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A SUPPLEMENTARY MONOGRAPH

OF THE

TERTIARY ENTOMOSTRACA

OF

ENGLAND.

BY

PROF. T. RUPERT JONES, F.R.S., F.G.S., &c.,

AND

C. DAVIES SHERBORN, F.G.S.

PAGES 1—55. PLATES I—III.



LONDON :

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A SUPPLEMENTAL MONOGRAPH
OF THE
TERTIARY ENTOMOSTRACA OF ENGLAND.

THE Tertiary Entomostraca (Ostracoda) of England, at first treated of in a Monograph for the Palæontographical Society in 1857, were revised by one of us in the 'Geological Magazine,' 1870, pp. 155—159. The researches of G. O. Sars and G. S. Brady, with D. Robertson and others, elucidating the relationships of the genera and species among recent forms, gave effect in a great degree to that revision; and their continued labours have further helped us.

Since the publication of the Revision, eighteen years ago, besides there being some additional corrections to be noticed, several new species have come to hand, late research in the fossiliferous deposits of Tertiary age having enabled our friends to add to the collections we have made for ourselves, so that the known English Tertiary forms are now upwards of one hundred in number. The British Post-Tertiary species are still more numerous.¹ Some of the latter were described in the Monograph for year 1855 (dated on title-page 1856, but issued in 1857), and what relates to them in the new researches is here noticed.

The notices and descriptions of revised and new forms will be arranged according to their alliances, and as far as possible in a Natural Order, in accordance with the grouping of genera adopted by Dr. G. S. Brady in his latest memoirs on recent Ostracoda.

¹ See the 'Monograph of the Post-Tertiary Entomostraca,' by Brady, Crosskey, and Robertson, Palæontographical Society, 1874.

LIST OF THE CYPRIDIDÆ IN THEIR NATURAL ORDER.

- Cypris, *Müller*, 1785.
 Chlamydotheca, *De Saussure*, 1858.
 Cypridea, *Bosquet*, 1852. (Fossil.)
 Cyprinotus, *Brady*, 1886.
 Cypridopsis, *Brady*, 1867.
 Potamocypris, *Brady*, 1870.
 Paracypris, *G. O. Sars*, 1865.
 Phlyctenophora, *Brady*, 1880.
 Aglaia, *Brady*, 1867.
 Notodromas, *Lilljeborg*, 1853.
 Argilloëcia, *G. O. Sars*, 1865.
 Candona, *Baird*, 1850.
 Pontocypris, *G. O. Sars*, 1865.
 Macrocypris, *Brady*, 1867.
 Bythocypris, *Brady*, 1880.
 Bairdia, *M'Coy*, 1844.

LIST OF THE CYPRIDIDÆ, OF FRESHWATER AND OF MARINE HABITATS RESPECTIVELY.

Freshwater Genera (sometimes Estuarine):

- Cypris, *Müller*, 1785.
 Chlamydotheca, *De Saussure*, 1858.
 Cyprinotus, *Brady*, 1886.
 Cypridopsis, *Brady*, 1867.
 Potamocypris, *Brady*, 1870.
 Notodromas, *Lilljeborg*, 1853.
 Candona, *Baird*, 1850.
 Cypridea, *Bosquet*, 1852. Fossil only.

Marine Genera:

- Paracypris, *G. O. Sars*, 1865.
 Phlyctenophora, *Brady*, 1880.
 Aglaia, *Brady*, 1867.
 Argilloëcia, *G. O. Sars*, 1865.
 Pontocypris, *G. O. Sars*, 1865.
 Macrocypris, *Brady*, 1867.
 Bythocypris, *Brady*, 1880.
 Bairdia, *M'Coy*, 1844.

DARWINULIDÆ, represented by the following freshwater genus:¹

Darwinula, *Brady & Robertson*, 1870 and 1885.

CYTHERIDÆ.—These are marine with very few exceptions.

¹ Possibly *Cyprione*, found in the Wealden strata ('Quart. Journ. Geol. Soc.' vol. xli, 1885, p. 344), belongs to this family.

LIST OF THE BRITISH TERTIARY (AND SOME POST-TERTIARY) OSTRACODA.

(The Illustrations referred to are in the SUPPLEMENT. Figures of the other species are in the MONOGRAPH.)

A. CYPRIDIDÆ.

I. CYPRIS, Müller.

- Page 9. 1. *Cypris Browniana*, Jones. Post-Tertiary and Pliocene.
 „ 1*. — — var. *tumida*, Jones. Post-Tertiary.
 „ 9. 2. — *lævis* (*olim* *C. ovum*), Müller. Post-Tertiary.
 „ 9. 3. — *gibba*, Ramdohr. Post-Tertiary, Pliocene, and Oligocene.
 „ 10. 4. — *reptans* (*olim* *Candona reptans*) (Baird). Post-Tertiary and Pliocene.

II. CYPRIDOPSIS, Brady & Robertson.

- Page 10. 1. *Cypridopsis vidua* (Müller). Post-Tertiary.
 „ 10. 2. — *obesa*, Brady & Robertson. Post-Tertiary and Pliocene.

III. POTAMOCYPRIS, Brady.

- Page 11. 1. *Potamocypris trigonalis*, Jones. Post-Tertiary and Pliocene.
 „ 11. 1*. — — var. *lævis*, Jones. Post-Tertiary and Pliocene.
 „ 11. 2. — *tuberculata*, Jones. Pliocene.
 „ 11. 3. — *Brodiei*, *sp. nov.* Oligocene. Woodcut, fig. 1.

IV. AGLAIA, Brady.

- Page 12. 1. ? *Aglaiia cypridoides*, Jones & Sherborn. Pliocene. Pl. III, figs. 2 *a, b, c.*

V. CANDONA, Baird.

- Page 12. 1. *Candona compressa* (*olim* *Cypris setigera*) (Koch). Post-Tertiary.
 „ 13. 2. — *candida*, Müller. Post-Tertiary and Pliocene.
 „ 13. 3. ? — *subæqualis*, Jones. Post-Tertiary.
 „ 13. 4. — *Forbesii*, Jones. Oligocene.
 „ 13. 5. — *Richardsoni*, Jones. Eocene (Woolwich and Croydon).

VI. CYPRIDEA, Bosquet.

- Page 14. 1. *Cypridea spinigera* (*olim* *Cytherideis? unicornis*) (Sowerby). Oligocene and Wealden. Pl. I, figs. 8—11; Pl. III, figs. 1 *a, b.*

VII. PONTOCYPRIS, *Sars*.

Page 16. 1. ?Pontocypris, sp. Oligocene. Pl. I, fig. 13 *a*.

VIII. BYTHOCYPRIS, *Brady*.

Page 16. 1. Bythocypris subreniformis, *Jones & Sherborn*. Eocene (Bracklesham). Pl. I, figs. 19 *a, b*.

IX. BAIRDIA, *M'Uoy*.

- Page 16. 1. Bairdia subdeltoidea (*Münster*). Eocene (Bracklesham) and Cretaceous. Pl. I, figs. 15 *a, b*.
- „ 17. 2. — sp. Pliocene.
- „ 17. 3. — sp. ? Eocene (Bracklesham).
- „ 17. 4. — subtrigona (*olim* subdeltoidea), *Bornem*. Eocene (London).
- „ 17. 5. — fusca (*olim* subdeltoidea), *Brady*. Pliocene.
- „ 17. 6. — contracta, *Jones*. Eocene (Barton).
- „ 17. 7. — Londinensis, *Jones & Sherborn*. Eocene (London). Pl. II, figs. 18 *a, b*.
- „ 18. 8. — rhomboidea, *Jones & Sherborn*. Pliocene. Pl. I, figs. 3, *a, b*.
- „ 18. 9. — ovoidea, *Jones & Sherborn*. Eocene (London). Pl. III, figs. 3 *a, b*.

B. DARWINULIDÆ.

X. DARWINULA, *Brady & Robertson*.

Page 18. 1. Darwinula Stevensoni, *Brady & Robertson*. Pliocene.

C. CYTHERIDÆ.

XI. CYTHERE, *Müller*.*a*. Subtriangular or peachstone forms.

- Page 19. 1. Cythere convexa (*olim* punctata), *Baird*. Pliocene.
- „ 19. 2. — trigonula, *Jones*. Pliocene.
- „ 19. 3. — striatopunctata, *Jones*. Oligocene and Eocene (Barton and Bracklesham).
- „ 20. 4. — Wetherelli, *Jones*. Oligocene and Eocene (Barton).

b. Oblong forms, with nearly uniform convexity; punctate or reticulate.

Page 20.	5.	<i>Cythere consobrina</i> , <i>Jones</i> .	Eocene (Barton).	Pl. III, figs. 4 <i>a, b</i> .
„ 20.	6.	— <i>venustula</i> , <i>Jones & Sherborn</i> .	Eocene (Bracklesham).	Pl. I, figs. 23 <i>a, b</i> .
„ 21.	7.	— <i>recurata</i> , <i>Jones & Sherborn</i> .	Pliocene.	Pl. I, fig. 1.
„ 21.	8.	— <i>amissa</i> (<i>olim Kostelensis</i>), <i>Jones</i> .	Eocene (Woolwich).	
„ 22.	9.	— <i>Charlesworthiana</i> , <i>J. & S.</i>	Pliocene.	Pl. III, fig. 10.
„ 22.	10.	— <i>angulatopora</i> (<i>Reuss</i>).	Eocene (New Forest).	Pl. III, figs. 15 <i>a, b, c</i> .
„ 22.	11.	— <i>Bosquetiana</i> (<i>olim angulatopora</i>).	<i>Jones & Sherborn</i> .	Oligocene and Eocene (New Forest). Pl. III, figs. 17 <i>a, b</i> .
„ 23.	12.	— <i>Reidii</i> , <i>Jones & Sherborn</i> .	Pliocene.	Pl. III, figs. 5 <i>a, b</i> .
„ 23.	13.	— <i>Woodiana</i> , <i>Jones</i> .	Pliocene.	
„ 23.	14.	— <i>laqueata</i> , <i>Jones</i> .	Pliocene.	
„ 23.	15.	— <i>macropora</i> , <i>Jones</i> .	Pliocene.	
„ 23.	16.	— <i>Woodwardiana</i> , <i>Jones & Sherborn</i> .	Pliocene.	Pl. III, figs. 14 <i>a, b</i> .

c. Oblong forms, with three elevations or slight swellings.

Page 23.	17.	<i>Cythere retifastigiata</i> , <i>Jones</i> .	Pliocene.	
„ 23.	17.*	— —	var. <i>æquior</i> , <i>nov.</i>	Pliocene. Pl. III, figs. 6 <i>a, b</i> .
„ 24.	18.	— <i>Harrisiana</i> (<i>olim interrupta</i>), <i>Jones</i> .	Eocene (London) and Cretaceous.	Woodcut, fig. 2.
„ 24.	19.	— <i>dictyosigma</i> , <i>Jones</i> .	Pliocene.	Pl. III, figs. 8 <i>a, b</i> .
„ 24.	20.	— <i>trachypora</i> , <i>Jones</i> .	Pliocene.	Pl. III, figs. 9 <i>a, b</i> .
„ 25.	21.	— <i>concinna</i> , <i>Jones</i> .	Post-Tertiary.	

d. Oblong forms, with more or less irregular elevations, mostly near the margins.

Page 25.	22.	<i>Cythere læsa</i> , <i>Jones & Sherborn</i> .	Pliocene.	Pl. III, figs. 13 <i>a, b, c</i> .
„ 25.	23.	— <i>villosa</i> , <i>Sars</i> .	Pliocene.	Pl. III, figs. 12 <i>a, b, c</i> .
„ 26.	23.*	— —	Var. <i>nov.</i>	Pliocene. Pl. I, figs. 4 <i>a, b</i> .
„ 26.	24.	— <i>lachrymalis</i> , <i>Jones & Sherborn</i> .	Pliocene.	Pl. III, figs. 7 <i>a, b</i> .
„ 26.	25.	— <i>baccata</i> , <i>sp. nov.</i>	Pliocene.	Pl. III, figs. 11 <i>a, b, c, d</i> .
„ 27.	26.	— <i>sublacunosa</i> (<i>olim lacunosa</i>), <i>Jones</i> .	Pliocene.	
„ 27.	27.	— <i>latimarginata</i> , <i>Speyer</i> .	Pliocene.	Pl. I, fig. 6.

e. Oblong forms, with pimply surface.

Page 27.	28.	<i>Cythere arenosa</i> , <i>Bosq.</i>	Var. <i>nov.</i>	Eocene (London). Pl. II, figs. 11 <i>a, b</i> .
„ 28.	29.	— <i>scabropapulosa</i> , <i>Jones</i> .	Eocene (Bracklesham and London).	Pl. II, fig. 16.
„ 28.	29.*	— —	var. <i>aculeata</i> , <i>Jones & Sherborn</i> .	Eocene (London). Pl. I, figs. 17 <i>a, b</i> .

f. Oblong forms, with longitudinal wrinkles or ridges.

Page 28.	30.	<i>Cythere delirata</i> , <i>Jones & Sherborn</i> . Oligocene. Pl. III, figs. 16 <i>a, b</i> .
„ 29.	31.	— <i>polyptycha</i> (<i>Reuss</i>). Var. <i>nov.</i> Pliocene. Pl. I, fig 5.
„ 29.	32.	— <i>plicata</i> , <i>Münster</i> . Var. <i>nov.</i> Oligocene and Eocene (Highcliff, Bracklesham, and London). Pl. I, fig. 18.
„ 30.	33.	— <i>costellata</i> (<i>Roemer</i>). Eocene (Bracklesham).
„ 30.	33.*	— — var. <i>triangulata</i> , <i>Jones & Sherborn</i> . Eocene (Bracklesham). Pl. I, fig. 21.
„ 30.	34.	— <i>gyriplicata</i> , <i>Jones & Sherborn</i> . Eocene (Bracklesham). Pl. I, figs. 17 <i>a, b</i> .

g. Oblong forms, with longitudinal ridges and reticulation.

Page 30.	35.	<i>Cythere scrobiculoplicata</i> , <i>Jones</i> . Eocene (Barton and London).
„ 30.	35.*	— — var. <i>recta</i> , <i>Jones</i> . Eocene (Woodhay).
„ 31.	36.	— <i>transenna</i> (<i>olim angulatopora partim</i>), <i>Jones & Sherborn</i> . Oligocene and Eocene (London) Pl. II, fig. 12.
„ 31.	37.	— <i>Forbesii</i> , <i>Jones & Sherborn</i> . Oligocene. Pl. III, figs. 18 <i>a, b</i> .

h. Subquadrate forms, with marginal ridges and central swelling; often reticulated.

XII. CYTHEREIS, *Jones*.

Page 32.	1.	<i>Cythereis corrugata</i> (<i>Reuss</i>). Var. <i>nov.</i> Oligocene. Pl. III, figs. 19 <i>a, b</i> .
„ 32.	2.	— <i>senilis</i> , <i>Jones</i> . Pliocene.
„ 32.	3.	— <i>Hoernesi</i> (<i>Speyer</i>). Pliocene. Pl. I, fig. 7.
„ 33.	4.	— <i>Prestwichiana</i> , <i>Jones & Sherborn</i> . Eocene (Whitecliff Bay). Pl. II, figs. 13, 14 <i>a, b</i> .
„ 33.	5.	— <i>aranaea</i> , <i>Jones & Sherborn</i> . Eocene (London). Pl. II, figs. 15 <i>a, b</i> .
„ 34.	6.	— <i>Bowerbankiana</i> , <i>Jones</i> . Eocene (London).
„ 34.	7.	— <i>horrescens</i> , <i>Jones</i> . Eocene (Highcliff and London).
„ 34.	8.	— <i>spiniferrina</i> (<i>olim spinossima</i>), <i>Jones & Sherborn</i> . Eocene (London). Woodcut, fig. 3.
„ 35.	9.	— <i>Jonesii</i> (<i>olim ceratoptera</i>), <i>Baird</i> . Pliocene.
„ 36.	10.	— <i>cornuta</i> (<i>Roemer</i>). Oligocene and Eocene (Bracklesham). Pl. I, fig. 22.
„ 36.	11.	— sp. Eocene (Thanet).

XIII. CYTHERIDEA, *Bosquet*.

Page 36.	1.	<i>Cytheridea torosa</i> , <i>Jones</i> . Post-Tertiary and Pliocene.
„ 36.	1.*	— — var. <i>teres</i> , <i>Brady & Robertson</i> . Post-Tertiary and Pliocene.
„ 37.	2.	— <i>Muelleri</i> (<i>Münster</i>). Oligocene and Eocene (Highcliff and Woolwich).

- Page 37. 2.**Cytheridea Muelleri*, var. *torosa*, *Jones*. Oligocene and Eocene (Woolwich).
- „ 37. 3. — *montosa*, *sp. nov.* Oligocene. Woodcut, fig. 4.
- „ 38. 4. — *debilis*, *Jones*. Oligocene and Eocene (Bracklesham). Pl. I, fig. 16.
- „ 38. 5. — *pinguis*, *Jones*. Pliocene.
- „ 38. 6. — *elongata*, *Brady*. Pliocene. Pl. III, figs. 20 *a, b*, 21, 22.
- „ 38. 7. — *Sorbyana*, *Jones*. Post-Tertiary.
- „ 39. 8. — *punctillata*, *Brady*. Post-Tertiary and Pliocene. Pl. I, fig. 2.
- „ 39. 9. — *perforata* (*Roemer*). Oligocene, Eocene (Barton), and Cretaceous. Pl. I, fig. 14.
- „ 39. 9.* — — var. *insignis*, *Jones*. Eocene (London).
- „ 39. 10. — *glabra*, *Jones*. Eocene (London).
- „ 40. 11. — *sp.* Eocene (Woolwich).
- „ 40. 12. ? — *barbata*, *Sowerby*. Eocene (Highgate).

XIV. KRITHE, *Brady, Crosskey, & Robertson.*

- Page 40. 1. *Krithe Bartonensis* (*Jones*). Post-Tertiary and Eocene (Barton and Highcliff).
- „ 41. 2. — *glacialis*, *Brady, Crosskey, & Robertson*. Post-Tertiary and Eocene (London).
- „ 41. 3. — *Londinensis*, *Jones & Sherborn*. Eocene (London). Pl. II, figs. 20 *a, b*.

XV. XESTOLEBERIS, *G. O. Sars.*

- Page 41. 1. *Xestoleberis Colwellensis*, *Jones & Sherborn*. Oligocene. Pl. I, figs. 13 *b, c*.
- „ 42. 2. — *aurantia* (*Baird*). Var. *nov.* Oligocene. Pl. III, figs. 23 *a, b*.

XVI. LOXOCONCHA, *G. O. Sars.*

- Page 42. 1. *Loxoconcha tamarindus*, *Jones*. Pliocene.

XVII. PSEUDOCYTHERE, *G. O. Sars.*

- Page 42. 1. *Pseudocythere attenuata*, *Jones*. Eocene (Barton).
- „ 43. 2. — *Bristovii*, *sp. nov.* Oligocene. Woodcut, fig. 5.

XVIII. CYTHERURA, *G. O. Sars.*

- Page 43. 1. *Cytherura Prestwichiana*, *Jones & Sherborn*. Eocene (Bracklesham). Pl. I, figs. 20 *a, b*.
- „ 44. 2. — *clathrata*, *Sars*. Pliocene. Pl. III, figs. 24 *a, b*.

XIX. CYTHEROPTERON, *G. O. Sars.*

- Page 44. 1. *Cytheropteron triangulare* (*Reuss*). Eocene (London) and Cretaceous (Europe). Pl. II, figs. 19 *a, b, c*.

XX. CYTHERIDEIS, *Jones*.

Page 45.	1.	Cytherideis Colwellensis, <i>Jones</i> .	Oligocene.
„ 45.	2.	— botellina, <i>Jones</i> .	Pliocene.
„ 45.	3.	-- sp.	Oligocene.
„ 45.	4.	· gracilis (<i>Reuss</i>).	Oligocene. Pl. I, fig. 12.
„ 46.	5. †	— unisulcata, <i>Jones</i> .	Oligocene.
„ 46.	6. †	ren, <i>Jones</i> .	Pliocene.

D. CYTHERELLIDÆ.

XXI. CYTHERELLA, *Jones & Bosquet*. (The figures in both Monograph and Supplement are quoted.)

Page 47.	1.	Cytherella compressa (<i>Münster</i>).	Eocene (London). Monogr., Pl. V, figs. 20, 23.
„ 47.	2.	— —	Var. Eocene (London). Monogr., Pl. V, fig. 19.
„ 47.	3.	— Muensteri (<i>Roemer</i>).	Oligocene and Eocene (Bracklesham). Suppl. Pl. II, fig. 10.
„ 47.	4.	— —	var. (smooth). Eocene (Bracklesham and Barton). Monogr., Pl. V, fig. 13.
„ 47.	5.	— —	var. rectipunctata, <i>Jones</i> . Eocene (Bracklesham). <i>Ibid.</i> , fig. 12.
„ 47.	6.	— Roemeri, <i>Jones & Sherborn</i> .	Eocene (Bracklesham). Suppl., Pl. II, figs. 3 a, b, c.
„ 47.	7.	— Reussii, <i>Jones & Sherborn</i> .	Eocene (Bracklesham). Suppl., Pl. II, figs. 4 and 8 a, b.
„ 47.	8.	— fabacca, <i>Bornemann</i> .	Eocene (London). Monogr., Pl. V, figs. 21, 23.
„ 47.	9.	— Dixoni, <i>Jones & Sherborn</i> .	Eocene (Bracklesham). Suppl., Pl. I, figs. 24 a, b, c.
„ 47.	10.	— —	sp. (Small.) Pliocene. Suppl., Pl. III, figs. 25 a, b.
„ 47.	11.	— Beyrichi (<i>Reuss</i>).	Eocene (London). Monogr., Pl. V, fig. 18.
„ 48.	12.	— —	var. 1, lævis, <i>Jones & Sherborn</i> . Eocene (Bracklesham). Suppl., Pl. II, figs. 1 a, b.
„ 48.	13.	— —	„ 2. } Eocene (Bracklesham) { <i>Ibid.</i> , figs. 2 a, b.
„ 48.	14.	— —	„ 3. } { <i>Ibid.</i> , figs. 5 a, b.
„ 48.	15.	— —	„ 4. } { <i>Ibid.</i> , figs. 6 a, b.
„ 48.	16.	— —	„ 5. } { <i>Ibid.</i> , figs. 7 a, b.
„ 48.	17.	— —	„ 6. } { <i>Ibid.</i> , figs. 9 a, b.
„ 48.	18.	— —	sp. (Small.) Oligocene.

I. CYPRIS, *Müller*, 1785.1. CYPRIS BROWNIANA, *Jones*, 1850.

CYPRIS BROWNIANA, *Jones*. Monogr. Tert. Entom., 1857, p. 13, pl. i, figs. 1 *a—e* ;
Geol. Mag., 1870, p. 158 ; and 1887, p. 459.

Besides the Post-Tertiary bed at Clacton, in Essex, the Uppermost Pliocene Unio-bed at Sidestrand has yielded this species (Mr. Clement Reid, F.G.S.). It has been quoted from the old land-drift at Chesilton, Portland.¹ (British Museum and Museum Practical Geology.)

Dr. G. S. Brady has lately received *C. Browniana* from Loch Fadd, near Rothesay. It is described and figured in Appendix F, No. XI, to the 'Fifth Annual Report of the Fishery Board for Scotland,' 1887, p. 333, Pl. XIX, figs. 3 and 4.

2. CYPRIS LÆVIS, *Müller*, 1785.

CYPRIS OVUM, *Jones* (non *Jurine*). Monogr. Tert. Entom., 1857, p. 14, pl. i,
figs. 4 *a, b*.

— LÆVIS, *Brady*. Trans. Linn. Soc., vol. xxvi, 1868, p. 374, pl. xxiv, figs. 21—26 ; *Jones*, Geol. Mag., 1870, p. 155 ; *Brady*, Cross-key, and *Robertson*, Monogr. Post-Tert. Entom., 1874, p. 126, pl. i, figs. 25—28 (with synonyms and references ; also localities).

This little *Cypris* is known as a recent and Post-Tertiary species. (Brit. Mus., &c.)

3. CYPRIS GIBBA, *Ramdohr*, 1808.

CYPRIS GIBBA, *F. A. Ramdohr*. Magaz. Gesellsch. Naturforsch. Berlin, 1808, Quartal ii, p. 91, t. 3, figs. 13, 14, 17 ; *Jones*, Monogr. Tert. Entom., 1857, p. 15, pl. i, figs. 3 *a—f* (see this reference for other synonyms) ; *Brady*, Trans. Linn. Soc., vol. xxvi, 1868, p. 369, pl. xxiv, figs. 47—54 ; *B., C., and R.*, Monogr. Post-Tert. Entom., 1874, p. 127, pl. xv, figs. 5, 6, with several Post-Tertiary localities for this species ; *Robertson*, Fauna of Scotland (Western), Nat. Hist. Soc. Glasgow, February, 1880, p. 16.

Also 'Geol. Mag.,' 1887, p. 459, where Mundesley and Sidestrand are additional localities. It occurs in the old land-drift at Chesilton, Portland (Prestwich). It has also been obtained by the Geological Survey from the Middle

Quart. Journ. Geol. Soc.,' vol. xxxi, p. 39.

Hamstead Beds of the Isle of Wight (Specimen, No. 4430, Borehole, No. 109, at Staples, near Newport, one of the trial-borings made in 1887).¹ This species is very common in the recent state. (Brit. Mus. and Mus. Pract. Geol.)

4. *CYPRIS REPTANS* (CANDONA, Baird, 1835).

CYPRIS REPTANS, G. S. Brady. Trans. Linn. Soc., vol. xxvi, 1868, p. 370 (for synonyms, &c.), pl. xxv, figs. 10—14; Jones, Geol. Mag., 1870, p. 158; Robertson, Fauna W. Scotl., 1880, p. 20.

This species was referred by Baird to *Candona*, but its pediform antennæ bear setæ long enough to give it the character of a *Cypris* rather than that of a *Candona*, and its second pair of jaws also approximate to those of *Cypris* (G. S. B.).

Localities additional to those given in the 'Monogr. Tert. Entom.' and 'Post-Tert. Entom.' are Mundesley and Sidestrand, and near Hitchin ('Geol. Mag., 1887, p. 459); also Barnwell, near Cambridge (Mrs. Hughes, *Ibid.*, 1888, p. 200). (British Museum, &c.)

II. *CYPRIDOPSIS*, Brady, 1867.²

1. *CYPRIDOPSIS VIDUA* (CYPRIS, Müller, 1785).

CYPRIDOPSIS VIDUA, Brady. Trans. Linn. Soc., vol. xxvi, 1868, p. 375, pl. xxiv, figs. 27—30, 46.

This common freshwater species occurs in a Post-Tertiary Chara-marl near Hitchin (W. Hill, jun., Esq., F.G.S.).

2. *CYPRIDOPSIS OBESA*, Brady & Robertson, 1869.

CYPRIDOPSIS OBESA, Brady, Crosskey & Robertson. Monogr. Post-Tert. Entom., 1874, p. 128, pl. i, figs. 1—4

This rather common species occurs at Mundesley and Sidestrand, as well as at the localities recorded elsewhere ('Geol. Mag.,' 1887, p. 459). (Mus. Pract. Geol.)

III. *POTAMOCYPRIS*, Brady, 1870.

This genus was instituted in 1870 by Dr. G. S. Brady in the 'Nat. Hist. Trans. Northumberland,' &c., vol. iii, p. 365. See also 'Monogr. Post-Tert. Entom.,' 1874, p. 129.

¹ See Note by Mr. C. Reid in the 'Geol. Mag.,' November, 1887, p. 510.

² 'Intellectual Observer,' September, 1867, vol. xii, p. 117.

Among other characters it has rather thick valves, and the right is larger than the left valve.

1. POTAMOCYPRIS TRIGONALIS, et var. LEVIS (*Cytherideis*, Jones, 1856).

CYTHERIDEIS TRIGONALIS, et var. LEVIS, Jones. Monogr. Tert. Entom., 1857,
p. 47, pl. ii, figs. 2 a—h.
POTAMOCYPRIS — — Jones & Sherborn. Geol. Mag., 1887,
p. 586.

Besides those mentioned in the ‘Monogr. Tert. Entom.,’ we have two examples of this species from Mr. Clement Reid’s collection,—one from the Norwich Crag at Bramerton,—and one from the Weybourn Crag at East Runton.¹ The latter specimen is the large and smooth form distinguished as *var. LEVIS*. (Brit. Mus. and Mus. Pract. Geol.)

2. POTAMOCYPRIS TUBERCOLATA (*Cytherideis*, Jones, ‘Monogr. Tert. Entom.,’ 1856, p. 47), from the Crag of Suffolk and Essex, is also to be noted as belonging to this genus. (British Museum.)

3. POTAMOCYPRIS BRODIEI, *sp. nov.* Woodcut, Fig. 1.

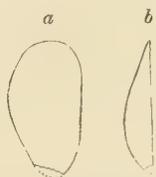


FIG. 1.—*Potamocypris Brodiei*, *sp. nov.* a. Right valve (slightly broken at the posterior margin).
b. Edge view. Magnified 20 diameters.

This very neat subtriangular valve, 1 mm. long, cream-coloured, and polished, is delicately punctate with exquisitely fine pittings. It is related to the recent

¹ Mr. Clement Reid, F.G.S., has given a detailed account of the Norfolk deposits in the ‘Mem. Geol. Survey: The Geology of the Country around Cromer,’ 1882. The Weybourn Crag is described at pp. 11—19; and the Entomostraca from that deposit are mentioned at p. 66. See also Prof. Prestwich’s ‘Memoir on the Crag Beds of Suffolk and Norfolk,’ ‘Quart. Journ. Geol. Soc.,’ vol. xxvii, p. 457, 460, &c.; and H. B. Woodward’s ‘Geology of England and Wales,’ 2nd edit., pp. 465—474, for Bramerton, Weybourn, &c. The Bramerton Crag is also treated of in H. B. Woodward’s ‘Geol. Surv. Mem.: The Geology of the Country around Norwich,’ 1881, pp. 33—55, 82, &c. The list of Ostracoda from Weybourn referred to above does not agree with our determination in all respects. Thus we have not found *Cythere tuberculata*, Sars, nor *C. pellucida*, Baird, among the specimens we have seen; and probably *C. concinna*, Jones, is represented by the set of the closely allied *C. angulata*, Sars, which we have met with. Other species in our series are not indicated in the printed list referred to.

and Pliocene *Potamocypris trigonalis* (*Cytherideis*, Jones, 'Monogr. Tert. Entom.,' p. 46, Pl. II, fig. 2), but is narrower (lower) in the posterior region—that is, it tapers more quickly with a strong slope along the postero-dorsal edge, herein somewhat resembling *P. tuberculata* (*Cytherideis*, Jones, *loc. cit.*).

The genus lives in fresh and brackish waters.

This specimen was collected (with some smaller specimens of possibly the same species) by the Rev. P. B. Brodie, M.A., F.G.S., from an Insect-bed in the marls above the Bembridge Limestone at Gurnet Bay.

IV. AGLAIA, *Brady*, 1867.¹

1. AGLAIA ? CYPRIDOIDES, *Jones & Sherborn*. Plate III, figs. 2 *a, b, c*.

AGLAIA ? CYPRIDOIDES, *Jones & Sherborn*. Geol. Mag., 1887, p. 386.

The genus *Aglaiia*, G. S. Brady, one of the *Cyprididae*, is here made to receive a fossil form on account of the similarity of shape and condition of the valves. The muscle-spot, however, is like that of *Bairdia*. Our example is from the Norwich Crag of Bramerton, and was collected by Mr. Clement Reid, F.G.S. It has the usual curved form, and is delicately pitted. It is too broad in shape for either *A. ? glacialis*, G. S. Brady, 'Post-Tert. Entom.,' p. 132, pl. xi, figs. 54—56; or *A. ? obtusata*, G. S. Brady, 'Report Challenger Ostrac.,' p. 35, pl. xxx, fig. 8. (Mus. Pract. Geol.)

V. CANDONA, *Baird*, 1850.

1. CANDONA COMPRESSA (*Koch*).

CYPRIS SETIGERA, *Jones*. Monogr. Tert. Entom., 1857, p. 12, pl. i, fig. 6.

CANDONA COMPRESSA (*Koch*). Brady, Trans. Linn. Soc., vol. xxvi, 1868, p. 382;
Jones, Geol. Mag., 1870, p. 155; 1888, p. 199.

CYPRIS INCONGRUENS, *Ramd*. Geol. Mag., 1887, p. 386.

To the localities of Berkshire and Cambridgeshire mentioned in the Monographs of 1857 and 1874, we have to add the Valley-drift of Fisherton, at Salisbury (Dr. Blackmore's collection), the old land-drift at Chesilton, Portland (Prestwich), the Chara-marl near Hitchin (Hill), and the gravels at Barnwell, near Cambridge (Mrs. Hughes). (British Museum, &c.)

¹ 'Les Fonds de la Mer,' vol. i, p. 90.

2. *CANDONA CANDIDA* (Müller, 1785).

CANDONA CANDIDA, Jones. Monogr. Tert. Entom., 1857, p. 19, pl. i, figs. 8 *a-f*;
and figs. 5 *a, b* (figured upside down), var. *tumida*,
B., C., and R., Monogr. Post-Tert. Entom., p. 136,
pl. ii, figs. 29, 30.

To the localities recorded in the Monographs of 1857 and 1874, we have to add Mundesley, Sidestrand, and near Hitchin ('Geol. Mag.,' 1887, p. 459); also the old land-drift at Chesilton (Prestwich), the peat-bed at Tilbury, Essex (Mr. Spurrell); and Barnwell, near Cambridge (Mrs. Hughes, 'Geol. Mag.,' 1888, p. 200). (Mus. Pract. Geol., &c.)

3. ? *CANDONA SUBÆQUALIS*, Jones, 1857. 'Monogr. Tert. Entom.,' p. 20, pl. i, fig. 9.

This Post-Tertiary form, from Copford, remains as before. (Brit. Mus.)

4. *CANDONA FORBESII*, Jones, 1856.

CANDONA FORBESII, Jones. Mem. Geol. Surv., 1856, p. 157, pl. vii, fig. 22; and
Monogr. Tert. Entom., 1857, p. 18, pl. iv, figs. 8,
9, 11.

This form is nearly allied in general appearance to the recent *Cypris* (*Candona*) *reptans*, Baird. It occurs in the shales of the Upper, Middle, and Lower Hamstead series at Hamstead Cliff, and in better preservation in the pyritous bands of that series. It has been found in the Middle Hamstead Beds at Parkhurst Forest (Borehole, No. 32), Isle of Wight; also in the shales of the Osborne series at Cliff End, Colwell Bay. Mr. F. E. Edwards met with it in the cliffs at Hordwell. (Mus. Pract. Geol., and Brit. Mus.)

This is the species referred to by Prof. Prestwich, 'Report British Association' for 1846, 'Trans. Sect.,' p. 56, as occurring at "Hampstead Cliff, one and a half miles east of Yarmouth;" and remains still in his collection. It is also probably the species noticed in a freshwater-bed of Hordwell Cliff, Hampshire, by Sir C. Lyell ('Trans. Geol. Soc.,' ser. 2, vol. ii, 1829, p. 291).

5. *CANDONA RICHARDSONI*, Jones, 1857.

CANDONA RICHARDSONI, Jones. Monogr. Tert. Entom., p. 18, pl. iv, figs. 12 *a, b*.

Another locality for this species is the Woolwich-and-Reading beds of the Railway-cutting near Croydon. See Mr. Klaasen's paper "On a Section at Park Hill, Croydon," 'Proc. Geol. Assoc.,' vol. viii, 1884, p. 241.

This species, and *Candona Forbesii*, were referred to the genus *Candona* on

account of their general likeness to "*Candona reptans*," which has since then been transferred to *Cypris* on account of some slight differences in the limbs. This doubt as to their generic relationship was indicated in the 'Geol. Mag.,' 1870, p. 158, but it is not yet strong enough to lead us to alter the present arrangement. (British Museum.)

VI. CYPRIDEA, *Bosquet*, 1852.

This genus is described at large in the 'Quart. Journ. Geol. Soc.,' vol. xli (1885), p. 336. Remarks on the possible alliance existing between *Cypridea* and *Chlamydotheca* have been made by G. S. Brady, in the 'Proceed. Zool. Soc. Lond.,' 1886, p. 90; and in the 'Journ. Linn. Soc.,' vol. xix (1886), pp. 200, 201.

In the early days of geology, naturalists could offer only *Cythere* and *Cypris* for recent analogues of the fossil Entomostraca, since recognised as Ostracoda; *Cypris* being taken as the type for freshwater, and *Cythere* for marine, forms. Hence the Ostracoda of the Weald Clay were called *Cyprides*, and, when differentiated, *Bosquet* gave them the name of *Cypridea*. We have now found such forms in the Tertiary Beds of the Isle of Wight. We know nothing of the soft parts; their shell-structure need not remove them from the *Cyprididæ*, and we place them after *Candona*, in the freshwater series (p. 2), although in their shell-structure they have some relationship with *Chlamydotheca*, which is closely allied to *Cypris* anatomically.

1. CYPRIDEA SPINIGERA (*Sowerby*, 1836). Plate I, figs. 8—11; and Plate III, figs. 1 *a*, *b*.

CYPRIS SPINIGERA, *Sow.* In *Fitton's Memoir 'On the Strata below the Chalk,'* Trans. Geol. Soc., ser. 2, vol. iv, 1836, p. 345, pl. xxi, fig. 3.

CYPRIDEA — *Jones.* In *Morris's Catal. Brit. Foss.*, 1854, p. 104.

CYTHERIDEIS UNICORNIS, *Jones.* Mem. Geol. Surv., 1856, p. 158, pl. vii, figs. 24—26; Monogr. Tert. Entom., 1857, p. 48; and *Cytherideis? unicornis*, *Jones*, Geol. Mag., 1870, pp. 157, 159.

CYPRIDEA SPINIGERA, *Jones.* Quart. Journ. Geol. Soc., vol. xli, 1885, pp. 316, 333, and 334.

— — *Jones & Sherborn.* Geol. Mag., 1887, p. 386.

This is referred to 'Quart. Journ. Geol. Soc.,' *loc. cit.*, as a species common in the upper part of the Weald Clay at Compton Bay, Atherfield, and Sandown, in the Isle of Wight, and as occurring in other Wealden Beds, but more rarely, in Sussex and Surrey.

We now find that it occurs abundantly in Tertiary beds at Hamstead Cliff, in the Isle of Wight. Specimens, young or imperfect, from this locality were described and figured in the 'Geological Survey Memoir on the Isle of Wight,' 1856, under the name of *Cytherideis unicornis*, as a sub-reniform Ostracod, sulcate and tuberculate when young, but with a sharp spine on each valve when adult (see also 'Monogr. Tert. Entom.,' p. 48). Careful examination of a further series of specimens leaves no doubt that it is the same species as that found in the Wealden beds. The Hamstead specimens are not so well preserved as those in the Wealden Clays, nor are they so abundant; but with the many individuals that have come under our notice, we have been able to match old and young perfect examples from the Tertiary and Wealden formations.

The Tertiary specimens of this species are very plentiful in a crushed state on the laminae of a dark-grey marl ("D 6" of the Geol. Survey) in the Lower Hamstead series, Hamstead Cliff. (Mus. Pract. Geol.)

Description of CYPRIDEA SPINIGERA.

Length 1 mm.

Valves obovate, or more generally subtriangularly obovate, varying in the protuberance of the anterior hinge-joint, which is usually strongly marked and angular. Front and hind margins unequally rounded; the anterior broadly rounded, and with a strong notch and beak; the posterior contracted. Valves slightly convex; edge view narrow-oval, with its outline broken by the spines. Surface usually strongly punctate all over, but sometimes nearly smooth. A short and blunt but distinct spine is present in mature specimens on the postero-dorsal region of each valve (Pl. I, figs. 8—11.). In immature specimens (Pl. III, figs. 1 *a*, Tertiary, and 1 *b*, Wealden) the dorsal region has one or more small knobs with transverse sulci, the spine being undeveloped.

The right valve is the largest, its ventral edge overlapping that of the left valve. (In Pl. I, fig. 8, the valves have been modified and misplaced by pressure.)

Note.—This curious species, or one very much like it, has turned up in a specimen given to me by the late Dr. Mantell as coming from the Oxford Clay of Wiltshire, and also in a piece of the Oxford Clay of Skye, collected by Messrs. Geikie and Young, and there associated with *Estheria*. If its freshwater habitat in the Hamstead series be a criterion, and if these other specimens prove trustworthy, it points to more freshwater or estuarine conditions in the Oxfordian series than are usually thought of.—T. R. J.

VII. PONTOCYPRIS, *G. O. Sars*, 1865.1. PONTOCYPRIS (?), sp. Plate I, fig. 13 *a*.

A single, small, pitted valve, of uncertain alliance, but approximately like some members of the genus *Pontocypris*, *G. O. Sars*, occurs in a collection from the Tertiary beds at Colwell Bay, 'Geol. Mag.,' 1887, p. 387. (British Museum.)

VIII. BYTHOCYPRIS, *Brady*, 1880.1. BYTHOCYPRIS SUBRENIFORMIS, *Jones & Sherborn*. Plate I, figs. 19 *a*, *b*.

BYTHOCYPRIS SUBRENIFORMIS, *Jones & Sherborn*. Geol. Mag., 1887, p. 387.

In the genus *Bythocypris*, determined by *G. S. Brady*, 'Report Challenger Ostrac.,' p. 45, the left valve is described as much larger than the right, and overlapping it above and below. In this character, and other features, a specimen from the "Belosepia-bed" at Bracklesham (British Museum¹) coincides. It approaches *Cytherina abbreviata*, *Reuss*, 'Haidinger's Nat. Abh.,' vol. iii, p. 52, pl. viii, fig. 10; but it is too short and too high, and is not so truly reniform. It has, however, the usual kidney-shape, and is also near *B. reniformis*, *G. S. Brady*, 'Report Challenger Ostrac.,' p. 46, pl. v, fig. 1; but this figured form is too short, and more incurved on the ventral edge than is our specimen.

IX. BAIRDIA, *M'Coy*, 1844.1. BAIRDIA SUBDELTOIDEA (*Münster*). Plate I, figs. 15 *a*, *b*.

CYHERE SUBDELTOIDEA, *Münster*. Jahrbuch für Min., &c., 1830, p. 64; and 1835, p. 446.

BAIRDIA SUBDELTOIDEA, *Jones & Sherborn*. Geol. Mag., 1887, p. 387. For synonyms see Monogr. Tert. Entom., p. 52.

As mentioned in the 'Geological Magazine' for 1870, p. 157, the little *Bairdia* from the Sutton Crag ('Monogr. Tert. Entom.,' 1857, p. 52, pl. iv, fig. 2) may be

¹ This and other Ostracoda from Bracklesham were presented by Professor Judd, F.R.S., to the British Museum in June, 1888.

B. fusca, G. S. Brady, 'Trans. Zool. Soc.' vol. v, p. 364, pl. lvii, fig. 9 (from Australia); and the fine species from the London Clay ('Monogr.,' p. 52, pl. vi, figs. 1 and 2), though like Brady's *B. formosa* ('Ann. Mag. Nat. Hist.,' ser. 4, vol. iii, p. 221, pl. 14, figs. 5—7, from Tenedos), is probably *B. subtrigona*, Bornemann ('Zeitschr. deutsch. geol. Ges.,' vol. vii, p. 357, pl. xx, fig. 4), from the Oligocene Septarium-clay of Hermsdorf.

We have now seen from the Belosepia-bed of Bracklesham (British Museum) a very fine example of the real *B. subdeltoidea*, which we have compared with authentic specimens (from Osnabrück) sent by Count Münster to London many years ago.

2. The very small *Bairdia* ('Monogr.,' *loc cit.*, fig. 3), from the Red Crag is difficult of determination.

3. With the Bracklesham specimen is a smaller individual, relatively thicker and rounder; it may belong to a different species, but for the present we leave it as a probable variety.

4. BAIRDIA SUBTRIGONA, *Bornemann*.

- BAIRDIA SUBTRIGONA, *Bornemann*. Zeitschr. d. g. Ges., vol. vii, 1855, p. 357, pl. xx, fig. 4.
 — SUBDELTOIDEA, *Jones*. Monogr. Tert. Entom., 1857, p. 52, pl. vi, figs. 1, 2.
 — SUBTRIGONA, *Bornemann*. Jones, Geol. Mag., 1870, pp. 157, 159; 1887, p. 387, pl. xi, fig. 1.

This specimen from the London Clay (British Museum) is referred to above in our note on *B. subdeltoidea*, as belonging to Bornemann's *B. subtrigona*.

5 and 6. BAIRDIA FUSCA, *Brady* (see above); and BAIRDIA CONTRACTA, *Jones*. These follow next in order. (British Museum.)

7. BAIRDIA LONDINENSIS, *Jones & Sherborn*. Plate II, figs. 18 *a, b*.

- BAIRDIA LONDINENSIS, *Jones & Sherborn*. Geol. Mag., 1887, p. 387, pl. xi, fig. 2.

This is a small neat *Bairdia*, of a not unusual form, but not exactly matching in shape any species known to us; it is, moreover, denticulated at the end margins, and punctate all over with very distinct, roundish, close-set pits. This valve is stained with numerous bright-orange iron spots, which possibly may be due to traces of the original colouring of the shell.

From the London Clay of Piccadilly, London; collected by Messrs. Sherborn and Chapman.¹ (British Museum.)

8. BAIRDIA RHOMBOIDEA, *Jones & Sherborn*. Plate I, figs. 3 *a, b, c*.

BAIRDIA RHOMBOIDEA, *Jones & Sherborn*. Geol. Mag., 1887, p. 388.

A stiff-looking *Bairdia*, broadly angular in front, nearly parallel above and below; narrow behind, with a curve on the ventral, and a slope on the dorsal edge of this end. The antero-ventral margin is suddenly nipped in, leaving a projection behind the antero-ventral slope. The surface is very delicately punctate.

From the White Crag of Sutton, Suffolk. (British Museum.)

9. BAIRDIA OVOIDEA, *Jones & Sherborn*. Plate III, figs 3 *a, b*.

BAIRDIA OVOIDEA, *Jones & Sherborn*. Geol. Mag., 1887, p. 388, pl. xi, fig. 3.

A very small roundish *Bairdia*, triangularly obovate, pitted, rosetted at the muscle-spot, with a rather unusual subcircular pattern. The valve is somewhat like fig. 2, pl. iv, 'Monogr. Tert. Entom.,' but much less of a subdeltoidal shape, being well rounded on the anteroventral margin, and curved without any angle behind; both ends are somewhat obliquely rounded; the anterior half of the valve is broader (higher) than the hinder portion.

From the London Clay of Piccadilly, London. Collected by Messrs. Sherborn and Chapman. (British Museum.)

X. DARWINULA² (*Darwinella*), *Brady & Robertson*, 1870 and 1885.

1. DARWINULA STEVENSONI, *Brady & Robertson*.

DARWINELLA STEVENSONI, *Brady & Robertson*. Monogr. Post-Tert. Foram., 1874, p. 141, pl. ii, figs. 13—17.

This species belongs to the brackish water of tidal rivers, and has been found in the Forest-bed series of Norfolk, at Mundesley, by Mr. Clement Reid, F.G.S. See 'Geol. Mag.,' 1887, p. 459. (Museum Practical Geology.)

¹ In the 'Journ. Roy. Microsc. Soc.,' ser. ii, vol. vi, p. 740, this specimen was doubtfully collated with Sowerby's *Cythere barbata* ('Trans. Geol. Soc.,' ser. 2, vol. v, 1834, p. 131, pl. ix, fig. 1), but this latter was probably a *Cytheridea*. See 'Monogr. Tert. Entom.,' 1857, p. 61, *footnote*.

² The generic name has been changed, owing to priority of use, from *Polycheles* to *Darwinella* and *Darwinula* (see 'Quart. Journ. Geol. Soc.,' vol. xli, 1885, p. 346).

XI. CYTHERE, Müller, 1875.

Valves unequal (left valve usually somewhat larger than the right), oblong-ovate to quadrate in shape, smooth or rough, mostly highest in front; hinge with teeth and sockets at anterior and posterior angles, variously developed.

The quadrate and rough forms have been classed as *Cythereis* ('Monogr. Cretac. Entom.,' 1849, p. 14); and, although this group will not hold its own as a true genus, Dr. G. S. Brady having shown that the animals do not sufficiently differ from other *Cytherea*,¹ yet it is a very convenient grouping for palæontologists, who have for study only the valves of these small fossil Crustacea.

1. CYTHERE CONVEXA, Baird.

- CYTHERE PUNCTATA (non Münster). Jones, Monogr. Tert. Entom., 1857, p. 24, pl. ii, figs. 5 a—h; Geol. Mag., 1870, p. 156.
 — CONVEXA, Baird. Brady, Trans. Linn. Soc., 1868, p. 401, pl. xxix, figs. 19—27, and pl. xxxix, fig. 4; Brady, Crosskey, and Robertson, Monogr. Post-Tert. Entom., 1874, p. 150, pl. iii, figs. 14—17.

Owing to the poorness of the published figures of the German specimens, Dr. G. S. Brady is unwilling to accept Münster's appellation for the *Cythere* represented in the Monograph under the name of "*punctata*," and refers it ('Trans. Linn. Soc.,' 1868, p. 401) to *Cythere convexa*, Baird. Fig. 5 a (broken posteriorly) differs, however, from the usual *C. convexa* in its concentrically ridged anterior region and its very coarse punctation. (British Museum.) *Cypridina punctatella*, Reuss (*Cythere punctatella*, Bosq.), referred to in the synonymy at p. 24 of the 'Monograph Tert. Entom.,' belongs to *Loxocoucha*, according to Dr. Brady.

2. *C. TRIGONULA*, Jones, 1856, from the Crag, is the next in order. (British Museum.)

3. CYTHERE STRIATOPUNCTATA, Jones.

- CYTHERE STRIATOPUNCTATA, Jones. Monogr. Tert. Entom., 1857, p. 27, pl. v, figs. 6, 7, 10.

This species has been found at the base of the Barton Clay at Alum Bay, in the Bed "No. 29" of Prof. Prestwich's section ('Quart. Journ. Geol. Soc.,' vol. ii,

¹ 'Trans. Linn. Soc.,' vol. xxvi, p. 395.

p. 257, pl. ix), with *Nannulites elegans*, Sow. (*N. Wemmelsensis*, var. *Prestwichiana*); it is abundant in the Barton Clay at Barton and Highcliff. It occurs also at Colwell Bay and Bracklesham. (British Museum.)

4. CYTHERE WETHERELLI, Jones.

- CYTHERE WETHERELLI, Jones. Quart. Journ. Geol. Soc., vol. x, 1854, p. 161, pl. iii, fig. 9; Monogr. Tert. Entom., 1857, p. 27, pl. iv, fig. 6; Brady, Trans. Zool. Soc., vol. x, 1878, p. 390, pl. lxiv, figs. 7 a—d.
 LOXOCOONCHA — — Geol. Mag., 1870, pp. 156 and 158.

This has somewhat of the shape and profile of a *Loxocooncha*. Its hinge is almost the same as that referred to *Cyprideis* in the 'Monogr. Tert. Entom.,' p. 21, but modifications of such a hingement are found also in both *Cythere* and *Cytheridea*; it cannot, therefore, be taken as a differential character.

This neat and delicate species is not uncommon in the Tertiary Sands (Heaton Series) of Colwell Bay, and in an oyster-band of this formation at the same locality. It has been found also at Barton. (British Museum.) It is rare in the Antwerp Crag.

5. CYTHERE CONSOBRINA, Jones. Plate III, figs. 4 a, b.

- CYTHERE CONSOBRINA, Jones. Monogr. Tert. Entom., 1857, p. 27.

This form, from the Barton Clay, described but not figured in the Monograph of 1857, is now figured from the original specimen preserved in the British Museum. We may remark that its supposed alliance to *C. attenuata* (*Ibid.*, p. 28) does not hold good; the latter is a *Pseudocythere*.

6. CYTHERE VENUSTULA, Jones & Sherborn. Plate I, figs. 23 a, b.

- CYTHERE VENUSTULA, Jones & Sherborn. Geol. Mag., 1887, p. 388.

Oblong, rounded at the ends, broadly oblique in front, semicircular behind; straight on the ventral, oblique dorsally by the swelling of the anterior hinge-joint. Depressed on the front half, but more convex behind. Surface ornamented with a neat open network of delicate meshes, lying obliquely from the postero-dorsal to the antero-ventral region.

From the Belosepia-bed at Bracklesham. (British Museum.)

7. CYTHERE RECURATA,¹ *Jones & Sherborn*. Plate I, fig. 1.

CYTHERE RECURATA, *Jones & Sherborn*. Geol. Mag., 1887, p. 388.

Oblong-reniform, nearly equal at the ends in the outline, but thickest posteriorly, as seen in edge view. Approximating to fig. 7 *g* of G. S. Brady's *C. demissa*, in pl. xii of the 'Report Challenger Ostracoda,' but more even in outline. Coarsely punctate; the pits somewhat in lines, but with a tendency to assume a concentric arrangement on the front half of the valve. There are others of the same outline, but differing in the ornament.

From the "Norwich Crag" of Southwold. (British Museum.)

8. CYTHERE ? AMISSA, *Jones*.

CYTHERE KOSTELENSIS (non *Reuss*). *Jones*, Q. J. G. S., vol. x, 1854, p. 161, pl. iii, fig. 10; *Monogr. Tert. Entom.*, 1857, p. 28, pl. vi, figs. 14 *a, b*.

— AMISSA, *Jones*. Geol. Mag., 1870, p. 156.

The doubt with which this was referred to *Reuss*' *C. Kosteleusis* was confirmed when a better figure of that species was published by *Egger* ('*Neues Jahrb., &c.*,' 1858, p. 429, pl. iv, fig. 4. The Woolwich specimen was named *C. amissa* in 1870. Its generic relationship is somewhat doubtful. (British Museum.)

9. CYTHERE CHARLESWORTHIANA, *Jones & Sherborn*. Plate III, fig. 10.

CYTHERE CHARLESWORTHIANA, *Jones & Sherborn*. Geol. Mag., 1887, p. 390.

A neat small *Cythere*, oblong, with front end rather obliquely rounded, and the posterior nearly square. Ventral edge slightly incurved, dorsal faintly arched. Broadest at the anterior third near the front hinge-joint. Surface ornamented with very delicate elongate pits, arranged in lines lengthwise, but curving in front, parallel with the margin. The anterior margin is neatly denticulate, especially on its dorsal third. This differs from our *Cythere recurata* in being truncated posteriorly, broader and denticulated in front, and also in its ornament. The form nearest to this that we know of is *C. tenera*, G. S. Brady, '*Trans. Linn. Soc.*,' vol. xxvi, p. 399, pl. xxviii, figs. 29—32; but in shape and ornament it differs.

From the Weybourn Crag of East Runton, collected by Mr. Clement Reid, F.G.S. (Museum Practical Geology.)

¹ "Finished in a workman-like manner."

In memory of his early researches in the Crag, we name this species after Mr. Edward Charlesworth, F.G.S.

10. *CYTHERE ANGULATOPORA* (*Reuss*). Plate III, figs. 15 *a, b, c*.

CYPRIDINA ANGULATOPORA, *Reuss*. Haidinger's Nat. Abth., vol. iii, 1854, p. 86,
pl. x, fig. 32.

CYTHERE — *Jones & Sherborn*. Geol. Mag., 1887, p. 450.

An oblong valve, with parallel dorsal and ventral margins, and rounded ends. Surface with numerous small, more or less angular pits, arranged in parallel rows. A series of pits, almost independent of the other ornament, follows the semicircular outline of the anterior end, just within the margin. The hinder margin is oblique and toothed. A single valve, associated with *Nummulites elegans*, in a bed regarded as at the bottom of the Barton, or the top of the Bracklesham series, Hunting Bridge, New Forest, was collected by Mr. Keeping. (British Museum.)

The specimens figured and described as *C. angulatopora* in the 'Monogr. Tert. Entom.,' 1857, p. 34, are not referable to that species. Figs. 17 and 18 of pl. iv correspond with the form to which we have given the name *C. transenna* (p. 31); and fig. 18, pl. vi, figured by Bosquet (we think, erroneously) as *C. angulatopora* of Reuss, we now regard also as a new species, and have named it *C. Bosquetiana* (see below).

11. *CYTHERE BOSQUETIANA*, *Jones & Sherborn*. Plate III, figs. 17 *a, b, c*.

CYTHERE ANGULATOPORA (non *Reuss*). Bosquet, Mém. Couronnés, &c., Entom.
Tertiair., 1852, p. 68, pl. iii, fig. 5.

— — — Jones, Monogr. Tert. Entom., 1857, p. 34,
pl. vi, fig. 18 (only).

— *BOSQUETIANA*, *Jones & Sherborn*. Geol. Mag., 1887, p. 451.

One of the oblong species of *Cythere*, with rounded ends, well-marked hinges, and convex valves, ornamented with a strong reticulation, the longitudinal meshes of which are stronger than the transverse. Just in front of the centre of the valve the meshes show an inclination to assume a concentric arrangement. These features are strongly marked in fig. 18, pl. vi, of the 'Monogr.,' 1857.

The specimen figured in 1857 was from a Tertiary bed at Colwell Bay (rare), and was re-named in 1887. One valve, occurring with *Nummulites elegans*, in the uppermost bed of the Bracklesham series, or lowest Barton, at Hunting Bridge, New Forest, has been collected by Mr. Keeping. (British Museum.)

12. CYTHERE REIDII, *Jones & Sherborn*. Plate III, figs. 5 *a, b*.

CYTHERE REIDII, *Jones & Sherborn*. Geol. Mag., 1887, p. 389.

Valves suboblong, obliquely rounded at the ends, broader in front than behind, straight on the back, slightly sinuous below, nearly flat; rising into a median knob in the anterior third. Surface covered with very coarse punctation, making a rough reticulation. The nearest published species appears to be *Cythereis tuberculata*, Sars, as figured by G. S. Brady, 'Trans. Linn. Soc.,' vol. xxvi, p. 406, pl. xxx, figs. 25—29.

Our species is named after Mr. Clement Reid, F.G.S., who collected this and many other previously undescribed Ostracoda from the Crag Beds of Norfolk.

From the Weybourn Crag of East Runton. (Museum of Practical Geology)

13, 14, 15. CYTHERE WOODIANA, LAQUEATA, and MACROPORA.

These ('Monograph,' 1857) succeed here in the order of their shape and general relationship. (British Museum.)

16. CYTHERE WOODWARDIANA, *Jones & Sherborn*. Plate III, figs. 14 *a, b*.

CYTHERE WOODWARDIANA, *Jones & Sherborn*. Geol. Mag., 1887, p. 390.

Subtrigonal, obliquely rounded in front, nearly semicircular behind; broad across the anterior third by the projection of the hinge-joint. Surface slightly convex; ventral surface somewhat flattened. Superficial ornament, a coarse, irregular pitting, becoming linear and concentric at the ends.

We name this species after Dr. Samuel Woodward, one of the earliest workers in these late Tertiary deposits.

From the Weybourn Crag, East Runton. Mr. C. Reid, F.G.S. (Mus. Pract. Geol.)

17 and 17*. CYTHERE RETIFASTIGIATA, *Jones*, var. *EQUIOR*, *nov.* Plate III, figs. 6 *a, b*.

Mr. Clement Reid has met with a good variety, with less prominent ridges than in the figure in the 'Monograph,' 1857, p. 36, pl. iii, fig. 7, and with a

smaller, neater, and closer punctation. Though more swollen, the surface is less ridged, and hence we may term it *var. æQUIOR*.

Weybourn Crag. (Mus. Pract. Geology.)

18. *CYTHERE HARRISIANA*, Jones. Woodcut, fig. 2.

CYTHEREIS INTERRUPTA, Jones. Monogr. Cretac. Entom., 1849, p. 16, pl. ii, fig. 6.

CYTHERE HARRISIANA, Jones. Geol. Mag., 1870, pp. 75, 76; and 1887, p. 452, woodcut, fig. 1.

This was found, as a Tertiary fossil, with *C. spiniferrima*, hereafter described, while looking over some washings of London Clay for a second time. We have



FIG. 2.—*Cythere Harrisiana*, Jones. Right valve. From the London Clay. Magnified 20 diam.

only this one valve, which agrees so closely in every particular with valves from the Gault, presenting the same isolated prickles and the pursed-up posterior end with its flattened margin, that we cannot separate them.

From Piccadilly, London; collected by Messrs. Sherborn and Chapman. (British Museum.)

19. *CYTHERE DICTYOSIGMA*, Jones. Plates III, figs. 8 *a*, *b*.

From the Crag. This was not figured in the 'Monogr. Tert. Entom.,' 1857, p. 30. (British Museum.)

20. *CYTHERE TRACHYPORA*, Jones. Plate III, figs. 9 *a*, *b*.

CYTHERE TRACHYPORA, Jones. Monogr. Tert. Entom., 1857, p. 36, pl. iii, figs. 9 *f*—*i*; Geol. Mag., 1870, p. 156.

The insides and edges only of the valves were shown in the 'Monogr.,' 1857; the outside is now figured. Several individuals from the Suffolk Crag have the marginal swellings much more definite and ridge-like than in Mr. C. Reid's specimen from the Norwich Crag here figured. We may remark that some of Dr. G. S. Brady's illustrations of his *Cythere mutabilis*, 'Trans. Zool. Soc.,' 1866, p. 377, pl. lix, figs. 14 *f*, *g*, approach very near to *C. trachypora*. (British Museum.)

21. *CYTHERE CONCINNA*, Jones.

CYTHERE CONCINNA, Jones. Monogr. Tert. Entom., 1857, p. 29, pl. iv. fig. 7; Brady, Trans. Linn. Soc., 1868, p. 408, pl. xxvi, figs. 28—33; pl. xxxviii, fig. 7; B., C., and R., Monogr. Post-Tert. Entom., 1874, p. 160, pl. iv, figs. 1—16.

The numerous localities where this species has been met with, either recent (North Atlantic and Arctic Oceans) or fossil (British area, Canada, and Norway), are enumerated in the memoirs referred to above. (British Museum.)

22. *CYTHERE LÆSA*, Jones & Sherborn. Plate III, figs. 13 *a*, *b*.

CYTHERE LÆSA, Jones & Sherborn. Geol. Mag., 1887, p. 390.

Ovate-oblong, straighter on the ventral than on the dorsal edge. Close to the ventral margin is a broad, longitudinal, somewhat sinuous ridge, widened, or rather doubled, with an oval interspace, at its posterior third, and irregular at the anterior third. In one specimen the surface is coarsely reticulate with angular meshes; in the other, the ornament consists of a smaller meshwork. In this latter individual the edge-view is less convex than in the other.

From the Norwich Crag of Bramerton. Collected by Mr. Clement Reid, F.G.S. (Mus. Pract. Geol.)

23 and 23*. *CYTHERE VILLOSA*, G. O. Sars; et Var. *nov.* Plate I, figs. 4 *a*, *b* (var.); and Plate III, figs. 12 *a*, *b*, *c*.

CYTHERE VILLOSA, Brady, Crosskey, & Robertson. Monogr. Post-Tert. Entom., 1874, p. 157, pl. iii, figs. 7—13; Jones and Sherborn, Geol. Mag., 1887, p. 390.

Subtriangular, straight on the ventral, and obliquely arched on the dorsal and front edges, but somewhat truncate behind. Surface bearing a somewhat concentric reticulation of coarse angular pittings. Three unequal tubercular swellings affect the valve just within its thickened rim, two behind (fig. 12 *c*), such as are frequent in this group of *Cythera*, and one in the antero-ventral third. The greatest convexity of the valves is central, making the edge-view acute-oval.

From the Weybourn Crag of East Runton. Collected by Mr. Clement Reid, F.G.S. (Mus. Pract. Geol.)

With this species we connect a variety (Plate I, figs. 4 *a*, *b*, from the "Norwich Crag" of Southwold), in which the tubercles are not so definitely marked. The places of the two near the ventral margin are occupied by irregular swellings, and the postero-dorsal tubercle is ill-defined. (Mus. Pract. Geol.)

24. *CYTHERE LACHRYMALIS*, Jones & Sherborn. Plate III, figs. 7 *a*, *b*.

CYTHERE LACHRYMALIS, Jones & Sherborn. Geol. Mag., 1887, p. 389.

One of the suboblong punctate *Cytheræ*, of a not uncommon shape, but rather more oblique anteriorly than usual. Surface slightly convex, swelling at the anterior third, and posteriorly bearing two separate ridges, which rise near the middle of the valve, and end each in a strong knob at the posterior border, thus forming two long, tear-shaped eminences, instead of the more usual pair of posterior swellings, such as we see in *C. bidentata*, Bosquet, 'Entom. Tert.,' 1852, p. 72, pl. iii, fig. 9, and several other Tertiary *Cytheræ*.

From the Norwich Crag, Bramerton; collected by Clement Reid, F.G.S. (Mus. Pract. Geol.)

25. *CYTHERE BACCATA*,¹ sp. nov. Plate III, figs. 11 *a*, *b*, *c*, *d*.

CYTHERE ANGULATA (*G. O. Sars*), var., Jones & Sherborn. Geol. Mag., 1887, p. 389.

In some of their characters our little specimens agree with Dr. G. S. Brady's definition of *C. limicola*, Norman; but in them we also see a strong affinity to *C. angulata*, Sars; *C. globulifera*, Brady, and *C. concinna*, Jones, as described in full by G. S. Brady, are also near allies.

The specimens under notice are neater and more definitely marked than any of those referred to. The reticulation is better than in *angulata*, and the tubercles clearer and more symmetrically placed than in *limicola*.

Our specimens were obtained by Mr. C. Reid, F.G.S., from the Norwich Crag of Bramerton and the Weybourn Crag of East Runton (Mus. Pract. Geology.)

¹ Bacca, a berry or gem.

26. CYTHERE SUBLACUNOSA, *Jones*.

- CYTHERE LACUNOSA, *Jones*. Monogr. Tert. Entom., 1857, p. 31, pl. iii, figs. 5 *a b*.
 — SUBLACUNOSA, *Jones*. Geol. Mag., 1870, p. 156.

The original name for this cannot stand, as another and somewhat similar species has been so called by Reuss. *Sublacunosa* was proposed in 1870 as a fitting name for the Suffolk species. This form has many allies; for instance, some recent Norwegian specimens are mentioned in the Monograph (p. 31) as being of the same species; and these have been referred to by Mr. Brady (who at first thought them to be varieties of Reuss's *C. clathrata* and *lyrata*, and Speyer's *C. latimarginata*) to Sars' *C. angulata*, *abyssicola*, and *tuberculata* ('Trans. Linn. Soc.,' 1868, pp. 406, 409, and letters). (British Museum.)

27. CYTHERE LATIMARGINATA, *Speyer*. Plate I, fig. 6.

- CYTHERE LATIMARGINATA, *Speyer*. Ostrac. Cassel. Tert.,¹ 1863, p. 22, pl. iii, fig. 3.
 — ABYSSICOLA, *G. O. Sars*. Overs. Norg. Mar. Ostrac.,² 1865, p. 163.
 — LATIMARGINATA, *Brady, Crosskey, and Robertson*. Monogr. Post-Tert. Entom., 1874, p. 163, pl. xvi, fig. 6.
 — — — Tr. Zool. Soc., vol. x, p. 389, pl. lxiv, figs. 8 *a—d*.

Following Dr. Brady's determination of this species in the papers above mentioned, we refer this specimen to Speyer's species. The figure in the 'Monogr. Post-Tert. Entom.' comes nearest to our form, but is furthest from Speyer's original figure, to which the figures of the Antwerp-Crag specimens in 'Trans. Zool. Soc.,' 1878, nearly approximate.

One valve; White Crag. (British Museum.)

28. CYTHERE ARENOSA, *Bosquet*. Var. *nov*. Plate II, figs. 11 *a, b*.

- CYTHERE ARENOSA, *Bosquet*. Crust. Foss. Terr. Crét. Limbourg,³ 1854, p. 101, pl. vii, figs. 1 *a—d*; Jones and Sberborn, Geol. Mag., 1887, p. 391, pl. xi, fig. 1.

This weak variety of Bosquet's species is one of the papulated forms of *Cythere*, the surface having low, tubercular, and obscure meshes (fig. 11 *b*), which in other instances form strong tubercles. In some cases these become ragged warts

¹ 'Bericht Ver. Naturkunde Cassel,' 1860-62 (1863), pp. 1-63, pls. i-iv.

² 'Forhandl. Videnskabs-Selskabet Christiania,' Aar 1864 (1865).

³ 'Mém. Commission Descript. et Carte géol. Neerlande,' vol. ii.

(*C. scabra*, Münster; see Bosquet's 'Entom. Tertiair.,'¹ p. 103, pl. v, fig. 7); in others they pass into spines (*C. ericea*, *C. irper*, and others; G. S. Brady, 'Challenger Ostrac.,' pls. xvii and xviii); we have also a passage-form.

The above and two following forms have a subovate edge view. They were found in the London Clay of Piccadilly, London, by Messrs. Sherborn and Chapman. (British Museum.)

29. *CYTHERE SCABROPAPULOSA*, Jones. Plate II, fig. 16.

CYTHERE SCABROPAPULOSA, Jones. Monogr. Tert. Entom., 1857, p. 31, pl. v, fig. 16; Jones and Sherborn, Geol. Mag., 1887, p. 391, pl. xi, fig. 5.

This specimen from the London Clay of Piccadilly is more uniformly convex and more rounded posteriorly than the Bracklesham specimen figured in the Monograph, 1857. Moreover, the anterior margin is strongly denticulated, but the dorsal edge is not quite so roughly tuberculated as seen in the valve from Bracklesham. (British Museum.)

Dr. G. S. Brady's "*C. scabropapulosa*" from the Antwerp Crag ('Trans. Zool. Soc.,' vol. x, 1878, p. 393, pl. lxvi, fig. 2), being much rougher and more warty, is nearer to *C. scabra*, Münster, and might be regarded as *C. scabropapulosa*, var. *rudis*.

29*. *CYTHERE SCABROPAPULOSA*, Jones; var. *ACULEATA*, J. & S. Plate II, figs. 17 *a, b*.

CYTHERE SCABROPAPULOSA, Jones. Geol. Mag., 1887, p. 391, pl. xi, fig. 6.

This is a well-grown valve of *C. scabropapulosa* becoming hispid, by the tubercles ending with a sharp prickle or spine. A further development of this spinose condition is seen in *C. irper*, Brady, mentioned above. Our specimen, like the foregoing, is from the London Clay of Piccadilly. (British Museum.)

30. *CYTHERE DELIRATA*,² Jones & Sherborn. Plate III, figs. 16 *a, b*.

CYTHERE DELIRATA, Jones & Sherborn. Geol. Mag., 1887, p. 391.

A *Cythere* of the not uncommon suboblong form, but with the rare ornament of slight furrows diverging up and down from the median line of the posterior

¹ 'Mém. Couronnés, &c., Acad. Roy. Belg.,' vol. xxiv.

² Ploughed with divergent furrows.

region, and becoming more or less concentric or confused anteriorly. Edge view long-oval.

From the Fluvio-marine beds of Headon Hill, Isle of Wight. (F. E. Edwards' Collection in the British Museum.)

31. CYTHERE POLYPTYCHA, *Reuss*. Var. *nov.* Plate I, fig. 5.

CYTHERE POLYPTYCHA, *Reuss*. *Geol. Mag.*, 1887, p. 451.

Somewhat trigonal-obvate; the antero-ventral angle and the opposite hinge both well developed. Anterior border nearly semicircular; the posterior somewhat contracted. Surface puckered with nearly parallel but irregular longitudinal ridges, with intermediate rough but obscure reticulation. The central region swollen into a round boss. Except that this specimen is less quadrate, possesses a boss, and is less distinctly reticulate, it closely resembles Reuss' original figure, Haidinger's 'Nat. Abth.,' vol. iii, 1854, p. 83, pl. x, fig. 22, from the Tertiary of Bohemia.

This *Cythere* belongs to a group of which *C. pusilla*, Bosquet, 'Entom. Tert.,' p. 85, pl. iv, fig. 7, may be taken as a type; possibly embracing the species referred by G. S. Brady, 'Trans. Zool. Soc.,' vol. v, 1866, p. 376, pl. lix, fig. 10, to Reuss' *C. clathrata* (which does not appear to us to be identical), and also *C. pumila*, G. S. B., op. cit., p. 378, pl. lx, fig. 7. The latter, though near to our specimen, has far more irregular ridges.

One valve, from the "Norwich Crag" of Southwold. (British Museum.)

32. CYTHERE PLICATA, *Münster*. Plate I, fig. 18.

CYTHERE PLICATA, *Münster*. Jones, *Monogr. Tert. Entom.*, 1857, pp. 32, 33, pl. iv, fig. 16; pl. v, figs. 8 a—d; pl. vi, fig. 17; *Geol. Mag.*, 1887, p. 450.

We have a narrow and compressed carapace, contracted posteriorly, from the Belosepia-bed, Bracklesham. (British Museum.) This species is noticed in the 'Geol. Mag.,' 1874, p. 479, as having been found in the London Clay of Copenhagen Fields, with two species of *Chara*.

The specimen of this common species here figured is a narrow right valve. *C. plicata* is found abundantly in the Upper Eocene of Colwell Bay, and its variety LATICOSTA is plentiful in the Middle Eocene of Barton and Highcliff.

33 and 33*. *CYTHERE COSTELLATA* (*Roemer*), var. *TRIANGULATA*, *Jones & Sherborn*.
Plate I, fig. 21.

CYTHERE COSTELLATA (*Roemer*), var. *TRIANGULATA*, *Jones & Sherborn*. *Geol. Mag.*,
1887, p. 450.

The specimen under notice is relatively shorter, broader (higher), more triangular, and with sharper ridges than the figure in the 'Monograph,' 1857, p. 32, pl. vii, fig. 21. The anterior hinge is more prominent, and the front margin rather oblique. It is also narrower behind, ending with three small spines or denticles. The edge view is acute ovate.

From the Belosepia-bed, Bracklesham. (British Museum.)

Cythere costellata was figured and described in the 'Monograph Post-Tert. Entom.,' 1874, p. 152, pl. xvi, figs. 13—15, from Selsey, and there recognised as being probably of Tertiary date, though found in the superficial mud.

34. *CYTHERE GYRIPPLICATA*, *Jones & Sherborn*. Plate I, figs. 17 *a, b*.

CYTHERE GYRIPPLICATA, *Jones & Sherborn*. *Geol. Mag.*, 1887, p. 391.

Narrow-suboval in outline, hinge-line slightly convex, and distinct. Ends rounded, narrow behind, somewhat oblique in front. Surface sculptured with delicate longitudinal ridges, arranged concentrically towards the margins, and united by smaller transverse ridges.

From the Belosepia-bed of Bracklesham. (British Museum.)

The nearest species we know of is *Bosquet's C. multicosata*, 'Entom. Tert.,' p. 59, pl. ii, fig. 12; but this is very much coarser and broader, and without any sign of reticulation.

35 and 35*. *CYTHERE SCROBICULO-PPLICATA*, et var. *RECTA*, *Jones*.

CYTHERE SCROBICULO-PPLICATA, et var. *RECTA*, *Jones*. *Monogr. Tert. Entom.*, 1857,
p. 33, pl. vi, figs. 4, 6, 9;
Geol. Mag., 1887, p. 452.

A figure of this species was reproduced in the 'Geol. Mag.,' 1887, p. 452, pl. xi, fig. 8, from the 'Monograph Tert. Entom.,' 1857, as one of the forms belonging to the London Clay of Finchley and Copenhagen Fields; the species

also belongs to the Barton Clay, in which deposit it occurs in greater abundance than in the London Clay. (British Museum.)

The variety *RECTA* (*loc. cit.*, fig. 9) makes a near approach to the next species, No. 36. (British Museum.)

36. *CYTHERE TRANSENNA*,¹ sp. nov. Plate II, fig. 12.

CYTHERE ANGULATOPORA (non *Reuss*). Jones, Monogr. Tert. Entom., 1857, p. 34,
pl. iv, figs. 17, 18.

— *SCALARIS*,² *Jones & Sherborn*. Geol. Mag., 1887, p. 451, pl. xi, fig. 7.

Another oblong *Cythere* with nearly equal ends, but the front margin, sloping to the strongly marked anterior hinge, is more oblique than the other. The surface has longitudinal ridges, which on the hinder moiety of the valve are connected by transverse riblets, making irregular square meshes. In their disposition the ridges vary as to parallelism.

A fine series of allied forms, from Gaas, near Dax, have been described and figured by Reuss ('Sitz. k. Ak. Wiss. Wien,' vol. lvii, 1868, pp. 38—40, pl. vi, figs. 3, 4, 5, and 7); but the differences are sufficiently apparent.

This species is not uncommon in the Tertiary Sands and Oyster-bed at Colwell Bay, Isle of Wight. Two or three examples are known from the London Clay of Islington. (British Museum.)

37. *CYTHERE FORBESII*, *Jones & Sherborn*. Plate III, figs. 18 *a*, *b*.

CYTHERE FORBESII, *Jones & Sherborn*. Geol. Mag., 1887, p. 452.

A subquadrate form, approaching the more definitely squared *Cytherea*, for which we keep the convenient subgeneric name of *Cythereis*. The valves are well rounded in front and behind, with nearly straight lower and upper margins, the latter marked with well-defined hinges. The posterior margin is usually denticulate. The surface bears six or seven crenulate and fenestrate ridges, those on the ventral region being more continuous than those on the dorsal. The interspaces of the ridges are deeply reticulated.

This distinct and well-defined species we dedicate to the late Edward Forbes, whose investigations in the fossil fauna of the Tertiaries of the Isle of Wight will ever be gratefully remembered.

¹ A lattice before a window.

² This name was preoccupied by a species in the 'Challenger Report.'

Specimens numerous, from the Fluvio-marine beds of Headon, Isle of Wight. (F. E. Edwards' Collection in the British Museum.)

XII. CYTHEREIS, *Jones*, 1849.

Monogr. Cretac. Entom., 1849 (subgenus), p. 14; Monogr. Tert. Entom., 1857, p. 37.

This quasi-generic form is conveniently kept apart on account of its easily recognisable valves. In the several species defined as belonging to *Cythereis* by G. O. Sars, the anatomical structure is not very different from that of *Cythere*, and the valves are in many cases like those of *Cythere*.¹ In other cases the valves are subquadrate, angular, and rough, and these are usefully separated, not as a natural, but as an artificial group, convenient for collectors and others.

1. CYTHEREIS CORRUGATA (*Reuss*). Var. *nov.* Plate III, figs. 19 *a*, *b*.

CYTHEREIS CORRUGATA (*Reuss*). *Jones & Sherborn*, Geol. Mag., 1887, p. 454.

This valve is rugosely reticulate, with the longitudinal meshes stronger and more persistent than the transverse. Several allies of this form are figured in plates xxi and xxii of the 'Report Challenger Ostracod,' 1880. Of the previously published forms we find that *C. corrugata*, *Reuss*, 'Haidinger's Nat. Abth.,' vol. iii, p. 79, pl. x, fig. 14, is the nearest to ours, although it differs in being squarer, stronger, swollen at centre, and strongly rimmed on the front margin.

One specimen, collected by the late F. E. Edwards from the Fluvio-marine beds, Headon, Isle of Wight, is in the British Museum.

2. CYTHEREIS SENILIS, *Jones*, 1857, from the Crag, takes its place here. (Brit. Mus.)

3. CYTHEREIS HOERNESI (*Speyer*). Plate I, fig. 7.

CYTHERE HOERNESI, *Speyer*. Ostrac. Cassel. Tertiär.,² 1863, p. 32, pl. iii, fig. 7;
pl. iv, fig. 1.

CYTHEREIS — *Jones & Sherborn*. Geol. Mag., 1887, p. 454.

Oblong, swollen into a distinct boss in the centre, ends round, the front margin semicircular and deeply fenestrated, the hind margin depressed and slightly

¹ See Dr. G. S. Brady's remarks, 'Trans. Linn. Soc.,' vol. xxvi, pp. 395 and 401.

² 'Bericht Ver. Naturkunde Cassel,' 1860-62 (1863).

toothed. Surface reticulated, ornamented with two prominent ridges, the dorsal and most striking of which, strong, fenestrated, and somewhat convex, partly obscures the hinge-line, and curves forwards and downwards below the front hinge. The ventral ridge is not so strong; both are sharply angular posteriorly.

The only marked difference between our specimen and that figured by Dr. Speyer is—that the dorsal ridge in the former is much better developed, being higher, thinner, fenestrate, more delicate, and ending posteriorly in a much sharper angle.

A single valve from the White Crag. (British Museum.)

4. CYTHEREIS PRESTWICHIANA, *Jones & Sherborn*. Plate II, figs. 13, 14 *a, b*.

CYTHEREIS PRESTWICHIANA, *Jones & Sherborn*. Geol. Mag., 1887, p. 454, pl. xi, figs. 11 *a, b*.

A very small neat *Cythereis*, with well-developed marginal rim in front, which, passing along the ventral region, gradually rises higher, and ends in a sharp rectangle. A similar, but weaker, ridge follows the dorsal edge. Both are more or less crenulated. There is a central boss, and a short ridge behind it, ending, like the others, at the sudden posterior slope, which terminates in a narrow, produced, flat, and toothed edge. The surface of the valve is somewhat depressed, and is covered with a distinct lace-like reticulation. Edge-view subsagittate.

This form is clearly related to that figured in the 'Monogr. Cretaceous Entom.,' 1849, pl. v, fig. 13 *b*, which we propose to remove from *C. ornatissima* ('Geol. Mag.,' 1870, p. 75). We now have closely allied forms from the Chalk of other localities in the British Islands, and the distinctness of this new species, named after Prof. Prestwich, D.C.L., F.R.S., becomes more and more apparent.

Two valves from the London Clay of Whitecliff Bay, Isle of Wight. Collected by Mr. C. D. Sherborn, F.G.S. (British Museum.)

5. CYTHEREIS ARANEA, *Jones & Sherborn*. Plate II, figs. 15 *a, b*.

CYTHEREIS ARANEA, *Jones & Sherborn*. Geol. Mag., 1887, p. 453 pl. xi, figs. 10 *a, b*.

Oblong, with the front margin broader and rounder than the hinder, both more or less denticulate. The surface ornamented with a delicate raised network of irregular meshes, which extends over the flat ventral area. Two ridges, over which the network is traceable, are present. One, shorter than the other, occupies the median line from about the centre to the edge of the posterior slope, which makes a strong depression at the hind margin. The other and longer ridge commences in a curve inside the front margin, rises as it borders the ventral region, and dies out

at the posterior slope, like the other. The ventral aspect of the carapace is cuneiform or almost sagittate. *C. Haidingeri*, Bosquet ('Entom. Tertiair.,' p. 125, pl. vi, fig. 10), is near to this species in general characters; but its more angular shape, and more symmetrical network, distinguish it. So also *C. Edwardsii* (Roemer), Reuss ('Haidinger's Nat. Abth.,' vol. iii, p. 84, pl. x, fig. 24), is like it to some extent; but its ridges extend the whole length of the valve, joining fore and aft, and, as figured by Bosquet ('Entom. Tert.,' p. 94, pl. iv, fig. 14), it appears still coarser or stronger, and with still more marked features.

Several specimens from the London Clay, Piccadilly, London. (Collected by Messrs. Sherborn and Chapman. (British Museum.)

6. CYTHEREIS BOWERBANKIANA, *Jones*.

CYTHEREIS BOWERBANKIANA, *Jones*. Monogr. Tert. Entom., 1857, p. 39, pl. vi, figs. 7, 8; Geol. Mag., 1887, p. 452, pl. xi, fig. 9.

This is characteristic of the London Clay. One specimen has been found by Mr. C. D. Sherborn at Whitecliff Bay, and a few others have been long known from Copenhagen Fields and Wimbledon Common, near London. (British Museum.)

7. CYTHEREIS HORRESCENS, *Jones*, 1857, comes next in the order of form and ornament. It belongs to Barton and Bracklesham. The late Mr. F. E. Edwards found it also at Higheliff. (British Museum.)

8. CYTHEREIS SPINFERRIMA, sp. nov. Woodcut, Fig. 3.

CYTHEREIS SPINOSSISSIMA,¹ *Jones & Sherborn*. Geol. Mag., 1887, p. 453, woodcut, fig. 2.

A right and left valve of this form were lately found, with *C. Harrisiana*, in some washings of the London Clay from Piccadilly. They are oblong, with the front margin broader and more semicircular than the hinder. Surface coarsely reticulate; the reticulations becoming more shallow and indistinct as they reach the central area. Many of the ridges of the meshes are pinched up at their junctions, and in most cases thus form bluntly-pointed spines; these spinous prolongations are partly the cause of the confusion of the reticulation in the central area. Approaching the margins, the spines become longer and more defined; and the anterior area bears, in addition to its marginal row of spines, a second row just within the other. In this form, related to *C. Bowerbankiana* on the one hand and to *C. horrescens* on the other, we note that the characteristic

¹ This name is preoccupied in the 'Trans. Zool. Soc.,' 1865, p. 386.

ventral ridge of spines, which is present in both these forms, is absent, being merely represented by scattered spines, not arranged in a definite order except



FIG. 3.—*Cythereis spiniferrima*, sp. nov. Right valve. From the London Clay.
Magnified 20 diam.

on the anterior area. The reticulation is also much more distinct,—a marked feature in the new form.

To this same group belongs a rather common, recent and Post-Tertiary species, namely, *Cythereis Dunelmensis*, Norman (the references are given in full in the 'Monogr. Post-Tert. Entom.,' 1874, p. 168). The chief differences between this and the older form from the London Clay are in the shape of the posterior margin, which is elliptically rounded in the latter instead of being square, and a more definitely spinose, instead of foliaceous, condition of the ornament, especially towards the margins.

Two valves only; from the London Clay of Piccadilly. Collected by Messrs. Sherborn and Chapman. (British Museum.)

9. CYTHEREIS JONESII, Baird.

CYTHEREIS CERATOPTERA (Bosquet). Jones, Monogr. Tert. Entom., 1857, p. 39, pl. iv, fig. 1; Geol. Mag., 1870, p. 156.

Dr. G. S. Brady ('Trans. Linn. Soc.,' vol. xxvi, pp. 418 and 476) has merged *C. ceratoptera* in the recent British species *C. Jonesii*, Baird, published about the same time as Bosquet's 'Mémoire,' 1850-52. (British Museum.)

10. CYTHEREIS CORNUTA (Roemer). Plate I, fig. 22.

CYTHEREIS CORNUTA (Roemer). Monogr. Tert. Entom., 1857, p. 39, pl. iv, fig. 19; and pl. v, fig. 15 (omitting the references to Reuss in the synonymy¹); Geol. Mag., 1870, p. 156; 1887, p. 454.

This species occurs in the Tertiary sands of Colwell Bay, and in the blue clay of Bracklesham. A very closely allied form is found in the Chalk.

¹ Not *C. cornuta*, Reuss, in Haidinger's 'Nat. Abhandl.,' vol. iii, p. 81, pl. x, fig. 18 a (see

Three or four specimens of this form from Bracklesham, of which one is here figured, differ individually from those previously figured in the 'Monogr.,' 1856, and elsewhere, in their narrowness, the parallelism of their upper and lower margins, and in the replacement of the curved dorsal ridge by a uniform marginal rim. The very faint markings seen along the ventral ridge in the figures in the 'Monograph' of 1856, are more distinct in the specimens now under consideration, and are evidently due to alternate thick and thin rod-like divisions, forming minute light and dark squarish areas. The slight transverse dorsal notch in fig. 19 is also traceable in our present specimens, when carefully illuminated and strongly magnified.

Bracklesham. (British Museum.)

11. CYTHEREIS, *sp.* Thanet Sand. 'Monogr.,' 1857, p. 40, pl. vi, fig. 17.

XIII. CYTHERIDEA, *Bosquet*, 1852.

Valves generally subtriangular and usually punctate. Hinge-margins tuberculate or crenulate, chiefly towards the ends, but sometimes all along. See Jones ('Monogr. Tert. Entom.,' 1857, p. 41), Brady ('Trans. Zool. Soc.,' vol. v, 1866, p. 369), and Jones and Sherborn ('Proceed. Bath Nat. Hist. and Antiq. Field Club,' vol. vi, 1888, p. 251).

1 & 1*. CYTHERIDEA TOROSA (*Jones*), et var. TERES, *Brady & Robertson*.

CYPRIDEIS TOROSA, *Jones*. Monogr. Tert. Entom., 1857, p. 21, pl. ii, figs. 1 a—i (fig. 1 e being the smooth form "*teres*" = *Cytheridea littoralis*, Brady).

CYTHERIDEA TOROSA, *Brady, Crosskey & Robertson*. Monogr. Post-Tert. Entom., 1874, p. 178, pl. xv, figs. 11 and 12; and var. *teres*, Brady and Robertson, *ibid.*, p. 179, pl. 7, figs. 1 and 2.

There has been much confusion in the nomenclature of this species, and its history may be seen in the synonymy given in the above references. *C. torosa* is fossil at Mundesley in Norfolk, and at Grays, Essex; var. *teres* at Wear Farm and Chislet; and in the peat-bed at Tilbury. Several Post-Tertiary localities are quoted by Brady, Crosskey and Robertson, p. 179, for *C. torosa* and the var. *teres*. (Brit. Mus., &c.)

'Zeitschr. deutsch. geol. Ges.,' vol. vii, p. 282), which is possibly *C. coronata*, Roemer (?); fig. 18 b is a poor specimen probably of *C. ceratoptera*, Bosquet (see Bosquet, 'Entom. Tertiair.,' p. 117). It may be *C. alata*, Bosquet (*Jones*, 'Monogr. Cret. Entom.,' p. 21, pl. v, fig. 14).

2 & 2*. CYTHERIDEA MUELLERI (*Münster*), et var. TOROSA, *Jones*.

CYTHERIDEA MUELLERI, et var. TOROSA, *Jones*. Quart. Journ. Geol. Soc., vol. x, 1854, p. 160, pl. iii, figs. 7, 8;¹ Mem. Geol. Survey, Tert. Fluvio-Marine Form. Isle of Wight, 1856, p. 158, pl. vii, figs. 27, 28; Monogr. Tert. Entom., 1857, pp. 41—43, pl. v, fig. 4, and pl. vi, figs. 10—13; Brady, Trans. Zool. Soc., vol. x, 1878, pp. 397, 398, pl. lxii, figs. 4 *a—e*.

This well-marked species and its varieties are widely distributed in the Tertiaries of Europe. Especially in the Eocene at Woolwich and Newbury; in the Oligocene of the Isle of Wight; and the Antwerp Crag. It occurs, with the variety *torosa*, in myriads² in the Hamstead Beds (especially the Lower beds), tried by the boreholes of the Geological Survey in 1887. The trial-holes near Newport and Gunville also found it in the Bembridge Marls. This species is rarer in the Osborne series at Cliffend and in the Clay with oysters at Colwell Bay. It occurs also in the Headon Beds and at Highcliff (F. E. Edwards). Recent in the Zuyderzee (Bosquet), and “from Smyrna, the Levant, and Australia,” G. S. Brady, *loc. cit.* (Brit. Mus. and Mus. Pract. Geol.)

3. CYTHERIDEA MONTOSA, *sp. nov.* Woodcut, Fig. 4.

FIG. 4.—*Cytheridea montosa*, *sp. nov.* *a*. Right valve. *b*. Edge view, seen from the ventral margin. Magnified 20 diam.

This small *Cytheridea* (.75 mm. long) is, at first sight, not unlike some specimens of the var. *torosa* of *C. Muelleri*, but differs markedly in having, besides a strong subcentral swelling, a thick, rounded, interrupted, and sausage-like ridge nearly surrounding the surface, with numerous little shining tubercles scattered over the rest of the valve.

Rare in the Middle Hamstead Beds, Isle of Wight, at the Reservoir, half a mile west of Medina Mills. (Museum Practical Geology.)

¹ Figs. 9, 11, 12, illustrate species from the Isle of Wight, not from Woolwich.

² *C. Muelleri* inhabits fresh, brackish, and salt waters; and is sometimes found in similar abundance to that of these fossil multitudes.

4. *CYTHERIDEA DEBILIS*, *Jones*. Plate I, fig. 16.

CYTHERIDEA DEBILIS, *Jones*. Monogr. Tert. Entom., 1857, p. 43, pl. vi, fig. 13.

This occurs in numbers in the Oligocene Beds at Colwell Bay, Isle of Wight, and is referred to in the 'Geol. Mag.,' 1887, p. 455, as having been found also at Bracklesham. (British Museum.)

5. *CYTHERIDEA PINGUIS*, *Jones*.

CYTHERIDEA PINGUIS, *Jones*. Monogr. Tert. Entom., 1857, p. 43, pl. ii, figs. 4 *a*—*h* ; Brady, Trans. Zool. Soc., vol. x, 1878, p. 397, pl. lxii, figs. 3 *a*—*d* ; Jones and Sherborn, Geol. Mag., 1887, p. 455.

Mr. Clement Reid has collected this species from the Weybourn Crag at East Runton. It is rare in the Suffolk Crag, but abundant in the Antwerp Crag. (Brit. Mus. and Mus. Pract. Geol.)

6. *CYTHERIDEA ELONGATA*, *Brady*. Plate III, figs. 20 *a*, *b*, 21, 22.

CYTHERIDEA ELONGATA, *Brady*. Monogr. Recent Brit. Ostrac., Trans. Linn. Soc., 1868, vol. xxvi, p. 421, pl. xxviii, figs. 13—16, and pl. xl, fig. 6 ; Monogr. Post-Tert. Entom., 1874, p. 181, pl. ix, figs. 10—13 ; Jones and Sherborn, Geol. Mag., 1887, p. 456.

Numerous specimens from the Weybourn Crag of East Runton, varying slightly in individuality of growth and sex, are referable to Brady's *Cytheridea elongata*. Collected by Mr. Clement Reid, F.G.S. (Museum Practical Geology.) We have it also, not rare, in the Norwich Crag of Southwold. (British Museum.)

7. *CYTHERIDEA SORBYANA*, *Jones*.

CYTHERIDEA SORBYANA, *Jones*. Monogr. Tert. Entom., 1857, p. 44, pl. iv, figs. 6 *a*—*e* ; B., C., and R., Monogr. Post-Tert. Entom., 1874, p. 180 (for synonyms and localities), pl. vii, figs. 7—12.

This species is abundant in Post-Tertiary Beds, and in the Northern seas. (British Museum, &c.)

8. CYTHERIDEA PUNCTILLATA, *Brady*. Plate I, fig. 2.

One damaged valve from the "Norwich Crag" at Southwold we refer to this species, which has been described and figured in full in the 'Monogr. Post-Tertiary Entom.,' 1874, p. 177, pl. vi, figs. 1—11. Our specimen, however, approaches most closely to another figure of the same species in Dr. G. S. Brady's paper, 'Trans. Linn. Soc.,' vol. xxvi (1868), p. 424, pl. xxvi, fig. 36.

This species is not rare in the Post-Tertiary Beds and the northern seas. (British Museum.)

9. CYTHERIDEA PERFORATA (*Roemier*). Plate I, fig. 14.

CYTHERIDEA PERFORATA, *Jones*. Monogr. Tert. Entom.,¹ 1857, pp. 44, 45, pl. iv, figs. 14 *a—e* (? *d, e*, young); Geol. Mag., 1870, pp. 74 and 157; J. and S., Geol. Mag., 1887, p. 445.

The specimen now figured is like fig. 14 *a*, pl. 4, in the 'Monogr.,' 1857, but is rather less triangular, much more coarsely punctate, and strongly marked at the anterior hinge. It was found, with numerous normal valves, in some washings of the clay from Barton, Hants. This species is known also from the Oligocene Sands at Colwell Bay, the London Clay, the Eocene Beds of the Paris Basin, and from some Cretaceous formations of England and the Continent. (Brit. Mus.)

9*. CYTHERIDEA PERFORATA, VAR. INSIGNIS, *Jones*.

CYTHERIDEA PERFORATA, VAR. INSIGNIS, *Jones*. Monogr. Tert. Entom., 1857, p. 46, pl. vi, fig. 3; J. and S., Geol. Mag., 1887, p. 455, pl. xi, fig. 12.

A figure of this fine variety, from the London Clay of Copenhagen Fields, was reproduced in the 'Geol. Mag.' from the original Monograph. (British Museum.)

10. CYTHERIDEA GLABRA, *Jones*.

CYTHERIDEA PERFORATA, VAR. GLABRA, *Jones*. Monogr. Tert. Entom., 1857, p. 46, pl. v, fig. 24.
— GLABRA, *Jones & Sherborn*. Geol. Mag., 1887, p. 455, pl. xi, fig. 13.

¹ This species is not like *Bairdia subtrigona*, Bornemann, as quoted at p. 45 of the Monograph.

This angular and smooth form, related to *C. perforata*, should, we think, be regarded as a species. It came from the London Clay of Copenhagen Fields. (British Museum.)

There are several forms of this kind besides the var. *insignis* and the allied *glabra*, from the London Clay ('Monograph,' p. 46); such as *C. punctatella*, Bornemann, 'Zeitschr. deutsch. geol. Ges.,' vol. vii (1855), p. 360, pl. xxi, fig. 2, and *C. incrassata*, Bosquet, 'Entom. Tertiair.,' p. 44, pl. iii, fig. 11.

11. CYTHERIDEA (?), sp.

CYTHERIDEIS (?), spec. Monogr. Tert. Entom., 1857, p. 49, pl. vi, fig. 15.

This obscure form from the Woolwich Beds may possibly belong to *Cytheridea*.

12. CYTHERIDEA ? BARBATA (*Sowerby*).

CYTHERE BARBATA, *Sowerby*. Trans. Geol. Soc., ser. 2, vol. v, 1834, p. 131, pl. ix, fig. 1.

This specimen, once in the Wetherell Collection of London-Clay fossils, has been lost. It probably belonged to *Cytheridea*. See footnote, page 18.

XIV. KRITHE, *B.*, *C.*, & *R.*, 1874.

(*Cytherideis*, Jones, in part, 1857, *Ilyobates*, Sars, 1865.)

Monogr. Post-Tert. Entom., 1874, p. 183.

1. KRITHE BARTONENSIS (*Jones*).

CYTHERIDEIS BARTONENSIS, *Jones*. Monogr. Tert. Entom., 1857, p. 50, pl. v, figs. 2 *a*, *b*, 3 *a*, *b*.

ILYOBATES PRÆTEXTA, *G. O. Sars*. Overs. Norg. mar. Ostrac., 1865, p. 60.

— BARTONENSIS, *Brady*. Trans. Linn. Soc., vol. xxvi, 1868, p. 432, pl. xxxiv, figs. 11—14, and pl. xl, fig. 5; *Jones*, Geol. Mag., 1870, p. 157.

KRITHE — *Brady, Crosskey & Robertson*. Monogr. Post-Tert. Entom., 1874, p. 184, pl. ii, figs. 22—26.

This species lives in the North Atlantic, and is not rare in the Post-Tertiary deposits. Rare in the Middle Eocene of Barton Cliff (*Jones*) and Highcliff (*Edwards*), Hampshire. (British Museum.)

2. KRITHE GLACIALIS, *Brady, Crosskey, & Robertson.*

KRITHE GLACIALIS, *Brady, Crosskey, & Robertson.* Monogr. Post-Tertiary Entom., Pal. Soc., 1874, p. 184, pl. vi, figs. 21—24; Jones & Sherborn, Geol. Mag., 1887, p. 456, pl. xi, figs. 15 *a, b.*

A smooth specimen of *Krithe* from the London Clay of Piccadilly is so extremely close in every feature to *K. glacialis* from Scotland and Norway, except in the apparent papillæ of the latter, that we cannot separate it from this later form.

Collected by Messrs. Sherborn and Chapman. (British Museum.)

3. KRITHE LONDINENSIS, *Jones & Sherborn.* Plate II, figs. 20 *a, b.*

KRITHE LONDINENSIS, *Jones & Sherborn.* Geol. Mag., 1887, p. 456, pl. xi, figs. 14 *a, b.*

Carapace narrow-obovate, not quite semicircular in front, subacute posteriorly.

In edge-view the anterior third is compressed and wedge-shaped, the middle is swollen, and the posterior third is compressed, and ends in the usual notch formed by the produced ends of the two valves. Surface smooth and shining. In this last feature it resembles other forms of this genus, but in its outlines it differs from any we know.

From the London Clay of Piccadilly. Collected by Messrs. Sherborn and Chapman. (British Museum.)

Bornemann's *Bairdia pernoides* ('Zeitschr. d. g. Ges.,' vol. vii, 1855, p. 358, pl. 20, fig. 7) is a somewhat similar *Krithe* of the same geological age.

XV. XESTOLEBERIS, *G. O. Sars*, 1865.1. XESTOLEBERIS COLWELLENSIS, *Jones & Sherborn.* Plate I, figs. 13 *b, c.*

XESTOLEBERIS COLWELLENSIS, *Jones & Sherborn.* Geol. Mag., 1887, p. 456.

Carapace ovate in outline, and subovate in edge-view, with spinulose surface. This is near *X. aurantia* (Baird), but blunter anteriorly.

From the Tertiary of Colwell Bay. (British Museum.)

2. *XESTOLEBERIS AURANTIA* (Baird). Var. *Jones & Sherborn*. Plate III, figs. 23 *a, b*.

XESTOLEBERIS AURANTIA, *Brady, Crosskey, and Robertson*. Monogr. Post-Tert. Entom., Pal. Soc., 1874, p. 191, pl. xvi, figs. 32, 33 (full synonymy is there given).
 — — var., *Jones & Sherborn*. Geol. Mag., 1887, p. 456.

Except in being minutely punctate, and not distinctly papillose, this specimen (from Headon) closely resembles the recent *X. aurantia* above quoted.

From the Fluvio-marine deposits of Headon Hill, Isle of Wight. Collected by the late F. E. Edwards, and now in the British Museum.

XVI. *LOXOCONCHA*, *G. O. Sars*, 1865.1. *LOXOCONCHA TAMARINDUS* (*Jones*).

CYTHERIDEIS TAMARINDUS, *Jones*. Monogr. Tert. Entom., 1857, p. 49, pl. iii, figs. 4 *a, b*.
LOXOCONCHA — *Brady*. Trans. Linn. Soc., vol. xxvi, 1868, p. 435, pl. xxv, figs. 45—48; *Jones*, Geol. Mag., 1870, p. 157.

This species occurs in the White Crag of Suffolk, and it has been found at several places in the North Atlantic and the English Channel. Some of the recent specimens prove it to belong to *Loxoconcha* (*Brady, loc. cit.*). (Brit. Mus.)

XVII. *PSEUDOCY THERE*, *G. O. Sars*, 1865.1. *PSEUDOCY THERE ATTENUATA*, *Jones*.

CY THERE ATTENUATA, *Jones*. Monogr. Tert. Entom., 1857, p. 28, pl. v, fig. 11.
CY THERUBA — — Geol. Mag., 1870, pp. 156, 158.

This probably belongs to the genus *Pseudocythere* of *G. O. Sars* ('Forhandl. Vidensk.-Selskab. Christiania,' Aar 1864 (1865), p. 87); see also *G. S. Brady's* 'Report Challenger,' &c., 1880, p. 144.

One specimen was obtained from the clay-bed "No. 29," of Prof. Prestwich's section at Alum Bay, at the base of the Barton Clay ('Quart. Journ. Geol. Soc.,' vol. ii, 1846, p. 257, pl. ix, fig. 1; also 'Quart. Journ. Geol. Soc.,' vol. xliii, 1887, pp. 132, 138, &c.). (British Museum.)

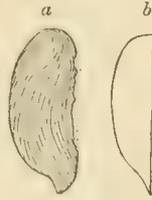
2. PSEUDOCY THERE BRISTOVII, *sp. nov.* Woodcut, Fig. 5.

FIG. 5.—*Pseudocythere Bristovii*, *sp. nov.* *a.* Right valve (slightly broken along the ventral edge).
b. Edge view. Magnified 20 diam.

Elongate, convex, especially at the front moiety, subrhomboidal; rather obliquely rounded in front, arched on the dorsal and straight on the ventral margin, between its anterior and posterior curves. The hinder extremity of the valve is suddenly narrowed to a subtriangular and flat point, which has a convex outline on its ventral, and is neatly incurved on its dorsal edge, much like the end of a *Bairdia*. The surface bears numerous delicate, longitudinal, sinuous, raised lines, which are somewhat interrupted and overlap in the mid-dorsal region, and branch into fine plumose groups here and there on the anterior part of the valve.

This elegant form is rare in the Bembridge Limestone of a brickyard south-east of West-Cowes Cemetery. It is named after H. W. Bristow, Esq., F.R.S., who has always taken great interest in the geology of the Isle of Wight.

This species is allied to, but differs in detail from, *Pseudocythere Fuegiensis*, G. S. Brady ('Report Challenger, &c.,' 1880, p. 145, pl. i, figs. 7 *a—d*).

The same piece of Bembridge Limestone yielded a few fragments of a form similar or allied to the foregoing, but ornamented with still more delicate and silky striae, which, under a high power, are seen to be interrupted, or elegantly punctated, along their length.

XVIII. CY THERURA, *G. O. Sars*, 1865.

Brady, Crosskey & Robertson, Monogr. Post-Tert. Entom., 1874, p. 191.

1. CY THERURA PRESTWICHIANA, *Jones & Sherborn*. Plate I, figs. 20 *a, b*.

CY THERURA PRESTWICHIANA, *Jones & Sherborn*. Geol. Mag., 1887, p. 456.

This belongs to the same type as *Cytherura nigrescens*, B., C., and R., 'Post-Tert. Entom.,' p. 192, pl. xi, figs. 28—32, but differs in its greater compression

anteriorly, and in being less strongly notched behind. Allied forms are known to us from several Jurassic strata.

From the Belosepia-bed, Bracklesham. (British Museum.)

Named after Professor Prestwich, D.C.L., F.R.S., who has so greatly advanced our knowledge of the Tertiary deposits.

2. *CYTHERURA CLATHRATA*, *G. O. Sars*. Plate III, figs. 24 *a*, *b*.

CYTHERURA CLATHRATA, *G. O. Sars*. Brady, Trans. Linn. Soc., vol. xxvi, 1868, p. 446, pl. xxix, figs. 43—46; B., C., and R., Monogr. Post-Tert. Entom., 1874, p. 204, pl. xi, figs. 1—4; Jones & Sherborn, Geol. Mag., 1887, p. 457.

In this small and interesting form the oval carapace is somewhat sharper behind than before, and more compressed in front than behind. It has the surface ornamented with a strong median ridge, branching freely off towards the margin. The main branches in our specimen keep their entirety, but Dr. G. S. Brady figures individuals in which the branches lose themselves in a rough general reticulation over the surface.

From the Weybourn Crag of East Runton. Collected by Mr. Clement Reid, F.G.S. (Museum Practical Geology.)

XIX. *CYTHEROPTERON*, *G. O. Sars*, 1865.

G. S. Brady, Trans. Linn. Soc., vol. xxvi, 1868, p. 447.

Brady, Crosskey and Robertson, Monogr. Post-Tert. Entom., 1874, p. 201.

1. *CYTHEROPTERON TRIANGULARE* (*Reuss*). Plate II, figs. 19 *a*, *b*, *c*.

CYTHERE TRIANGULARIS, *Reuss*. Zeitschr. deutsch. geol. Ges., vol. vii, 1855, p. 279, pl. x, fig. 3.

— — — *Jones*. Monogr. Tert. Entom., 1857, p. 25, pl. vii, fig. 5.

— *TENUICRISTATA*, *Reuss*. Sitzungsab. k. Akad. Wiss. Wien, vol. lii, 1865, p. 467, pl. not numbered, fig. 12.

CYTHEROPTERON TRIANGULARE, *Jones*. Geol. Mag., 1870, p. 156.

— — — *J. & S.* Geol. Mag., 1887, p. 457, pl. xi, fig. 16.

This well-marked form has already been well described, as well as several allies, namely, *Cytheropteron mucronulatum*, Brady ('Challenger, &c.,' 1880, p. 140, pl. xxxiii, fig. 8); *C. fenestratum*, Brady (*Ibid.*, p. 139, pl. xxxiv, fig. 6), both

recent; and *C. sphenoides* (Reuss), 'Denkschr. k. Akad. Wiss. Wien,' vol. vii, 1854, p. 141, pl. xxvii, fig. 2, from the Chalk of the Eastern Alps.

From the London Clay of Copenhagen Fields and Piccadilly (British Museum), and from the Chalk of Mecklenburg and the Dobrudscha.

XX. CYTHERIDEIS, Jones, 1857. (Restricted.)

Monogr. Tert. Entom., 1857, p. 46.

1. CYTHERIDEIS COLWELLENSIS, Jones.

CYTHERIDEIS COLWELLENSIS, Jones. Monogr. Tert. Entom., 1857, p. 49, pl. iv, figs. 13 and 20; *Cythere?*, Geol. Mag., 1870, pp. 157 and 159.

This (with the left valve larger than the right), now retained in *Cytherideis*, occurs at Colwell Bay in the Nucula-bed (*Nucula deltoidea*) and other deposits, but not abundantly. (British Museum.)

2. CYTHERIDEIS BOTELLINA, Jones.

CYTHERIDEIS FLAVIDA (Müller). Jones, Monogr. Tert. Entom., 1857, p. 50, pl. iv, figs. 4 a—c.

CYTHERE BOTELLINA, Jones. Geol. Mag., 1870, p. 157.

According to Dr. G. S. Brady, Müller's *C. flavida* differs materially from this Crag species. Dr. Baird's *C. flavida* is referred to *Cytherideis subulata* by Brady ('Trans. Linn. Soc.,' vol. xxvi, 1868, p. 454, pl. 35, figs. 43—46), which also differs from the species under notice. The new specific name was therefore proposed in 1870. *C. botellina* is known only from the Crag of Suffolk, where it is abundant. (British Museum.)

3. CYTHERIDEIS, sp.

Monogr. Tert. Entom., 1857, p. 51.

A form somewhat related to *Cytherideis botellina*, Jones, but shorter, occurs in the Tertiary Sands of Colwell Bay. It is referred to in the 'Monograph,' *loc. cit.* Possibly it may be *C. gracilis*. (British Museum.)

4. CYTHERIDEIS GRACILIS (*Reuss*). Plate I, fig. 12.

CYTHERINA GRACILIS, *Reuss*. Haidinger's Nat. Abh., vol. iii, 1850, p. 52, pl. liii, fig. 3.

CYTHERIDEIS — *Brady*. Trans. Zool. Soc., vol. v, 1866, p. 367, pl. lviii, figs. 1 a—d.

— — *Jones & Sherborn*. Geol. Mag., 1887, p. 457.

To this neat form, already described by Reuss and others, the following are more or less allied:—*C. (Bairdia) arcuata*, Bosquet ('Entom. Tert.,' 1852, p. 32, pl. i, fig. 14); *C. (Bairdia) litholomoides*, Bosquet (Ibid., p. 36, pl. ii, fig. 3); *C. (Bairdia) difficilis*, Reuss ('Sitzungsb. k. Ak. Wiss. Wien,' vol. lvii, 1868, p. 35, pl. v, fig. 7).

The figure given in the 'Fonds de la Mer' (8vo., Paris, 1867-71), livr. 4, 1868, p. 94, pl. xii, figs. 1, 2, of Brady's *Aglaia pulchella*, reminds us of this form.

We have seen one small specimen from a Tertiary bed at Colwell Bay. In the closed carapace the right valve is the smallest; it is faintly toothed on the anterior margin. The longitudinal lines on the ventral surface are distinct, though faint. (British Museum.)

C. gracilis is not uncommon in some Tertiary formations on the Continent, and has many allies.

5. ? CYTHERIDEIS UNISULCATA, *Jones*.

Monogr. Tert. Entom., 1857, p. 48, pl. iv, fig. 10.

This doubtful species occurred with *Caulona Forbesii* in the Osborne series at Cliff End, Colwell Bay. It may be a young *Cypridea spinigera* badly preserved, or possibly a *Metacypris*. (British Museum.)

6. ? CYTHERIDEIS REN, *Jones*.

Monogr. Tert. Entom., 1857, p. 51, pl. iv, figs. 5 a, b.

From the Crag. The generic relationship is doubtful. (British Museum.)

XXI. CYTHERELLA. Subgenus, *Jones*, 1848. Genus, *Bosquet*, 1852.

The members of this genus are separable with difficulty as to their probable specific identities (see 'Monogr. Carbonif. Entom.,' Part I, No. 2, Pal. Soc., 1884, pp. 57—69). For the recognition of the British Tertiary forms we propose to keep certain types in view, referring our specimens to one or the other of the several groups.

GROUP I.—Typified by CYTHERELLA COMPRESSA (Münster), as figured by Egger, ("Ostrak. Ortenburg," 'Neues Jahrb., &c.,' 1858, p. 404, pl. v, fig. 2), with its flat parallel sides and more or less wedge-like ends (in edge-view). To this we have relegated *C. Londinensis*, Jones ('Monogr. Tert. Entom.,' p. 55, pl. v, figs. 20 and 22), besides "*C. compressa*, var. 2," fig. 19, of the same plate. See also 'Geol. Mag.,' 1887, p. 450, pl. xi, fig. 19. (British Museum.)

GROUP II.—CYTHERELLA MUENSTERI (Roemer). These carapaces have their greatest convexity near the middle or towards the hinder part of the valves.

One of our specimens from Bracklesham belongs to this group, but we know of none exactly like it, in its symmetrical, broad, and oblong outline, with nearly equally rounded ends, median convexity toward the ventral edge, and broadly ovate edge-view. Plate II, figs. 3 *a, b, c*. We have called it *C. ROEMERI* ('Geol. Mag.,' 1887, p. 458).

Another is near Roemer's original figure ('Neues Jahrbuch für Min., &c.,' 1838, p. 516, pl. vi, fig. 13) in shape, though not so strongly punctate (Plate II, fig. 10). In the 'Monogr. Tert. Entom.,' p. 56, pl. v, fig. 13, is a *smooth variety*; but fig. 12 is even more strongly pitted than is Roemer's fig. 13, and was recognised as var. RECTIPUNCTATA in the 'Geol. Mag.,' 1870, p. 157.

Some allied forms, smooth and having the convexity more definitely in the hinder third of the valves, are remarkably ovate in outline, and lanceolate in edge-view. These are regarded as belonging to a new species (Plate II, figs. 4 and 8 *a, b*) called *C. REUSSII*, after the late eminent microzoist of Prague and Vienna ('Geol. Mag.,' 1887, p. 458). In the 'Monogr. Tert. Entom.,' p. 54, pl. v, figs. 21 and 23 are also smooth, and belong to this group; but they are obovate in outline, like Bornemann's *C. FABACEA* ('Zeitschr. deutsch. geol. Ges.,' vol. vii, 1855, p. 355, pl. xx, fig. 2), to which they must be referred, as in 'Geol. Mag.,' 1870, p. 157; and 1887, p. 458, pl. xi, fig. 17.

Another of our Tertiary *Cytherella* is ovate-oblong, lanceolate in edge-view, with acute-ovate end-view. This also we believe to be new (Pl. I, figs. 24 *a, b, c*), and have named it *C. DIXONI* ('Geol. Mag.,' 1887, p. 458), in memory of one of the most enthusiastic workers on the geology and fossils of Bracklesham, whence

many of the *Cytherellæ* here described have been obtained. (All the above are in the British Museum.)

A very small *Cytherella*, smooth, subovate, and with lanceolate edge-view, belongs apparently to Group II; Pl. III, figs. 25 *a*, *b*. It was found by Mr. Clement Reid in the Weybourn Crag of East Runton. (Mus. Pract. Geol.)

GROUP III.—The type of this group is CYTHERELLA BEYRICHI (Reuss).

- CYTHERINA BEYRICHI, *Reuss*. Zeitschr. deutsch. geol. Ges., vol. iii, 1851, p. 89, pl. vii, fig. 65.
 — — *Bornemann*. Ibid, vii, 1855, p. 354, pl. xx, fig. 1.
 CYTHERELLA COMPRESSA, var. 1, *Jones*. Monogr. Tert. Entom., 1857, p. 55, pl. v, fig. 18.
 — BEYRICHI, *Speyer*. Ostrac. Cassel. Tertiär., 1863, p. 54, pl. i, fig. 1.
 — — *Brady*. Trans. Zool. Soc., vol. v, 1866, p. 362, pl. lvii, fig. 3.
 — — *Jones*. Geol. Mag., 1870, vol. vii, p. 157.
 — — *Jones & Sherborn*. Geol. Mag., 1887, p. 458, pl. xi, fig. 18.

In this group the carapaces vary from round-ended oblong to ovate-oblong, with a flattening of the anterior portion, giving a wedge-shaped edge-view. The posterior end is full and more or less truncate, herein also differing from the members of Group II. Generally the surface is pitted, but we have a smooth example of this form (Pl. II, figs. 1 *a*, *b*). The last has been termed *C. BEYRICHI*, var. *LEVIS* ('Geol. Mag.,' 1887, p. 458); but we consider that the others (Pl. II, figs. 2 *a*, *b*; 5 *a*, *b*; 6 *a*, *b*; 7 *a*, *b*; 9 *a*, *b*) do not offer differences sufficient to separate them from the type as named varieties. Fig. 9 *a*, however, is more ovate than oblong; and 9 *b* shows a very definitely truncate posterior, giving the edge-view a more strictly triangular appearance. (British Museum.)

Note.—A small indeterminable *Cytherella* occurs among some Ostracoda collected by the late Mr. F. E. Edwards from the Fluvio-marine beds of Headon (?). (British Museum.)

In the annexed Table the genera and species belonging to each Geological Formation are arranged, in their several groups, in the same order as that adopted in the Lists at pp. 3—8. The localities for the specimens will be found in the text of either the original or the Supplemental Monograph, the pages being easily referred to. In the Classified Lists (pp. 3—8) the different stages of the Eocene Formation are indicated by the addition of local names, as Woolwich, London, Bracklesham, &c. The indication of foreign localities for the Tertiary Entomostraca is not now attempted, for much closer examination will be required to ensure anything like accuracy in this direction.

TABLE OF THE BRITISH TERTIARY (AND SOME POST-TERTIARY)
OSTRACODA, SHOWING THEIR GEOLOGICAL RANGE.

	Pages in the Supplemental Monograph.	Geological Ranges														
		Cretaceous Formations.	Woolwich and Reading Beds. ¹	London Clay.	Bracklesham Beds.	Barton Beds.	Headon Beds.	Osborne Beds.	Benbridge Beds.	Hanstead Beds.	White or Suffolk Crag.	Red Crag.	Norwich Crag.	Weybourn Crag, &c.	Post-tertiary Beds.	Recent Seas.
<i>Bairdia subdeltoidea</i>	16	×			×											
<i>Cythere Harrisiana</i>	24	×		×												
<i>Cytheridea perforata</i>	29	×				×	×									
<i>Cytheropteron triangulare</i>	44	×		×												
<i>Candona Richardsoni</i>	13		×													
? <i>Cythere amissa</i>	21		×													
<i>Cytheridea Muellieri</i>	37		×			×									×	×
— — var. <i>torosa</i>	37		×						×							
— sp.	40		×													
<i>Bairdia subtrigona</i>	17			×												
— <i>Londinensis</i>	17			×												
— <i>ovoidea</i>	18			×												
<i>Cythere arenosa</i>	27			×												
— <i>scabropapulosa</i>	28			×	×											
— — var. <i>aculeata</i>	28				×											
— <i>plicata</i>	29			×	×	×	×									
— <i>serobiculoplicata</i>	30			×	×	×										
— — var. <i>recta</i>	30				×											
— <i>transenna</i>	31			×			×									
<i>Cythereis Prestwichiana</i>	33			×												
— <i>aranea</i>	33			×												
— <i>Bowerbankiana</i>	34			×												
— <i>horrescens</i>	34			×		×										
— <i>spiniferrima</i>	34			×												
<i>Cytheridea perforata</i> , var. <i>insignis</i>	39			×												
— <i>glabra</i>	39			×												
<i>Krithe glacialis</i>	41			×											×	
— <i>Londinensis</i>	41			×												
<i>Cytherella compressa</i> and var.	47			×												
— <i>fabacea</i>	47			×												
— <i>Beyrichi</i>	48			×												
<i>Bythocypris subreniformis</i>	16				×											
<i>Bairdia</i> , sp.	17				×											
<i>Cythere striatopunctata</i>	19				×	×	×									
— <i>venustula</i>	20				×											
— <i>costellata</i>	30				×											
— — var. <i>triangulata</i>	30				×											
— <i>gyriplicata</i>	30				×											
<i>Cythereis cornuta</i>	36				×		×									
<i>Cytheridea debilis</i>	38				×		×									
<i>Cytherura Prestwichiana</i>	43				×											

¹ *Cythereis* sp., a fragment, has been found in the THANET SANDS of Pegwell Bay; p. 36.

	Pages in the Supplemental Monograph.	Cretaceous Formations.	Woolwich and Reading Beds.	London Clay.	Bracklesham Beds.	Barton Beds.	Heath-n Beds.	Osborne Beds.	Pembroke Beds.	Hampstead Beds.	White- or Suffolk Crag.	Red Crag.	Norwich Crag.	Weybourn Crag, &c.	Post-tertiary Beds.	Recent Seas, &c.
<i>Cytherella Muensteri</i>	47	..	..	..	×	..	×						
— — var. (smooth) ...	47	..	..	..	×	×							
— — var. rectipunctata ..	47	..	..	..	×	×							
— Roemeri	47	..	..	..	×	×							
— Reussii	47	..	..	..	×	×							
— Dixoni	47	..	..	..	×	×							
— Beyrichi, var. laevis, &c.	47	..	..	..	×	×							
<i>Bairdia contracta</i>	17	..	..	..	..	×						
<i>Cythere Wetherelli</i>	20	..	..	..	..	×	×					
— consobrina	20	..	..	..	..	×	×					
— angulatopora	22	..	..	..	..	×	×					
— Bosquetiana	22	..	..	..	..	×	×					
<i>Krithe Bartonensis</i>	40	..	..	..	..	×	×								×
<i>Pseudocythere attenuata</i>	42	..	..	..	..	×	×					
<i>Pontocypris</i> , sp.	16	..	..	..	..	..	×				
<i>Cythere Forbesii</i>	31	..	..	..	..	..	×				
<i>Xestoleberis Colwellensis</i> ..	41	..	..	..	..	..	×				
— aurantia, var.	41	..	..	..	..	..	×				
<i>Cytherideis Colwellensis</i> ..	45	..	..	..	..	..	×				
— gracilis	45	..	..	..	..	..	×				
<i>Cytherella</i> , sp.	18	..	..	..	..	..	×				
<i>Candona Forbesii</i>	13	..	..	..	..	..	..	×		×
? <i>Cytherideis unisulcata</i> ..	46	..	..	..	..	..	..	×		
<i>Potamocypris Brodiei</i>	11	..	..	..	..	..	..	..	×
<i>Pseudocythere Bristovii</i> ..	43	..	..	..	..	..	..	..	×
<i>Cypris gibba</i>	9	..	..	..	..	..	..	..	..	×
<i>Cypridea spinigera</i> ¹	14	..	..	..	..	..	..	..	..	×
<i>Cytheridea montosa</i>	37	..	..	..	..	..	..	..	..	×
<i>Potamocypris tuberculata</i> ..	11	..	..	..	..	..	..	..	..	..	×
<i>Bairdia fusca</i>	17	..	..	..	..	..	..	..	..	..	×
— rhomboidea	18	..	..	..	..	..	..	..	..	..	×
<i>Cythere convexa</i>	19	..	..	..	..	..	..	..	..	..	×
— trigonula	19	..	..	..	..	..	..	..	..	..	×
— Woodiana	23	..	..	..	..	..	..	..	..	..	×
— laqueata	23	..	..	..	..	..	..	..	..	..	×	×
— macropora	23	..	..	..	..	..	..	..	..	..	×
— retifastigiata	23	..	..	..	..	..	..	..	..	..	×
— dictyosigma	24	..	..	..	..	..	..	..	..	..	×
— trachypora	24	..	..	..	..	..	..	..	..	..	×	×
— sublacunosa	27	..	..	..	..	..	..	..	..	..	×
— latimarginata	27	..	..	..	..	..	..	..	..	..	×
<i>Cythereis senilis</i>	32	..	..	..	..	..	..	..	..	..	×
— Hoernesi	32	..	..	..	..	..	..	..	..	..	×
— Jonesii	35	..	..	..	..	..	..	..	..	..	×
<i>Cytheridea pinguis</i>	38	..	..	..	..	..	..	..	..	..	×
<i>Cytherideis botellina</i>	45	..	..	..	..	..	..	..	..	..	×
? — ren	46	..	..	..	..	..	..	..	..	..	×
<i>Bairdia</i> , sp.	17	..	..	..	..	..	..	..	..	..	×
<i>Cytheridea elongata</i>	38	..	..	..	..	..	..	..	..	..	×
<i>Loxocooneha tamarindus</i>	42	..	..	..	..	..	..	..	..	..	×
? <i>Aglaiia cypridoides</i>	12	..	..	..	..	..	..	..	..	..	×		×			×

¹ *C. spinigera* occurs also in the Wealden beds.

	Pages in the Supplemental Monograph.	Cretaceous Formations.	Woolwich and Reading Beds.	London Clay.	Bracklesham Beds.	Barton Beds.	Headon Beds.	Osborne Beds.	Bembridge Beds.	Hamstead Beds.	White or Suffolk Crag.	Red Crag.	Norwich Crag.	Wey bourn Crag, &c.	Post-tertiary Beds.	Recent.
<i>Cythere recurata</i>	21	..	..	..	..	..	..	..	..	..	..	..	×
— <i>læsa</i>	25	..	..	..	..	..	..	..	..	..	..	..	×
— <i>villosa</i> , var.	26	..	..	..	..	..	..	..	..	..	..	..	×
— <i>lachrymalis</i>	26	..	..	..	..	..	..	..	..	..	..	..	×
— <i>baccata</i>	26	..	..	..	..	..	..	..	..	..	..	..	×
— <i>polyptycha</i> , var.	29	..	..	..	..	..	..	..	..	..	..	..	×
<i>Cytheridea punctillata</i>	39	..	..	..	..	..	..	..	..	..	..	..	×
<i>Cypris Browniana</i>	9	..	..	..	..	..	..	..	..	..	..	..	×		×	×
— — var. <i>tumida</i>	9	..	..	..	..	..	..	..	..	..	..	..	×		×	×
<i>Cypridopsis obesa</i>	10	..	..	..	..	..	..	..	..	..	..	..	×	×	×	×
<i>Potamocypris trigonalis</i>	11	..	..	..	..	..	..	..	..	..	..	..	×	×	×	×
— — var. <i>lævis</i>	11	..	..	..	..	..	..	..	..	..	..	..	×	×	×	×
<i>Cypris reptans</i>	10	..	..	..	..	..	..	..	..	..	..	..	×	×	×	×
<i>Candona candida</i>	13	..	..	..	..	..	..	..	..	..	..	..	×	×	×	×
<i>Darwinula Stevensoni</i>	18	..	..	..	..	..	..	..	..	..	..	..	×	×	×	×
<i>Cythere Charlesworthiana</i>	22	..	..	..	..	..	..	..	..	..	..	..	×	×	×	×
— <i>Reidii</i>	23	..	..	..	..	..	..	..	..	..	..	..	×	×	×	×
— <i>Woodwardiana</i>	23	..	..	..	..	..	..	..	..	..	..	..	×	×	×	×
— <i>retifastigiata</i> , var. <i>æquior</i>	23	..	..	..	..	..	..	..	..	..	..	..	×	×	×	×
— <i>villosa</i>	25	..	..	..	..	..	..	..	..	..	..	..	×	×	×	×
<i>Cytherura elathrata</i>	44	..	..	..	..	..	..	..	..	..	..	..	×	×	×	×
<i>Cytheridea torosa</i>	36	..	..	..	..	..	..	..	..	..	..	..	×	×	×	×
— — var. <i>teres</i>	36	..	..	..	..	..	..	..	..	..	..	..	×	×	×	×
— <i>Sorbyana</i>	38	..	..	..	..	..	..	..	..	..	..	..	×	×	×	×
<i>Cypris lævis</i>	9	×	×	×	×
<i>Cypridopsis vidua</i>	10	×	×	×	×
<i>Candona compressa</i>	12	×	×	×	×
— <i>subæqualis</i>	13	×	×	×	×

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Names in capitals are *adopted*, in common Roman type are *referred to*, in italics are *synonyms*.

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PLATE I.

All the figures are magnified 25 diameters, except 17 *b*, \times 75 diameters.

FIG.

1. *Cythere recurata*, Jones & Sherborn. Left valve. (Page 21.)
2. *Cytheridea punctillata*, Brady. Right valve. (Page 39.)
3. *Bairdia rhomboidea*, Jones & Sherborn. (Page 18.)
a, Right valve; *b*, approximate outline of left valve.
4. *Cythere villosa*, G. O. Sars. Var. (Page 25.) See also Plate III, figs. 12, *a, b, c*.
a, right valve; *b*, right valve, ventral aspect.
5. *Cythere polyptycha*, Reuss. Var. Right valve. (Page 29.)
6. *Cythere latimarginata*, Speyer. Left valve. (Page 27.)
7. *Cythereis Hoernesii*, Speyer. Right valve. (Page 32.)
- 8, 9, 10, 11. *Cypridea spinigera* (Sowerby). (Page 14.) See also Plate III, figs. 1 *a, b*.
8, Carapace crushed, hence the apparent overlap; 9, left valve; 10, 11, right valves.
12. *Cytherideis gracilis* (Reuss). (Page 46.)
13. *Pontocypris*, sp., and *Xestoleberis Colwellensis*, Jones & Sherborn.
a, *P.*, sp. Right valve. (Page 16.) *b*, *X. Colwellensis*, left valve; *c*, ventral aspect of the carapace. (Page 41.)
14. *Cytheridea perforata* (Roemer). Left valve. (Page 39.)
15. *Bairdia subdeltoidea* (Münster). (Page 16.)
a, Carapace, right valve outwards; *b*, perfect, ventral aspect.
16. *Cytheridea debilis*, Jones. Right valve. (Page 38.)
17. *Cythere gyriplcata*, Jones & Sherborn. (Page 30.)
a, Right valve; *b*, portion magnified.
18. *Cythere plicata*, Münster. Var. Right valve. (Page 29.)
19. *Bythocypris subreniformis*, Jones & Sherborn. (Page 16.)
a, Carapace showing the left valve; *b*, perfect, ventral aspect.
20. *Cytherura Prestwichiana*, Jones & Sherborn. (Page 43.)
a, Right valve; *b*, right valve, ventral aspect.
21. *Cythere costellata* (Roemer). Var. *triangulata*, J. & S. Left valve. (Page 30.)
22. *Cythereis cornuta* (Roemer). Right valve. (Page 35.)
23. *Cythere venustula*, Jones & Sherborn. (Page 20.)
a, Left valve; *b*, left valve, ventral aspect.
24. *Cytherella Dixonii*, Jones & Sherborn. (Page 47.)
a, Carapace showing the smaller (left) valve; *b*, end view of carapace; *c*, carapace showing the left valve; *d*, edge view of a right (large) valve.

13

14



15a

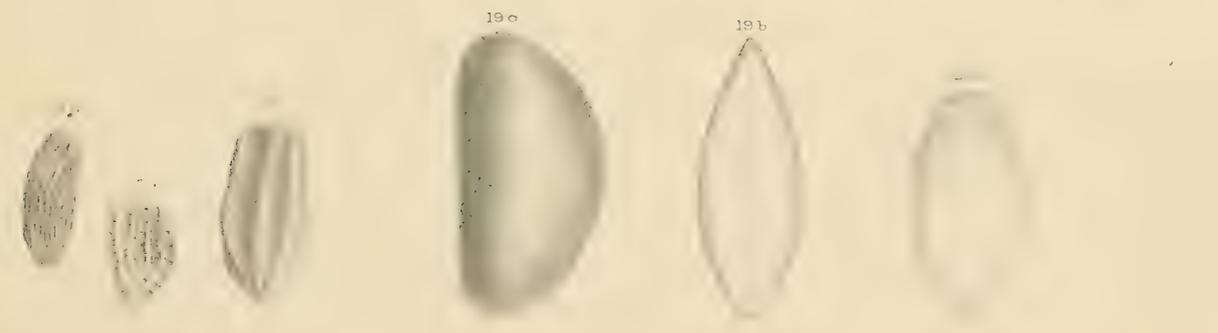
18a

18b



19a

19b



23a

24

25

26

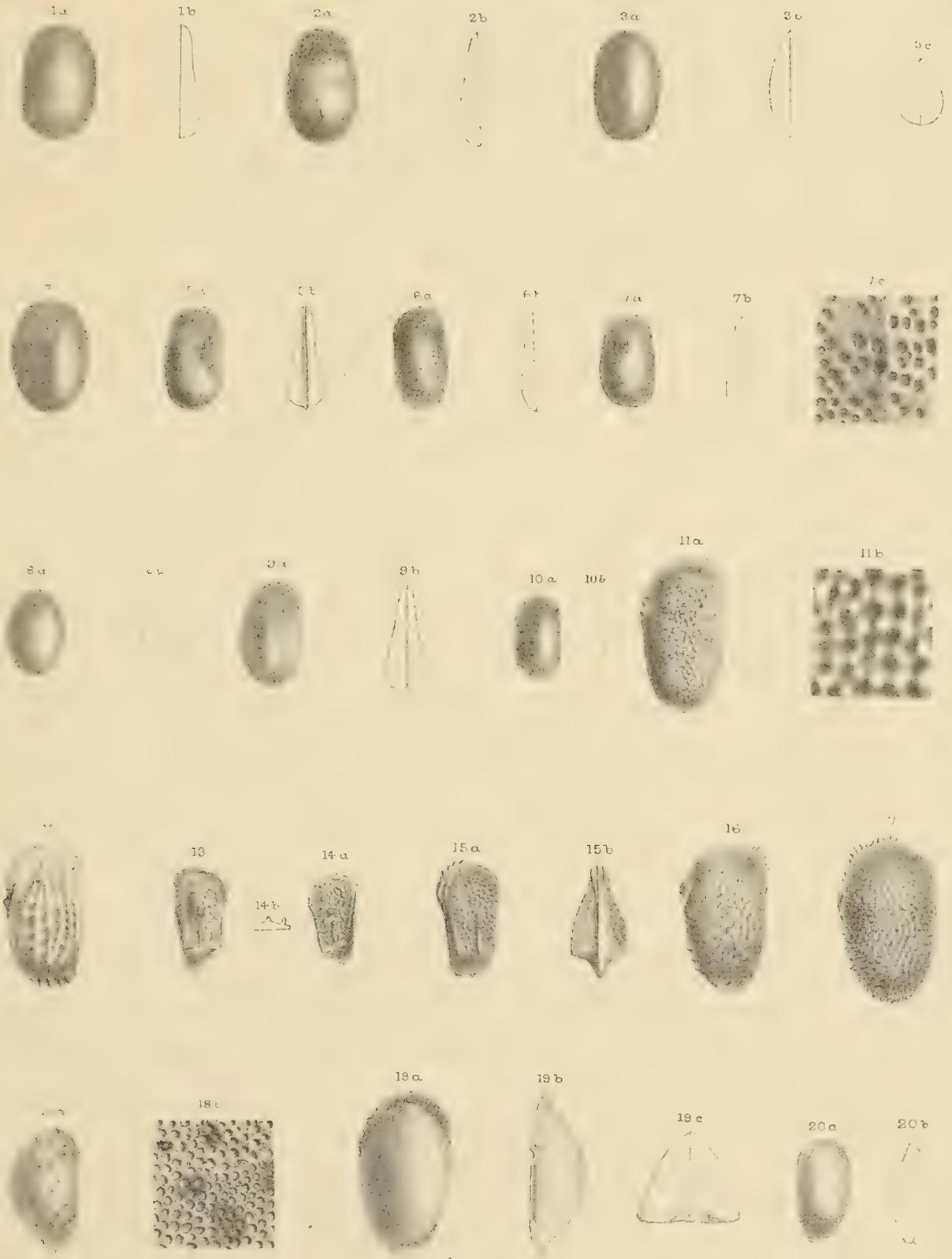


PLATE II.

All the figures are magnified 25 diameters, except 7 *c*, 11 *b*, and 18 *b*, \times 75 diameters.

FIG.

1. *Cytherella Beyrichi*, Reuss. Var. *lævis*, Jones & Sherborn. (Page 48.)
a, Right valve; *b*, edge view.
2. *Cytherella Beyrichi*. Var. 2. (Page 48.)
a, Right valve; *b*, edge view.
3. *Cytherella Roemeri*, Jones & Sherborn. (Page 47.)
a, Right valve; *b*, edge view; *c*, end view of a carapace.
4. *Cytherella Reussii*, Jones & Sherborn. Right valve. (Page 47.)
5. *Cytherella Beyrichi* (Reuss). Var. 3. (Page 48.)
a, Carapace, with left valve outwards; *b*, edge view of carapace.
6. *Cytherella Beyrichi* (Reuss). Var. 4. (Page 48.)
a, Left valve; *b*, edge view.
7. *Cytherella Beyrichi* (Reuss). Var. 5. (Page 48.)
a, Right (larger) valve; *b*, edge view; *c*, portion magnified.
8. *Cytherella Reussii*, Jones & Sherborn. (Page 47.)
a, Right valve; *b*, edge view.
9. *Cytherella Beyrichi* (Reuss). Var. 6. (Page 48.)
a, Right valve; *b*, edge view of carapace.
10. *Cytherella Muensteri* (Roemer). (Page 47.)
a, Left (small) valve; *b*, edge view.
11. *Cythere arenosa*, Bosquet. Var. (Page 27.)
a, Right valve; *b*, portion magnified.
12. *Cythere transenna*, Jones & Sherborn. Right valve. (Page 31.)
13. *Cythereis Prestwichiana*, Jones & Sherborn. Left valve. (Page 33.)
14. *Cythereis Prestwichiana*, Jones & Sherborn. (Page 33.)
a, Right valve; *b*, sectional view across the middle.
15. *Cythereis aranea*, Jones & Sherborn. (Page 33.)
a, Left valve; *b*, ventral aspect of the carapace.
16. *Cythere scabropapulosa*, Jones. Right valve. (Page 28.)
17. *Cythere scabropapulosa*, Jones. Var. *aculeata*, J. & S. Right valve. (Page 28.)
18. *Bairdia Londinensis*, Jones & Sherborn. (Page 17.)
a, Right valve; *b*, portion magnified.
19. *Cytheropteron triangulare* (Reuss). (Page 44.)
a, Right valve; *b*, dorsal aspect of right valve; *c*, end view of carapace.
20. *Krithe Londinensis*, Jones & Sherborn. (Page 41.)
a, Left valve; *b*, ventral aspect of carapace.



C. D. S. & E. C. Knight del.
E. C. Knight lith.

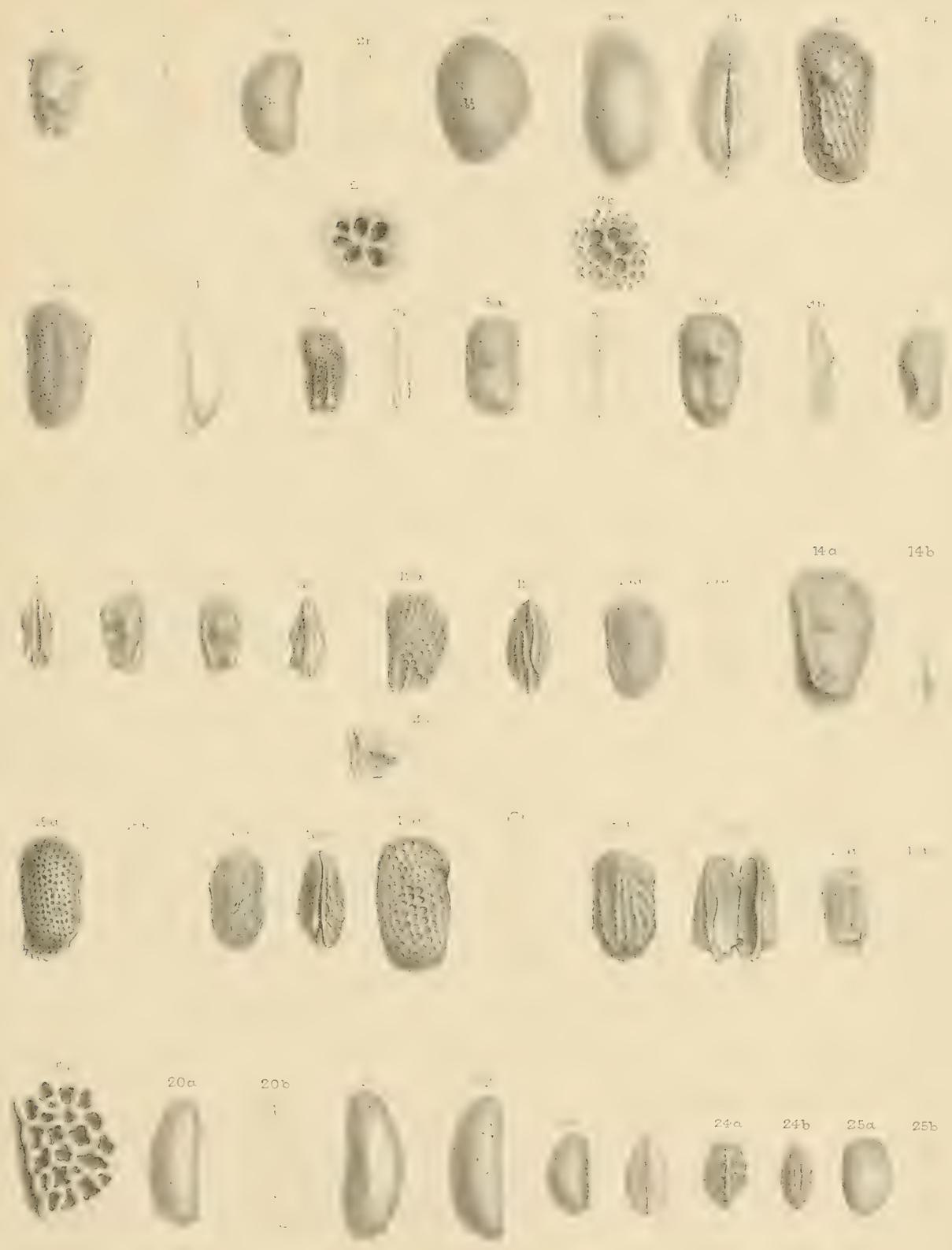
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PLATE III.

All the figures are magnified 25 diameters, except 2 *c*, 3 *b*, and 15 *c*, $\times 75$.

FIG.

1. *Cypridea spinigera* (Sowerby). (Page 14.)
a, Left valve of a young individual; *b*, ventral aspect of a perfect carapace from the Weald Clay of Punfield, Dorset.
2. *Aglaia ? cypridoides*, Jones & Sherborn. (Page 12.)
a, Right valve; *b*, edge view; *c*, muscle spot, magnified.
3. *Bairdia ovoidea*, Jones & Sherborn. (Page 18.)
a, Left valve; *b*, muscle spot magnified.
4. *Cythere consobrina*, Jones. (Page 20.)
a, Left valve; *b*, dorsal aspect of carapace.
5. *Cythere Reidii*, Jones & Sherborn. (Page 23.)
a, Left valve; *b*, ventral aspect.
6. *Cythere retiiastigiata*, Jones. Var. *aquior*, Jones & Sherborn. (Page 23.)
a, Left valve; *b*, ventral aspect.
7. *Cythere lachrymalis*, Jones & Sherborn. (Page 26.)
a, Left valve; *b*, ventral aspect.
8. *Cythere dictyosigma*, Jones. (Page 24.)
a, Right valve; *b*, ventral aspect of carapace.
9. *Cythere trachypora*, Jones. (Page 24.)
a, Left valve; *b*, ventral aspect.
10. *Cythere Charlesworthiana*, Jones & Sherborn. Right valve (damaged). (Page 21.)
11. *Cythere baccata*, Jones & Sherborn. (Page 26.)
a, Right valve; *b*, left valve; *c*, dorsal aspect of carapace; *d*, ventral aspect of carapace. (The same individual.)
12. *Cythere villosa*, G. O. Sars. (Page 25.) See also Plate I, figs. 4 *a*, *b*.
a, Left valve; *b*, ventral aspect of carapace; *c*, hinder portion of a left valve of another individual.
13. *Cythere laesa*, Jones & Sherborn. (Page 25.)
a, Left valve; *b*, ventral aspect.
14. *Cythere Woodwardiana*, Jones & Sherborn. (Page 23.)
a, Left valve; *b*, ventral aspect.
15. *Cythere angulatopora* (Reuss). (Page 22.)
a, Left valve; *b*, ventral aspect; *c*, left valve, portion magnified.
16. *Cythere delirata*, Jones & Sherborn. (Page 28.)
a, Right valve; *b*, ventral aspect of carapace.
17. *Cythere Bosquetiana*, Jones & Sherborn. (Page 22.)
a, Left valve; *b*, ventral aspect.
18. *Cythere Forbesii*, Jones & Sherborn. (Page 31.)
a, Left valve; *b*, carapace open to show interior and ligament.
19. *Cythereis corrugata* (Reuss). Var., Jones & Sherborn. (Page 32.)
a, Right valve; *b*, ventral aspect.
- 20, 21, 22. *Cytheridea elongata*, Brady. (Page 38.)
a, Right valve; *b*, dorsal aspect of carapace; 21. Left valve; 22. Right valve.
23. *Xestoleberis aurantia* (Baird). Var., Jones & Sherborn. (Page 42.)
a, Carapace showing the right valve; *b*, dorsal aspect of carapace.
24. *Cytherura clathrata*, G. O. Sars. (Page 44.)
a, Left valve; *b*, dorsal aspect of carapace.
25. *Cytherella*, sp. (Page 48.)
a, Right valve; *b*, edge view.



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