

琉球大学学術リポジトリ

本州北部、津軽盆地の鮮新世－更新世貝形虫

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Explanation of Plate 1

Figs. 1,2. *Argilloecia* sp.

1. Lateral view of right immature valve (UMUT-CA 15742, Loc. OT5). $\times 73$.
2. Lateral view of left immature valve (UMUT-CA 15743, Loc. OT5). $\times 73$.

Fig. 3. *Neocytherideis?* sp.

Lateral view of right valve (UMUT-CA 15744, Loc. S3). $\times 91$.

Fig. 4. *Propontocypris* sp.

Lateral view of left immature valve (UMUT-CA 15741, Loc. OT6). $\times 83$.

Figs. 5,6. *Eucythere* sp. 1

5. Lateral view of left valve (UMUT-CA 15747, Loc. OT6). $\times 70$.
6. Inner view of left valve (UMUT-CA 15747). $\times 70$.

Figs. 7,8. *Eucythere* sp. 2

7. Lateral view of right valve (UMUT-CA 15748, Loc. O4). $\times 67$.
8. Inner view of right valve (UMUT-CA 15748). $\times 71$.

Figs. 9–12. *Pontocythere* sp.

9. Lateral view of right valve (UMUT-CA 15745, Loc. T1). $\times 69$.
10. Lateral view of left valve (UMUT-CA 15746, Loc. T1). $\times 71$.
11. Inner view of left valve (UMUT-CA 15746). $\times 71$.
12. Inner view of right valve (UMUT-CA 15745). $\times 70$.

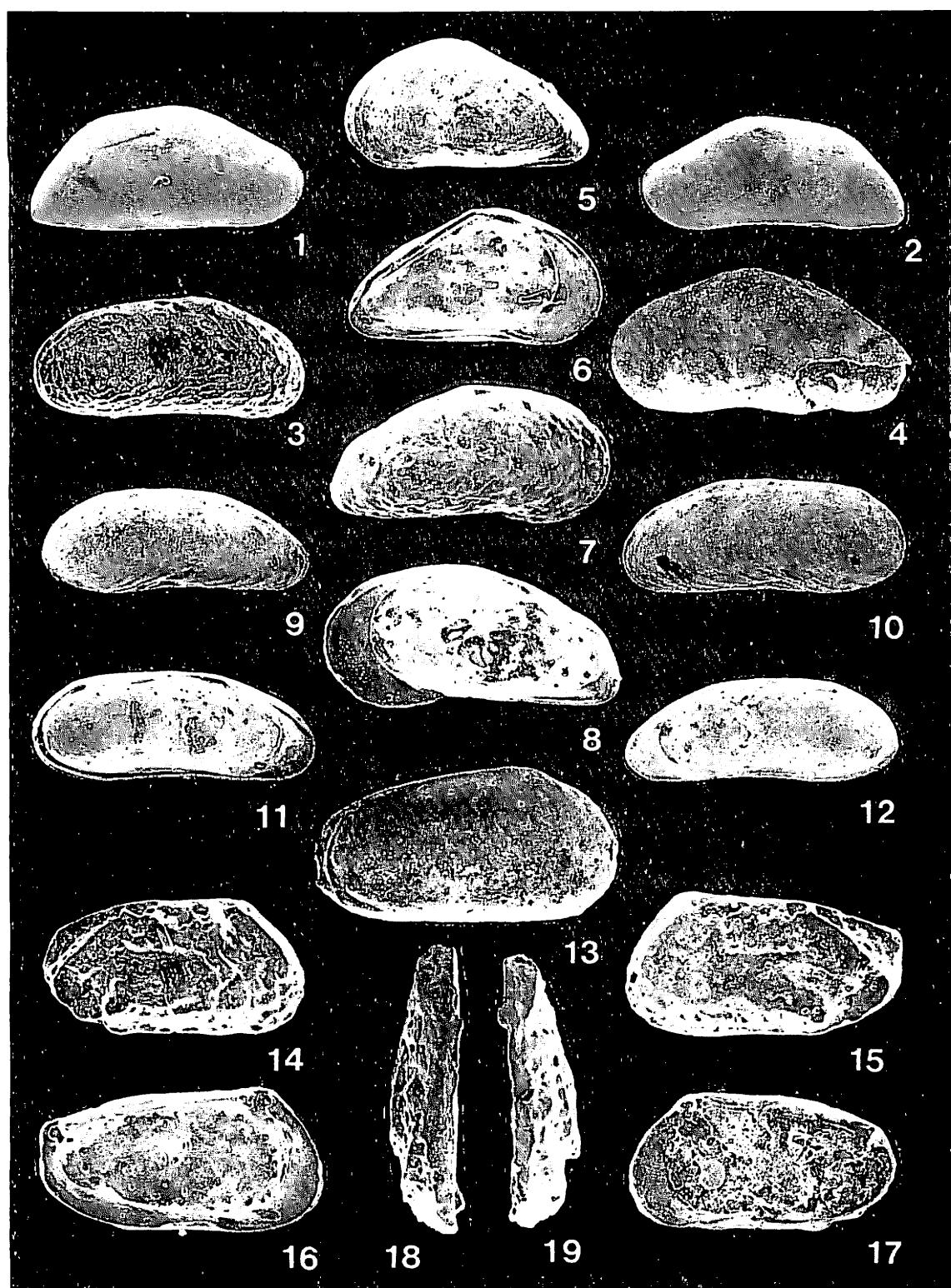
Fig. 13. *Munseyella* sp.

Lateral view of right immature valve (UMUT-CA 15756, Loc. O5). $\times 92$.

Figs. 14–19. *Kotoracythere* sp.

14. Lateral view of right valve (UMUT-CA 15754, Loc. SH1). $\times 72$.
15. Lateral view of left valve (UMUT-CA 15755, Loc. SH1). $\times 72$.
16. Inner view of left valve (UMUT-CA 15755). $\times 72$.
17. Inner view of right valve (UMUT-CA 15754). $\times 72$.
18. Dorsal view of left valve (UMUT-CA 15755) $\times 75$.
19. Dorsal view of right valve (UMUT-CA 15754). $\times 75$.

Plate 1



Explanation of Plate 2

Figs. 1–7. *Pectocythere daishakaensis* n. sp.

1. Right lateral view of female carapace (UMUT-CA 15750, Loc. SH1). $\times 76$.
2. Lateral view of left female valve (holotype, UMUT-CA 15749, Loc. TA1). $\times 76$.
3. Lateral view of right male valve (UMUT-CA 15752, Loc. SH1). $\times 76$.
4. Left lateral view of male carapace (UMUT-CA 15753, Loc. SH1). $\times 76$.
5. Inner view of left female valve (holotype, UMUT-CA 15749). $\times 76$.
6. Inner view of right male valve (UMUT-CA 15752). $\times 76$.
7. Dorsal view of female carapace (UMUT-CA 15751, Loc. SH1). $\times 76$.

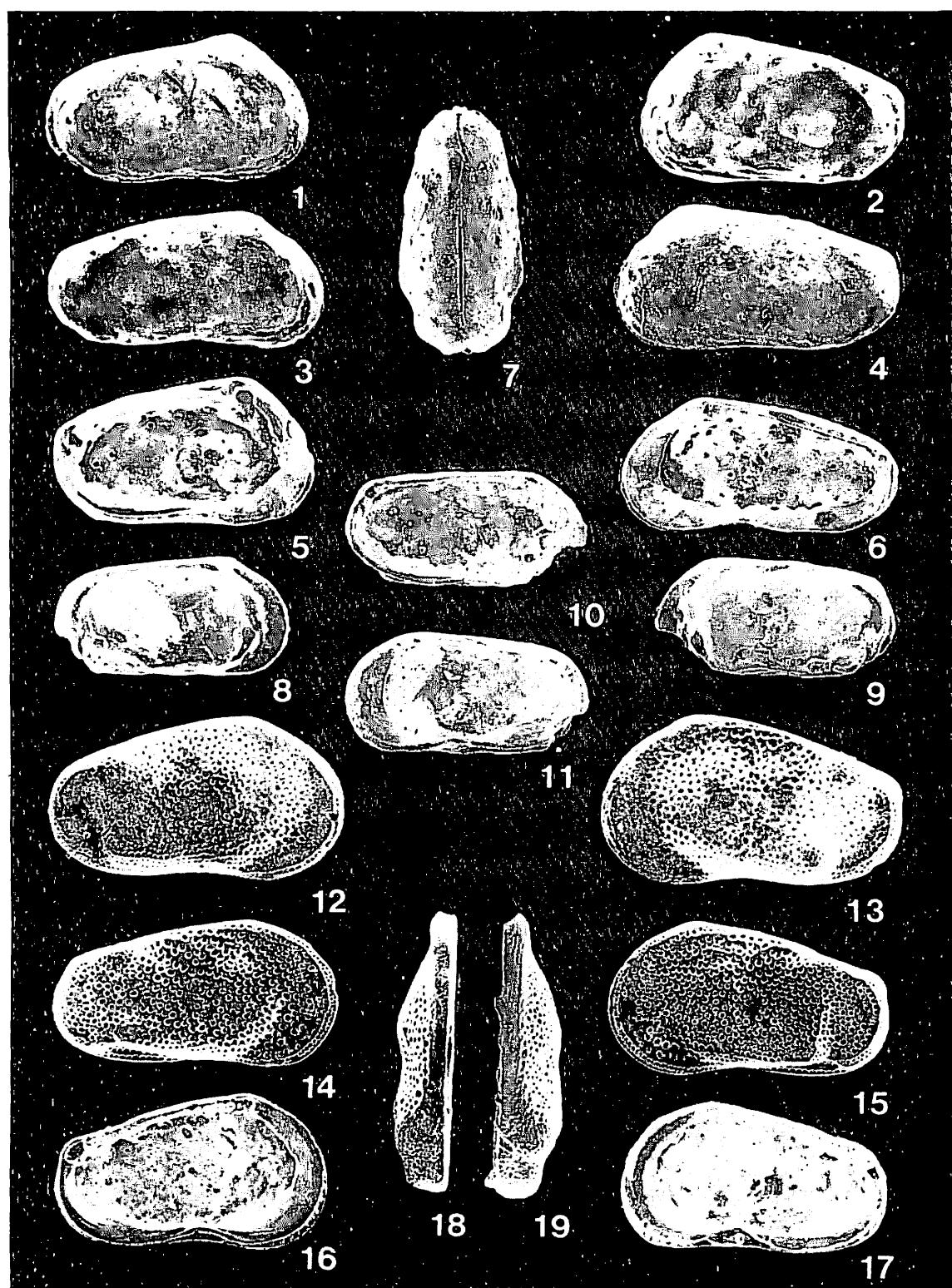
Figs. 8–11. *Callistocythere* sp.

8. Lateral view of right valve (UMUT-CA 15757, Loc. OT3). $\times 95$.
9. Lateral view of left valve (UMUT-CA 15758, Loc. K1). $\times 95$.
10. Inner view of left valve (UMUT-CA 15758). $\times 95$.
11. Inner view of right valve (UMUT-CA 15757). $\times 100$.

Figs. 12–19. *Cluthia japonica* n. sp.

12. Lateral view of right female valve (UMUT-CA 15760, Loc. S3). $\times 118$.
13. Lateral view of left female valve (holotype, UMUT-CA 15759, Loc. OT3). $\times 118$.
14. Lateral view of right male valve (UMUT-CA 15761, Loc. OT2). $\times 112$.
15. Lateral view of left male valve (UMUT-CA 15762, Loc. OT2). $\times 122$.
16. Inner view of left male valve (UMUT-CA 15762). $\times 114$.
17. Inner view of right male valve (UMUT-CA 15761). $\times 114$.
18. Dorsal view of left female valve (holotype, UMUT-CA 15759). $\times 115$.
19. Dorsal view of right female valve (UMUT-CA 15760). $\times 115$.

Plate 2



Explanation of Plate 3

Figs. 1,2. *Schizocythere* sp.

1. Lateral view of right valve (UMUT-CA 15763, Loc. OT3). $\times 63$.
2. Inner view of right valve (UMUT-CA 15763). $\times 70$.

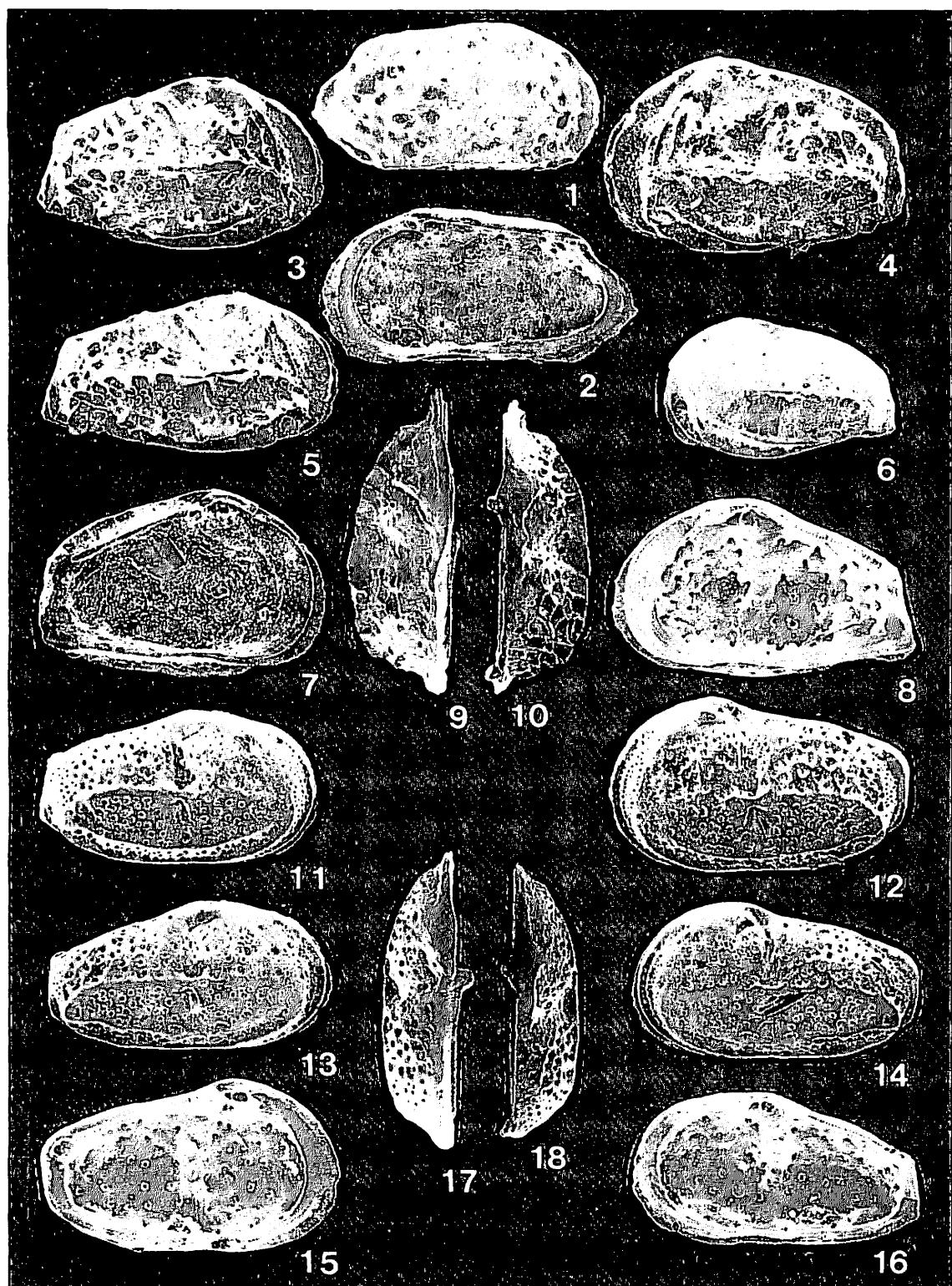
Figs. 3—10. *Paijenborchella hanaii* n. sp.

3. Lateral view of right female valve (holotype, UMUT-CA 15768, Loc. OT1). $\times 67$.
4. Lateral view of left female valve (UMUT-CA 15769, Loc. SH2). $\times 71$.
5. Lateral view of right male valve (UMUT-CA 15770, Loc. SH2). $\times 67$.
6. Lateral view of left immature valve (UMUT-CA 15771, Loc. OT3). $\times 67$.
7. Inner view of left female valve (UMUT-CA 15769). $\times 66$.
8. Inner view of right female valve (holotype, UMUT-CA 15768). $\times 71$.
9. Dorsal view of left female valve (UMUT-CA 15769). $\times 71$.
10. Dorsal view of right female valve (holotype, UMUT-CA 15768). $\times 67$.

Figs. 11—18. *Paijenborchella tsurugasakensis* n. sp.

11. Lateral view of right female valve (UMUT-CA 15765, Loc. O5). $\times 80$.
12. Lateral view of left female valve (holotype, UMUT-CA 15764, Loc. O5). $\times 82$.
13. Lateral view of right male valve (UMUT-CA 15766, Loc. O5). $\times 82$.
14. Lateral view of left male valve (UMUT-CA 15767, Loc. O5). $\times 82$.
15. Inner view of left female valve (holotype, UMUT-CA 15764). $\times 82$.
16. Inner view of right female valve (UMUT-CA 15765). $\times 84$.
17. Dorsal view of left female valve (holotype, UMUT-CA 15764). $\times 82$.
18. Dorsal view of right female valve (UMUT-CA 15765). $\times 82$.

Plate 3



Explanation of Plate 4

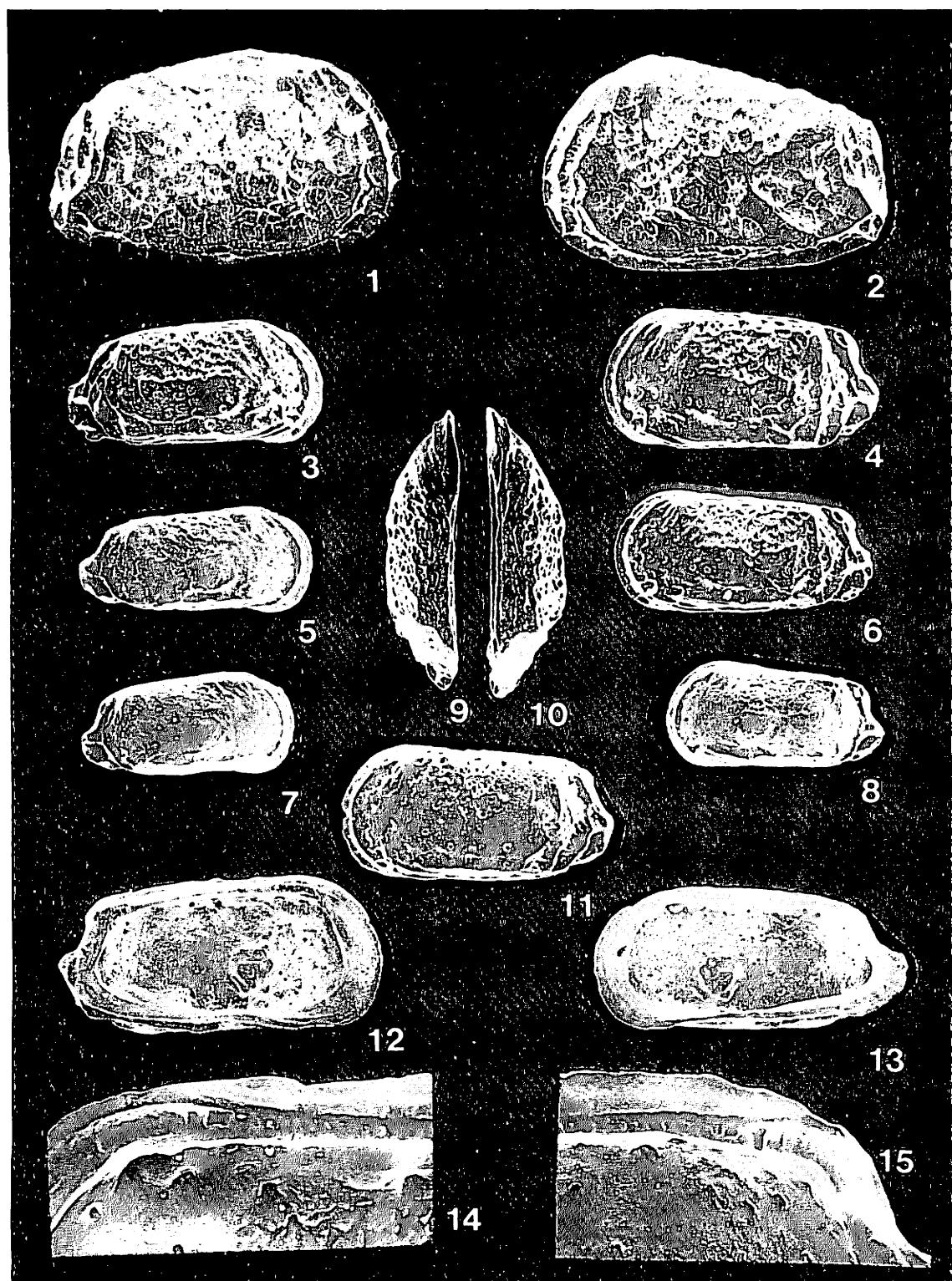
Figs 1,2. *Elofsonella concinna* (Jones, 1857).

1. Lateral view of right female valve (UMUT-CA 15772, Loc. K1). $\times 63.$
2. Lateral view of left female valve (UMUT-CA 15773, Loc. K1). $\times 63.$

Figs. 3–15. *Finmarchinella rectangulata* n. sp.

3. Lateral view of right female valve (UMUT-CA 15826, Loc. O4). $\times 71.$
4. Lateral view of left female valve (holotype, UMUT-CA 15825, Loc. O4). $\times 70.$
5. Lateral view of right male valve (UMUT-CA 15833, Loc. O1). $\times 71.$
6. Lateral view of left male valve (UMUT-CA 15834, Loc. O3). $\times 73.$
7. Lateral view of right immature valve (UMUT-CA 15835, Loc. N2). $\times 72.$
8. Lateral view of left immature valve (UMUT-CA 15836, Loc. S3). $\times 76.$
9. Dorsal view of left female valve (UMUT-CA 15830, Loc. O3). $\times 75.$
10. Dorsal view of right female valve (UMUT-CA 15827, Loc. OT5). $\times 73.$
11. Lateral view of left female valve (UMUT-CA 15830, Loc. S3). $\times 72.$
12. Inner view of left female valve (UMUT-CA 15832, Loc. O4). $\times 81.$
13. Inner view of right female valve (UMUT-CA 15828, Loc. N2). $\times 85.$
14. Anterior part of hinge of right female valve (UMUT-CA 15829, Loc. O4). $\times 194.$
15. Posterior part of hinge of right female valve (UMUT-CA 15829). $\times 194.$

Plate 4



Explanation of Plate 5

Figs. 1–9. *Finmarchinella daishakaensis* n. sp.

1. Lateral view of right female valve (UMUT-CA 15838, Loc. SH4). $\times 76$.
2. Lateral view of left female valve (holotype, UMUT-CA 15837, Loc. K1). $\times 74$.
3. Lateral view of right male valve (UMUT-CA 15843, Loc. SH4). $\times 74$.
4. Lateral view of left male valve (UMUT-CA 15844, Loc. OT4). $\times 71$.
5. Lateral view of right immature valve (UMUT-CA 15845, Loc. K1). $\times 72$.
6. Lateral view of left immature valve (UMUT-CA 15846, Loc. K1). $\times 69$.
7. Inner view of left female valve (UMUT-CA 15840, Loc. OT5). $\times 83$.
8. Inner view of right female valve (UMUT-CA 15839, Loc. SH4). $\times 83$.
9. Dorsal view of female carapace (UMUT-CA 15842, Loc. SH3). $\times 70$.

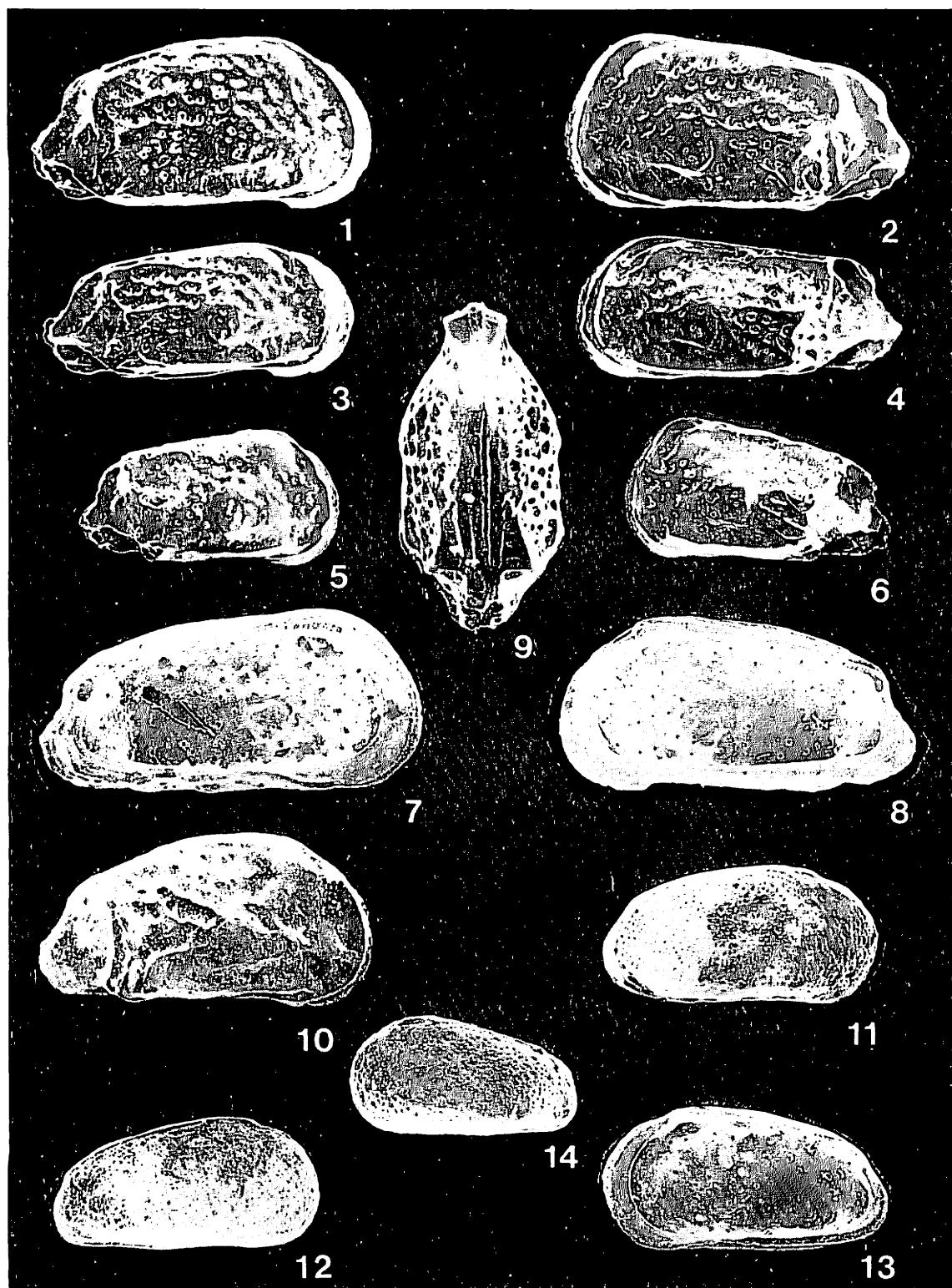
Fig. 10. *Finmarchinella* sp.

- Lateral view of right valve (UMUT-CA 15847, Loc. SW1). $\times 62$.

Figs. 11–14. *Finmarchinella?* sp.

11. Lateral view of right valve (UMUT-CA 15848, Loc. OT2). $\times 100$.
12. Lateral view of right immature valve (UMUT-CA 15849, Loc. OT5). $\times 105$.
13. Inner view of right valve (UMUT-CA 15848). $\times 105$.
14. Lateral view of left immature valve (UMUT-CA 15850, Loc. S7). $\times 105$.

Plate 5



Explanation of Plate 6

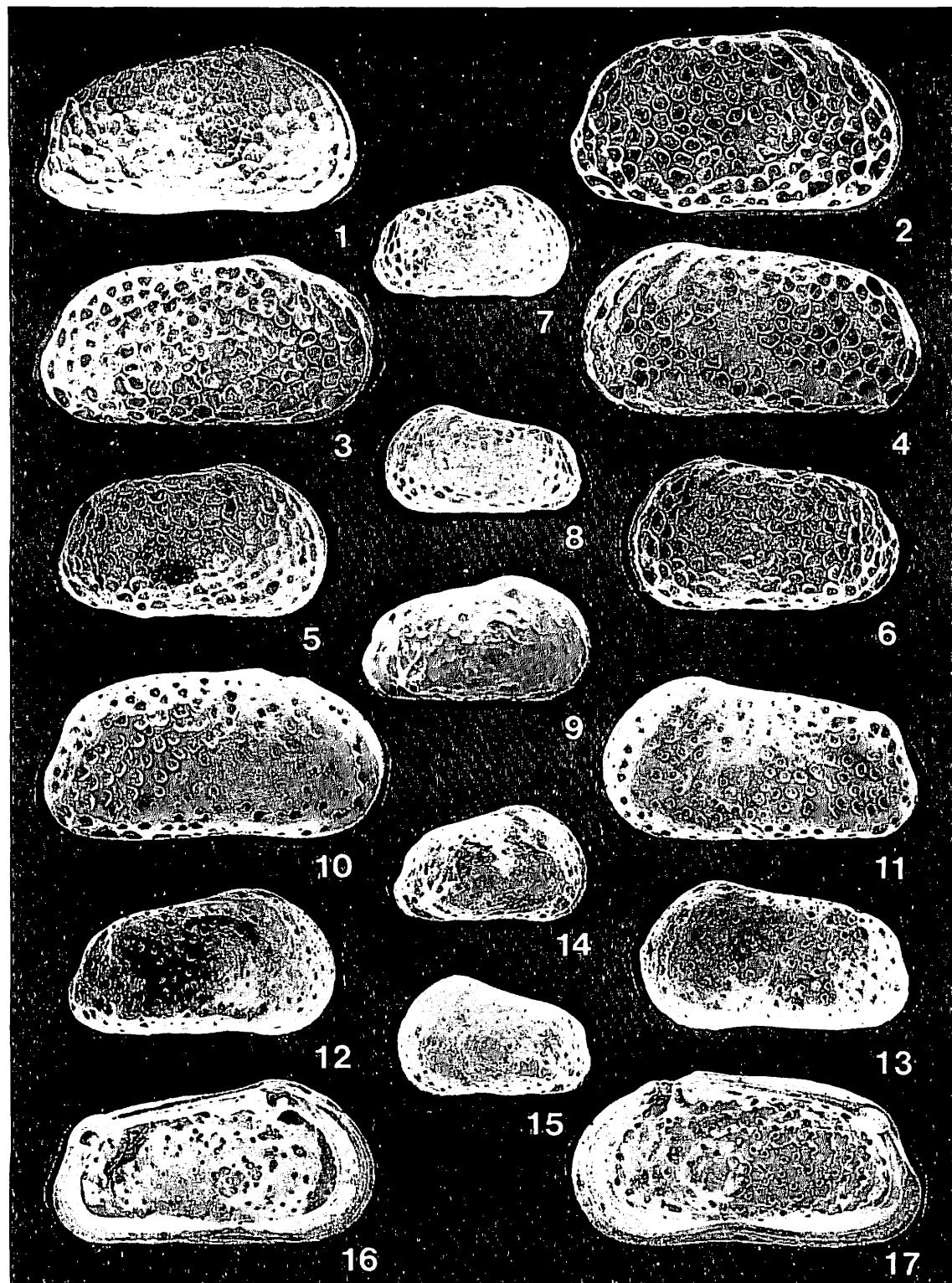
Fig. 1. *Urocythereis?* sp.

Lateral view of right immature valve (UMUT-CA 15811, Loc. T1). $\times 63$.

Figs. 2–17. *Urocythereis? gorokuensis* Ishizaki, 1966.

2. Lateral view of right female valve (UMUT-CA 15778, Loc. S3). $\times 50$.
3. Lateral view of right male valve (UMUT-CA 15779, Loc. OT3). $\times 55$.
4. Lateral view of left male valve (UMUT-CA 15780, Loc. SH4). $\times 55$.
5. Lateral view of right immature valve at A-1 stage (UMUT-CA 15781, Loc. S7). $\times 50$.
6. Lateral view of left immature valve at A-1 stage (UMUT-CA 15782, Loc. OT3). $\times 50$.
7. Lateral view of right immature valve at A-2 stage (UMUT-CA 15783, Loc. S7). $\times 50$.
8. Lateral view of left immature valve at A-2 stage (UMUT-CA 15784, Loc. OT3). $\times 50$.
9. Lateral view of right immature valve (UMUT-CA 15785, Loc. OT2). $\times 50$.
10. Lateral view of right valve (UMUT-CA 15786, Loc. S7). $\times 54$.
11. Lateral view of left valve (UMUT-CA 15787, Loc. S7). $\times 54$.
12. Lateral view of right immature valve at A-1 stage (UMUT-CA 15788, Loc. K1). $\times 50$.
13. Lateral view of left immature valve at A-1 stage (UMUT-CA 15789, Loc. K1). $\times 50$.
14. Lateral view of right immature valve at A-2 stage (UMUT-CA 15790, Loc. K1). $\times 50$.
15. Lateral view of left immature valve at A-2 stage (UMUT-CA 15791, Loc. S7). $\times 50$.
16. Inner view of left valve (UMUT-CA 15787). $\times 54$.
17. Inner view of right valve (UMUT-CA 15786). $\times 54$.

Plate 6

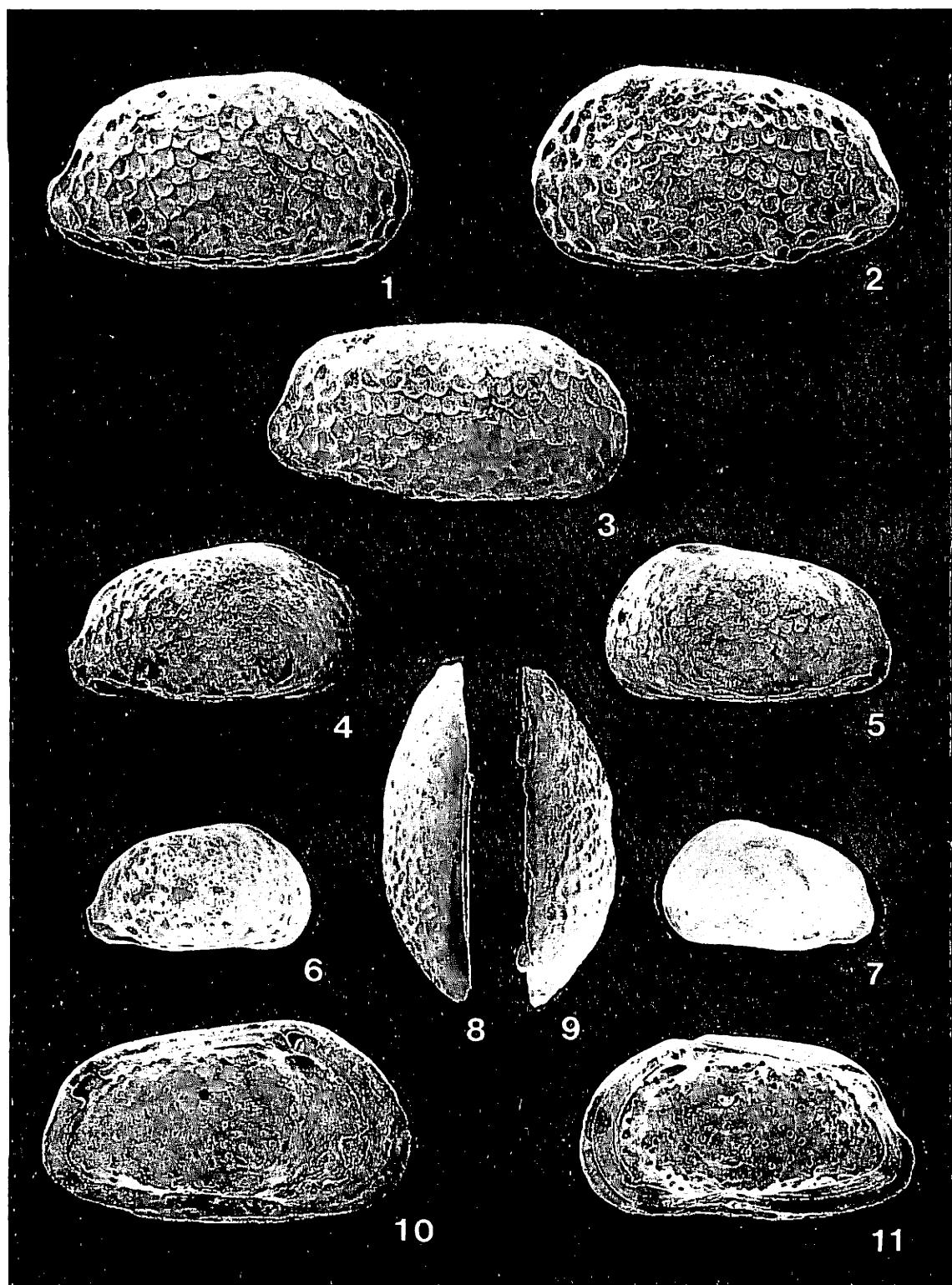


Explanation of Plate 7

Figs. 1–11. *Urocythereis? abei* n. sp.

1. Lateral view of right female valve (UMUT-CA 15793, Loc. OT3). ×53.
2. Lateral view of left female valve (holotype, UMUT-CA 15792, Loc. OT3). ×53.
3. Lateral view of right male valve (UMUT-CA 15798, Loc. OT4). ×48.
4. Lateral view of right immature valve at A-1 stage (UMUT-CA 15799, Loc. T1). ×53.
5. Lateral view of left immature valve at A-1 stage (UMUT-CA 15800, Loc. T1). ×53.
6. Lateral view of right immature valve at A-2 stage (UMUT-CA 15801, Loc. T1). ×53.
7. Lateral view of left immature valve at A-2 stage (UMUT-CA 15802, Loc. T3). ×53.
8. Dorsal view of left female valve (UMUT-CA 15796, Loc. OT3). ×48.
9. Dorsal view of right female valve (UMUT-CA 15794, Loc. OT3). ×48.
10. Inner view of left female valve (UMUT-CA 15797, Loc. OT4). ×50.
11. Inner view of right female valve (UMUT-CA 15795, Loc. T1). ×50.

Plate 7



Explanation of Plate 8

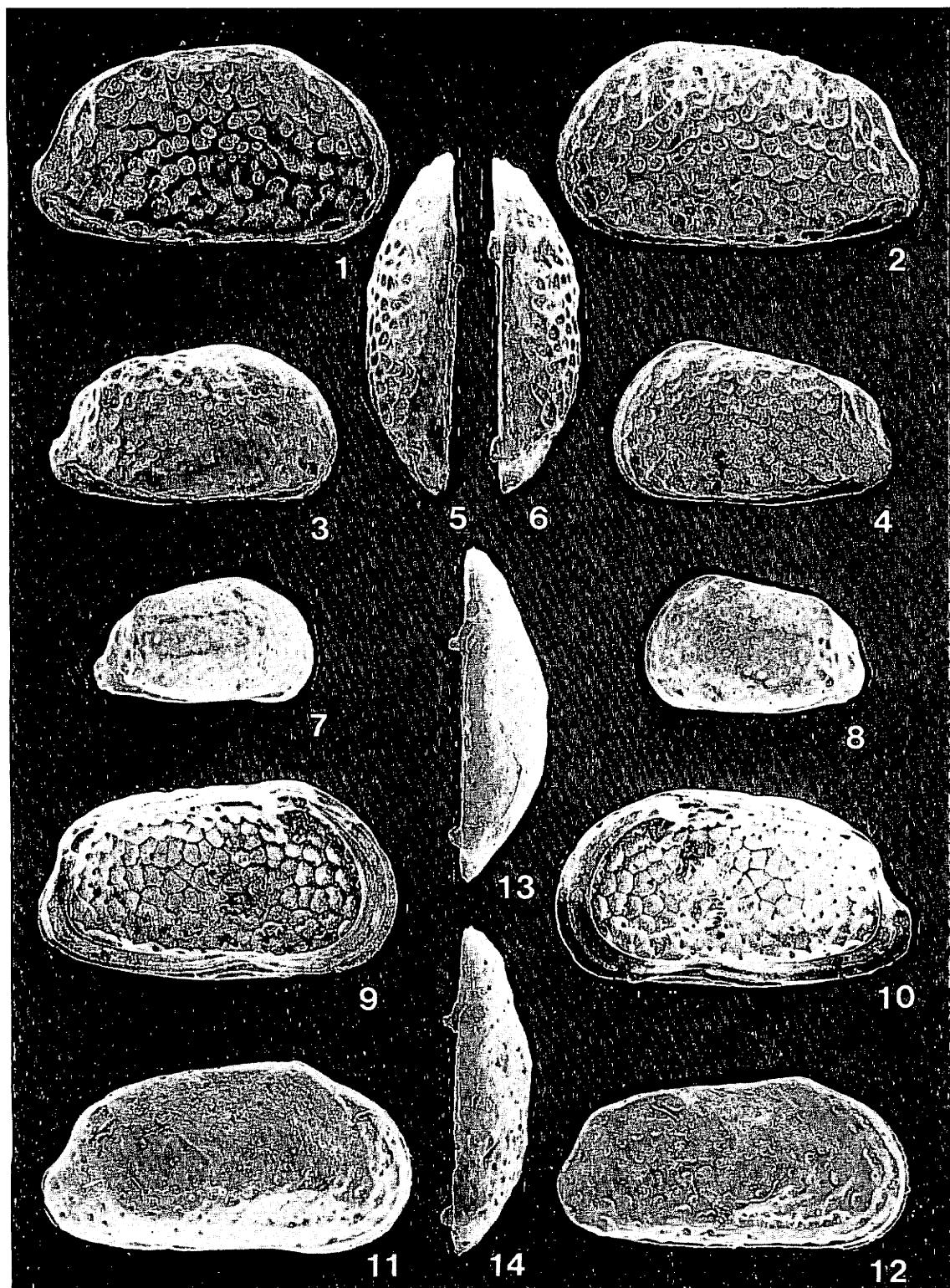
Figs. 1–10. *Urocythereis?* *postero-costata* n. sp.

1. Lateral view of right valve (UMUT-CA 15804, Loc. T1). ×53.
2. Lateral view of left valve (holotype, UMUT-CA 15803, Loc. T1). ×53.
3. Lateral view of right immature valve at A-1 stage (UMUT-CA 15807, Loc. T1). ×53.
4. Lateral view of left immature valve at A-1 stage (UMUT-CA 15808, Loc. T1). ×53.
5. Dorsal view of left valve (holotype, UMUT-CA 15803). ×50.
6. Dorsal view of right valve (UMUT-CA 15804). ×50.
7. Lateral view of right immature valve at A-2 stage (UMUT-CA 15809, Loc. OT5). ×53.
8. Lateral view of left immature valve at A-2 stage (UMUT-CA 15810, Loc. T1). ×53.
9. Inner view of left valve (UMUT-CA 15806, Loc. T1). ×50.
10. Inner view of right valve (UMUT-CA 15805, Loc. T1). ×50.

Figs. 11–14. *Normanicythere japonica* n. sp.

11. Lateral view of right female valve (holotype, UMUT-CA 15774, Loc. SH1). ×52.
12. Lateral view of right male valve (UMUT-CA 15775, Loc. OT3). ×52.
13. Dorsal view of right female valve (holotype, UMUT-CA 15774). ×47.
14. Dorsal view of right male valve (UMUT-CA 15775). ×47.

Plate 8



Explanation of Plate 9

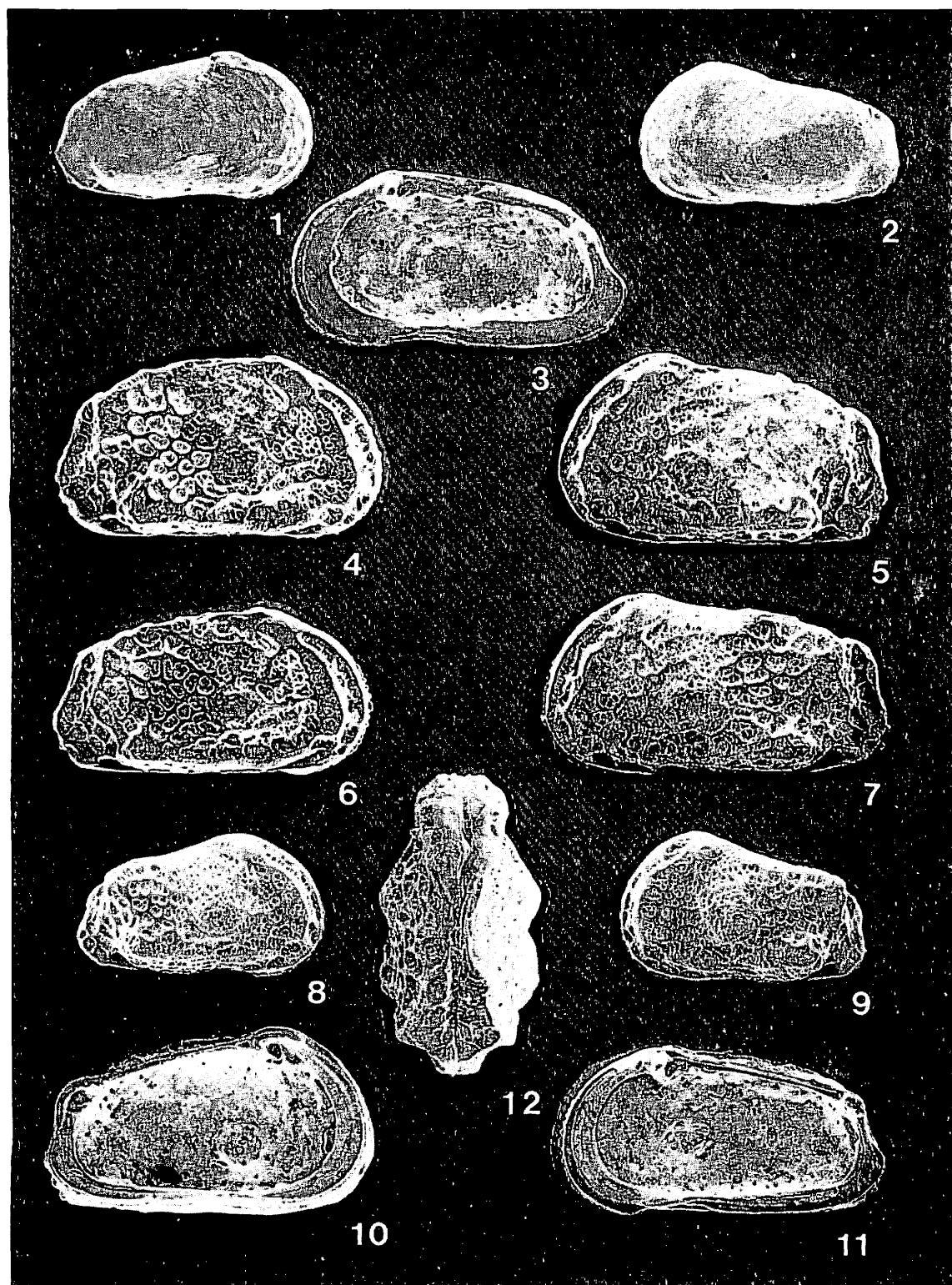
Figs. 1–3. *Normanicythere japonica* n. sp.

1. Lateral view of right immature valve (UMUT-CA 15776, Loc. SH1). $\times 55$.
2. Lateral view of left immature valve (UMUT-CA 15777, Loc. SH1). $\times 56$.
3. Inner view of right female valve (holotype, UMUT-CA 15774). $\times 47$.

Figs. 4–12. *Patagonacythere robusta* n. sp.

4. Lateral view of right female valve (holotype, UMUT-CA 15818, Loc. SH1). $\times 50$.
5. Lateral view of left female valve (UMUT-CA 15819, Loc. SH1). $\times 52$.
6. Lateral view of right male valve (UMUT-CA 15820, Loc. OT1). $\times 50$.
7. Lateral view of left male valve (UMUT-CA 15821, Loc. SH1). $\times 52$.
8. Lateral view of right immature valve (UMUT-CA 15823, Loc. O4). $\times 57$.
9. Lateral view of left immature valve (UMUT-CA 15824, Loc. OT3). $\times 57$.
10. Inner view of left female valve (UMUT-CA 15819). $\times 52$.
11. Inner view of right male valve (UMUT-CA 15820). $\times 52$.
12. Dorsal view of male carapace (UMUT-CA 15822, Loc. SH1). $\times 52$.

Plate 9



Explanation of Plate 10

Figs. 1–8. *Ambostracon kitanipponica* n. sp.

1. Lateral view of right female valve (UMUT-CA 15813, Loc. S1). $\times 65$.
2. Lateral view of left female valve (holotype, UMUT-CA 15812, Loc. S1). $\times 65$.
3. Lateral view of right male valve (UMUT-CA 15814, Loc. O1). $\times 65$.
4. Lateral view of left male valve (UMUT-CA 15815, Loc. S7). $\times 65$.
5. Inner view of left female valve (holotype, UMUT-CA 15812). $\times 65$.
6. Inner view of right female valve (UMUT-CA 15813). $\times 65$.
7. Dorsal view of left female valve (holotype, UMUT-CA 15812). $\times 65$.
8. Dorsal view of right female valve (UMUT-CA 15813). $\times 65$.

Fig. 9. *Ambostracon* sp. 1

Lateral view of right valve (UMUT-CA 15816, Loc. T1). $\times 47$.

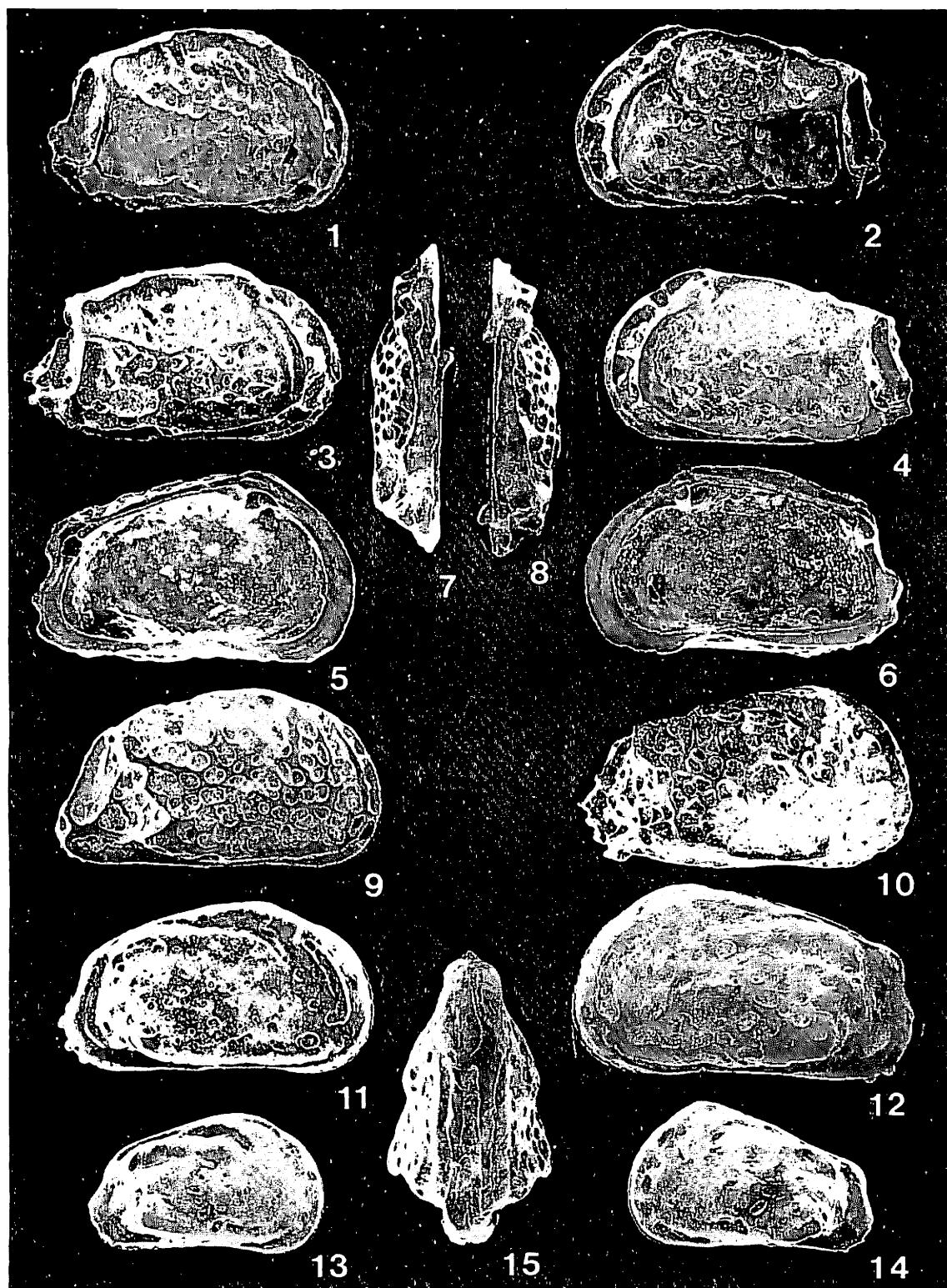
Fig. 10. *Ambostracon* sp. 2

Lateral view of right immature valve (UMUT-CA 15817, Loc. O4). $\times 67$.

Figs. 11–15. *Cornucoquimba alata* n. sp.

11. Lateral view of right male valve (holotype, UMUT-CA 15851, Loc. SW1). $\times 48$.
12. Left lateral view of female carapace (UMUT-CA 15852, Loc. SW1). $\times 57$.
13. Lateral view of right immature valve (UMUT-CA 15853, Loc. T1). $\times 49$.
14. Lateral view of left immature valve (UMUT-CA 15854, Loc. O4). $\times 49$.
15. Dorsal view of female carapace (UMUT-CA 15852). $\times 48$.

Plate 10



Explanation of Plate 11

Fig. 1. *Cornucoquimba alata* n. sp.

Inner view of right male valve (holotype, UMUT-CA 15851). $\times 48$.

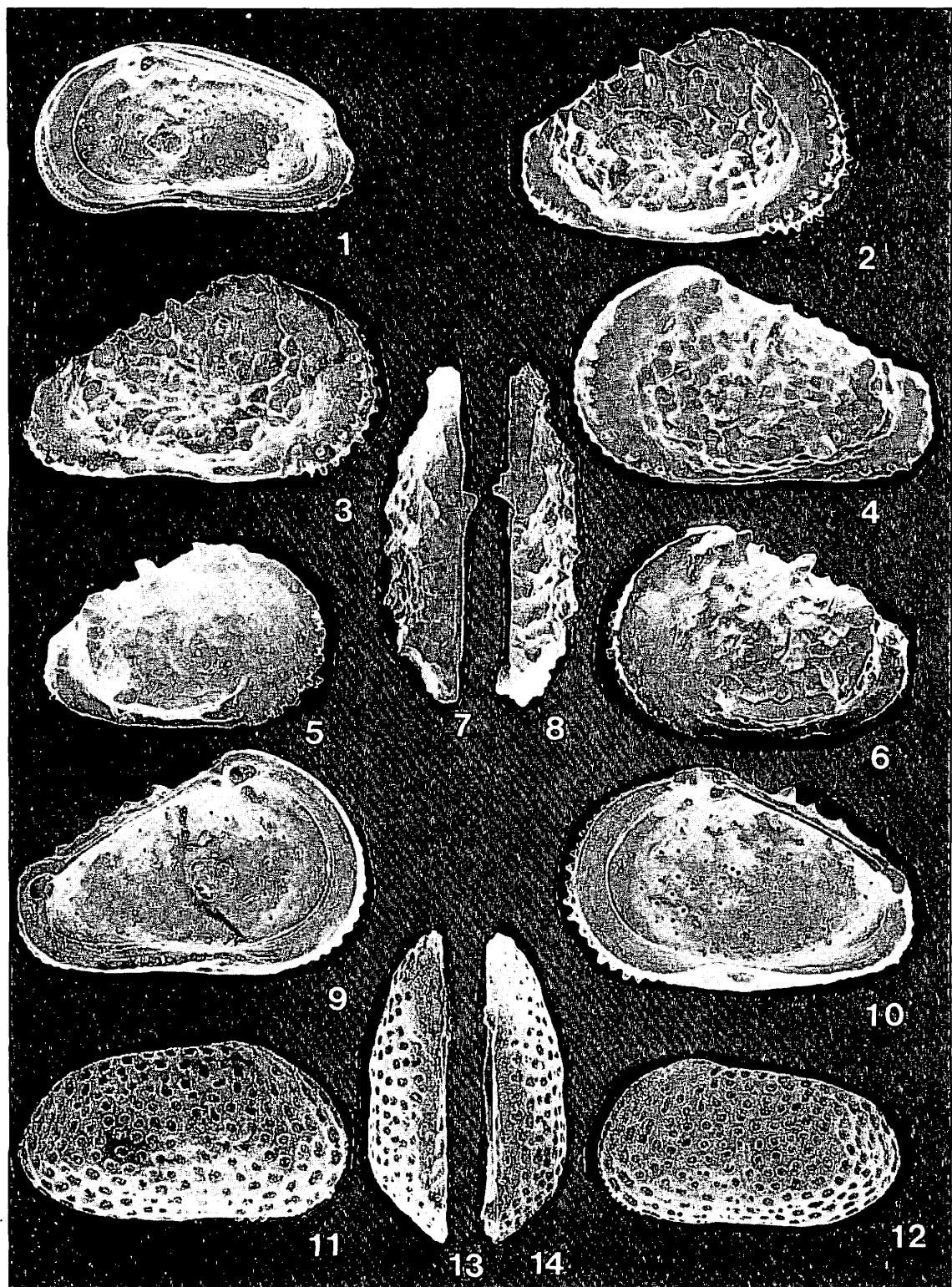
Figs. 2–10. *Acanthocythereis tsurugasakensis* n. sp.

2. Lateral view of right female valve (holotype, UMUT-CA 15855, Loc. S5). $\times 58$.
3. Lateral view of right male valve (UMUT-CA 15856, Loc. S5). $\times 58$.
4. Lateral view of left male valve (UMUT-CA 15857, Loc. S5). $\times 60$.
5. Lateral view of right immature valve (UMUT-CA 15858, Loc. S2). $\times 58$.
6. Lateral view of left immature valve (UMUT-CA 15859, Loc. S2). $\times 58$.
7. Dorsal view of left male valve (UMUT-CA 15857). $\times 58$.
8. Dorsal view of right male valve (UMUT-CA 15856). $\times 58$.
9. Inner view of left male valve (UMUT-CA 15857). $\times 58$.
10. Inner view of right female valve (holotype, UMUT-CA 15855). $\times 58$.

Figs. 11–14. *Celtia* sp.

11. Lateral view of right valve (UMUT-CA 15862, Loc. T1). $\times 55$.
12. Lateral view of left valve (UMUT-CA 15863, Loc. T1). $\times 50$.
13. Dorsal view of left valve (UMUT-CA 15863). $\times 50$.
14. Dorsal view of right valve (UMUT-CA 15862). $\times 50$

Plate 11



Explanation of Plate 12

Figs. 1,2. *Celtia* sp.

1. Inner view of left valve (UMUT-CA 15863). $\times 50$.
2. Inner view of right valve (holotype, UMUT-CA 15862). $\times 55$.

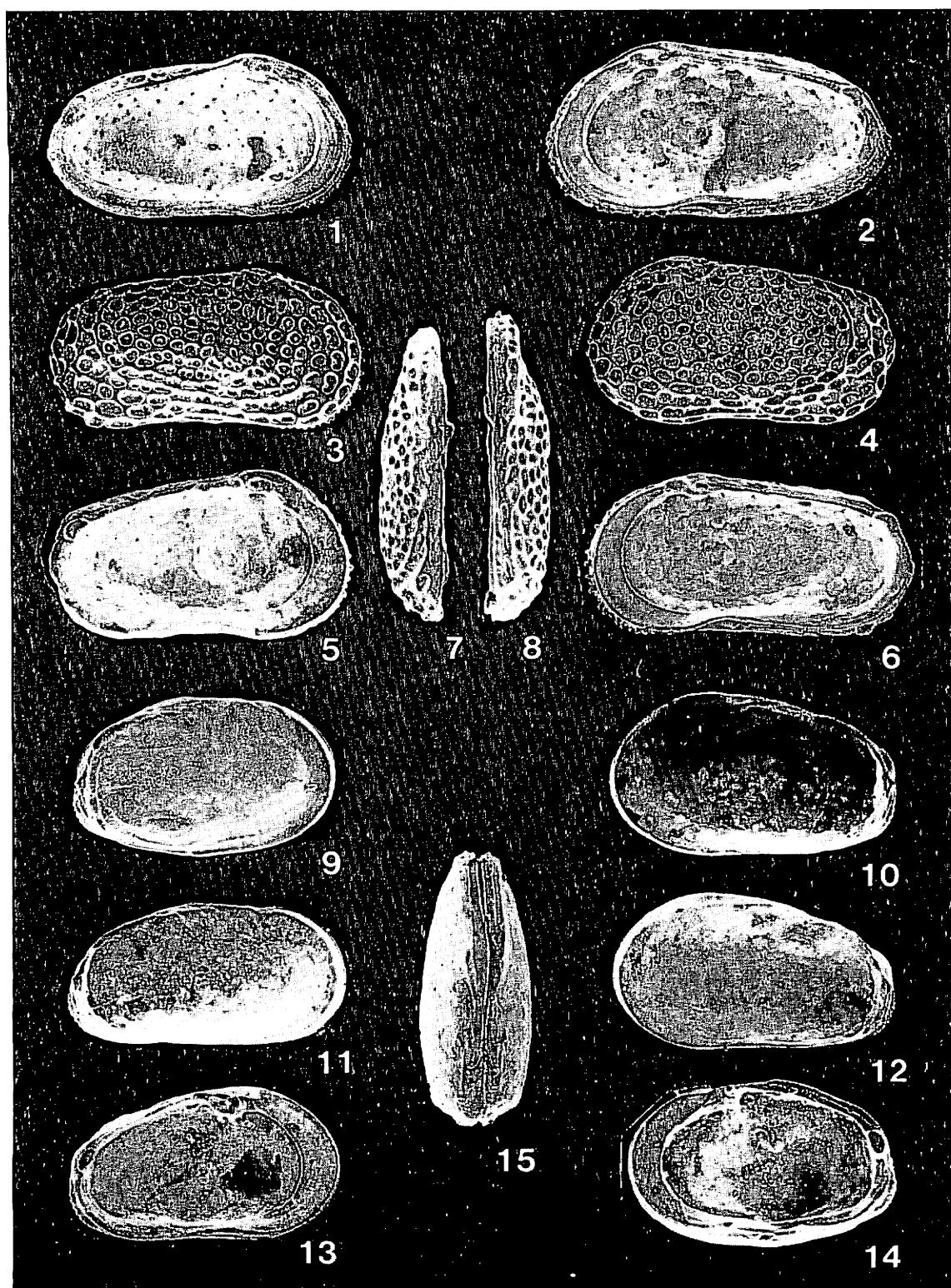
Figs. 3–8. *Murrayina japonica* n. sp.

3. Lateral view of right valve (holotype, UMUT-CA 15860, Loc. SW2). $\times 49$.
4. Lateral view of left valve (UMUT-CA 15861, Loc. SW2). $\times 49$.
5. Inner view of left valve (UMUT-CA 15861). $\times 49$.
6. Inner view of right valve (holotype, UMUT-CA 15860). $\times 49$.
7. Dorsal view of left valve (UMUT-CA 15861). $\times 49$.
8. Dorsal view of right valve (holotype, UMUT-CA 15860). $\times 49$.

Figs. 9–15. *Buntonia hayamii* n. sp.

9. Lateral view of right female valve (holotype, UMUT-CA 15864, Loc. O1). $\times 66$.
10. Lateral view of left female valve (UMUT-CA 15865, Loc. OT5). $\times 69$.
11. Lateral view of right male valve (UMUT-CA 15866, Loc. OT3). $\times 66$.
12. Lateral view of left male valve (UMUT-CA 15867, Loc. SH2). $\times 67$.
13. Inner view of left male valve (UMUT-CA 15867). $\times 64$.
14. Inner view of right female valve (holotype, UMUT-CA 15864). $\times 66$.
15. Dorsal view of male carapace (UMUT-CA 15868, Loc. SH2). $\times 64$.

Plate 12

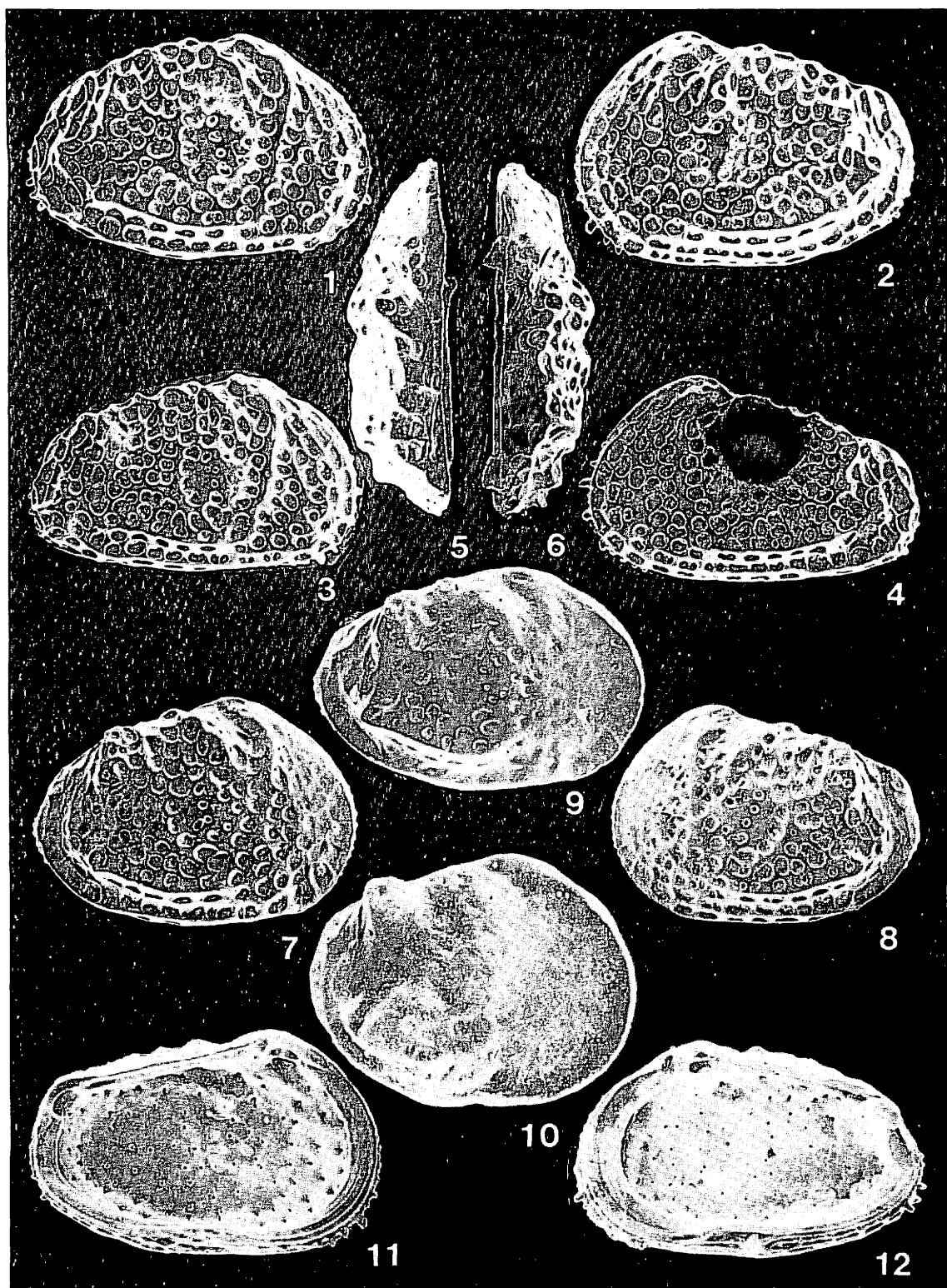


Explanation of Plate 13

Figs. 1–12. *Robertsonites hanaii* n. sp.

1. Lateral view of right female valve (holotype, UMUT-CA 15869, Loc. K1). $\times 51$.
2. Lateral view of left female valve (UMUT-CA 15870, Loc. K1). $\times 51$.
3. Lateral view of right male valve (UMUT-CA 15871, Loc. K1). $\times 54$.
4. Lateral view of left male valve (UMUT-CA 15872, Loc. K1). $\times 51$.
5. Dorsal view of female valve (UMUT-CA 15870). $\times 53$.
6. Dorsal view of right female valve (holotype, UMUT-CA 15869). $\times 53$.
7. Lateral view of right immature valve at A-1 stage (UMUT-CA 15873, Loc. K1). $\times 83$.
8. Lateral view of left immature valve at A-1 stage (UMUT-CA 15874, Loc. K1). $\times 60$.
9. Lateral view of right immature valve at A-3 stage (UMUT-CA 15875, Loc. K1). $\times 100$.
10. Lateral view of right immature valve at A-5 satge (UMUT-CA 15876, Loc. K1). $\times 149$.
11. Inner view of left female valve (UMUT-CA 15870). $\times 53$.
12. Inner view of right female valve (holotype, UMUT-CA 15869). $\times 52$.

Plate 13

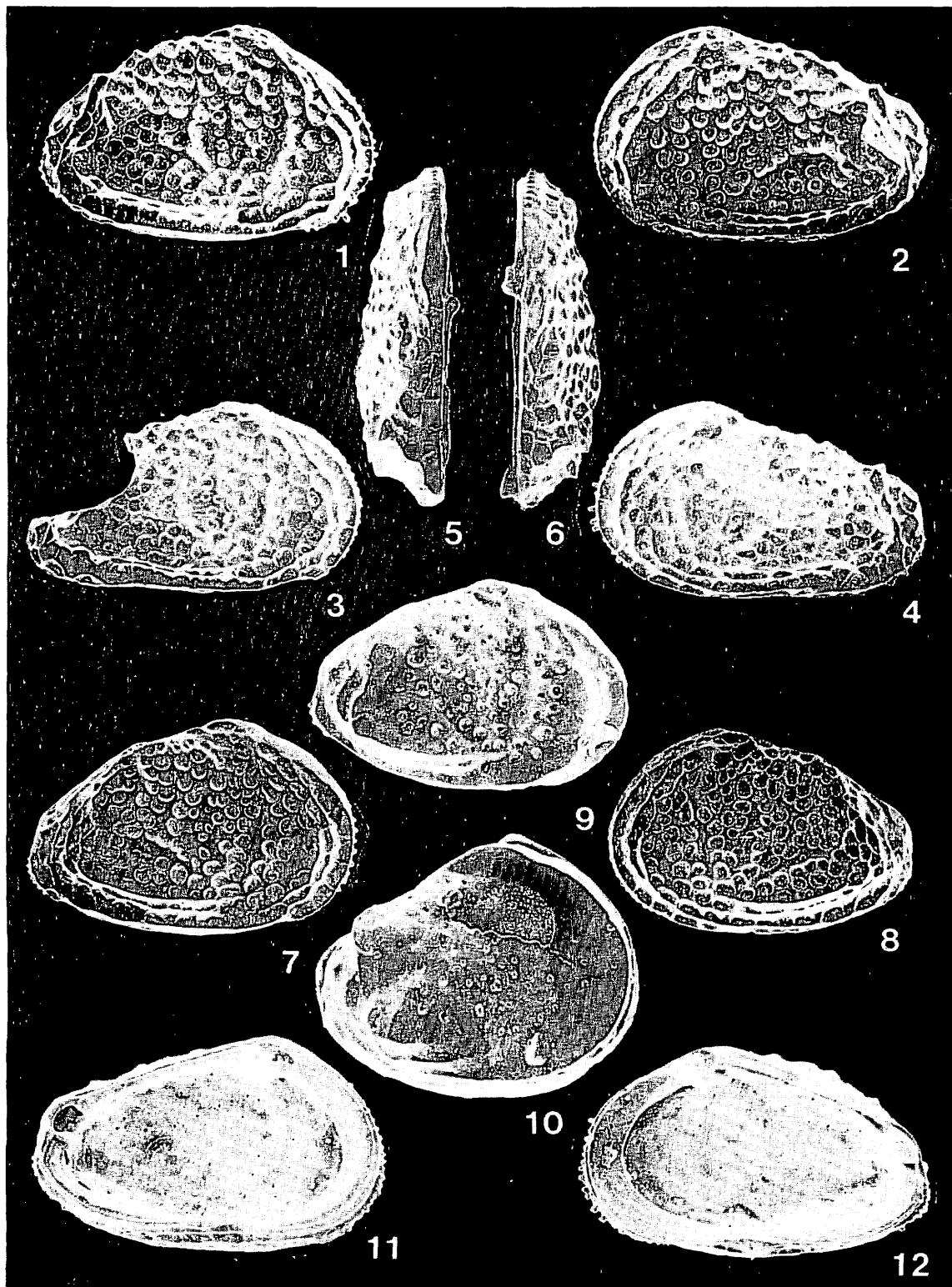


Explanation of Plate 14

Figs. 1–12. *Robertsonites reticuliforma* (Ishizaki, 1966).

1. Lateral view of right female valve (UMUT-CA 15877, Loc. O2). $\times 61$.
2. Lateral view of left female valve (UMUT-CA 15879, Loc. S1). $\times 64$.
3. Lateral view of right male valve (UMUT-CA 15881, Loc. S6). $\times 67$.
4. Lateral view of left male valve (UMUT-CA 15882, Loc. S6). $\times 67$.
5. Dorsal view of left female valve (UMUT-CA 15879). $\times 69$.
6. Dorsal view of right female valve (UMUT-CA 15877, Loc. O2). $\times 67$.
7. Lateral view of right immature valve at A-1 stage (UMUT-CA 15883, Loc. O2). $\times 74$.
8. Lateral view of left immature valve at A-1 stage (UMUT-CA 15884, Loc. S4). $\times 72$.
9. Lateral view of right immature valve at A-3 stage (UMUT-CA 15885, Loc. O2). $\times 106$.
10. Right lateral view of immature carapace at A-5 stage (UMUT-CA 15886, Loc. O2). $\times 156$.
11. Inner view of left female valve (UMUT-CA 15880, Loc. O2). $\times 64$.
12. Inner view of right female valve (UMUT-CA 15878 Loc. O2). $\times 67$.

Plate 14

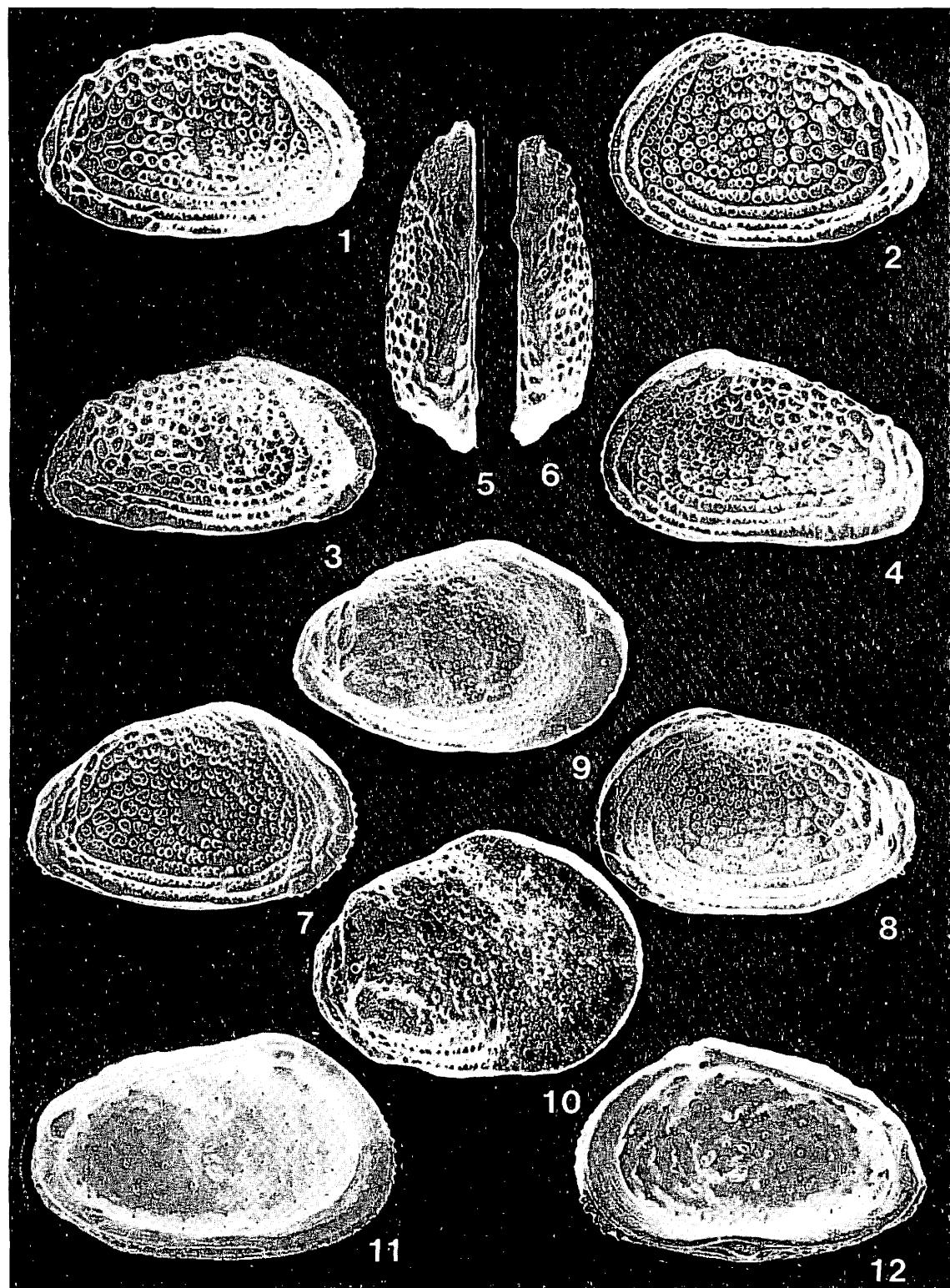


Explanation of Plate 15

Figs. 1–12. *Robertsonites tsugaruana* n. sp.

1. Lateral view of right female valve (UMUT-CA 15888, Loc. K1). $\times 58$.
2. Lateral view of left female valve (holotype, UMUT-CA 15887, Loc. K1). $\times 53$.
3. Lateral view of right male valve (UMUT-CA 15890, Loc. TA1). $\times 59$.
4. Lateral view of left male valve (UMUT-CA 15891, Loc. K1). $\times 59$.
5. Dorsal view of left female valve (holotype, UMUT-CA 15887). $\times 56$.
6. Dorsal view of right female valve (UMUT-CA 15889, Loc. K1). $\times 56$.
7. Lateral view of right immature valve at A-1 stage (UMUT-CA 15892, Loc. O4). $\times 71$.
8. Lateral view of left immature valve at A-1 stage (UMUT-CA 15893, Loc. O2). $\times 70$.
9. Lateral view of right immature valve at A-3 stage (UMUT-CA 15894, Loc. S2). $\times 100$.
10. Lateral view of right immature valve at A-5 stage (UMUT-CA 15895, Loc. OT2). $\times 158$.
11. Inner view of left female valve (holotype, UMUT-CA 15887). $\times 60$.
12. Inner view of right female valve (UMUT-CA 15889). $\times 60$.

Plate 15



Explanation of Plate 16

Figs. 1–6. *Robertsonites* sp. 1

1. Lateral view of right valve (UMUT-CA 15896, Loc. O5). $\times 61.$
2. Lateral view of left valve (UMUT-CA 15897, Loc. O5). $\times 61.$
3. Inner view of left valve (UMUT-CA 15897). $\times 61.$
4. Inner view of right valve (UMUT-CA 15896). $\times 61.$
5. Dorsal view of left valve (UMUT-CA 15897). $\times 61.$
6. Dorsal view of right valve (UMUT-CA 15896). $\times 61.$

Fig. 7. *Robertsonites* sp. 2

Lateral view of left immature valve (UMUT-CA 15898, Loc. O5). $\times 62.$

Fig. 8. *Semicytherura* sp. 3

Lateral view of right immature valve (UMUT-CA 15905, Loc. SH4). $\times 85.$

Figs. 9–12. *Semicytherura* sp. 1

9. Lateral view of right valve (UMUT-CA 15902, Loc. OT2). $\times 97.$
10. Lateral view of left valve (UMUT-CA 15903, Loc. SH2). $\times 97.$
11. Inner view of left valve (UMUT-CA 15903). $\times 97.$
12. Inner view of right valve (UMUT-CA 15902). $\times 97.$

Figs. 13,14. *Howeina?* sp.

13. Lateral view of left valve (UMUT-CA 15901, Loc. T1). $\times 95.$
14. Inner view of left valve (UMUT-CA 15901) $\times 95.$

Figs. 15,16. Cytherurinae gen. and sp. indet.

15. Dorsal view of carapace (UMUT-CA 15911, Loc. OT5). $\times 118.$
16. Right lateral view of carapace (UMUT-CA 15911). $\times 118.$

Fig. 17. *Semicytherure* sp. 4

Lateral view of left immature valve (UMUT-CA 15906, Loc. O5). $\times 92.$

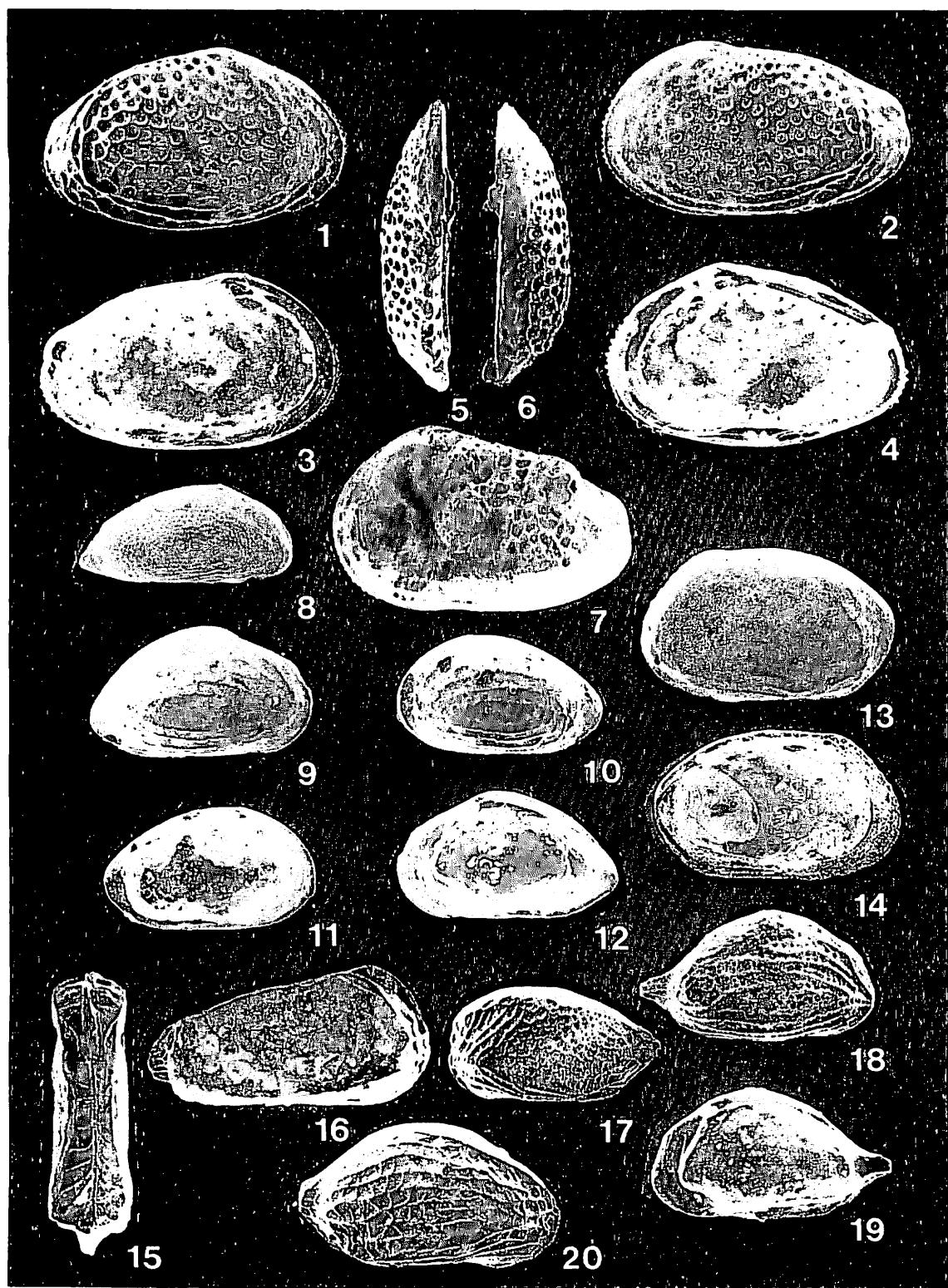
Figs. 18,19. *Semicytherura* sp. 2

18. Lateral view of right valve (UMUT-CA 15904, Loc. N4). $\times 113.$
19. Inner view of right valve (UMUT-CA 15904). $\times 103.$

Fig. 20. *Semicytherura* sp. 5

Lateral view of right valve (UMUT-CA 15907, Loc. OT5). $\times 87.$

Plate 16



Explanation of Plate 17

Figs. 1–6. *Semicytherura? daishakaensis* n. sp.

1. Lateral view of right valve (holotype, UMUT-CA 15909, Loc. N4). ×81.
2. Lateral view of left valve (UMUT-CA 15910, Loc. SH3). ×81.
3. Inner view of left valve (UMUT-CA 15910). ×81.
4. Inner view of right valve (holotype, UMUT-CA 15909). ×85.
5. Dorsal view of left valve (UMUT-CA 15910). ×82.
6. Dorsal view of right valve (holotype, UMUT-CA 15909). ×82.

Figs. 7,8. *Hemicytherura* sp.

7. Lateral view of right immature valve (UMUT-CA 15899, Loc. SH2). ×126.
8. Lateral view of left immature valve (UMUT-CA 15900, Loc. SH2). ×126.

Figs. 9,10. *Semicytherura* sp. 6

9. Lateral view of right valve (UMUT-CA 15908, Loc. O4). ×109.
10. Inner view of right valve (UMUT-CA 15908). ×116.

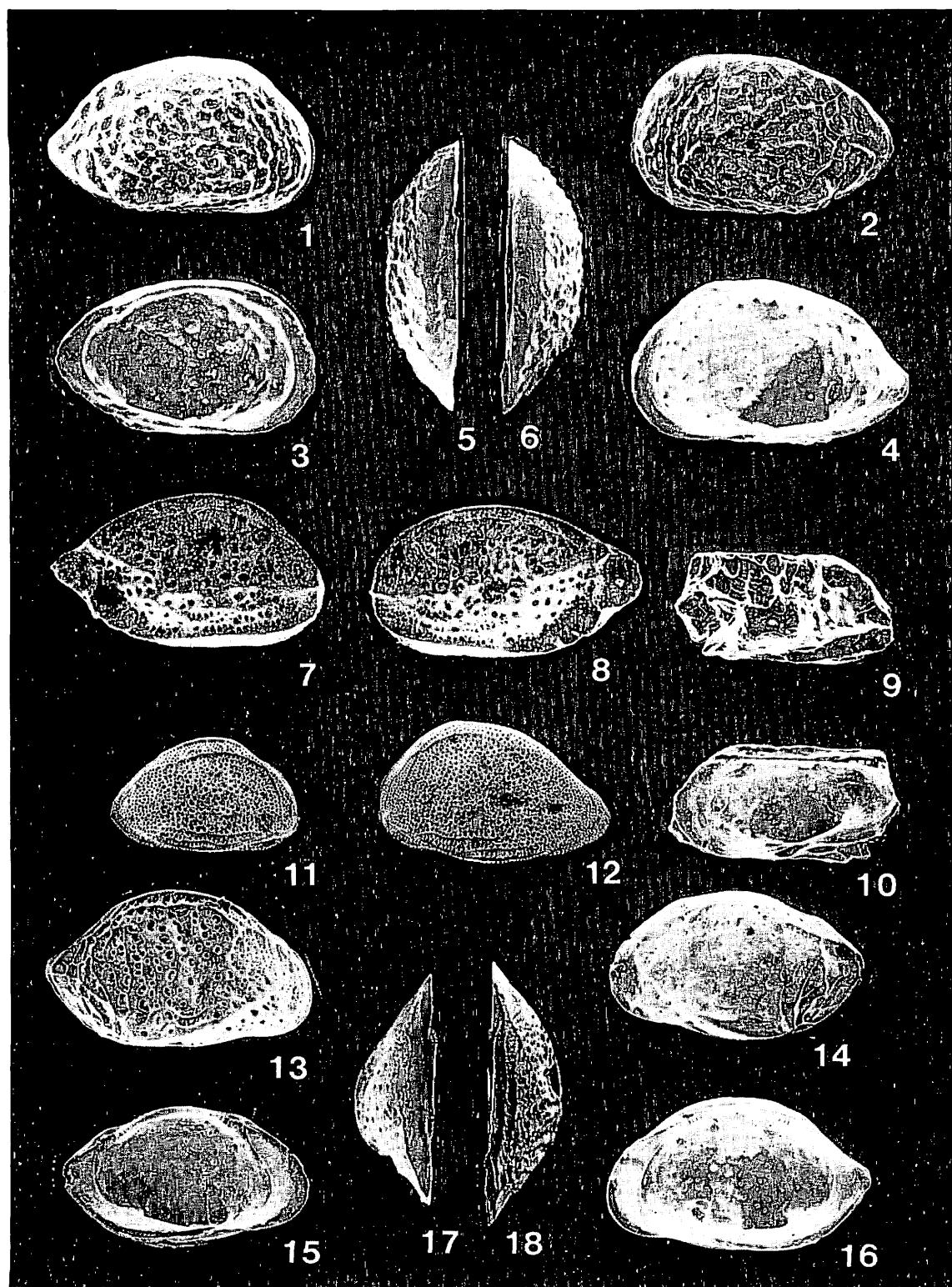
Figs. 11,12. *Cytheropteron* sp. 3

11. Lateral view of right immature valve (UMUT-CA 15918, Loc. S1). ×70.
12. Lateral view of left immature valve (UMUT-CA 15919, Loc. OT3). ×70.

Figs. 13–18. *Cytheropteron yajimai* n. sp.

13. Lateral view of right valve (holotype, UMUT-CA 15912, Loc. N3). ×69.
14. Lateral view of left valve (UMUT-CA 15913, Loc. OT2). ×70.
15. Inner view of left valve (UMUT-CA 15913). ×68.
16. Inner view of right valve (holotype, UMUT-CA 15912). ×68.
17. Dorsal view of left valve (UMUT-CA 15913). ×68.
18. Dorsal view of right valve (holotype, UMUT-CA 15912). ×68.

Plate 17



Explanation of Plate 18

Figs. 1–6. *Cytheropteron tsugaruense* n. sp.

1. Lateral view of right valve (UMUT-CA 15915, Loc. OT5). ×80.
2. Lateral view of left valve (holotype, UMUT-CA 15914, Loc. O4). ×80.
3. Inner view of left valve (holotype, UMUT-CA 15914). ×80.
4. Inner view of right valve (UMUT-CA 15915). ×80.
5. Dorsal view of left valve (holotype, UMUT-CA 15914). ×80.
6. Dorsal view of right valve (UMUT-CA 15915). ×80.

Figs. 7,8. *Cytheropteron* sp. 1

7. Lateral view of left valve (UMUT-CA 15916, Loc. K1). ×82.
8. Inner view of left valve (UMUT-CA 15916). ×80.

Figs. 9,10. *Cytheropteron* sp. 2

9. Lateral view of right valve (UMUT-CA 15917, Loc N3). ×80.
10. Inner view of right valve (UMUT-CA 15917). ×80.

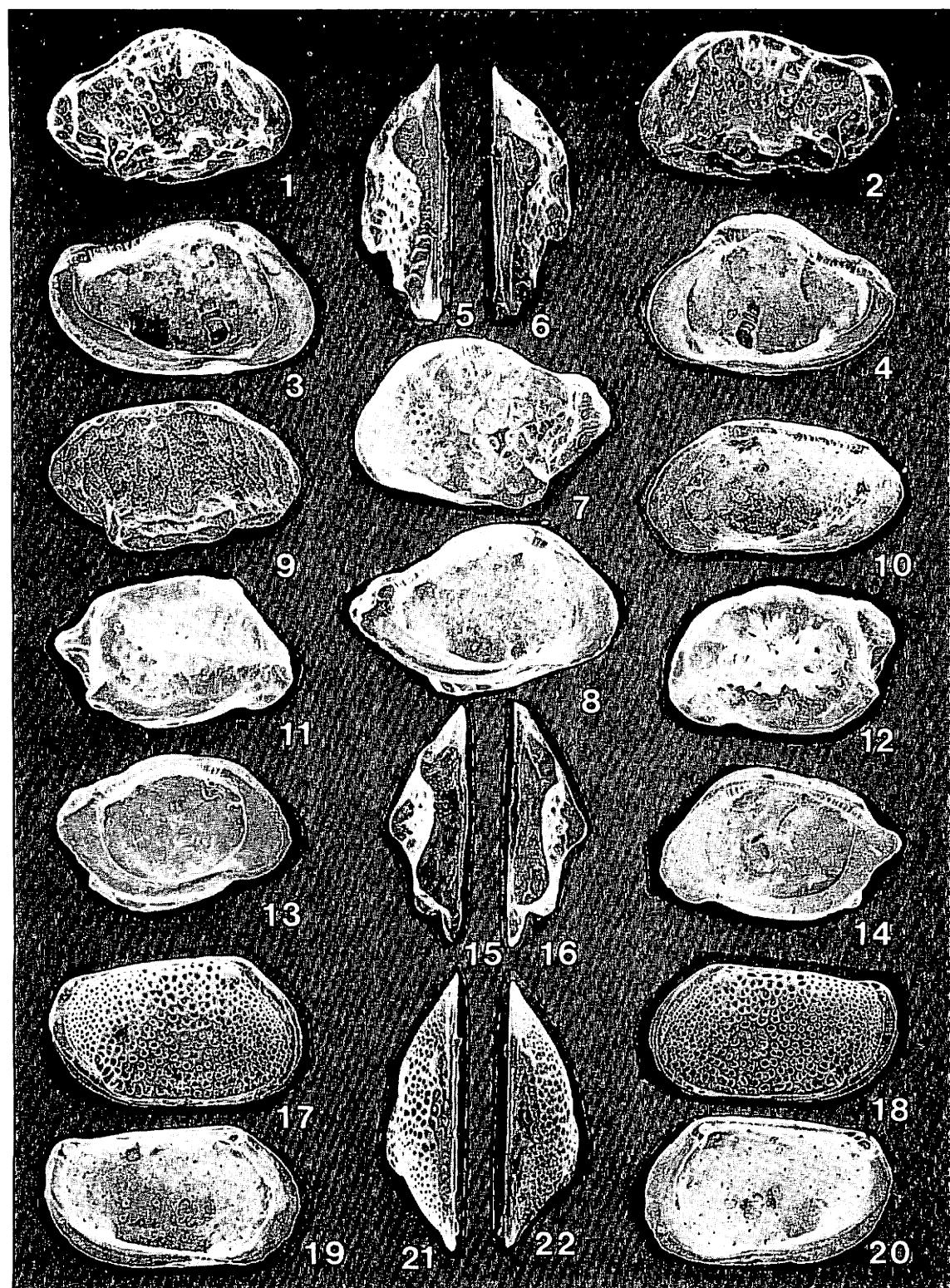
Figs. 11–16. *Kangarina yamaguchii* n. sp.

11. Lateral view of right valve (UMUT-CA 15921, Loc. OT2). ×95.
12. Lateral view of left valve (holotype, UMUT-CA 15920, Loc. OT2). ×95.
13. Inner view of left valve (UMUT-CA 15922, Loc. O3). ×95.
14. Inner view of right valve (UMUT-CA 15921). ×95.
15. Dorsal view of left valve (holotype, UMUT-CA 15920). ×95.
16. Dorsal view of right valve (UMUT-CA 15921). ×95.

Figs. 17–22. *Loxoconcha ozawai* n. sp.

17. Lateral view of right female valve (holotype, UMUT-CA 15924, Loc. OT5). ×82.
18. Lateral view of left male valve (UMUT-CA 15925, Loc. K1). ×82.
19. Inner view of left male valve (UMUT-CA 15925). ×80.
20. Inner view of right female valve (holotype, UMUT-CA 15924). ×82.
21. Dorsal view of left male valve (UMUT-CA 15925). ×82.
22. Dorsal view of right female valve (holotype, UMUT-CA 15924). ×82.

Plate 18



Explanation of Plate 19

Fig. 1. *Paracytheridea* sp.

Lateral view of left immature valve (UMUT-CA 15923, Loc. OT3). $\times 53$.

Figs. 2,3. *Loxoconcha* sp.

2. Lateral view of right immature valve (UMUT-CA 15926, Loc. OT3). $\times 94$. 3. Lateral view of left immature valve (UMUT-CA 15927, Loc. OT5). $\times 94$.

Figs. 4–7. *Nipponocythere* sp.

4. Lateral view of right female valve (UMUT-CA 15928, Loc. OT5). $\times 93$. 5. Inner view of right female valve (UMUT-CA 15928). $\times 91$. 6. Lateral view of right male valve (UMUT-CA 15929, Loc. OT2). $\times 91$. 7. Inner view of right male valve (UMUT-CA 15929). $\times 93$.

Figs. 8,9. *Sclerochilus* sp. 1

8. Lateral view of right valve (UMUT-CA 15935, Loc. OT6). $\times 69$.

9. Inner view of right valve (UMUT-CA 15935). $\times 69$.

Figs. 10,11. *Sclerochilus* sp. 2

10. Lateral view of right valve (UMUT-CA 15936, Loc. T1). $\times 67$.

11. Inner view of right valve (UMUT-CA 15936). $\times 69$.

Fig. 12. *Paradoxostoma* sp. 1

Lateral view of right immature valve (UMUT-CA 15933, Loc. OT5). $\times 90$.

Fig. 13. *Paradoxostoma* sp. 2

Lateral view of right immature valve (UMUT-CA 15934, Loc. S3). $\times 90$.

Figs. 14,15. *Xestoleberis* sp. 1

14. Lateral view of right valve (UMUT-CA 15930, Loc. OT1). $\times 72$.

15. Inner view of right valve (UMUT-CA 15930). $\times 75$.

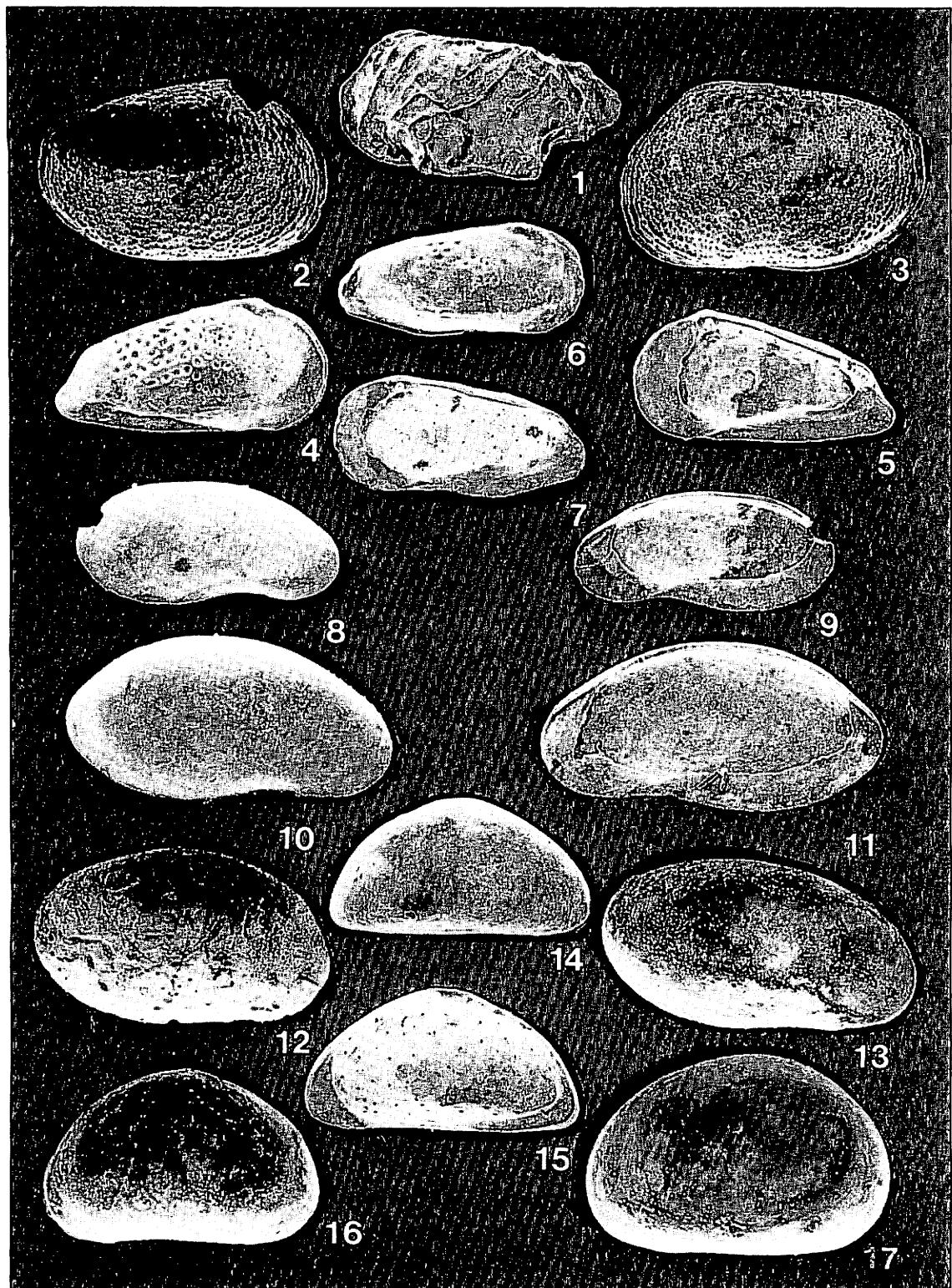
Fig. 16. *Xestoleberis* sp. 2

Lateral view of left immature valve (UMUT-CA 15931, Loc. OT6). $\times 122$.

Fig. 17. *Xestoleberis* sp. 3

Lateral view of left immature valve (UMUT-CA 15932, Loc. OT5). $\times 122$.

Plate 19



Explanation of Plate 20

Fig. 1. *Eucythere* sp. 1

A sieve type normal pore opening on subcentral surface of left valve (UMUT-CA 15747). $\times 1670$.

Fig. 2. *Schizocythere* sp.

Sieve type normal pore openings on subcentral surface of right valve (UMUT-CA 15763). $\times 260$.

Fig. 3. *Paijenborchella tsurugasakensis* n. sp.

Sieve type normal pore openings on anterocentral surface of right female valve (UMUT-CA 15765). $\times 1450$.

Fig. 4. *Finmarchinella daishakaensis* n. sp.

A sunken sieve type normal pore opening on subcentral tubercle of left female valve (UMUT-CA 15837). $\times 3100$.

Fig. 5. *Urocythereis? abei* n. sp.

A small simple type and a large sunken sieve type normal pore openings on ventrolateral surface of left female valve (UMUT-CA 15792). $\times 1380$.

Fig. 6. *Robertsonites tsugaruana* n. sp.

A sunken sieve type pore opening on posteroventral surface of right female valve (UMUT-CA 15888). $\times 3100$.

Fig. 7. *Cytheropteron yajimai* n. sp.

A simple type normal pore opening on subcentral surface of left valve (UMUT-CA 15913). $\times 4220$.

Fig. 8. *Cytheropteron tsugaruense* n. sp.

Simple type pore openings on posterodorsal surface of right valve (UMUT-CA 15915). $\times 800$.

Plate 20

