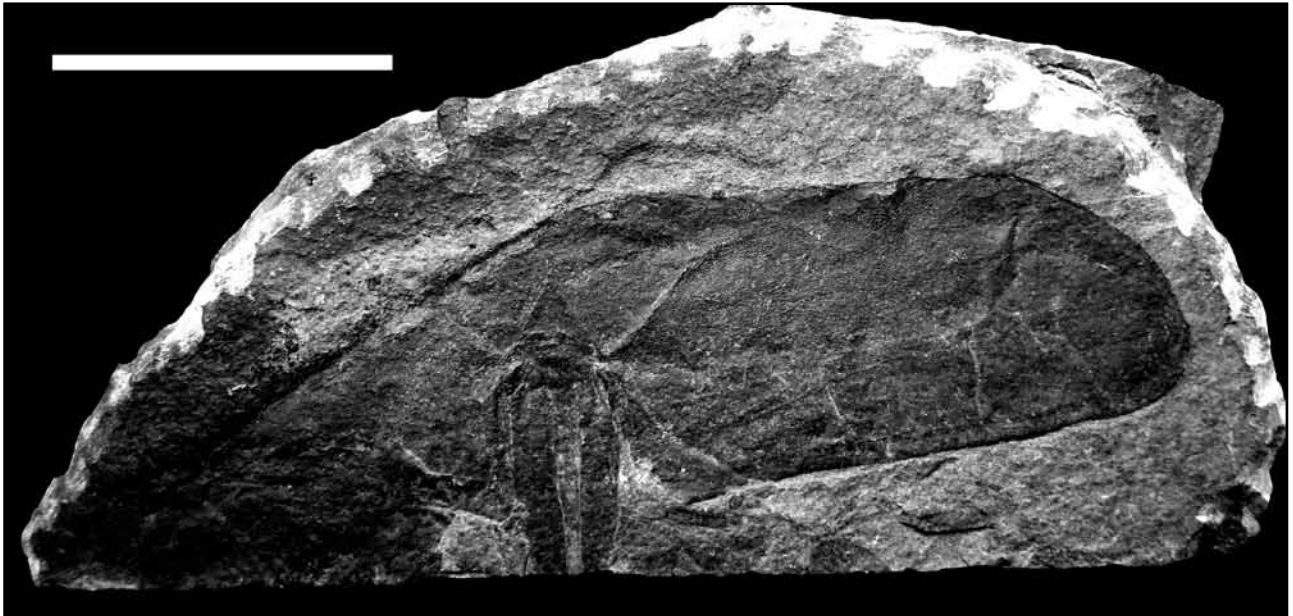


Figure 20. DONMG:ZG2321. *Slimonia acuminata*. Isolated genital operculum. Scale bar = 10 cm.

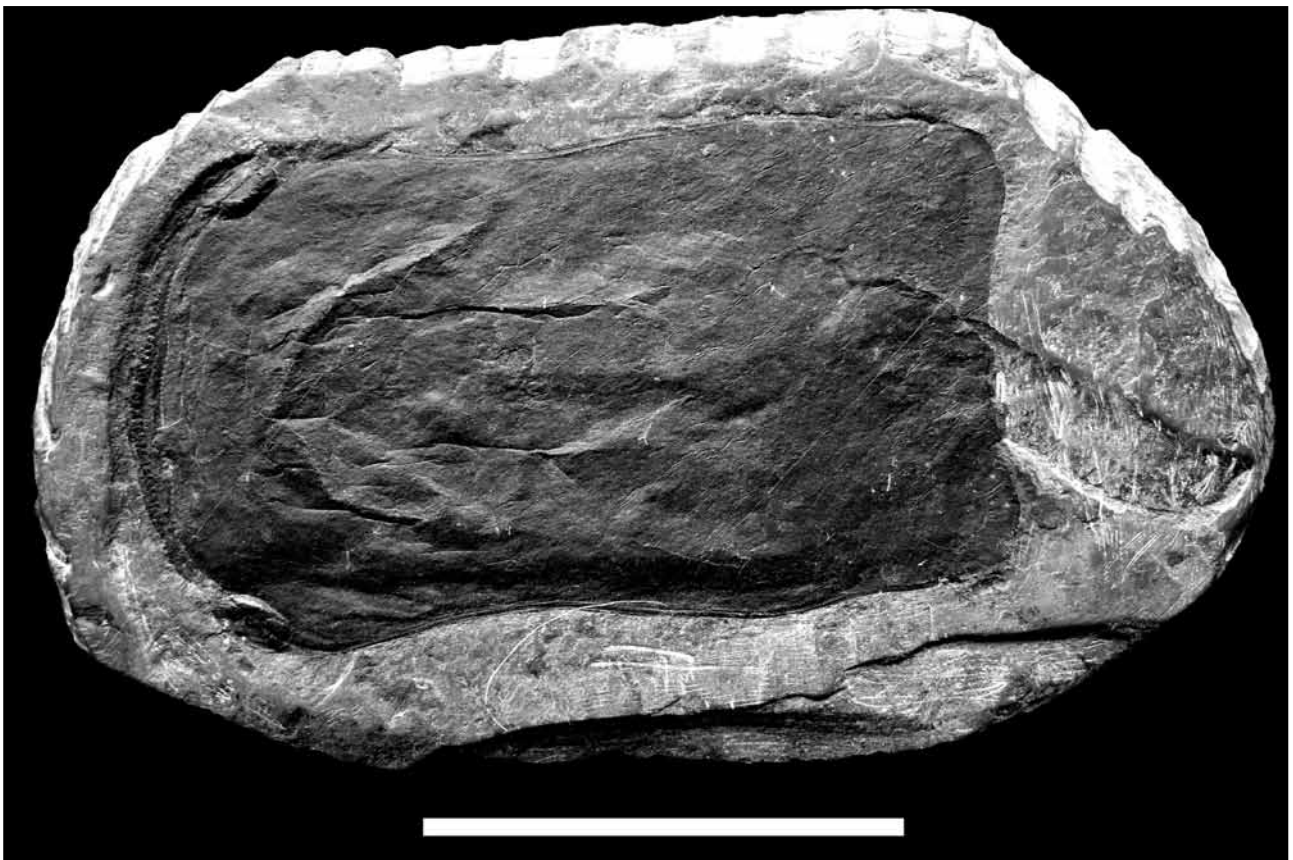


Figure 21. DONMG:ZG2325. *Slimonia acuminata*. Carapace showing the ornamentation of the marginal rim. Scale bar = 10 cm.

DONMG:ZG2326 - Figure 22. A second elongate carapace. Detail not well preserved, but similar to DONMG:ZG2325 and DONMG:ZG2327. Lateral eyes oval, anterior marginal rim broad. Muscle scars are located centrally at posterior third of carapace. The unusual pustular ornament across the front of DONMG:ZG2325 is also seen here. The length of the specimen measures 15.1 cm with a maximum width of 9 cm.

DONMG:ZG2327 - Figure 23. Poorly preserved long rectangular carapace, similar to DONMG:ZG2326. Both oval lateral eyes present, with broad anterior marginal rim preserving 2-3 rows of large pustules. The specimen measures 12.1 cm in length and 10 cm in width.

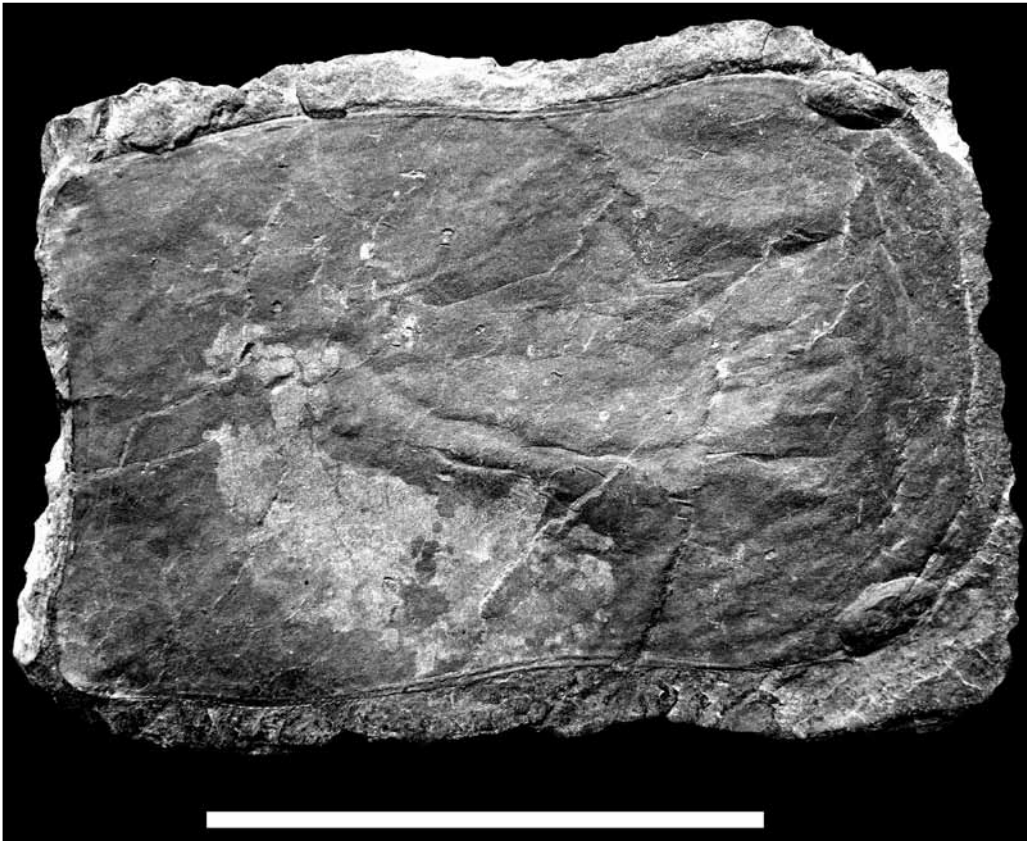


Figure 22.
DONMG:ZG2326.
Slimonia
acuminata. Isolated
carapace. Scale bar
= 10 cm.

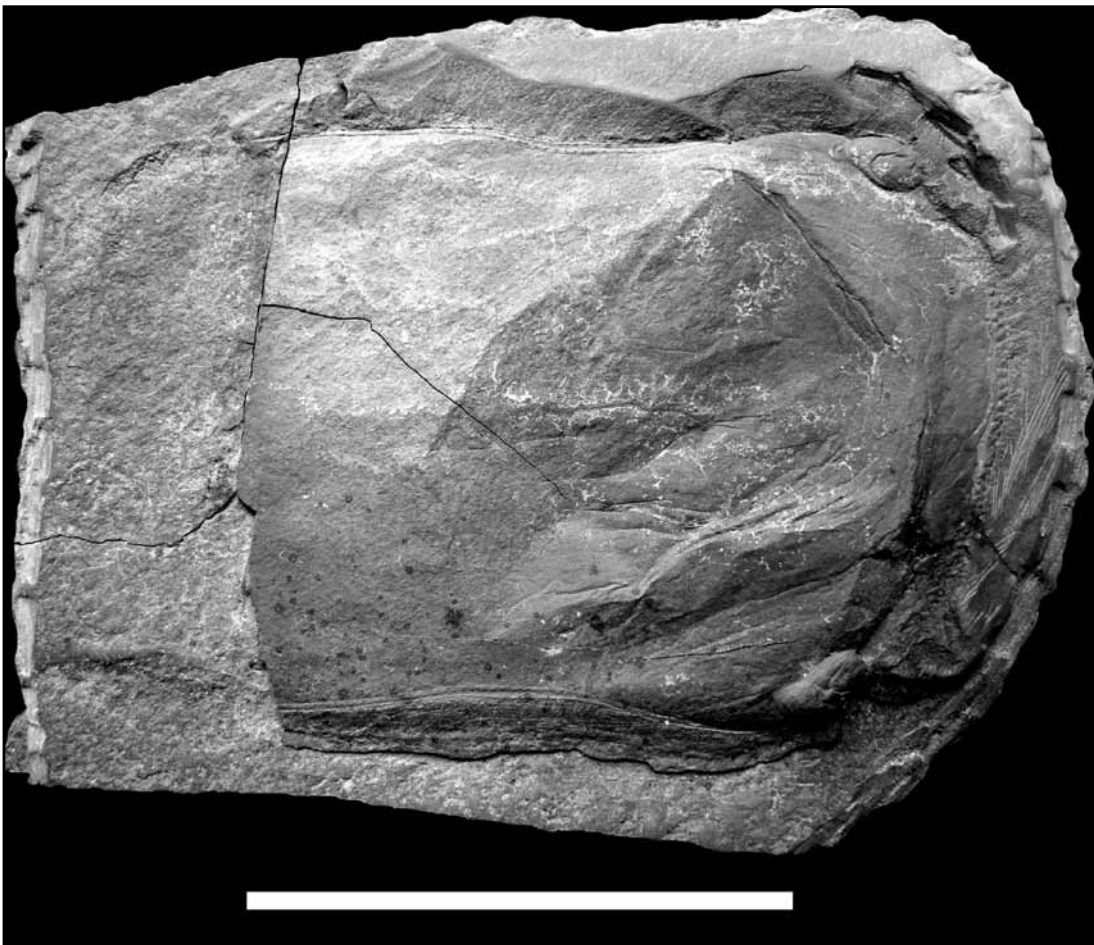


Figure 23. DONMG:ZG2327. Slimonia acuminata. Isolated carapace. Scale bar = 10 cm

Remarks

Like *E. bilobus*, *Slimonia acuminata* is in need of a modern re-description. Towards this, two structures of note have been recognised in the Doncaster specimens. The first, the rows of pustules on the anterior marginal rim, is a characteristic that appears unique to the genus (if not the species). Pustules can form the attachment points for setae, and a somewhat similar row of pustules was described fringing the marginal rim of *Drepanopterus abonensis*, which was described as an early sweep-feeder that may have used its marginal rim to shovel in the substrate in the hunt for prey (Lamsdell *et al.* 2009). Appendage pair II of *S. acuminata* is more gracile than the others and has been suggested to have had a tactile sensory function similar to the pedipalps of modern spiders; if the pustules of *Slimonia* did possess sensory setae they might have functioned with the pedipalps as a tactile sensory battery to aid in the identification and location of prey.

The presence of spatulae on DONMG:ZG2321 is also of interest as these structures have not been recognised on *Slimonia* previously despite the in-depth study of the genital appendage by Waterston (1960). This supports the notion of Caster and Kjellesvig-Waering (1964) that all eurypterids possess genital spatulae but that in most species the spatulae are small and folded dorsally above the operculum so as to be undetectable, with only a few species having hypertrophied spatulae that are regularly identified in the fossil record.

Conclusions

The rediscovery of the eurypterid specimens held in the palaeontology collection at Doncaster Museum and Art Gallery has enabled this preliminary discussion of each specimen and its relevant importance. The original donor, date of donation, locality information and specimen history were lost, however evaluation of the available information has allowed the majority of this data to be reconstructed. The eurypterids (and phyllocarids) were part of a large collection obtained by Dr Hunter-Selkirk in the mid to late 1800s, of which the majority were donated to the Dick Institute, most of which are still held there. The Dick Institute donated the eurypterid specimens discussed herein to Doncaster Museum in the 1960s. Although no written evidence was obtained, it was probably the year 1964, when the Doncaster Museum and Art Gallery first opened. The provenance of the eurypterids was previously dubious, however through comparison with collections at the Dick Institute it is clear the specimens primarily

derived from the famous Logan Water within the Lesmahagow inlier of Lanarkshire. This rediscovery is important to the Doncaster Museum and Art Gallery with respect to documenting the strengths of the collections and identifying specimens, and specifically for eurypterid researchers as the majority of the specimens are derived from an area that is mostly protected and where modern collecting is deemed nearly impossible. Most specimens are perfectly preserved; the completeness and excellent preservation of most of the eurypterids should make further research possible. On a final note, this study has allowed each specimen to be accessioned into Doncaster Museum's collection using the collection management system MODES.

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