

PLATES 1~34

Explanation of Plate 1

Figure A. Quartzose sandstone of the Pab Formation exposed at the Rakhi Nala showing cross-bedding.

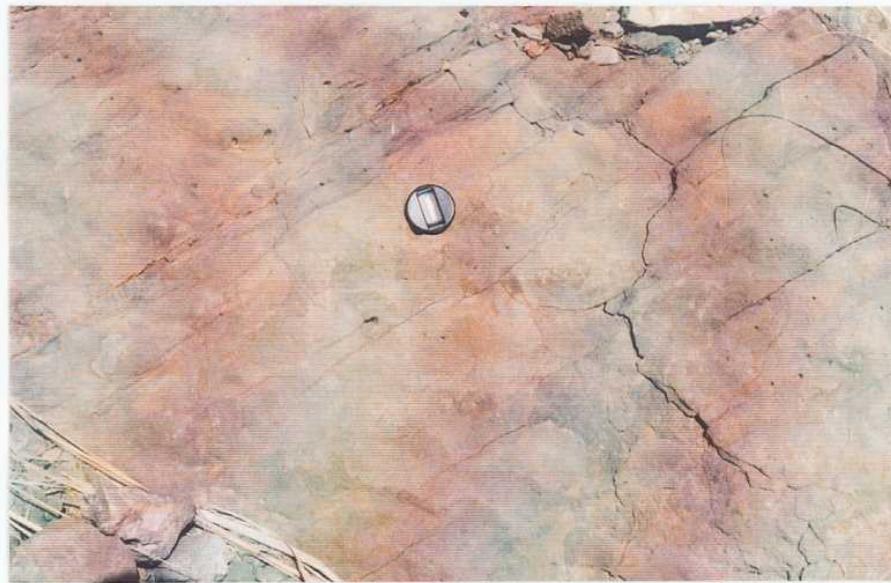
Figure B. Quartzose sandstone of the Pab Formation exposed at the Rakhi Nala exhibits ripple marks on the bedding surface.

Figure C. Conglomerate beds mainly consisting of quartzose sandstone and limestone pebbles found intercalated between the thick to massive beds of the quartzose sandstone of the Pab Formation exposed in the uppermost part of the Pab Formation at the Rakhi Nala section.

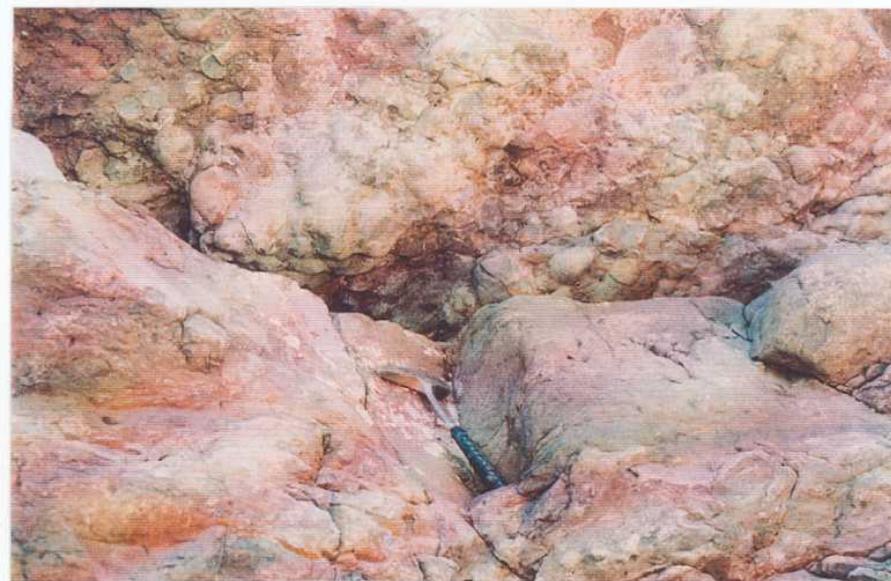
A



B



C



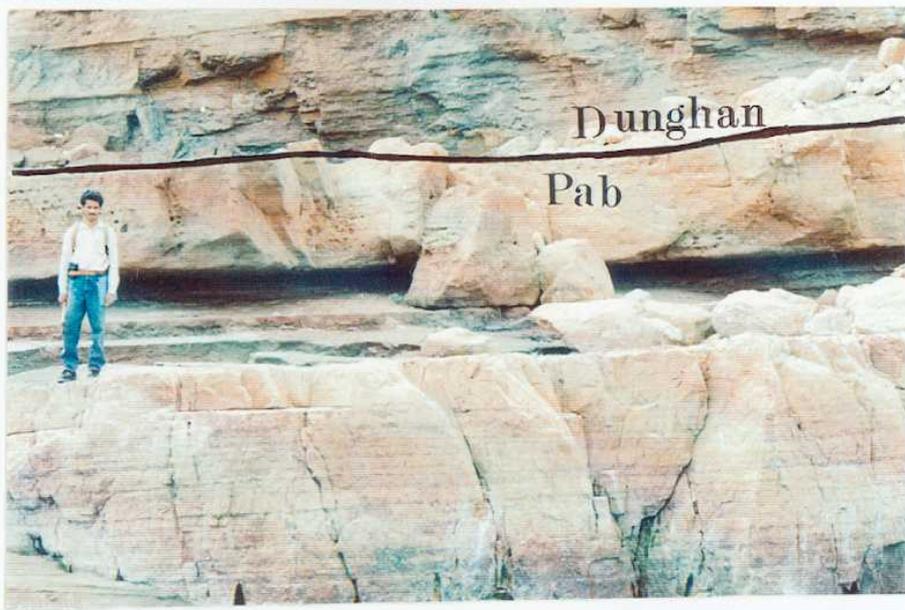
Explanation of Plate 2

Figure A. Unconformable contact between the hard and cream-colored quartzose sandstone of the Pab Formation and overlying gray-black colored siltstone of the Dunghan Formation.

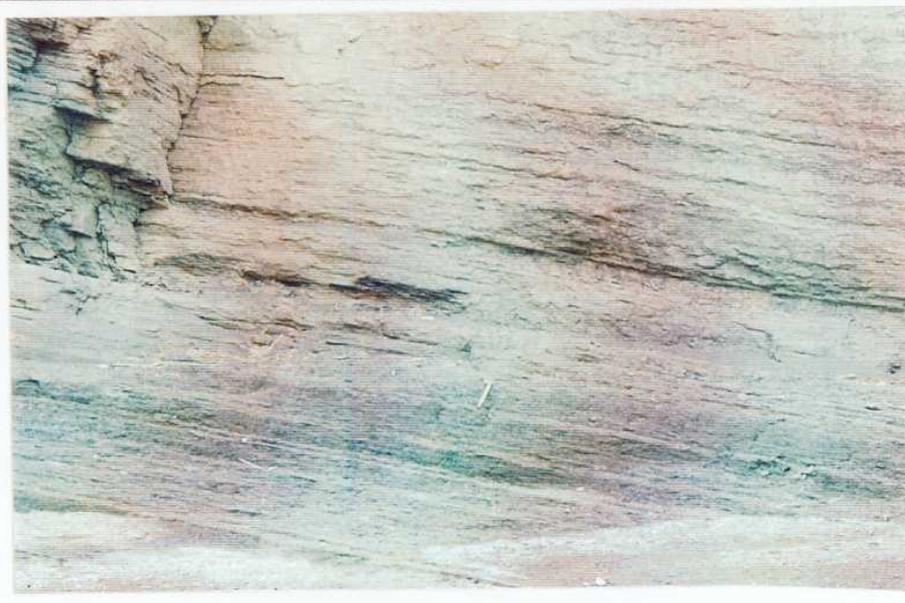
Figure B. Thin-bedded gray-black colored siltstone of the Dunghan Formation.

Figure C. Some gray-colored turbidite-limestone beds (1m) containing larger foraminifera exhibiting yellow-brown color on weathering surface are present near the upper part of the Dunghan Formation.

A



B



C



Explanation of Plate 3

Figure A. Well preserved trace fossils found in the middle part of the Dunghan Formation.

Figure B. Gray colored siltstone of the Dunghan Formation exhibits spheroidal style of weathering in the middle part of the formation.

Figure C. Thick-bedded, hard and massive, brecciated and conglomeratic limestone found at the base of the Shaheed Ghat Formation represents an unconformable contact with underlying Dunghan Formation.

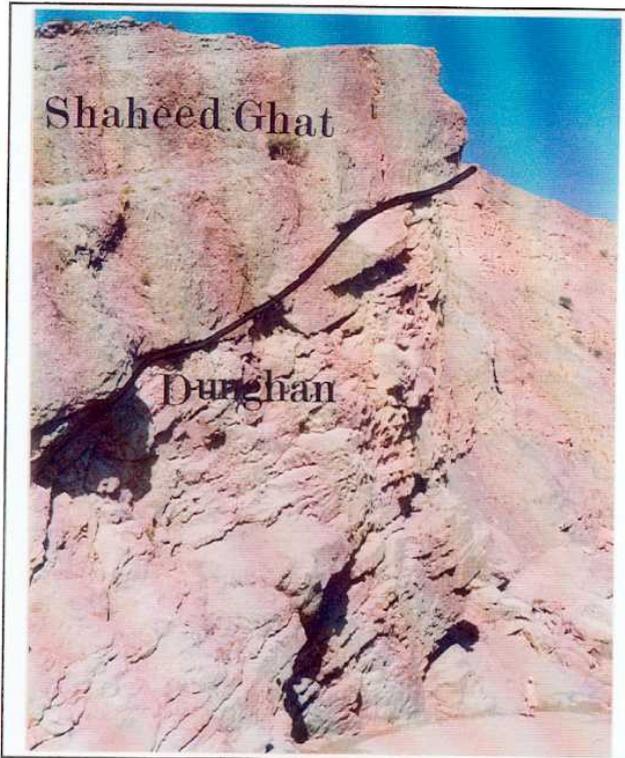
A



B



C

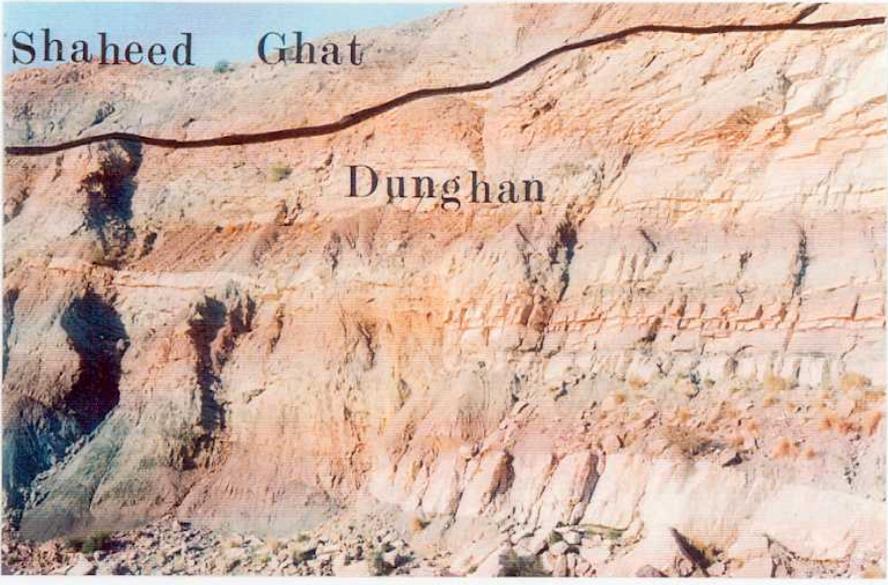


Explanation of Plate 4

Figure A. Thin-bedded limestone intercalated with gray-black colored siltstone in the upper part of the Dunghan Formation exposed along the western side of the Zinda Pir Anticline.

Figure B. Brown to beige colored conglomeratic/ brecciated limestone flooded with larger foraminifera present in the base of the Shaheed Ghat Formation from Zinda Pir eastern section.

Figure C. Gray to black-gray colored conglomeratic/ brecciated limestone having larger foraminifers and molluscs exposed in the Rakhi Nala.



A



B



C

Explanation of Plate 5

Figure A. Green gray to dark gray colored soft mudstone present with beige colored brecciated to conglomeratic hard limestone beds in the lowermost part of the Shaheed Ghat Formation exposed along the western limb of the Zinda Pir Anticline.

Figure B. Light brown or Khaki colored marly and nodular mudstone that becomes dominant lithology near the middle part of the Shaheed Ghat Formation exposed along the eastern side of the Zinda Pir Anticline.

Figure C. Another view of the light gray to green gray-colored marly and nodular mudstone that becomes dominant lithology near the middle part of the Shaheed Ghat Formation exposed along the western side of the Zinda Pir Anticline.

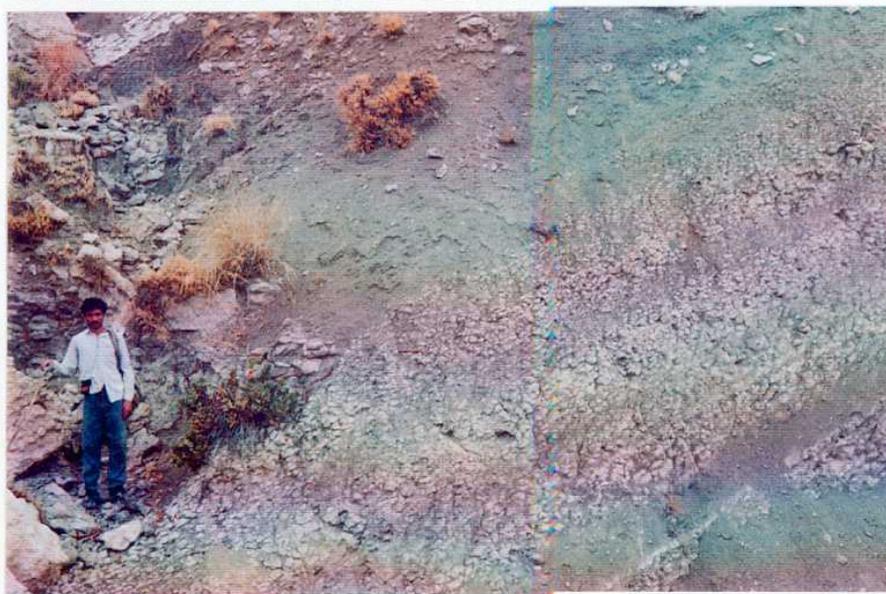
A



B



C



Explanation of Plate 6

Figure A. Thin-bedded limestone intercalated with soft gray colored mudstone is present in the middle part of the Shaheed Ghat from the Rakhi Nala section.

Figure B. Thin-bedded, cream-colored and arenaceous limestone that becomes dominant lithology in the upper part of the Shaheed Ghat Formation exposed in the Rakhi Nala section.

Figure C. Some burrows are found on the surface of thin-bedded arenaceous limestone of the Shaheed Ghat Formation, exposed in the Rakhi Nala section.

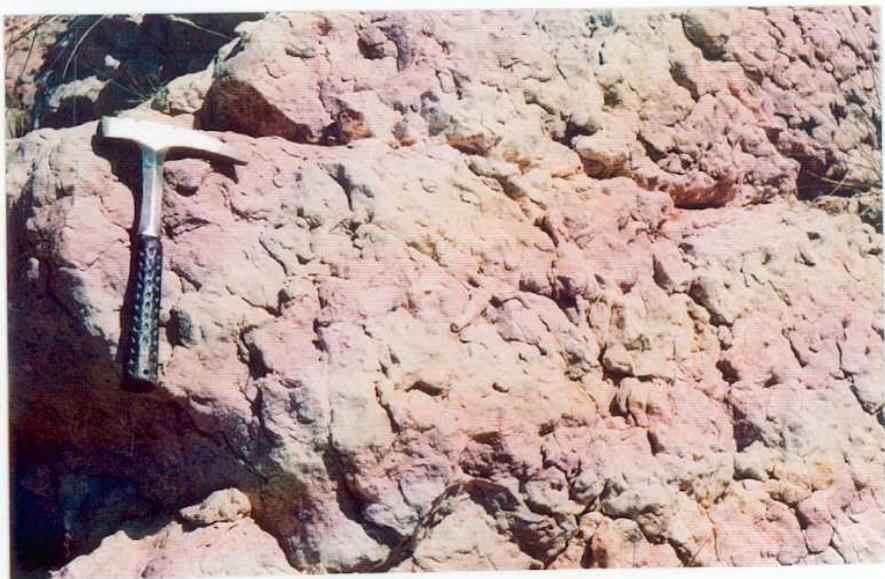
A



B



C



Explanation of Plate 7

Figure A. Some beds crowded with shells are present in the upper part of the Shaheed Ghat Formation exposed in the Rakhi Nala section.

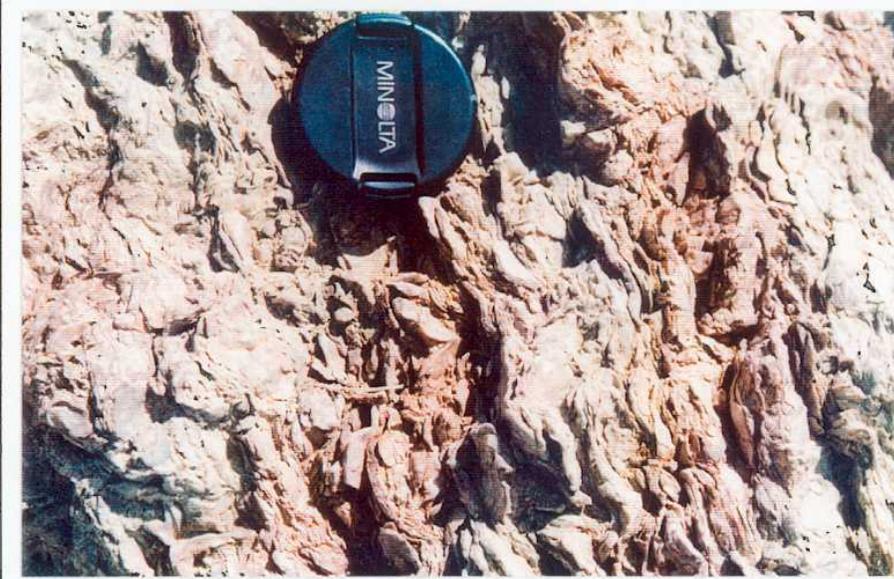
Figure B. A close up view of the shell-bed as given in Figure A.

Figure C. Yellow-brown nodular limestone from the upper part of the Shaheed Ghat Formation exposed in the Zinda Pir eastern section.

A



B



C



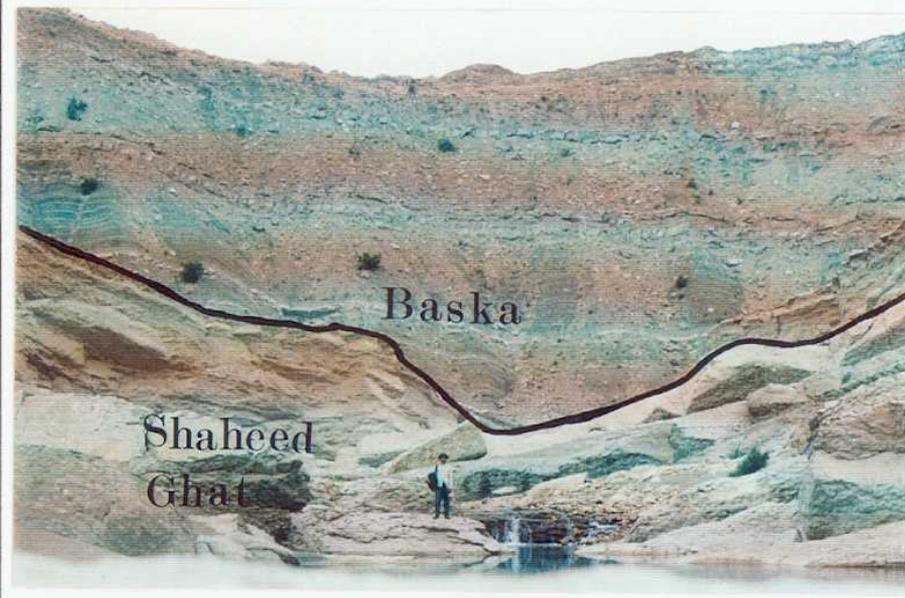
Explanation of Plate 8

Figure A. Well defined contact between the Baska Formation and underlying Shaheed Ghat Formation exposed in the western Zinda Pir section.

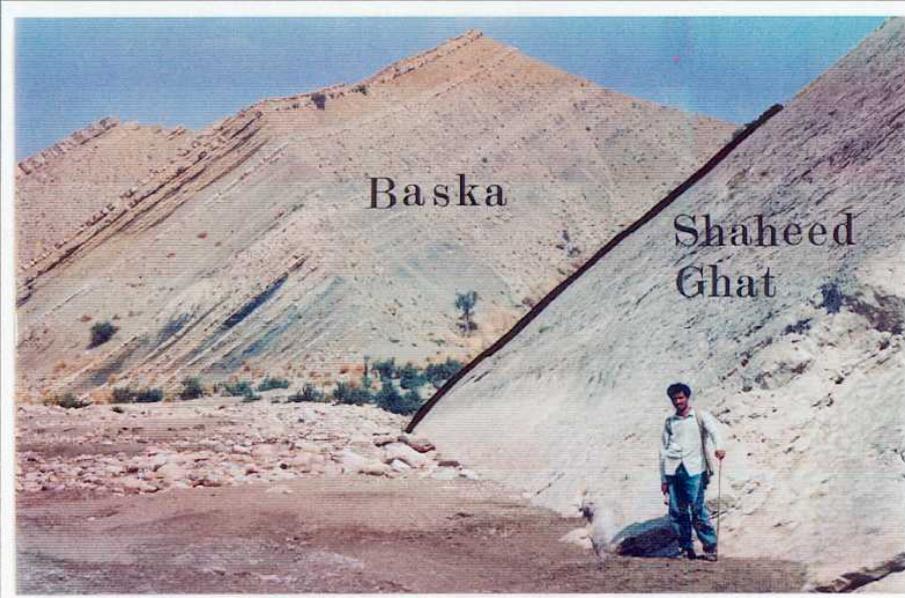
Figure B. Another view of the well-defined contact between the Baska Formation and underlying Shaheed Ghat Formation exposed in the western Zinda Pir section.

Figure C. Chocolate colored soft mudstone present in the lower part of the Baska Formation, exposed in the western Zinda Pir section.

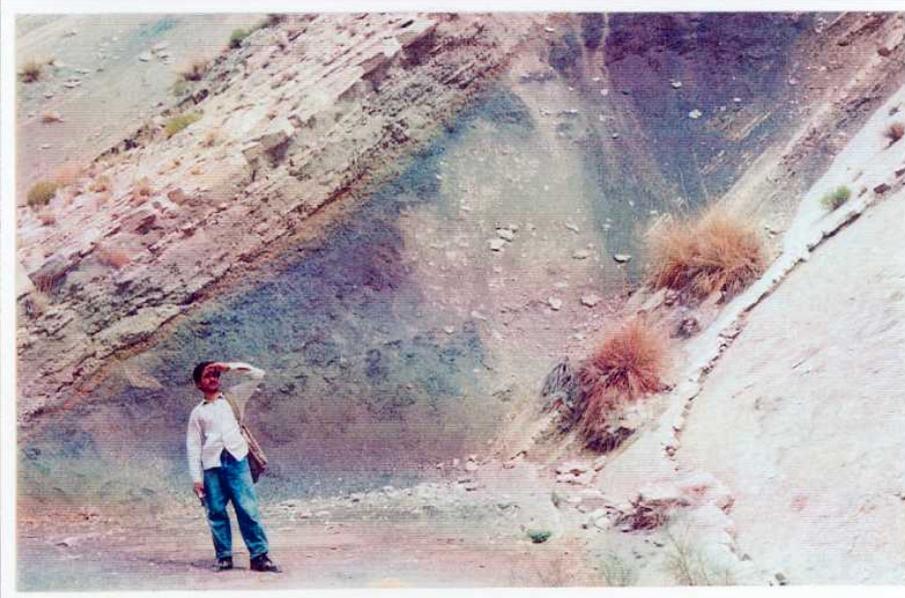
A



B



C



Explanation of Plate 9

Figure A. Thick gypsum beds (10m) present in the base of the Kirthar Formation and represent the unconformity and the end of the Baska Formation, western Zinda Pir section.

Figure B. Thin-bedded platy limestone intercalated with marly mudstone of the Habib Rahi Limestone Member of the Kirthar Formation from the Rakhi Nala section.

Figure C. Thin laminae and nodules of the black colored chert present in the lower part of the Habib Rahi Limestone Member of the Kirthar Formation exposed at the Zinda Pir western section.

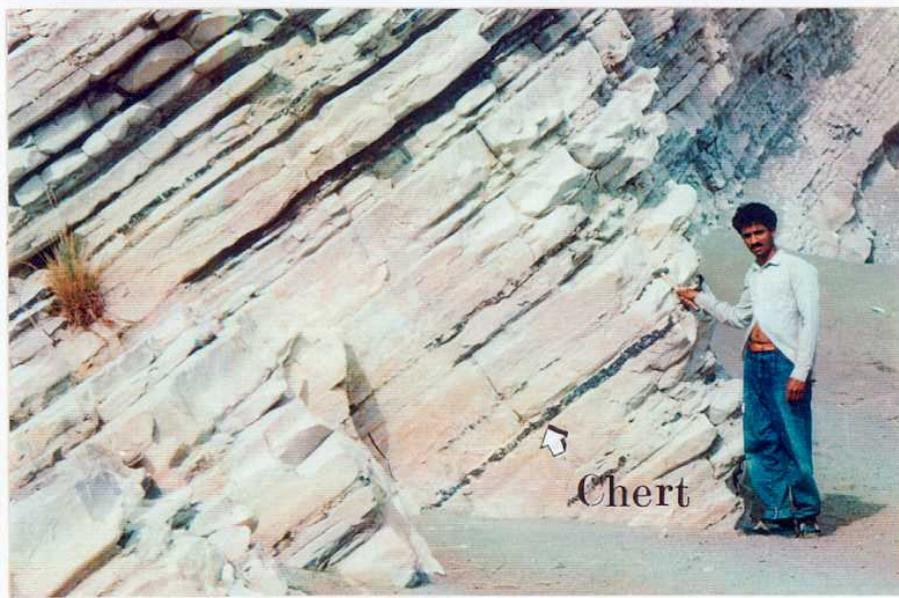
A



B



C



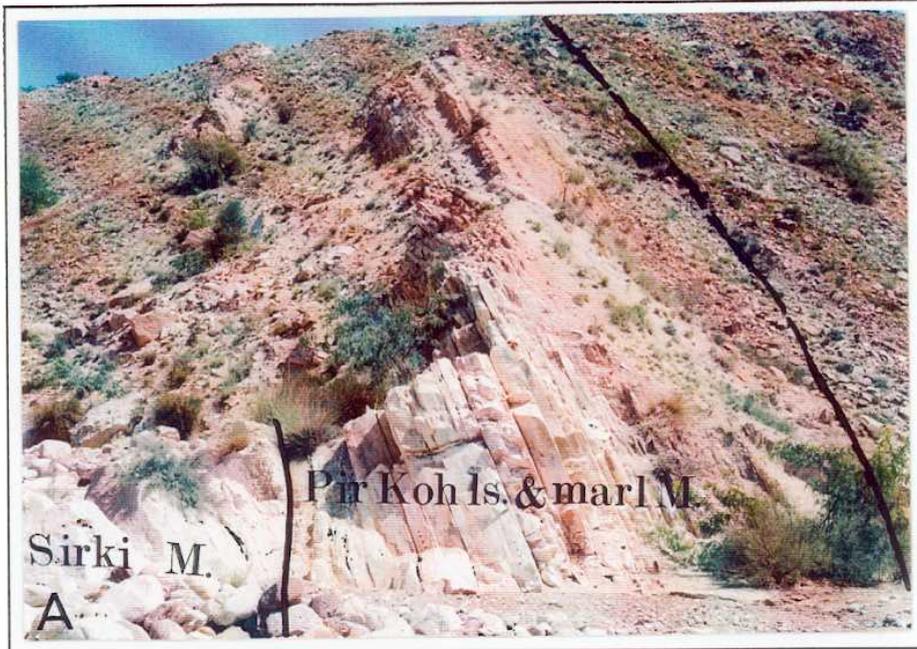


Figure A. Pirkoh limestone and marl Member of the Kirthar Formation showing thin-bedded limestone in the lower part grading into marl in the upper part exposed in the Rakhi Nala section.

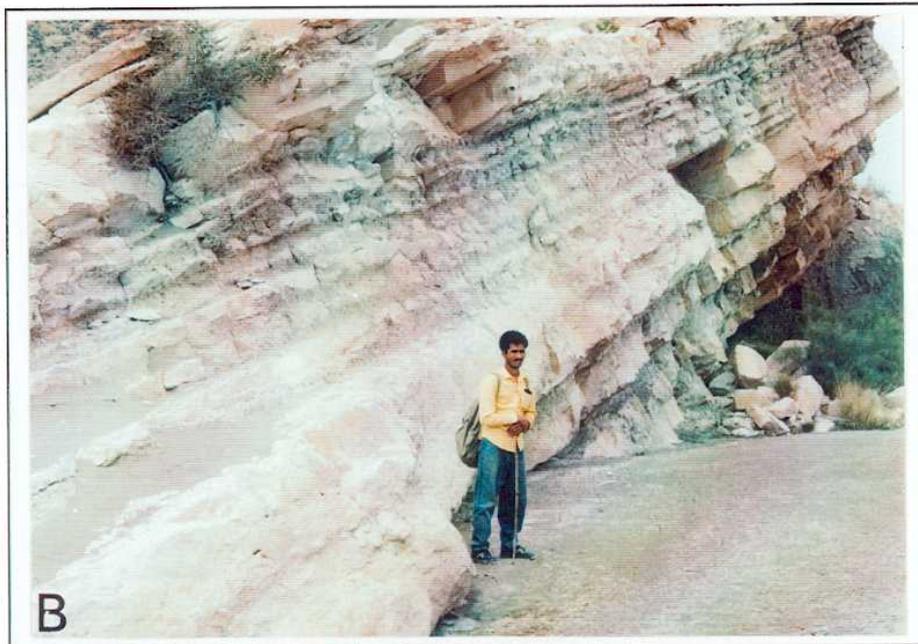


Figure B. Another view of the marly limestone of the Pirkoh limestone and marl Member of the Kirthar Formation exposed along the western limb of the Zinda Pir Anticline.

Explanation of Plate 11

Figure A. Thick deposits of light-brown colored claystone/ mudstone that is the dominant lithology of the Drazinda Member of the Kirthar Formation having abundant small gypsum sheets exposed in the Rakhi Nala section.

Figure B. Marly light-brown colored claystone/ mudstone flooded with larger foraminifera present in the middle part of the Drazinda Member of the Kirthar Formation exposed in the Rakhi Nala section.

Figure C. An enlarged view of the washed up abundant larger foraminifera present on the stream floor just below the above mentioned bed.

A



B



C



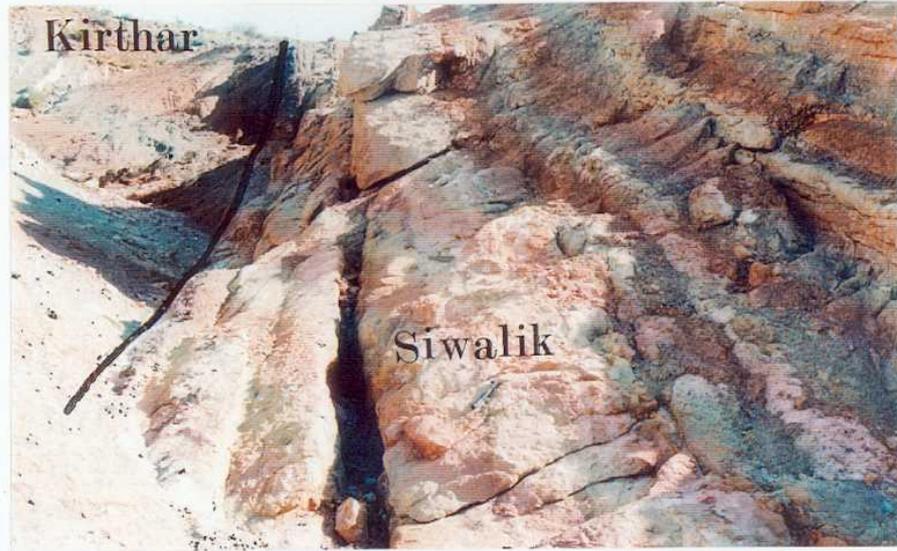
Explanation of Plate 12

Figure A. Dark black to rusty-brown colored hematitic bed which marks the unconformity between the underlying Drazinda Member of the Kirthar Formation and overlying sandstone of the Chitarwata Formation exposed in the Rakhi Nala section.

Figure B. Some burrows and trace fossils are found present on the surface of the dark-black to rusty-brown colored sandstone in the base of the Chitarwata Formation from the Rakhi Nala section.

Figure C. An enlarged view of the burrows and trace fossils as shown in Figure B.

A



B



C



Explanation of Plate 13

(Scale bar=10 μ m)

- Figure 1.** *Morozovella formosa formosa* (Bolli) umbilical views, sample R41, X130.
- Figure 2.** *Morozovella formosa formosa* (Bolli) enlarged view of the test wall showing small pustules, sample R41.
- Figure 3.** *Globanomalina pseudomenardii* (Bolli), umbilical views, sample ZPW-17, X170.
- Figure 4.** *Globanomalina pseudomenardii* (Bolli), enlarged view of the test wall showing smooth surface with microperforations, sample ZPW-17.
- Figure 5.** *Turborotalia cerroazulensis pomeroli* (Toumarkine and Bolli) umbilical view, sample ZPW-61, X120.
- Figure 6.** *Turborotalia cerroazulensis pomeroli* (Toumarkine and Bolli) enlarged view of the test wall showing smooth surface with some microperforations, sample ZPW-61
- Figure 7.** *Turborotalia cerroazulensis frontosa* (Subbotina) umbilical view, sample ZPE-115, X180.
- Figure 8.** *Turborotalia cerroazulensis frontosa* (Subbotina) enlarged view of the test wall showing smooth and non-spinose surface with evenly spaced perforations, sample ZPE-115
- Figure 9.** *Chiloguembelina goodwini* (Cushman and Jarvis) side view, sample ZPE-118, X370.
- Figure 10.** *Chiloguembelina goodwini* (Cushman and Jarvis) enlarged view showing recrystallized wall surface that obscures the micoperforate wall texture, sample ZPE-118
- Figure 11.** *Turborotalia cerroazulensis cunialensis* (Toumarkine and Bolli) umbilical view, sample ZPE-121, X250.
- Figure 12.** *Turborotalia cerroazulensis cunialensis* (Toumarkine and Bolli)

enlarged view of the test wall showing smooth surface with microperforation texture, sample ZPE-121.

Figure 13. *Muricoglobigerina senni* (Beckmann) umbilical view, sample Rk-23, X370

Figure 14. *Muricoglobigerina senni* (Beckmann) enlarged view of the test wall showing massive muricae with normal pores in between, sample Rk-23.

Figure 15. *Globigerinoides higginsi* (Bolli) side view, sample Rk-23, X270.

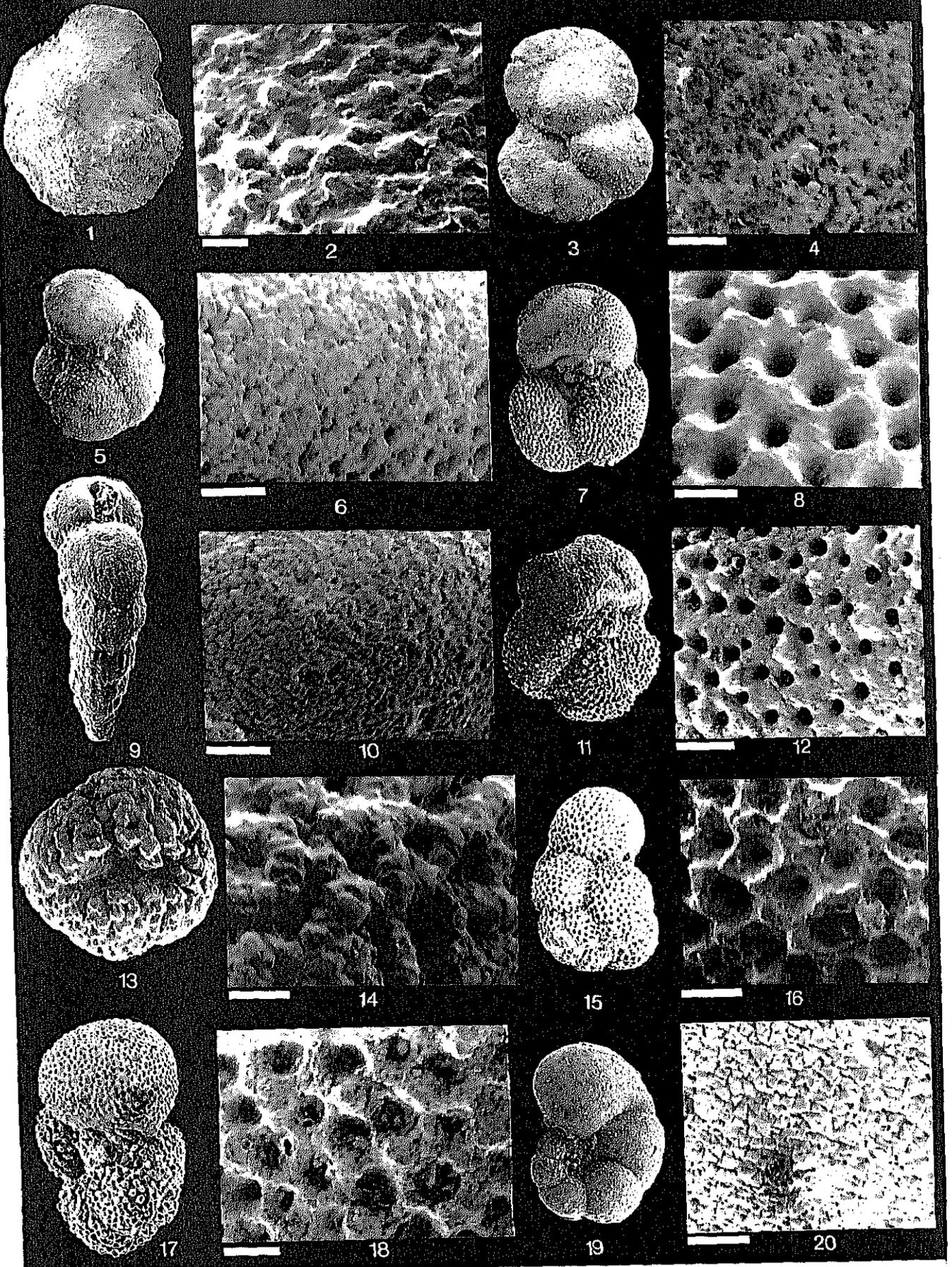
Figure 16. *Globigerinoides higginsi* (Bolli) side view, sample Rk-23

Figure 17. *Truncorotalia rohri* (Bronnimann and Bermudez) enlarged view of the wall surface showing distinctly cancellate texture with large, circular pores located within distinct pore pits, sample ZPW-61, X220.

Figure 18. *Truncorotalia rohri* (Bronnimann and Bermudez) enlarged view of the surface showing muricae on inter pore spaces (ridge), sample ZPW-61.

Figure 19. *Pseudohastigerina micra* (Cole) lateral view, sample ZPE-118, all X270.

Figure 20. *Pseudohastigerina micra* (Cole) enlarged view showing recrystallized wall surface that obscures the micoperforate wall texture, sample ZPE-118.



Explanation of Plate 14

(Scale bar=10 μ m)

Figure 1. *Acarinina soldadoensis* (Bronniman), umbilical view, sample ZPW-20, X200,

Figure 2. *Acarinina soldadoensis* (Bronniman), enlarged view of the test surface showing recrystallized pustules, sample ZPW-20.

Figure 3. *Truncorotaloides collactea* (Finlay) spiral view, sample ZPE-117, X250.

Figure 4. *Truncorotaloides collactea* (Finlay) enlarged surface view showing evenly distributed muricae and fine perforations, sample ZPE-117.

Figure 5. *Acarinina mckannai* (White) umbilical view, sample ZPW-17, X180.

Figure 6. *Acarinina mckannai* (White), enlarged view of the test surface showing recrystallized pustules, sample ZPW-17, X180.

Figure 7. *Acarinina soldadoensis angulosa* (Bolli) umbilical view, sample R38, X200.

Figure 8. *Acarinina soldadoensis angulosa* (Bolli), enlarged view of the test surface showing recrystallized pustules, sample R38.

Figure 9. *Turborotalia griffinal* (Blow) umbilical view, sample ZPE-116, X160.

Figure 10. *Turborotalia griffinal* (Blow) enlarged surface view showing fine cancellate texture, sample ZPE-116.

Figure 11. *Igorina tadjikistanensis* (Bykova) umbilical view, sample ZPW-17, X220.

Figure 12. *Igorina tadjikistanensis* (Bykova), enlarged view of the test wall showing muricate wall texture, sample ZPW-17.

Figure 13. *Hantkenina alabamensis* (Cushman) lateral view, sample Rk-22, X95.

Figure 14. *Hantkenina alabamensis* (Cushman) view, sample Rk-22

Figure 15. *Catapsydrax dissimilis* (Cushman and Bermudez) enlarged surface view showing smooth wall texture with very fine perforations, sample ZPE-118, X250.

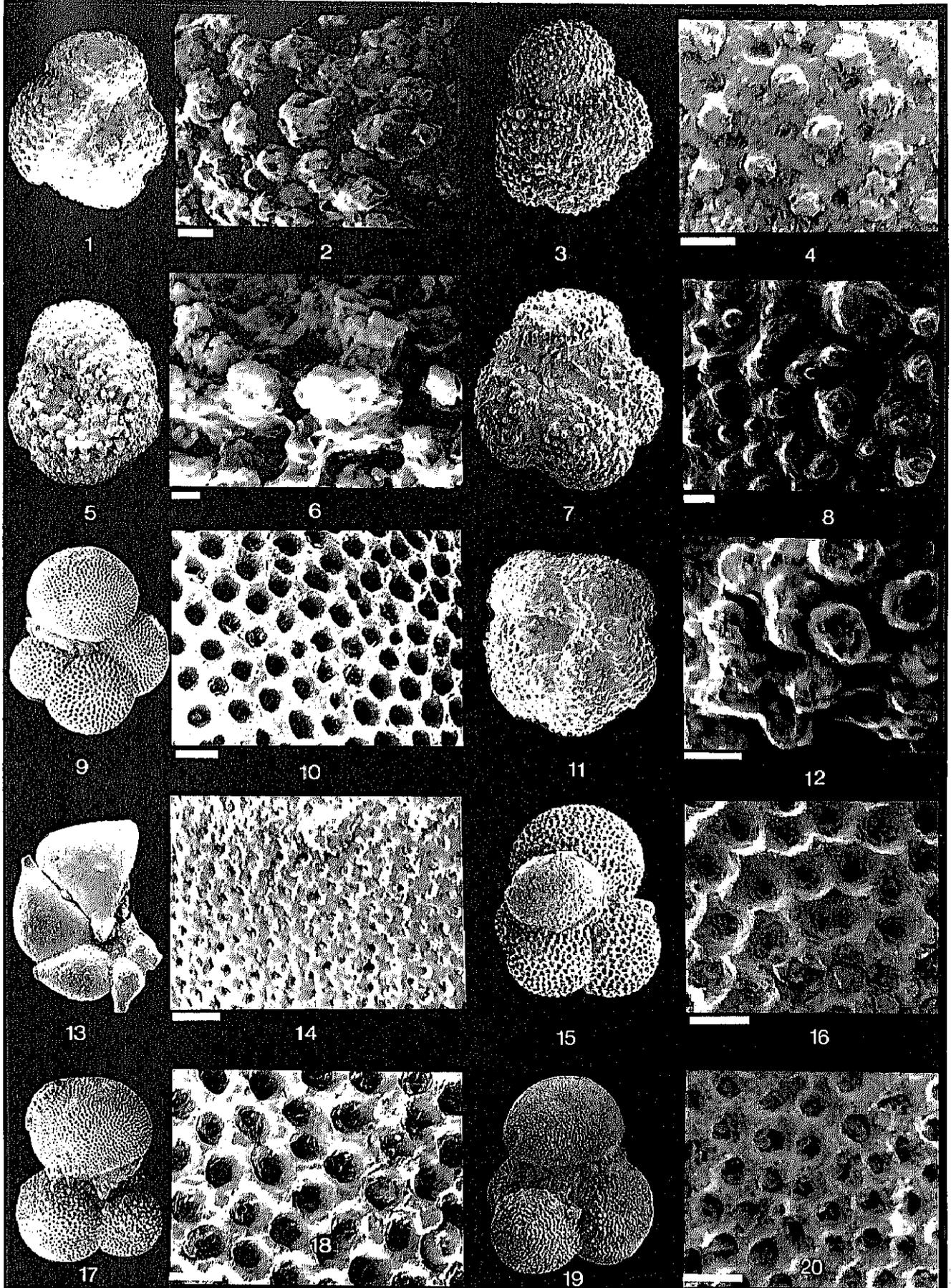
Figure 16. *Catapsydrax dissimilis* (Cushman and Bermudez), enlarged view of the wall surface showing distinctly cancellate texture with large, circular pores located within distinct pore pits, sample ZPE-118.

Figure 17. *Subbotina linaperta* (Finlay) umbilical view, sample ZPE-116, X130.

Figure 18. *Subbotina linaperta* (Finlay) Enlarged view showing cancellate wall texture, sample ZPE-116.

Figure 19. *Subbotina yeguaensis* (Weinzierl and Applin) umbilical view, sample ZPW-61, X150.

Figure 20. *Subbotina yeguaensis* (Weinzierl and Applin) enlarged view cancellate wall texture, sample ZPW-61.



Explanation of Plate 15

(Scale bar=10 μ m)

Figure 1. *Catapsydrax africana* (Blow and Banner) umbilical view, sample Rk-23, X370.

Figure 2. *Catapsydrax africana* (Blow and Banner) enlarged view of the test wall showing very distinct cancellate texture, sample Rk-23.

Figure 3. *Catapsydrax echinatus* (Bolli) umbilical view, sample ZPE-116, X230.

Figure 4. *Catapsydrax echinatus* (Bolli) enlarged view of the test wall showing smooth surface with fine perforations and fine spines, sample ZPE-116.

Figure 5. *Orbulinoides beckmanni* (Saito) spiral view, sample ZPE-117, X270.

Figure 6. *Orbulinoides beckmanni* (Saito) enlarged surface view showing cancellate surface texture, sample ZPE-117.

Figure 7. *Catapsydrax howei* (Blow and Banner) umbilical, sample ZPE-115, X250.

Figure 8. *Catapsydrax howei* (Blow and Banner) enlarged view of the wall surface showing distinctly cancellate texture with circular pores located within pore pits, sample ZPE-115.

Figure 9. *Catapsydrax martini* (Blow and Banner) umbilical view, sample Rk-23, X350.

Figure 10. *Catapsydrax martini* (Blow and Banner) enlarged view of the wall surface showing distinctly cancellate, sample Rk-23.

Figure 11. *Catapsydrax martini* (Blow and Banner) enlarged surface view of the

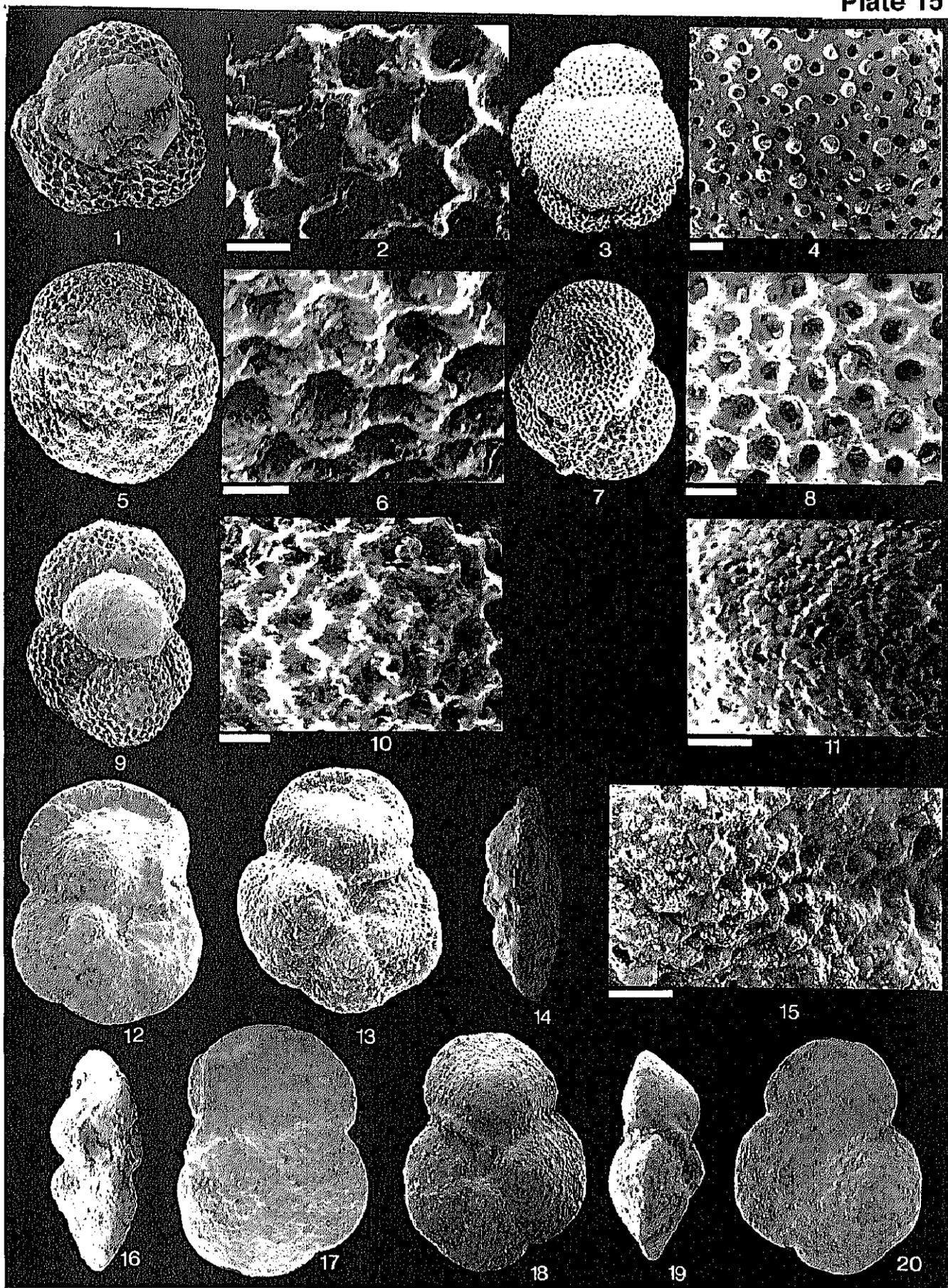
bullae clearly shows non-porous surface, sample Rk-23.

Figures 12, 16–17. *Globanomalina rakhiensis* (paratype, IGUT coll. Cat. no. 50103) showing more compressed peripheral margin on umbilical side, more developed keel in side view, and more limbate intercameral sutures on spiral side, sample R41, all X300.

Figures 13–14. *Globanomalina rakhiensis* sp. nov. (paratype, IGUT coll. Cat. no. 50102), umbilical and side views, sample R41, all X330.

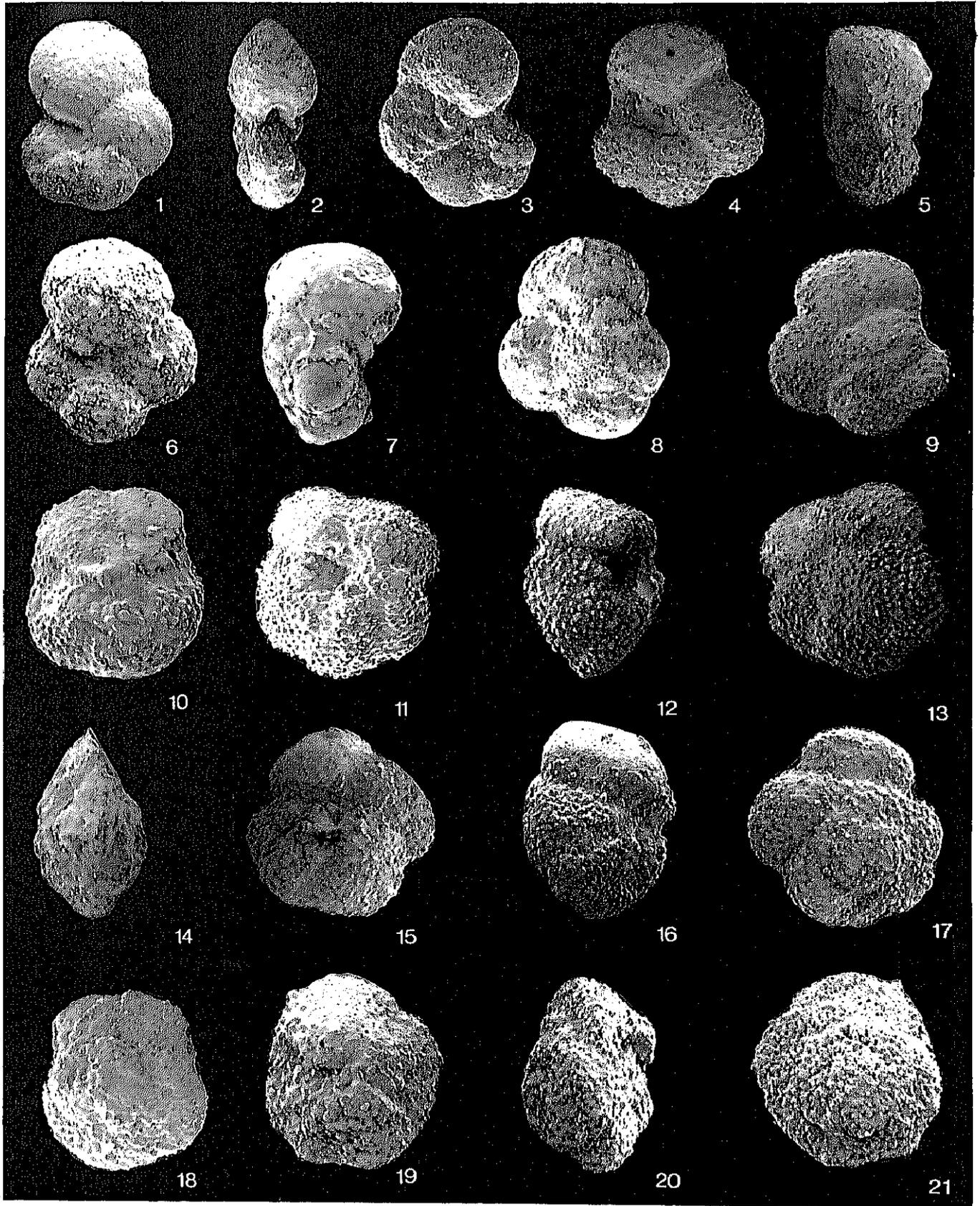
Figure 15. An enlarged view of same specimen as given in Figure 13 showing smooth wall surface with some pustules (scale bar = 10 μ m).

Figures 18–20. *Globanomalina rakhiensis* sp. nov. (holotype, IGUT coll. Cat. no. 50101) umbilical, side and spiral views, sample R41, all X270.



Explanation of Plate 16

- Figures 1–3.** *Globanomalina chapmani* (Parr) umbilical, side and spiral views, sample ZPW-17, all X250.
- Figures 4, 5, 9.** *Acarinina wilcoxensis* (Cushman and Ponton) umbilical, side and spiral views, sample ZPW-21, all X230.
- Figures 6–8.** *Parasubbotina varianta* (Subbotina) umbilical, side and spiral views, sample ZPW-5, all X500.
- Figures 10, 14, 18.** *Igorina albeari* (Cushman and Bermudez) umbilical, side and spiral views, sample ZPW-15, all X230.
- Figures 11–13.** *Igorina tadjikistanensis* (Bykova) umbilical, side and spiral views, sample ZPW-17, all X220.
- Figures 15–17.** *Acarinina strabocella* (Loeblich and Tappan) side, umbilical and spiral views, sample ZPW-16, all X230.
- Figures 19–21.** *Igorina pusilla* (Bolli) umbilical, side and spiral views, sample ZPW-17, all X300.



Explanation of Plate 17

Figures 1–3. *Acarinina mckannai* (White) umbilical, side and spiral views, sample ZPW-17, all X180.

Figures 4-5, 10. *Acarinina nitida* (Martin) side, umbilical and spiral views, sample ZPW-20, all X220.

Figures 6, 11–15. *Acarinina soldadoensis* (Bronniman) umbilical, side and spiral views, sample ZPW-20, all X170, and spiral, side and umbilical views, sample ZPW-20, all X200, respectively.

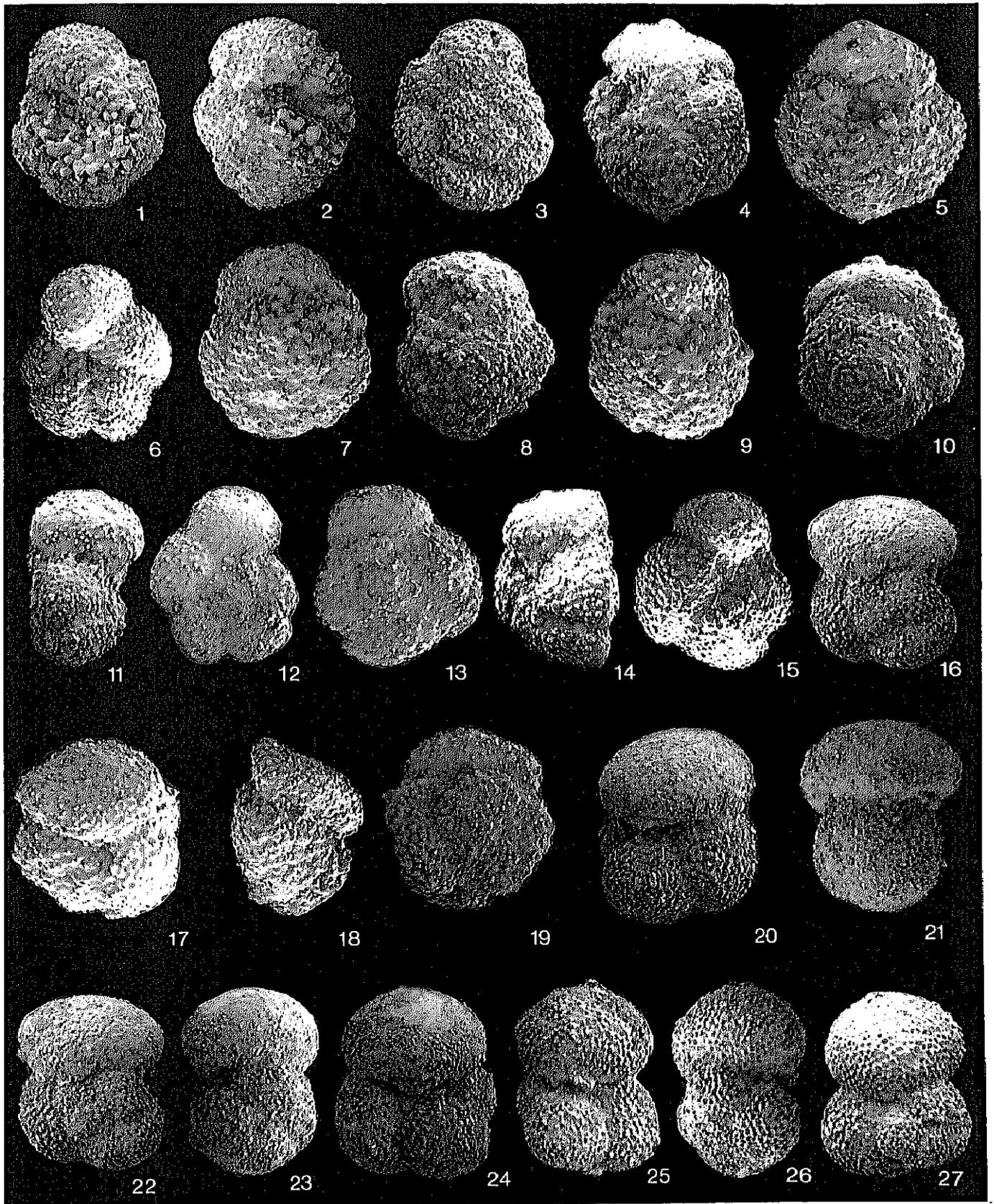
Figures 7–9. *Acarinina subsphaerica* (Subbotina) spiral, side and umbilical views, sample ZPW-19, all X220.

Figures 16, 20, 21. *Subbotina velascoensis* (Cushman) spiral, umbilical and side views, sample ZPW-17, all X200.

Figures 17–19. *Acarinina coalingensis* (Cushman and Hana) umbilical, side and spiral views, sample ZPW-20, all X200.

Figures 22–24. *Subbotina triangularis* (White) spiral, side and umbilical views, sample ZPW-17, all X180.

Figures 25-27. *Subbotina trilocullinoides* (Plummer) umbilical, side and spiral views, sample ZPW-17, all X300.



Explanation of Plate 18

Figures 1–3. *Morozovella angulata* (White) umbilical, side and spiral views, sample ZPE-15, all X150.

Figures 4, 5, 10. *Morozovella subbotinae* (Morozova) umbilical, side and spiral views, sample ZPE-26, all X150.

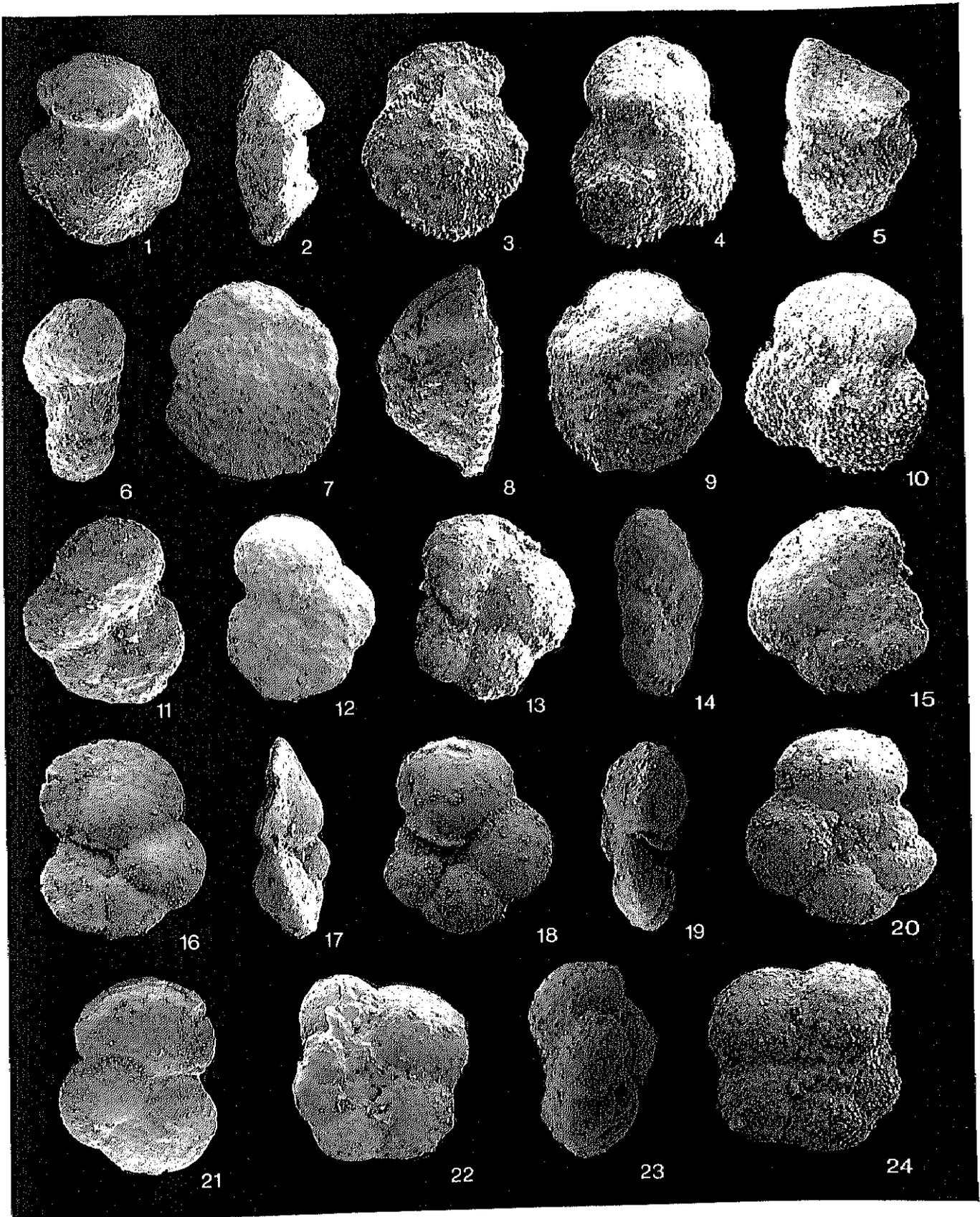
Figures 6, 11, 12. *Pseudohastigerina wilcoxensis* (Cushman and Ponton) side, umbilical and spiral views, sample ZPW-22, all X270.

Figures 7–9. *Morozovella conicotruncata* (Subbotina) umbilical, side and spiral views, sample ZPW-16, all X200.

Figures 13–15, 22–24. *Globanomalina imitata* (Subbotina) umbilical, side and spiral, sample ZPW-18, all X250 and spiral, side and umbilical views, sample ZPW-18, all X200.

Figures 16, 17, 21. *Globanomalina pseudomenardii* (Bolli) umbilical, side and spiral views, sample ZPW-17, all X170.

Figures 18–20. *Globanomalina ehrenbergi* (Bolli) umbilical, side and spiral views, sample ZPW-17, all X170.



Explanation of Plate 19

Figures 1–5, 10. *Morozovella acuta* (Toulmin) side, umbilical and spiral views, sample ZPW-17, all X100; side, umbilical and spiral views, sample ZPW-19, all X160.

Figures 6, 11, 12. *Morozovella apantesma* (Loeblich and Tappan) umbilical, side and spiral views, sample ZPW-21, all X200.

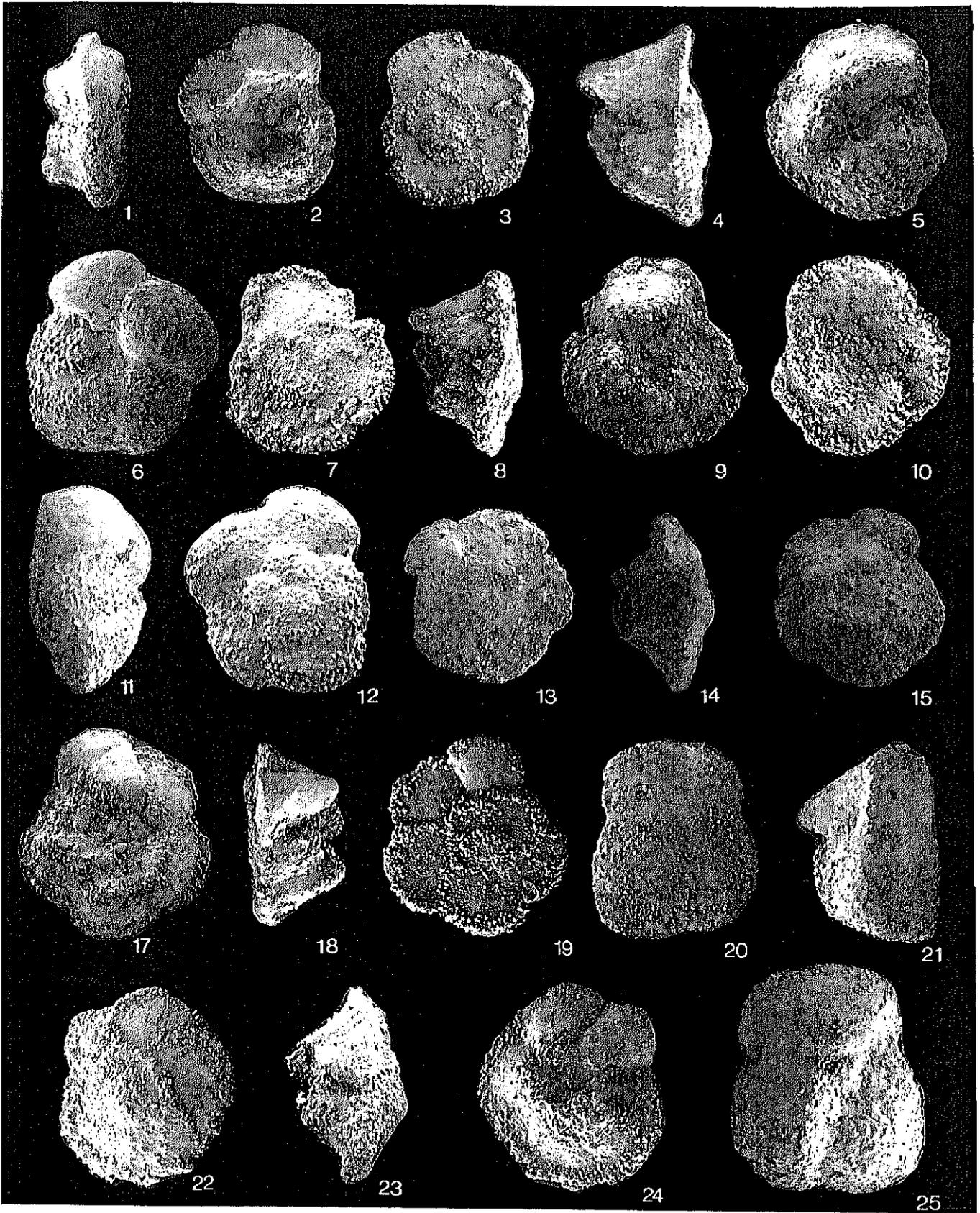
Figures 7–9. *Morozovella acutispira* (Bolli and Cita) umbilical, side and spiral views, sample ZPW-15, all X150.

Figures 13–15. *Morozovella formosa gracilis* (Bolli), umbilical, side and spiral views, sample ZPE-26, all X130.

Figures 17–19. *Morozovella velascoensis* (Cushman), umbilical, side and spiral views, sample ZPE-15, all X140.

Figures 20, 21, 25. *Morozovella aequa* (Cushman and Renz) spiral, side and umbilical views, sample ZPW-21, all X220.

Figures 22–24. *Morozovella occlusa* (Loeblich and Tappan) spiral, side and umbilical views, sample ZPW-15, all X160.



Explanation of Plate 20

Figures 1–3. *Subbotina praebulloides occlusa* (Blow and Banner) umbilical, side and spiral views, sample Rk-40, all X330.

Figures 4–6. *Subbotina linaperta* (Finlay) umbilical, side and spiral views, sample ZPE-116, all X130.

Figures 7–9. *Subbotina cirperoens* (Bolli) umbilical, side and spiral views, sample Rk-22, all X300.

Figures 10–11, 16. *Subbotina baylissi* (Samanta) umbilical, side and spiral views, sample ZPW-66, all X220.

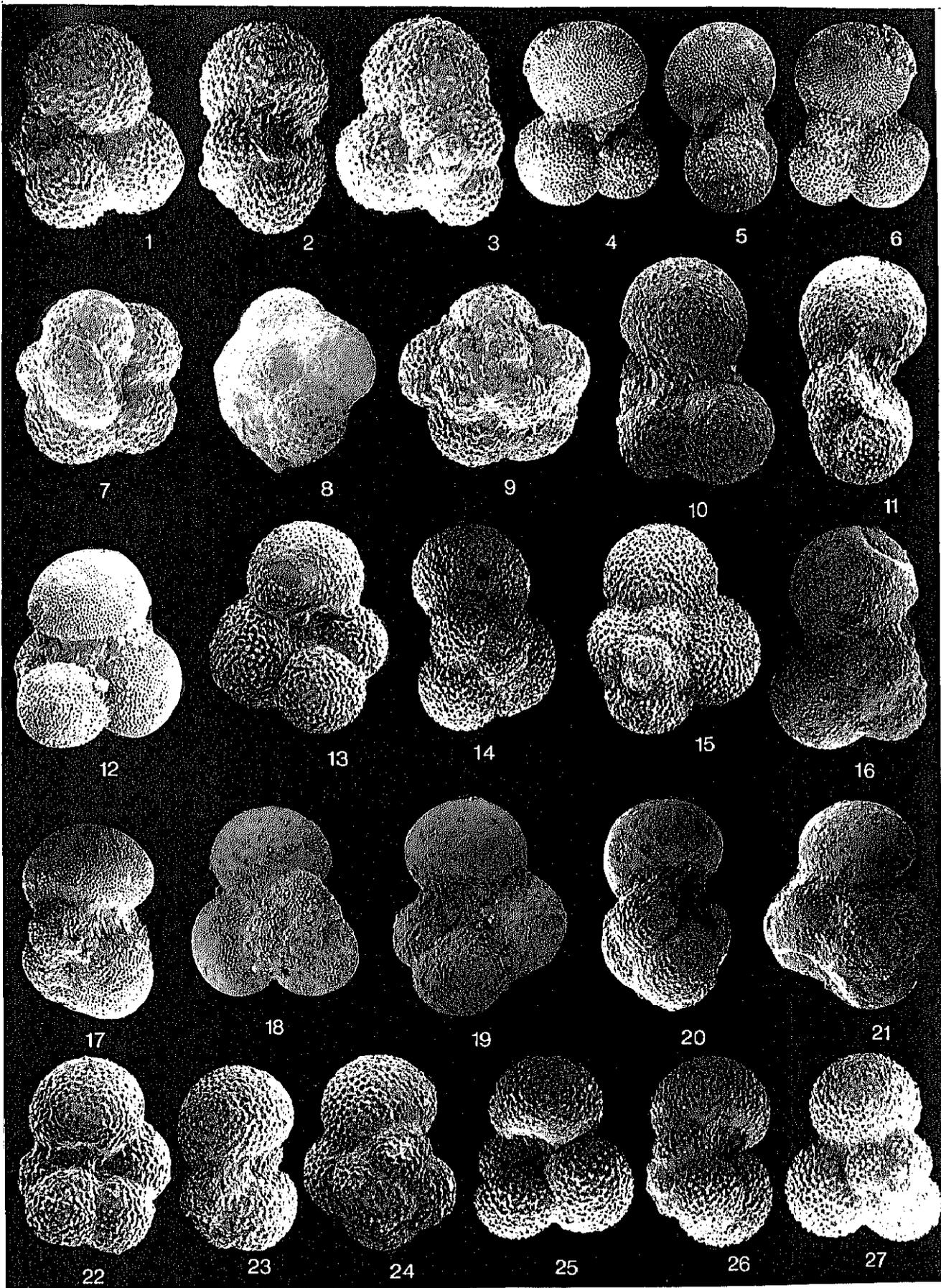
Figures 12, 17–18. *Subbotina yeguaensis* (Weinzierl and Applin) umbilical, side and spiral views, sample ZPW-61, all X150.

Figures 13–15. *Subbotina ouachitaensis* (Howe and Wallace) umbilical, side and spiral views, sample Rk-40, all X250.

Figures 19–21. *Subbotina hagni* (Gohrbandt) umbilical, side and spiral views, sample ZPW-56, all X220.

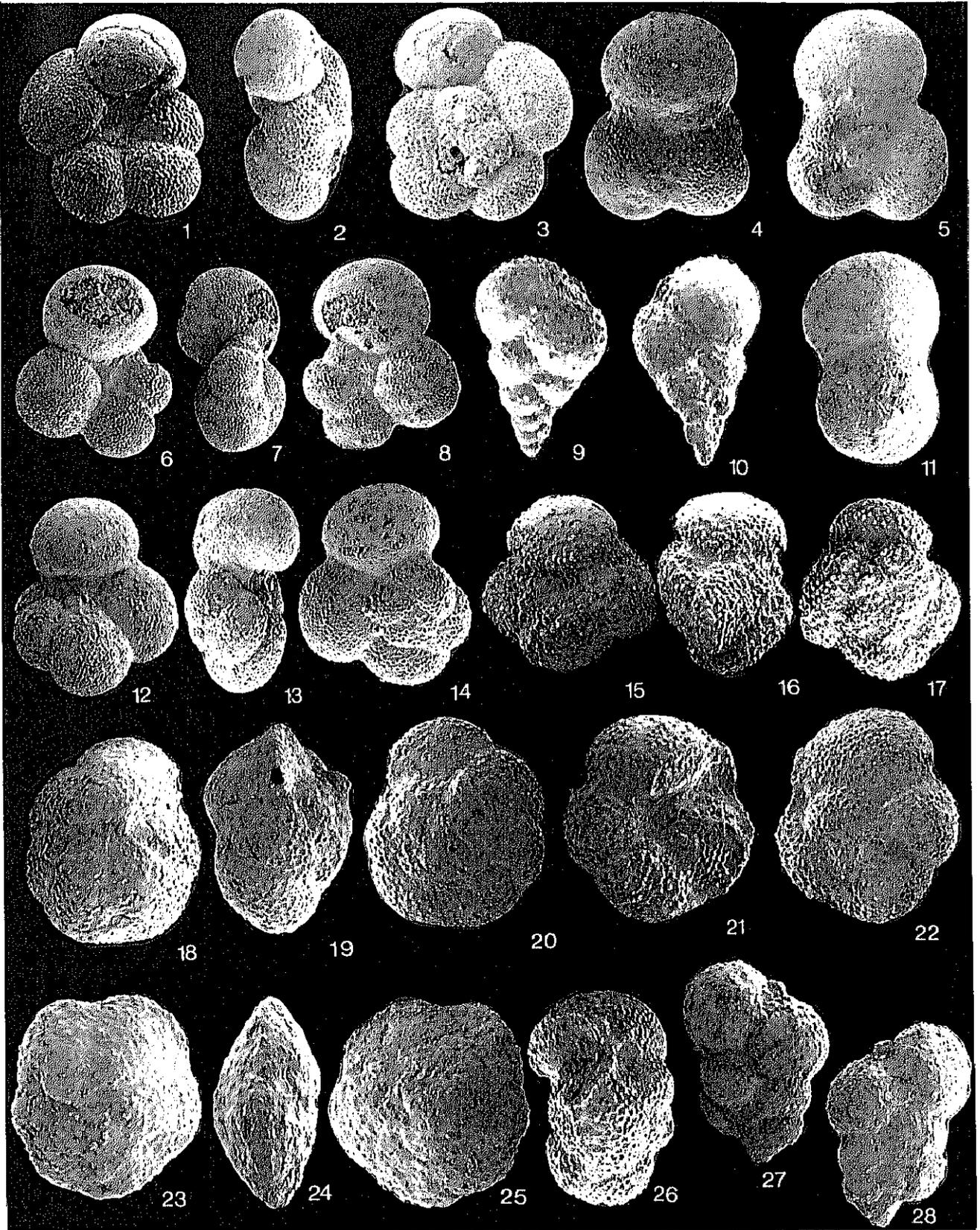
Figures 22–24. *Subbotina angustumbilicata* (Bolli) umbilical, side and spiral views, sample Rk-22, all X250.

Figures 26–27. *Subbotina officinalis* (*Subbotina*) umbilical, side and spiral views, sample Rk-40, all X270.



Explanation of Plate 21

- Figures 1–3.** *Subbotina lozanoi* (Colom) umbilical, side and spiral views, sample R41, all X170.
- Figures 4, 5, 11.** *Subbotina patagonica* (Todd and Knicker) umbilical, spiral and side views, sample R38, all X150.
- Figures 6–8.** *Subbotina Inaquispira* (Subbotina) umbilical, side and spiral views, sample R41, all X150.
- Figures 9–10.** *Chiloguimbillina crinita* (Glaessner) umbilical and dorsal side views, sample R30, all X370.
- Figures 12–14.** *Subbotina prolata* (Bolli) umbilical, side and spiral views, sample R41, all X170.
- Figures 15–17.** *Acarinina pseudotopilensis* (Subbotina) umbilical, side and spiral views, sample R39, all X160.
- Figures 18–20.** *Igorina broadermanni* (Cushman and Bermudez) umbilical, side and spiral views, sample R41, all X200.
- Figures 21–22, 26.** *Acarinina esnaensis* (LeRoy) umbilical, spiral and side views, sample R41, all X190,
- Figures 23–25.** *Globanomalina pseudoscitula* (Glaessner) umbilical, side and spiral views, sample R39, all X450.
- Figures 27, 28.** *Chiloguimbillina wilcoxensis* (Cushman and Ponton) umbilical and dorsal side views, sample R33, all X180.



Explanation of Plate 22

Figures 1–3. *Morozovella edgari* (Primoli Silva and Bolli) umbilical, side and spiral views, sample R33, all X270.

Figures 4–5,10. *Morozovella marginodentata* (Subbotina) umbilical, side and spiral views, sample R40, all X200.

Figures 6, 11–12. *Morozovella aragonensis* (Nuttal) side, spiral and umbilical views, sample R41, all X130. *Morozovella lensiformis* (Subbotina) umbilical, side and spiral views, sample R40, all X170.

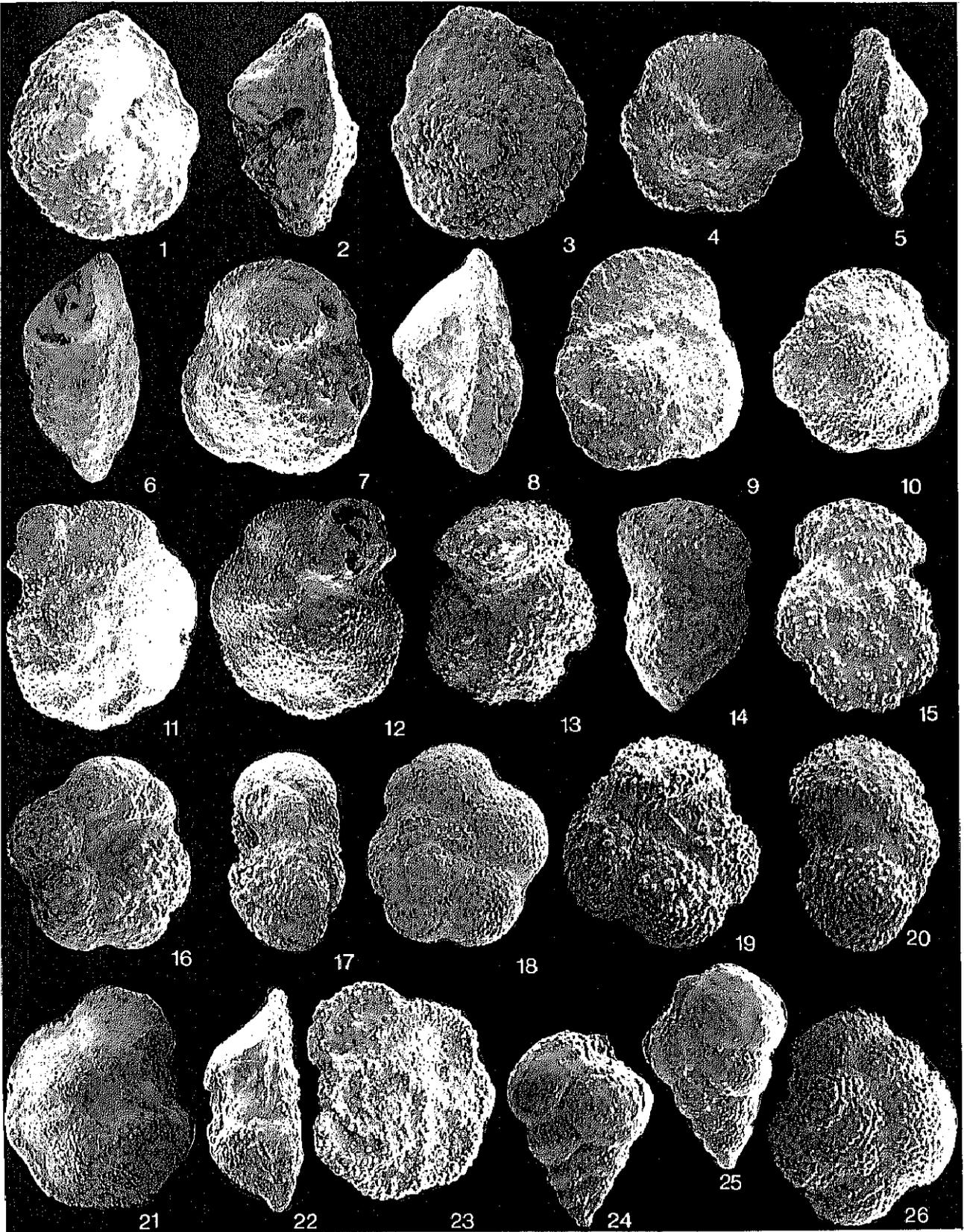
Figures 13–15. *Acarinina quetra* (Bolli) umbilical, side and spiral views, sample R41, all X180.

Figures 16–18. *Acarinina pentacamerata* (Subbotina) umbilical, side and spiral views, sample R40, all X150.

Figures 19–20, 26. *Acarinina soldadoensis angulosa* (Bolli) umbilical, side and spiral views, sample R38, all X200.

Figures 21–23. *Morozovella formosa formosa* (Bolli) umbilical, side and spiral views, sample R41, all X130.

Figures 24, 25. *Chiloguembilina trinitaensis* (Cushman and Renz) umbilical and dorsal side views, sample R30, all X350.



Explanation of Plate 23

Figures 1–3. *Catapsydrax howei* (Blow and Banner) umbilical, side and spiral views, sample Rk–22, all X200.

Figures 4–5, 10. *Catapsydrax martini* (Blow and Banner) side, umbilical and spiral views, sample Rk–23, all X350.

Figures 6, 11–12. *Globigerinatheka mexicana kugleri* (Bolli, Loeblich and Tappan) umbilical, side and spiral views, sample Rk–22, all X190.

Figures 7–9. *Catapsydrax africana* (Blow and Banner) umbilical, side and spiral views, sample Rk–23, all X370.

Figures 13–15. *Catapsydrax echinatus* (Bolli) umbilical, spiral and side views, sample ZPE–116, all X230.

Figures 16–17. *Catapsydrax globiformis* (Blow and Banner) umbilical and spiral views, sample ZPE–115, all X330.

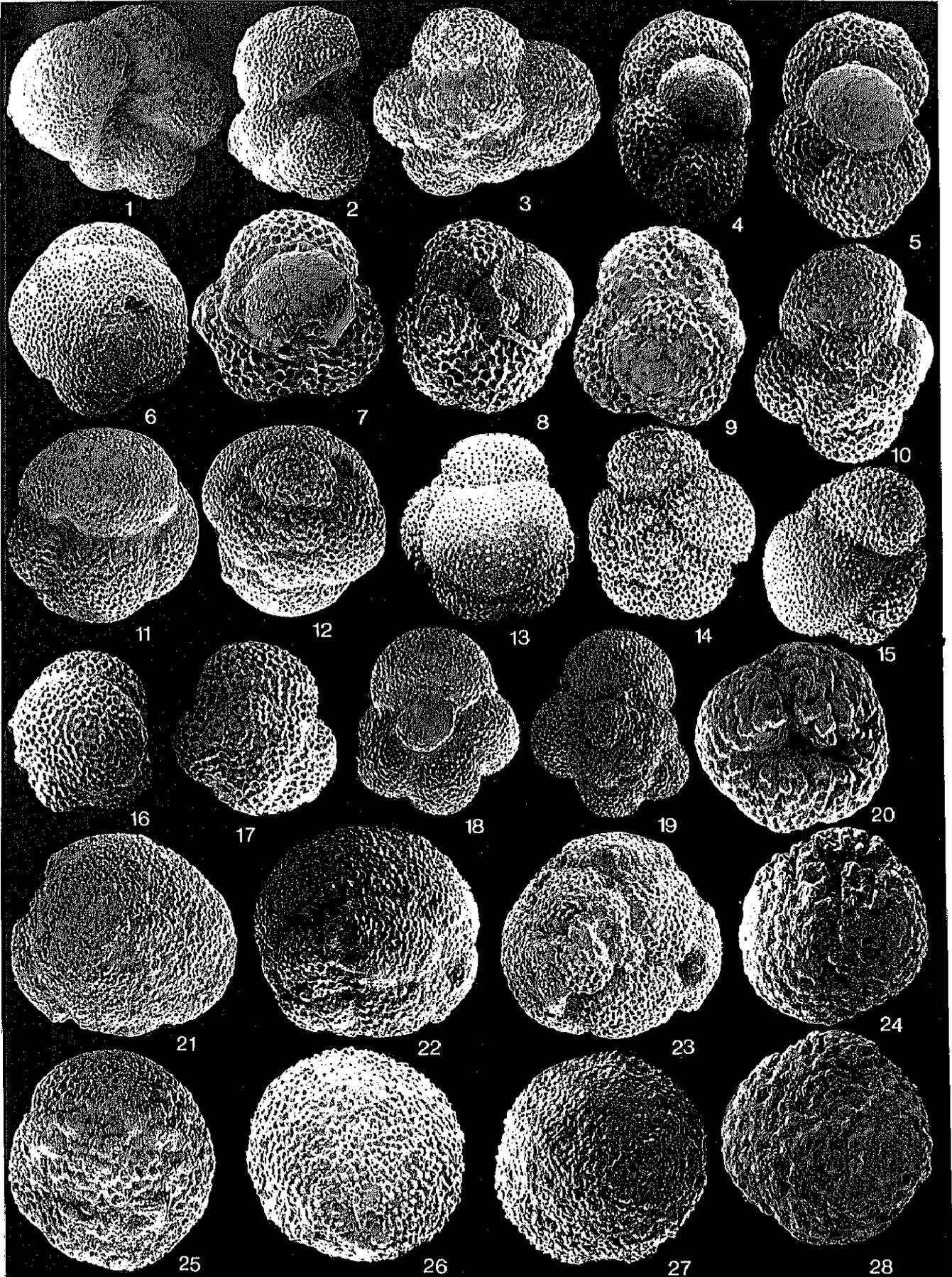
Figures 18–19. *Catapsydrax dissimilis* (Cushman and Bermudez) umbilical and spiral views, sample Rk–22, all X200.

Figures 20, 24, 28. *Muricoglobigerina senni* (Beckmann) umbilical side and spiral views, sample Rk–23, all X370.

Figures 21–23. *Globigerinatheka mexicana bari* (Bronnimann) umbilical side and spiral views, sample Rk–22, all X190.

Figure 25. *Orbulinoides beckmanni* (Saito) spiral view, sample ZPE–117, X270.

Figures 26–27. *Orbulinoides beckmanni* (Saito) umbilical and spiral views, sample Rk–30, all X300.



Explanation of Plate 24

Figures 1–3. *Truncorotaloides collactea* (Finlay) umbilical side and spiral views, sample ZPE–117, all X250.

Figures 4–5, 10. *Turborotalia cerroazulensis pomeroli* (Toumarkine and Bolli) spiral, side and umbilical views, sample ZPW–61, all X120.

Figures 6, 11–12. *Turborotalia cerroazulensis cunialensis* (Toumarkine and Bolli) umbilical, side and spiral views, sample ZPE–121, all X250.

Figures 13–15. *Turborotalia griffinali* (Blow) umbilical, side and spiral views, sample ZPE–116, all X160.

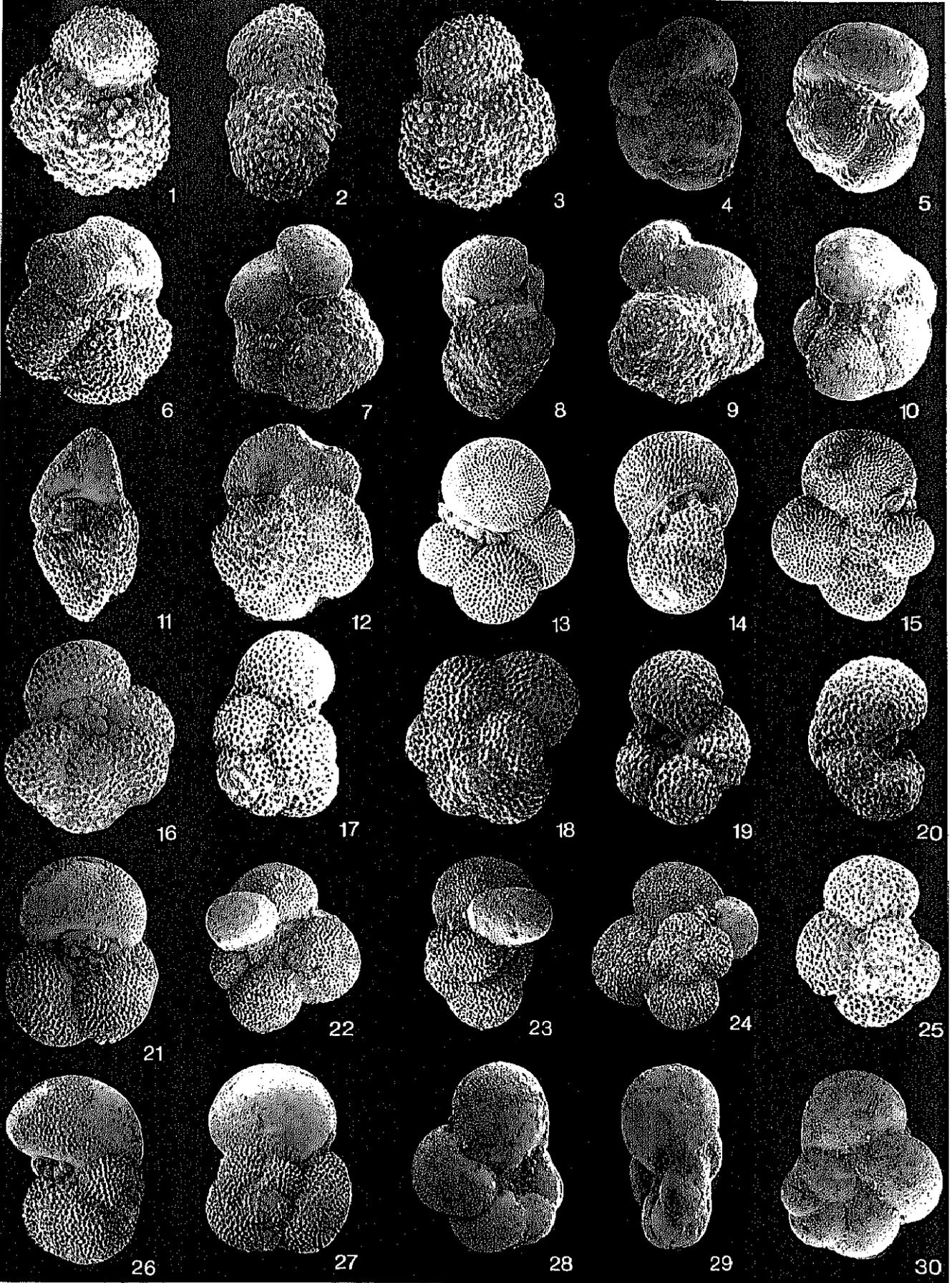
Figures 16–18. *Globigerinoides higginsi* (Bolli) umbilical, side and spiral views, sample Rk–23, all X270.

Figures 19–20, 25. *Acarinina spinuloinflata* (Bandy) umbilical, side and spiral views, sample ZPE –116, all X230.

Figures 21, 26–27. *Turborotalia cerroazulensis frontosa* (Subbotina) umbilical, side and spiral views, sample ZPE–115, all X180.

Figures 22–22. *Subbotina cryptomphala* (Glaessner) umbilical, side and spiral views, sample ZPE–117, all X130.

Figures 28–30. *Hastigerina* (cf) *bolivariana* (Toumarkine and Luterbacher) umbilical, side and spiral views, sample Rk–22, all X220.



Explanation of Plate 25

Figures 1–3. *Turborotalia cerroazulensis pessognoensis* (Toumarkine and Bolli) umbilical, side, and spiral views, sample ZPW–62, all X270.

Figures 4–5, 10. *Acarinina bullbrookii* (Bolli) umbilical, side and spiral views, sample ZPW–65, all X170.

Figures 6, 11–12. *Subbotina corpulenta* (Subbotina) side, umbilical and spiral views, sample Rk–40, all X180.

Figures 7–9. *Truncorotalia rohri* (Bronnimann and Bermudez) umbilical, side and spiral views, sample ZPW–61, all X220.

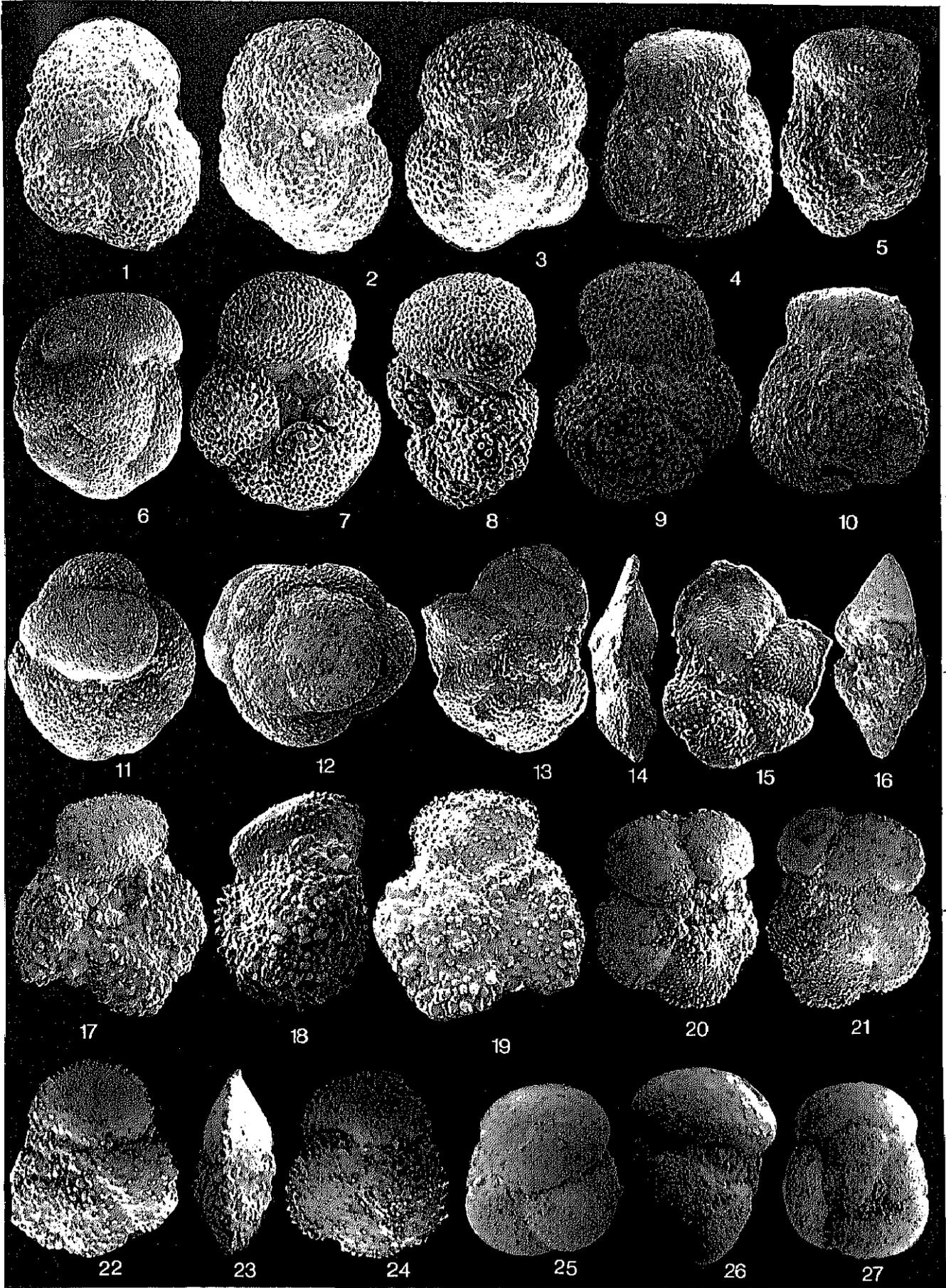
Figures 13–15. *Globanomalina palmerae* (Cushman and Bermudez) spiral, side and umbilical, views, sample ZPW–30, all X270.

Figures 17–19. *Truncorotalia Topilensis* (Cushman) umbilical, side and spiral views, sample ZPW–61, all X200.

Figures 16, 20–21. *Morozovella lehneri* (Cushman and Jarvis) side, umbilical and spiral views, sample ZPW–61, all X160.

Figures 22–24. *Morozovella spinulosa* (Cushman) umbilical, side and spiral views, sample ZPW–61, all X150.

Figures 25–27. *Turborotalia cerroazulensis cerroazulensis* (Cole) umbilical, side and spiral views, sample ZPW–61, all X160.



Explanation of Plate 26

Figures 1–3. *Hantkenina dumblei* (Weinzierl and Applin) lateral, side and lateral views, sample ZPW–63, all X160.

Figures 4–5. *Chiloguembelina martini* (Pijpers) side and lateral views, sample ZPE–118, all X350.

Figures 6–8. *Hantkenina alabamensis* (Cushman) lateral, side and lateral views, sample Rk–22, all X95.

Figures 9–11. *Hantkenina longispina* (Cushman) lateral, side and lateral views, sample Rk–22, all X200.

Figures 12–13. *Chiloguembelina victoriana* (Beckmann) lateral and side views, sample ZPE–115, all X330.

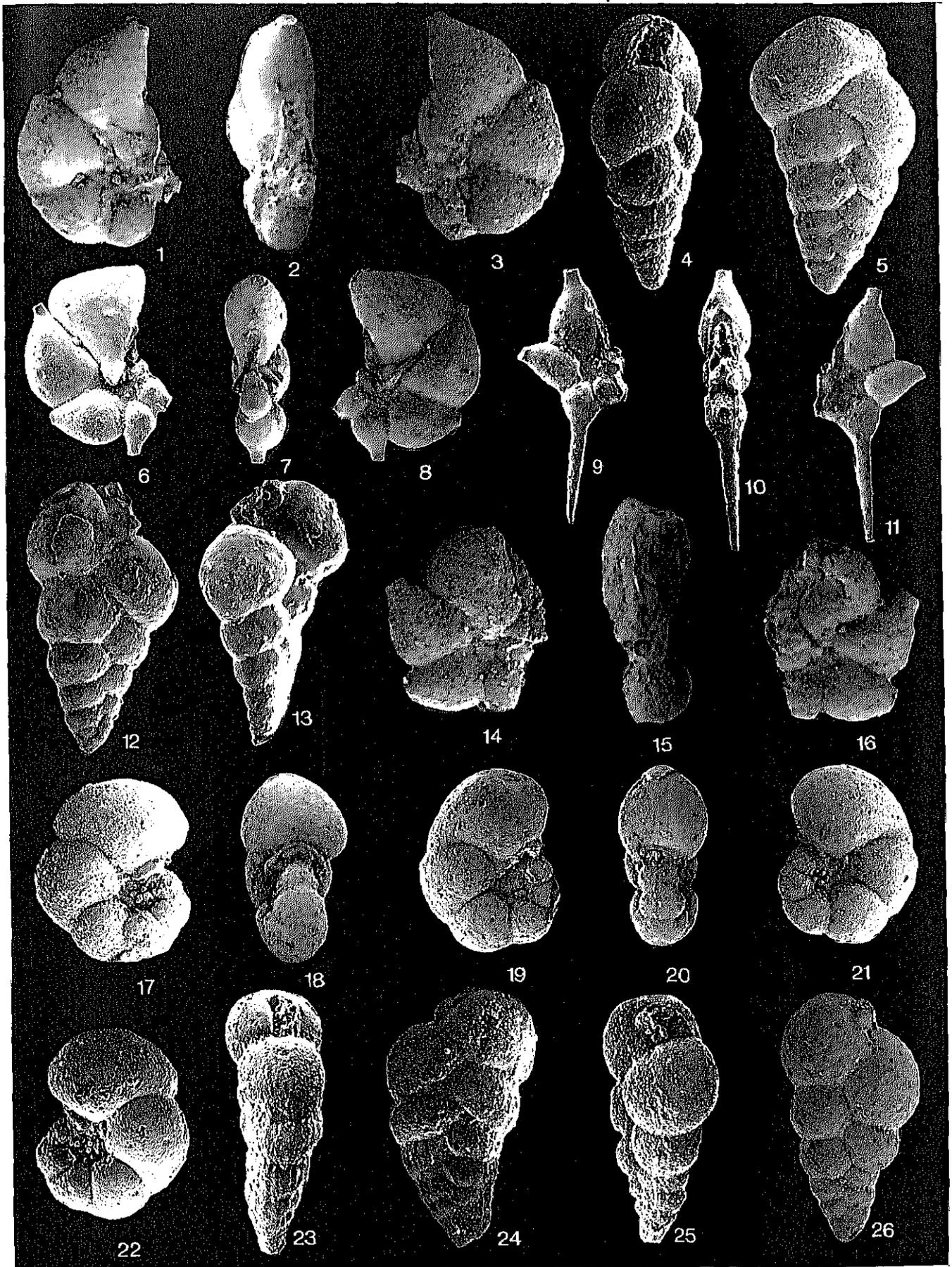
Figures 14–16. *Hantkenina mexicana* (Cushman) lateral, side and lateral views, sample ZPW–63, all X250.

Figures 17–19. *Pseudohastigerina sharkriverensis* (Berggren and Olsson) lateral, side and lateral views, sample ZPE–118, all X300.

Figures 20–21. *Pseudohastigerina micra* (Cole) side and lateral views, sample ZPE–118, all X270.

Figures 23–24. *Chiloguembelina goodwini* (Cushman and Jarvis) side and lateral views, sample ZPE–118, all X370.

Figures 25–26. *Chiloguembelina woodi* (Samanta) side and lateral views, sample ZPE–118, all X430.



A

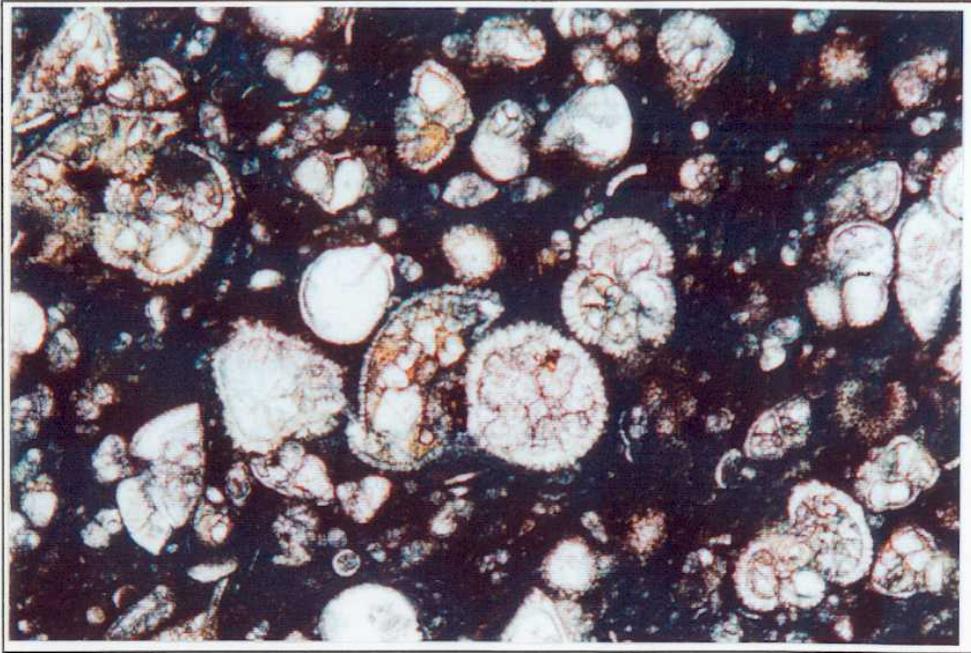


Figure A. Planktonic foraminiferal mudstone-wakestone (Microfacies A) showing abundant planktonic foraminifera embeded in the muddy matrix, from the Dunghan Formation (sample R-45) exposed in the Rakhi Nala section.

B

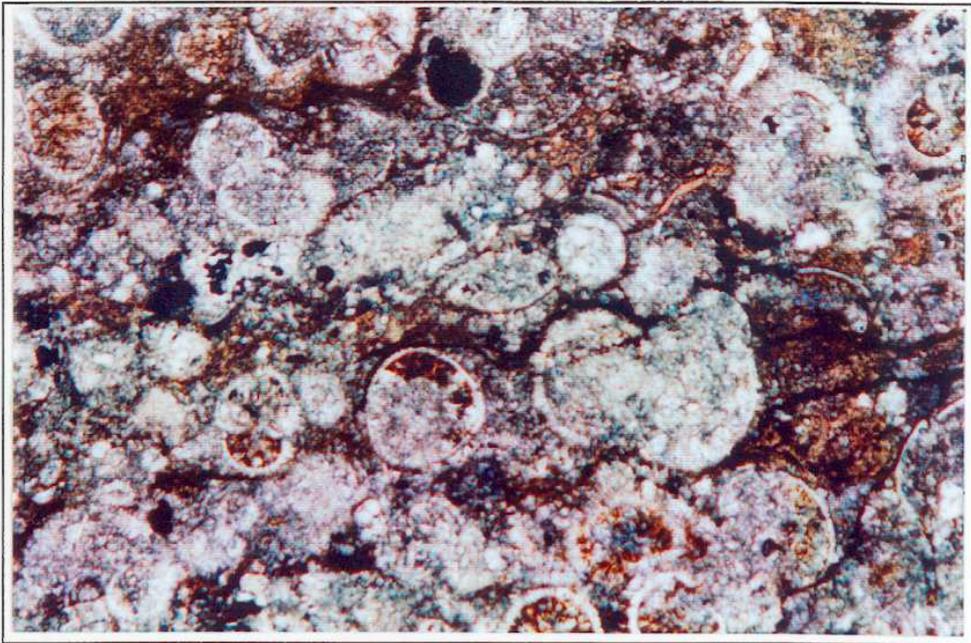


Figure B. Another view of the wakestone (Microfacies A) from the Dunghan Formation (sample R-45) exposed in the Rakhi Nala section.

A

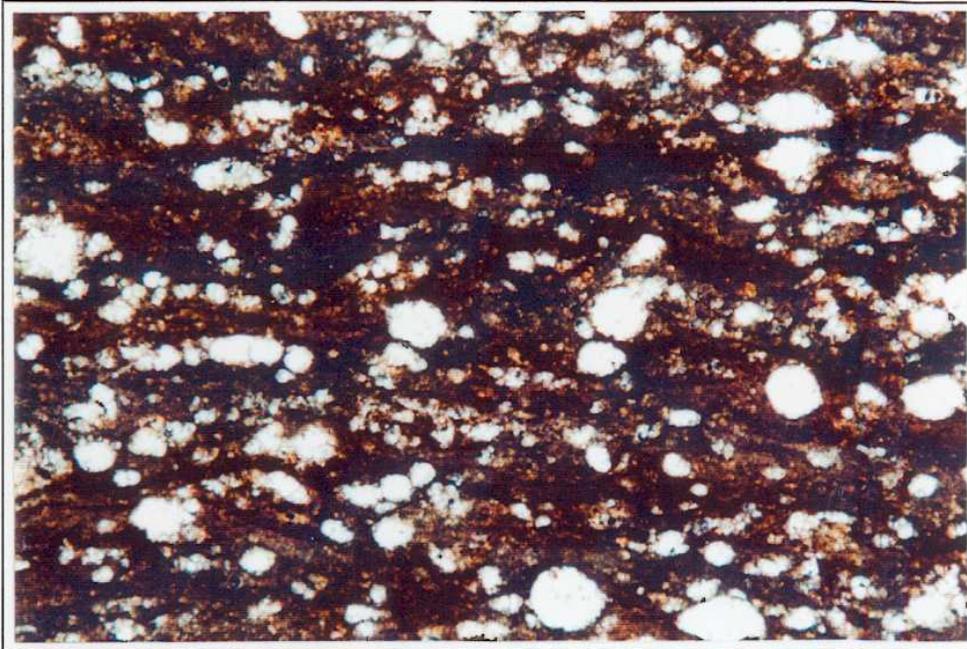


Figure A. Planktonic foraminiferal wackestone (Microfacies A) showing abundant pelagic fauna in muddy flow matrix from the Shaheed Ghat Formation (sample R-48) exposed in the Rakhi Nala section.

B

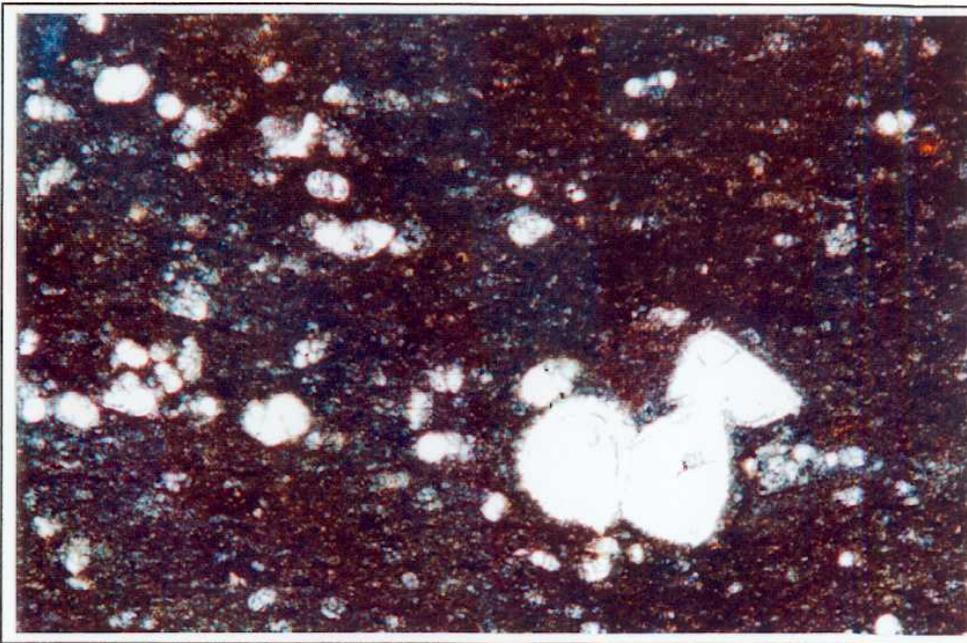


Figure B. Microfacies A shows a typical planktonic foraminiferal wackestone-grainstone from Pirkoh limestone and marl Member of the Kirthar Formation (sample 24) exposed along the Zinda Pir western section.

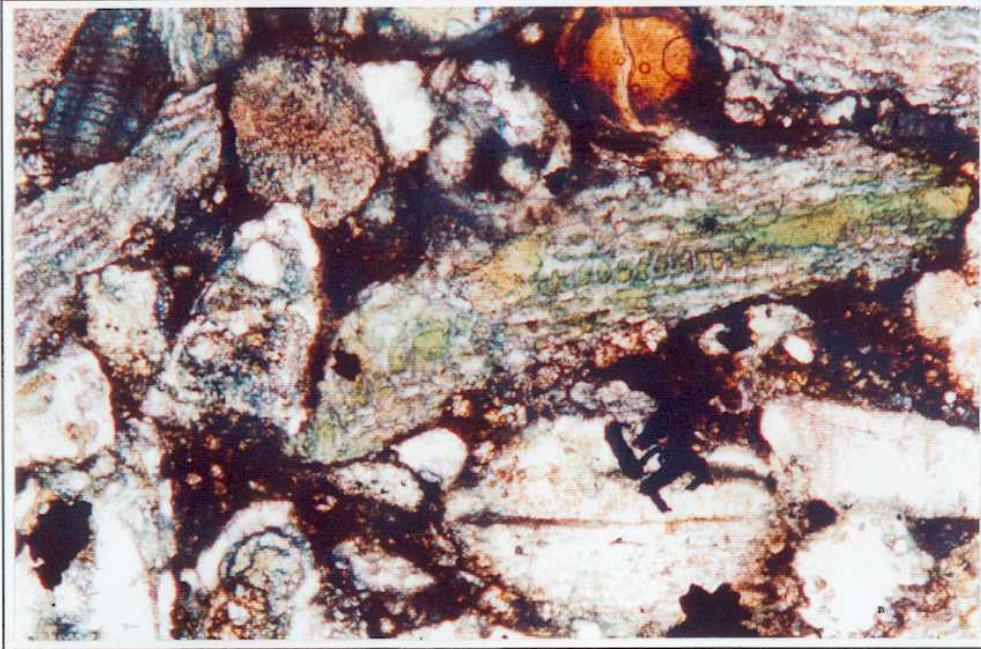


Figure A. Limestone turbidite- wackestone/packstone (Microspcies B) showing squashed (compacted) texture exhibiting pyrite - glauconite grains from the Dunghan Formation(sample Ls-3), western limb of the Zinda Pir Anticline.

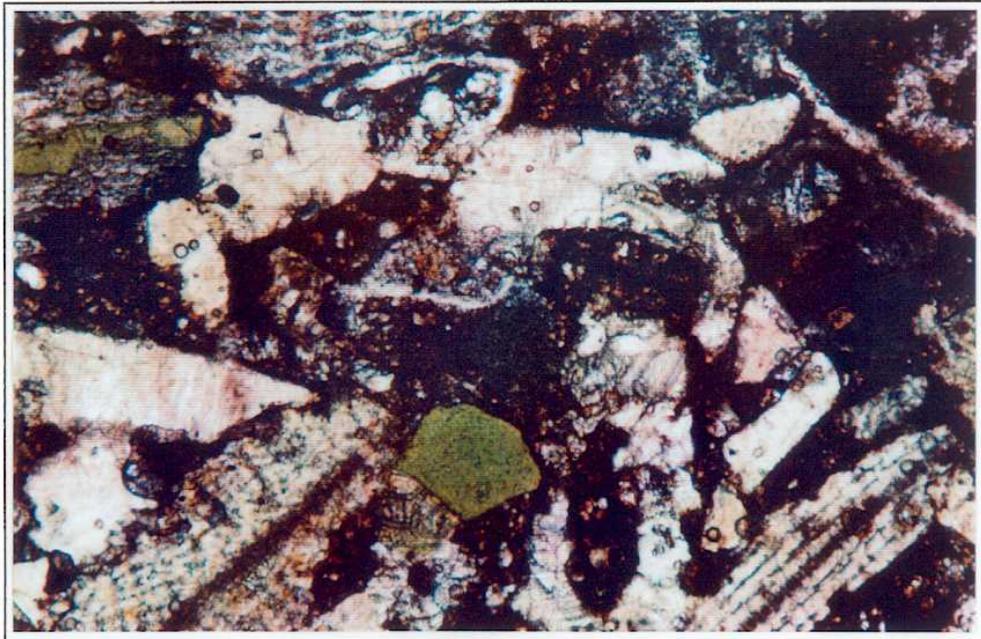


Figure B. Another view of the Limestone turbidite- wackestone/packstone showing squashed (compacted) grains with larger foraminifera and glauconite grains from the Dunghan Formation(sample Ls-3), western limb of the Zinda Pir Anticline.

A

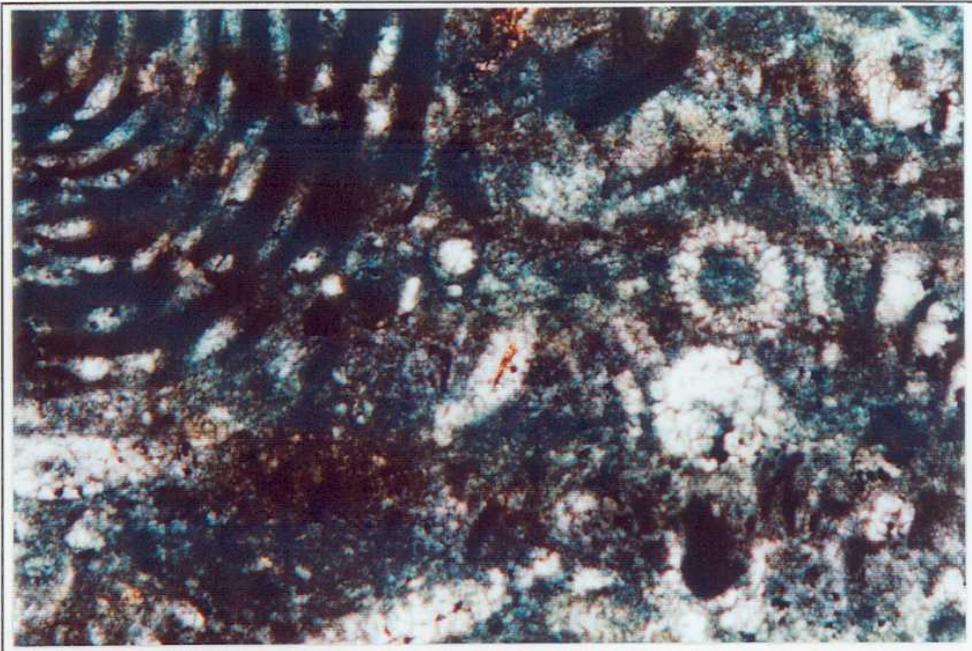


Figure A. Brecciated / conglomeratic limestone - wackestone (Microfacies C) present at the base of the Shaheed Ghat Formation, Rakhi Nala (sample R-42), show large foraminifera and other limestone fragments in the calcareous matrix.

B



Figure B. Turbidite limestone - wackestone (Microfacies B) shows larger foraminifera from the Dunghan Formation exposed along the eastern limb of the Zinda Pir Anticline (sample ZPE-22).

A

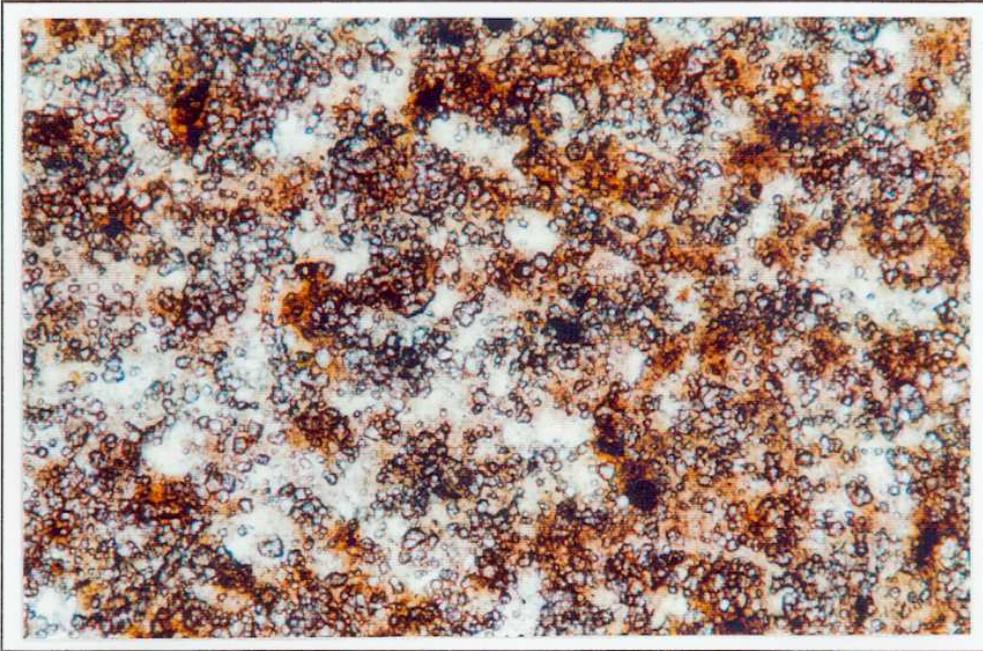


Figure A. Microfacies D (platty limestone/mudstone-micrite-dismicrite) showing typical fine-grained micrite texture (sample R-58) from the Shaheed Ghat Formation exposed in the Rakhi Nala section.

B

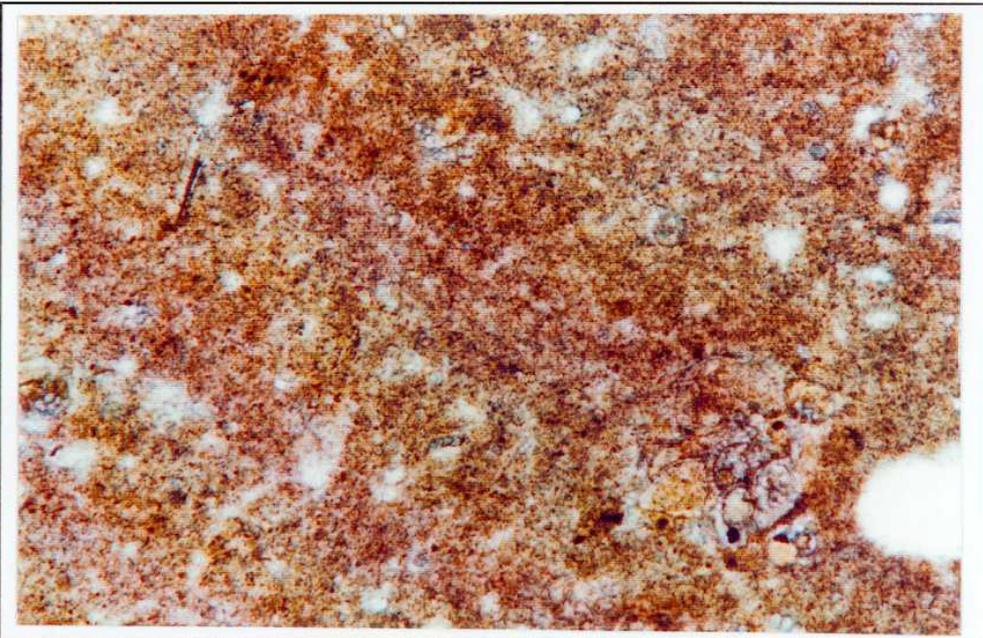


Figure B. Microfacies D (platty limestone/mudstone-micrite-dismicrite) showing fine-grained micritic matrix and some pelagic planktonic foraminifera (sample R-52) from the Shaheed Ghat Formation exposed in the Rakhi Nala section.

A

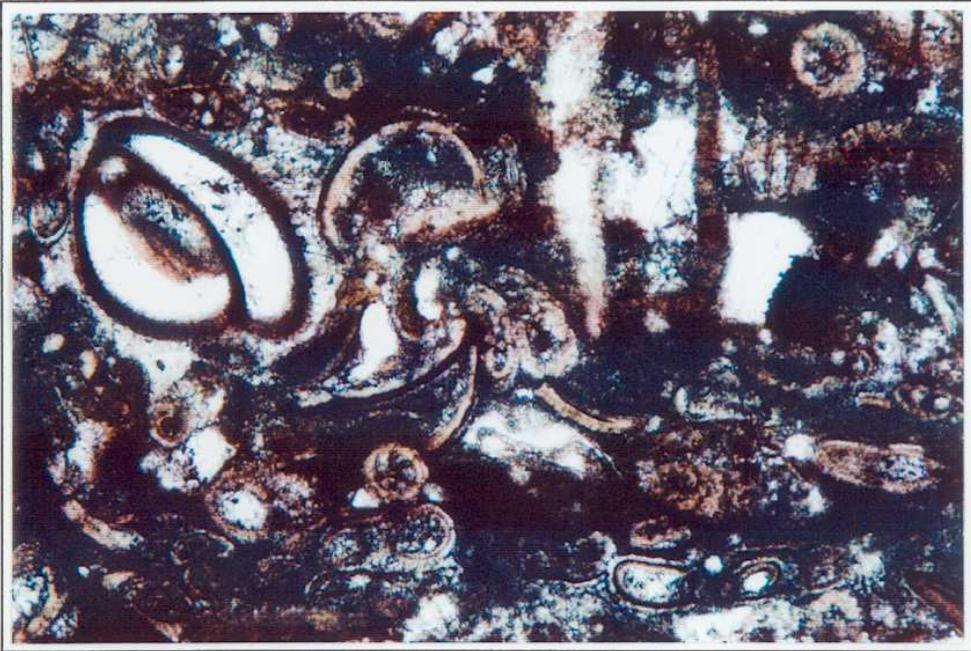


Figure A. Microfacies E (restricted fauna- miliolid, nummulitid wakestone / packstone from Baska Formation (sample R-93) exposed in the Rakhi Nala section.

B



Figure B. Restricted fauna- lamellibranchita- wakestone (Microfacies E) from Shaheed Ghat Formation (sample Ls-12) exposed in the Zinda Pir western section.

A

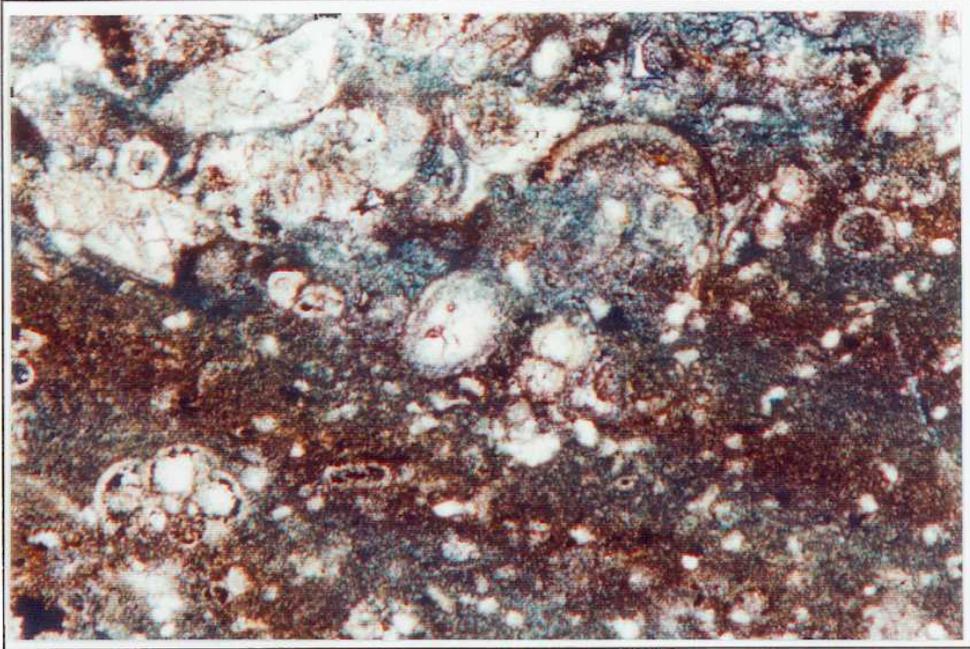


Figure A. Restricted fauna- wakestone facies from the Baska Formation showing transition from fine-grained muddy matrix to a turbidite facies with restricted fauna from the Rakhi Nala section.

B

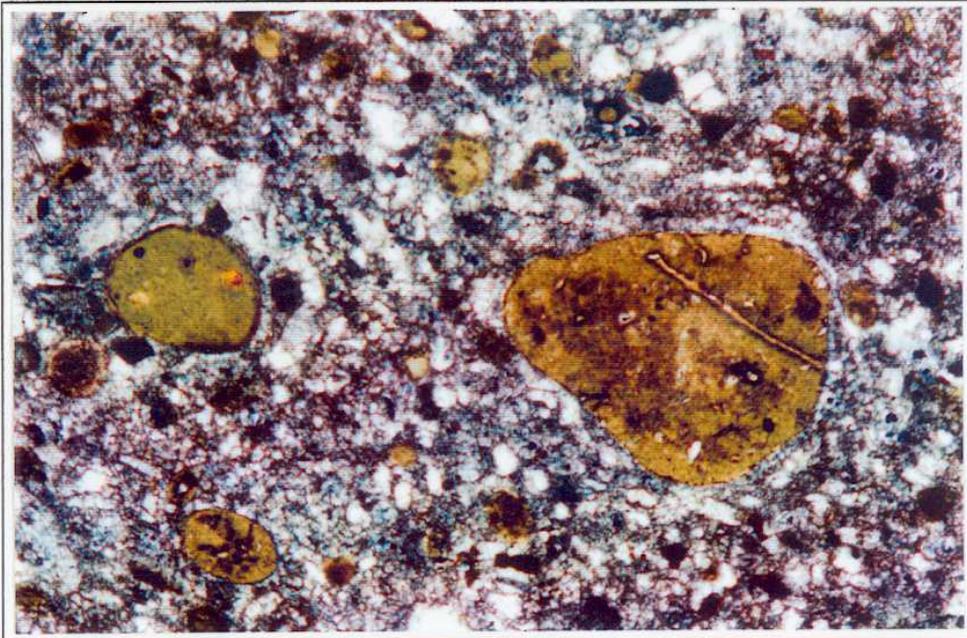


Figure B. Galuconitic limestone- grainstone (Microfacies F) showing abundant small to very big sized glauconite grains from the Drazinda Member, Kirthar Formation (sample Ls-26) exposed in the western side of the Zinda Pir Anticline.

A

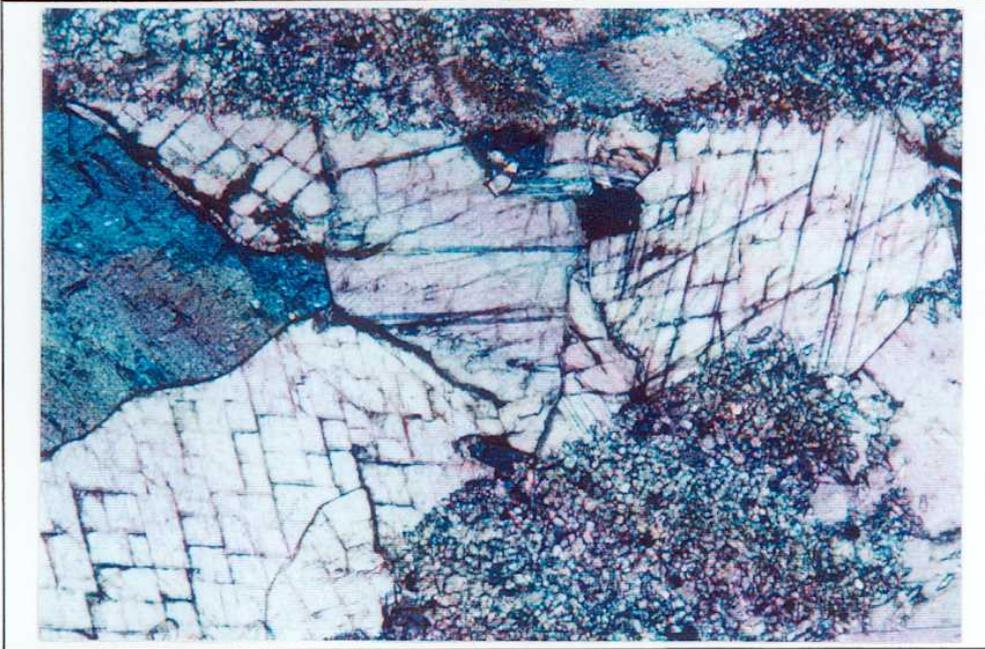


Figure A. Microfacies G (Gypsum- anhydrite) showing typical large crystals of porphyroblasts gypsum (secondary gypsum) with original laminated anhydrite (sample R-99) from the lowermost part of the Kirthar Formation exposed in the Rakhi Nala section.

B

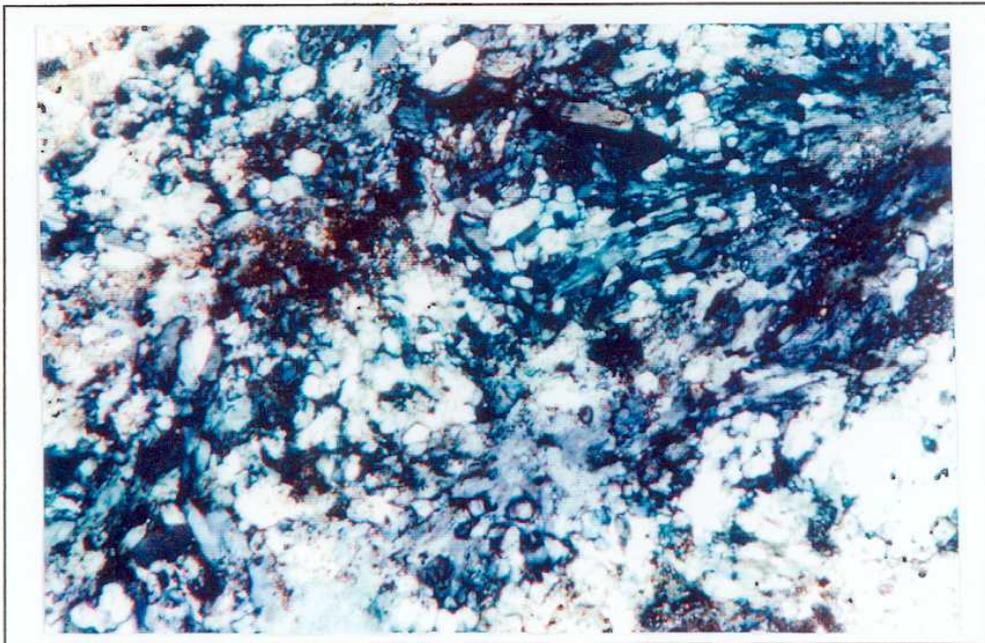


Figure B. Microfacies G (Gypsum- anhydrite) showing typical lath-shaped crystals of alabastrine gypsum (sample LS-17) from the uppermost part of the Baska Formation, western limb of the Zinda Pir Anticline.