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med Hilsen fra
hans Ven
Prof.*

A MONOGRAPH
OF THE
ECHINOIDEA

I.
CIDAROIDEA

BY

TH. MORTENSEN

WITH 88 PLATES AND 173 FIGURES IN THE TEXT

PLATES

COPENHAGEN
C. A. REITZEL
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PUBLISHED AT THE EXPENSES OF THE CARLSBERG-FUND

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By the courtesy of the Museum of Comparative Zoology.

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Plate XXIII.

Stereocidaris tubifera Mrtsn., type specimen; oral side. Natural size.

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All figures natural size.

Figs. 1—2. by the courtesy of the U. S. National Museum.

Plate XXIX.

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Fig. 14 by the courtesy of the U. S. National Museum.

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 Fig. 5 by the courtesy of the U. S. National Museum.

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 By the courtesy of the British Museum, Natural History.

Plate XXXV.

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Plate XXXIX.

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 Specimen in the Museum of Genève; oral side. Natural size.

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Prionocidaris baculosa, var. *annulifera* (Lamk.). Large specimen with the primary spines covered by foreign organisms; oral side. From the Philippine Seas ("Albatross", Stat. 5481).
Natural size.

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Figs. 2—3 by the courtesy of the Museum of Comp. Zoology.
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Fig. 2 by the courtesy of the Strasbourg Museum.
Both figures natural size.

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Fig. 1 by the courtesy of the Museum of Comp. Zoology.
Both figures natural size.

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Fig. 2 by the courtesy of the Museum of Comp. Zoology.
Both figures natural size.

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 — 2. *Prionocidaris baculosa* (Lamk.); very large specimen from the Gulf of Suez; oral side.
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 Both figures natural size.

Plate LIX.

- Figs. 1—2. *Phyllacanthus irregularis* Mrtsn. Half denuded specimens from the aboral (1) and oral side (2). Both figures natural size.

Plate LX.

Phyllacanthus irregularis Mrtsn. Very large specimen, in the West Australian Museum, Perth; aboral side (cf. Pl. LVIII. 1.). Natural size.

Plate LXI.

- Fig. 1. *Phyllacanthus irregularis* Mrtsn. Specimen in the Australian Museum, Sydney; aboral side.
— 2. *Phyllacanthus magnificus* H. L. Clark. Cotype; in the Museum of Comp. Zoology; aboral side. Both figures natural size.

Plate LXII.

- Figs. 1—2. *Phyllacanthus magnificus* H. L. Clark. Cotype, in the Museum of Comp. Zoology; oral side (1) and in side view (2). Both figures natural size.

Plate LXIII.

- Figs. 1—3. *Phyllacanthus parvispinus* Ten. Woods. Denuded tests, from the aboral (1) and the oral side (2), and in side view (3).
— 4—6. *Phyllacanthus dubius* Brandt. Denuded tests, from the aboral (4) and the oral side (5), and in side view (6).
— 7—8. *Phyllacanthus longispinus* Mrtsn. Denuded test (specimen in the Australian Museum, Sydney) from the aboral side (7) and in side view (8). All figures natural size.

Plate LXIV.

- Figs. 1—2. *Chondrocidaris gigantea* A. Ag. Denuded test, in the Museum of Comp. Zoology; in side view (1) and from the aboral side (2).
— 3. *Phyllacanthus parvispinus* Ten. Woods; large specimen, oral side. All figures natural size.

Plate LXV.

Chondrocidaris gigantea A. Ag. Aboral side. Natural size.

Plate LXVI.

Chondrocidaris gigantea A. Ag. Oral side. Natural size.

Plate LXVII.

- Figs. 1—3 and 13. *Stereocidaris sceptriferoides* Död. Specimen in side view (1); denuded test, ♂, from above (2) and in side view (3); ♀, half denuded, from above (13).
— 4. *Stylocidaris Lorioli* (Koehler), half denuded, from above.
— 5. *Cidaris cidaris*, var. *meridionalis* Mrtsn, type-specimen; from above.
— 6—7. *Prionocidaris baculosa*, var. *longicollis* Mrtsn., young specimen, from above (6), half grown specimen, half denuded, in side view (7).
— 8. *Ctenocidaris (Eurocidaris) nutrix*, var. *longispina* Mrtsn. Type-specimen, from above.

- Fig. 9. *Tretocidaris spinosa* Mrtsn., large specimen, half denuded, from above; showing double primary tubercles on the upper interambulacral plates.
 — 10—11. *Eucidaris clavata* Mrtsn., from above (10); half denuded specimen in side view (11).
 — 12. *Stereocidaris granularis* Mrtsn. Specimen from "Albatross" St. 5527; half from above.
 All figures natural size.

Plate LXVIII.

Details of ambulacral structure.

- Figs. 1—3. *Histocidaris australiæ* Mrtsn., the typical form (1—2) and the variety (3).
 — 4. *Histocidaris Sharreri* (A. Ag.), the type specimen.
 — 5. *Histocidaris crassispina* Mrtsn., the type specimen.
 — 6. *Histocidaris elegans* (A. Ag.).
 — 7. *Histocidaris variabilis* (A. Ag. & H. L. Clark).
 — 8. *Histocidaris recurvata* Mrtsn., the type specimen.
 — 9—10. *Histocidaris formosa* Mrtsn., the type specimen (9) and the large specimen from the "Siboga" St. 253. (10).
 — 11. *Histocidaris Cobosi* (A. Ag.), cotype.
 — 12. *Aporocidaris Milleri* (A. Ag.).
 — 13. *Aporocidaris fragilis* A. Ag. & H. L. Clark.
 — 14. *Aporocidaris incerta* (Koehler), type specimen.
 — 15. *Notocidaris Mortenseni* (Koehler), type specimen.
 All figures $\times 12$.

Plate LXIX.

Details of ambulacral structure.

- Fig. 1. *Histocidaris carinata* Mrtsn., the type specimen.
 — 2. *Histocidaris misakiensis* (Yosh.), the type specimen.
 — 3. *Histocidaris Sharreri* (A. Ag.) (?), specimen from off St. Kitts.
 — 4. *Goniocidaris tubaria* (Lamk.).
 — 5—6. *Goniocidaris tubaria*, var. *impressa* (Koehler), young (5) and adult specimen (6).
 — 7. *Goniocidaris alba* Mrtsn., the type specimen.
 — 8. *Goniocidaris spinosa* Mrtsn., the type specimen.
 — 9. *Goniocidaris clypeata* Död.
 — 10. *Goniocidaris florigera* A. Ag.
 — 11. *Goniocidaris sibogæ* Mrtsn.
 — 12. *Goniocidaris australiæ* Mrtsn.
 — 13. *Goniocidaris crassa* Mrtsn.
 — 14. *Goniocidaris fimbriata* (de Meijere).
 — 15. *Goniocidaris umbraculum* Hutton.
 — 16. *Goniocidaris mikado* (Död.).
 — 17. *Goniocidaris biserialis* (Död.).
 — 18—19. *Schizocidaris assimilis* Mrtsn., younger (18) and adult specimen (19).
 — 20. *Rhopalocidaris rosea* Mrtsn.
 — 21. *Rhopalocidaris hirsutispina* (de Meij.).
 — 22. *Rhopalocidaris gracilis* (Död.).
 — 23. *Ctenocidaris Perrieri* Koehler.
 All figures $\times 12$.

Plate LXX.

Details of ambulacral structure.

- Figs. 1—2. *Stereocidaris grandis* (Död.), cotype; from the ambital (1) and the adoral part of ambulacrum (2).
 — 3. *Stereocidaris grandis*, var. *hyatorina* Mrtsn.
 — 4—5. *Stereocidaris granularis* Mrtsn.
 — 6. *Stereocidaris ingolfiana* Mrtsn.
 — 7. *Stereocidaris squamosa* Mrtsn.
 — 8. *Stereocidaris tubifera*, var. *impressa* Mrtsn., the type specimen.
 — 9. *Stereocidaris japonica* (Död.).
 — 10—11. *Stereocidaris hawaiiensis* Mrtsn.
 — 12. *Stereocidaris sceptriferoides* Död.
 — 13. *Stereocidaris stylifera* Mrtsn., the type specimen.
 All figures $\times 12$.

Plate LXXI.

Details of ambulacral structure.

- Fig. 1. *Stereocidaris capensis* Död.
 — 2. *Stereocidaris tubifera* Mrtsn.
 — 3. *Stereocidaris purpurascens* Mrtsn.
 Figs. 4—5. *Stereocidaris indica* Död., specimen from the Indian Ocean (4) and from off Kiushiu, Japan (5).
 — 6. *Stereocidaris sceptriferoides*, var. *lanceolata* Mrtsn., the type specimen.
 — 7. *Stereocidaris microtuberculata* (Yosh.).
 — 8. *Stereocidaris Alcocki* (Anderson).
 — 9—10. *Stereocidaris sulcatispinis* Mrtsn.
 — 11—13. *Stereocidaris leucacantha* A. Ag. & H. L. Clark.
 — 14. *Cidaris nuda* (Mrtsn.).
 — 15. *Tretocidaris spinosa* Mrtsn.
 — 16. *Cidaris Blakei* (A. Ag.).
 All figures $\times 12$.

Plate LXXII.

Details of ambulacral structure.

- Figs. 1—2. *Stylocidaris brevicollis* (de Meij.), adult (2) and young specimen (1).
 — 3. *Stylocidaris maculosa* Mrtsn.
 — 4. *Stylocidaris* (?) *fusispina* Mrtsn., the type specimen.
 — 5—6. *Stylocidaris amboinæ* Mrtsn.
 — 7—8. *Stylocidaris bracteata* (A. Ag.).
 — 9. *Stylocidaris calacantha* (A. Ag. & H. L. Clark).
 — 10. *Stylocidaris rufa* Mrtsn., the type specimen.
 — 11. *Stylocidaris albidens* H. L. Clark.
 — 12. *Stylocidaris tiara* (Anderson).
 — 13. *Stylocidaris Lorioli* (Koehler).
 — 14. *Stylocidaris conferta* (H. L. Clark).
 — 15. *Stylocidaris affinis* (Phil.).
 — 16. *Stylocidaris badia* (H. L. Clark).
 — 17—19. *Stylocidaris Reini* (Döderlein).
 — 20—21. *Cidaris cidaris*, var. *meridionalis* Mrtsn.
 — 22. *Cidaris cidaris* (Linn.).
 All figures $\times 12$.

Plate LXXIII.

Details of ambulacral structure.

- Fig. 1. *Eucidaris tribuloides* (Lamk.), large specimen.
 — 2. *Eucidaris clavata* Mrtsn.
 — 3—5. *Eucidaris Thouarsii* (Val.). 4. specimen from Clarion Isl.; 5. specimen of middle size.
 — 6. *Eucidaris metularia* (Lamk.).
 — 7. *Hesperocidaris perplexa* (H. L. Clark).
 — 8. *Hesperocidaris panamensis* (A. Ag.).
 — 9. *Hesperocidaris dubia* (H. L. Clark).
 — 10. *Centrocidaris Döderleini* (A. Ag.).
 — 11. *Prionocidaris glandulosa* (de Meij.).
 — 12. *Prionocidaris hawaiiensis* (A. Ag. & H. L. Clark).
 — 13. *Prionocidaris baculosa* (Lamk.), forma *typica*; large specimen from the Gulf of Suez.
 — 14—15. *Prionocidaris baculosa*, var. *annulifera* (Lamk.).
 — 16. *Prionocidaris baculosa*, var. *longicollis* (Mrtsn.).
 — 17. *Prionocidaris australis* (Ramsay).
 — 18. *Prionocidaris pistillaris* (Lamk.).
 — 19. *Prionocidaris bispinosa* (Lamk.), large specimen.
 Figures 1—12 and 14—18 $\times 12$; figures 13 and 19 $\times 6.5$.

Plate LXXIV.

Details of ambulacral structure.

- Fig. 1. *Actinocidaris Thomasi* (A. Ag. & H. L. Clark).
 — 2. *Chondrocidaris brevispina* H. L. Clark.
 — 3—4. *Chondrocidaris gigantea* A. Ag., from Mauritius (3) and from Hawaii (4).
 — 5. *Plococidaris verticillata* (Lamk.).
 — 6. *Phyllacanthus imperialis* (Lamk.).
 — 7. *Phyllacanthus dubius* Brandt.
 — 8. *Phyllacanthus parvispinus* Ten. Woods.
 — 9. *Phyllacanthus longispinus* Mrtsn.
 — 10—11. *Phyllacanthus irregularis* Mrtsn., the type (10) and the cotype (4).
 Figures 1—9 and 11 $\times 12$; fig. 10 $\times 6$.

Plate LXXV.

Pedicellariæ.

- Figs. 1—2. *Histocidaris crassispina* Mrtsn., valves of small (1) and large (2) tridentate pedicellaria, from the inside, $\times 30$.
 — 3—4. *Histocidaris misakiensis* (Yosh.), the type specimen. Valves of small (3) and large tridentate pedicellariæ (4); the former, in side view, $\times 55$, the latter from the inside, $\times 38$.
 — 5—7. *Histocidaris recurvata* Mrtsn., the type specimen. Valves of small (5, 7) and large tridentate pedicellariæ (6). 5. in side view, $\times 55$; 6. from the inside, $\times 38$; 7. from the inside, $\times 55$.
 — 8—10. *Histocidaris formosa* Mrtsn. Valves of large (8) and small tridentate pedicellariæ (9—10); 8. from the inside, $\times 38$; 9—10. in side view, $\times 65$.
 — 11—13. *Histocidaris carinata* Mrtsn., the type specimen. Valves of large (11) and small tridentate pedicellariæ (12—13). 11. from the inside, $\times 38$; 12—13. in side view, $\times 55$.
 — 14—15. *Histocidaris denticulata* Koehler. Large tridentate pedicellaria (14) and valve of large tridentate pedicellaria, from the inside (15). 14. $\times 12$; 15. $\times 30$.
 — 16. *Histocidaris elegans* (A. Ag.). Valve of small tridentate pedicellaria, in side view, $\times 65$.

Plate LXXVI.

Pedicellariæ and spines.

- Figs. 1—2. *Histocidaris variabilis* (A. Ag. & H. L. Clark). Small tridentate pedicellaria (1), and valve of large tridentate pedicellaria, from the inside. 1. $\times 30$; 2. $\times 38$.
- 3—5. *Histocidaris Cobosi* (A. Ag.). Valves of small (3, 5) and large tridentate pedicellariæ (4). 3 and 5. in side view, $\times 50$; 4. from the inside, $\times 32$.
- 6—7. *Histocidaris Sharreri* (A. Ag.), the type specimen. Valves of large (6) and small tridentate pedicellariæ (7), from the inside. 5 and 7. $\times 50$; 6. $\times 26$.
- 8. *Histocidaris Nuttingii* Mrtsn. Valve of large tridentate pedicellaria, from the inside. $\times 27$.
- 9—13. *Histocidaris elegans* (A. Ag.). Part of primary spine (9); valves of large tridentate pedicellariæ, from the inside, of specimens from the "Albatross", Stat. 5618, (10), the "Siboga" St. 74 (11), and from off Port Jackson (12). Large tridentate pedicellaria of specimen from off Port Jackson (13). 9. $\times 12$; 10—12. $\times 35$; 13. $\times 30$.

Plate LXXVII.

Pedicellariæ and secondary (scrobicular) spines.

- Figs. 1—4. *Aporocidaris Milleri* (A. Ag.). Valves of large and small globiferous pedicellariæ, from the inside (1, 3, 4) and in half side view (2). $\times 65$.
- 5—6. *Aporocidaris incerta* (Koehler). Globiferous pedicellaria (5), and valve of globiferous pedicellaria, in half side view (6). 5. $\times 65$; 6. $\times 125$.
- 7. *Aporocidaris fragilis* A. Ag. & H. L. Clark. Valve of large (?) globiferous pedicellaria, from the inside. $\times 65$.
- 8. *Ctenocidaris rugosa* (Koehler). Valve of large globiferous pedicellaria, from the inside. $\times 95$.
- 9. *Ctenocidaris Geliberti* (Koehler). Valve of large globiferous pedicellaria, from the inside. $\times 95$.
- 10—12. *Ctenocidaris spinosa* (Koehler). Valves of large globiferous pedicellariæ, in side view (10) and half side view (11); valve of small globiferous pedicellaria, in half side view (12). 10—11. $\times 50$; 12. $\times 65$.
- 13. *Ogmocidaris Benhami* Mrtsn. Valve of large globiferous pedicellaria, from the inside. $\times 95$.
- 14. *Homalocidaris gigantea* (H. L. Clark). Valve of large globiferous pedicellaria, from the inside. $\times 65$.
- 15—17. *Notocidaris platyacantha* (H. L. Clark). Valves of small (15) and large globiferous pedicellariæ (16—17), from the inside (15 and 17) and in half side view (16). $\times 65$.
- 18. *Austrocidaris canaliculata* (A. Ag.). Valve of large globiferous pedicellaria, from the inside. $\times 65$.
- 19—27. Secondary (scrobicular) spines of various species of *Histocidaris*: 19. *H. denticulata* (Koehler); 20—21. *H. formosa* Mrtsn.; 22. *H. recurvata* Mrtsn.; 23. *H. crassisipina* Mrtsn.; 24. *H. misakiensis* (Yosh.), type specimen; 25—26. *H. carinata* Mrtsn.; 27. *H. variabilis* (A. Ag. & H. L. Cl.). All $\times 12$.

Plate LXXVIII.

Pedicellariæ; secondary spines.

- Figs. 1—6. *Goniocidaris tubaria* (Lamk.). 1. Tridentate pedicellaria. $\times 50$; 2. scrobicular spine. $\times 12$; 3—4. valves of small globiferous pedicellariæ, half side view. $\times 65$; 5. large globiferous pedicellaria. $\times 50$; 6. valve of large globiferous pedicellaria, half side view. $\times 65$.
- 7—11. *Goniocidaris spinosa* Mrtsn. 7. Valve of large globiferous pedicellaria from the inside. $\times 95$; 8. valve of small globiferous pedicellaria, side view. $\times 125$; 9. marginal ambulacral; 10. scrobicular spine. $\times 30$; 11. miliary spine. $\times 95$.
- 12—13. *Goniocidaris fimbriata* (de Meij.). Valves of small globiferous pedicellariæ, side view, from the type specimen (12) and specimen from off the Kei Islands (13). $\times 65$.

- Figs. 14—16. *Goniocidaris sibogæ* Mrtsn. 14—15. Valves of small globiferous pedicellariæ, side view. $\times 125$; 16. valve of "tridentate" pedicellaria, from the inside. $\times 95$.
- 17—20. *Goniocidaris clypeata* Död. 17. Valve of large globiferous pedicellaria, half side view. $\times 125$; 18—19. miliary spines. $\times 95$; 20. valve of large globiferous pedicellaria, from the inside. $\times 95$.
- 21—25. *Goniocidaris australiæ* Mrtsn. Valves of large globiferous pedicellariæ, from the inside (21) and in half side view (23); valve of "tridentate" pedicellaria, from the inside (22); valves of small globiferous pedicellariæ, from the inside (24) and in side view (25). All $\times 95$.
- 26—28. *Goniocidaris florigera* A. Ag. Scrobicular (26), marginal ambulacral (27), and miliary spine (28). All $\times 30$.
- 29—30. *Goniocidaris biserialis* (Död). 29. Valve of large globiferous pedicellaria, from the inside. $\times 125$; 30. scrobicular spine. $\times 30$.

Plate LXXIX.

Pedicellariæ; secondary spines.

- Fig. 1. *Goniocidaris umbraculum* Hutton. Valve of "tridentate" pedicellaria, from the inside. $\times 95$.
- Figs. 2—5. *Goniocidaris crassa* Mrtsn. 2. Valve of small globiferous pedicellaria, side view. $\times 95$; 3. valve of "tridentate" pedicellaria, half from the inside. $\times 65$; 4. "tridentate" pedicellaria. $\times 50$; 5. valve of small globiferous pedicellaria, half from the inside. $\times 95$.
- 6. *Goniocidaris alba* Mrtsn. Valve of small globiferous pedicellaria, side view. $\times 125$.
- 7—8. *Goniocidaris mikado* (Död.). 7. Valve of small globiferous pedicellaria, in half side view. $\times 230$; 8. miliary spine. $\times 125$.
- 9—11. *Rhopalocidaris hirsutispina* (de Meij.). 9. "Tridentate" pedicellaria. $\times 65$; 10. valve of small globiferous pedicellaria, side view. $\times 95$; 11. valve of "tridentate" pedicellaria, side view. $\times 95$.
- 12—17. *Rhopalocidaris gracilis* (Död.). 12. Valve of small globiferous pedicellaria, from the inside (cf. fig. 17). $\times 95$; 13—14. valves of large globiferous pedicellariæ, from the inside (13) and in half side view (14). $\times 95$ (13) and $\times 65$ (14); 15. valve of "tridentate" pedicellaria, side view. $\times 95$; 16. "tridentate" pedicellaria. $\times 65$; 17. valve of small globiferous pedicellaria, side view (cf. fig. 12). $\times 95$.
- 18—19; 21—22. *Rhopalocidaris rosea* Mrtsn. 18. Scrobicular spine. $\times 50$; 19. valve of "tridentate" pedicellaria, half side view. $\times 95$; 21. large globiferous pedicellaria, opened. $\times 65$; 22. valve of small globiferous pedicellaria, side view. $\times 95$.
- 20. *Rhopalocidaris rosea*, var. *tenuis* Mrtsn. Secondary spine. $\times 65$.
- 23—24. *Schizocidaris serrata* (Mrtsn.). Valves of small globiferous pedicellariæ, half side view. $\times 100$.
- 25—33. *Schizocidaris assimilis* Mrtsn. 25. Valve of "tridentate" pedicellaria, from the inside; 26. similar form, side view; 27—28. valves of small globiferous pedicellariæ, side view; 29. "tridentate" pedicellaria; 30—31. valves of small globiferous pedicellariæ, from the inside; 32. similar form in side view; 33. valve of "tridentate" pedicellaria, half side view. 25—28 and 30—33. $\times 100$; 29. $\times 65$.

Plate LXXX.

Pedicellariæ.

- Figs. 1—5. *Stereocidaris sulcatispinis* Mrtsn. 1. Tridentate pedicellaria. $\times 50$; 2 and 5. valves of tridentate pedicellariæ, half side view. $\times 65$; 3. valve of large globiferous pedicellaria, from the inside. $\times 95$; 4. large globiferous pedicellaria. $\times 65$.
- 6—9. *Stereocidaris hawaiiensis* Mrtsn. 6 and 9. valves of large globiferous pedicellariæ, in side view (6) and from the inside (9). $\times 65$; 7. valve of tridentate pedicellaria. $\times 65$; 8. tridentate pedicellaria. $\times 50$.
- 10—16. *Stereocidaris squamosa* Mrtsn. 10—12 and 15. Valves of small globiferous pedicellariæ of various sizes, in side view and (12) from the inside. $\times 95$; 13. valve of pedicellaria, intermediate be-

- tween tridentate and large globiferous form. $\times 95$; 14. valve of large globiferous pedicellaria, side view. $\times 65$; 16. valve of tridentate pedicellaria, side view; the point reconstructed in the drawing. $\times 95$.
- Figs. 17—21. *Stereocidaris stylifera* Mrtsn. 17. Valve of large globiferous pedicellaria, from the inside. $\times 95$; 18. large globiferous pedicellaria. $\times 50$; 19. valve of tridentate pedicellaria, half side view. $\times 65$. 20—21. valves of small globiferous pedicellariæ of the elongate, tridentate-like form; side view. $\times 65$. Figs. 17—19 of the type specimen; figs. 20—21 of specimen from the "Albatross" Stat. 5283.
- 22—27. *Stereocidaris purpurascens* Mrtsn. 22. Tridentate pedicellaria. $\times 50$; 23 and 26. valves of tridentate pedicellariæ, side view. $\times 65$; 24. valve of large globiferous pedicellaria, half side view. $\times 65$; 25 and 27. valves of small globiferous pedicellariæ, side view. $\times 65$.
- 28—34. *Stereocidaris grandis*, var. *hyatorina* Mrtsn. 28—29. Valves of small globiferous pedicellariæ, side view; 30—32. valves of large globiferous pedicellariæ, from the inside (30), in side view (31) and half side view (32); 33. valve of tridentate pedicellaria, half side view; 34. tridentate pedicellaria. 28—33. $\times 65$; 34. $\times 50$.
- 35. *Stereocidaris grandis* (Död.); cotype. Valve of tridentate pedicellaria, side view. $\times 65$.

Plate LXXXI.

Pedicellariæ; secondary spines.

- Figs. 1—4. *Stereocidaris sceptriferoides* (Död.). 1. Scrobicular spine. $\times 21$; 2—3. valves of large globiferous pedicellariæ, in side view (2) and from the inside (3); 4. valve of small globiferous pedicellaria, side view. 2—4. $\times 95$.
- 5—10. *Stereocidaris sceptriferoides*, var. *lanceolata* Mrtsn., the type specimen. 5. Large globiferous pedicellaria. $\times 50$; 6—7. valves of large globiferous pedicellariæ, from the inside (6), and in half side view (7). $\times 95$; 8. valve of slender, elongate type of small globiferous pedicellaria. $\times 95$; 9. elongate type of small globiferous pedicellariæ. $\times 50$; 10. scrobicular spine. $\times 21$.
- 11—14. *Stereocidaris sceptriferoides*, var. *lamellata* Mrtsn., specimen from the Kei Islands, St. I. 11—13. valves of large globiferous pedicellariæ, from the inside (11—12), and in side view (13); 14. valve of elongate type of small globiferous pedicellariæ. All $\times 95$.
- 15—20. *Stereocidaris indica*, var. *philippinensis* Mrtsn. 15 and 19—20. Valves of slender, elongate pedicellariæ of the small globiferous form, in side view (15), and from the inside (19—20). $\times 95$; 16. slender, elongate small globiferous pedicellaria. $\times 50$; 17. large globiferous pedicellaria. $\times 50$; 18. valve of large globiferous pedicellaria, side view. $\times 95$.
- 21—27. *Stereocidaris leucacantha* A. Ag. & H. L. Cl. 21. Large globiferous pedicellaria. $\times 50$; 22—23. valves of large globiferous pedicellariæ, from the inside (22), and in side view (23). $\times 65$; 24 and 27. tridentate pedicellariæ. $\times 50$; 25—26. valves of tridentate pedicellariæ, half side view. $\times 65$.

Plate LXXXII.

Pedicellariæ; secondary spines.

- Fig. 1. *Stereocidaris granularis* Mrtsn. Valve of tridentate pedicellaria, half side view. $\times 65$.
- 2—4. *Stereocidaris microtuberculata* (Yosh.). Valve of tridentate pedicellaria, side view (2); valves of large globiferous pedicellariæ, in half side view (3—4). All $\times 65$.
- 5—10. *Stereocidaris tubifera* Mrtsn. 5—7. Valves of large globiferous pedicellariæ of the type specimen, from the inside (5), in side view (6) and half side view (7); 8. valve of large globiferous pedicellaria, half side view, of specimen from the "Albatross" St. 5475; 9—10. valves of tridentate pedicellariæ, side view, of type specimen (9) and of specimen from the "Albatross" St. 5475 (10). All $\times 65$.

- Figs. 11—17. *Stereocidaris japonica* (Död.). 11—12. Valves of small globiferous pedicellariæ, slender, elongate type, from the inside (11) and in side view (12); 13. valve of small globiferous pedicellaria, less elongate type, half side view; 14—15. valves of large globiferous pedicellariæ, half side view; 16—17. valves of small globiferous pedicellariæ, short form, from the inside (16) and in half side view (17). Figures 11—13 and 15 of specimens from the Sagami Sea, the others of specimens from off Kiushui. All $\times 95$.
- 18. *Stereocidaris Alcocki* (Anderson). Scrobicular spine. $\times 20$.
- 19—22. *Hesperocidaris dubia* (H. L. Clark). 19 and 21. Valves of large globiferous pedicellariæ, from the inside (19) and in half side view (21). $\times 65$; 20. valve of small globiferous pedicellaria, side view. $\times 95$. 22. scrobicular spine. $\times 10$.
- 23—29. *Hesperocidaris panamensis* (H. L. Clark). 23. Large globiferous pedicellaria $\times 50$; 24, 26—27. valves of small globiferous pedicellariæ, various sizes, in half side view (24, 27), and from the inside (26) $\times 95$; 25. valve of large globiferous pedicellaria, half side view. $\times 65$; 28. tridentate pedicellaria. $\times 50$; 29. valve of tridentate pedicellaria, side view. $\times 95$.
- 30—31. *Hesperocidaris perplexa* (H. L. Clark). Valve of large globiferous pedicellaria, sideview (30); valve of tridentate pedicellaria, side view. $\times 65$.
- 32—36. *Tretocidaris spinosa* Mrtsn. 32. Large globiferous pedicellaria. $\times 30$; 33. small globiferous pedicellaria. $\times 30$; 34—36. Valves of large and small globiferous pedicellariæ, half side view. $\times 50$.
- 37—40. *Cidaris Blakei* (A. Ag.). 37. Valve of large globiferous pedicellaria, half side view; 38. valve of small globiferous pedicellaria, half side view; 39—40. valves of tridentate pedicellariæ, side view. All $\times 65$.
- 41. *Tretocidaris Bartletti* (A. Ag.). Tridentate pedicellaria. $\times 50$.

Plate LXXXIII.

Pedicellariæ, spines.

- Figs. 1—10. *Centrocidaris Döderleini* (A. Ag.). 1. Large globiferous pedicellaria. $\times 95$; 2. valve of large globiferous pedicellaria, half side view. $\times 125$; 3. the point of same. $\times 230$; 4. outer part of valve of small globiferous pedicellaria from the peristome. $\times 125$; 5—7. valves of small globiferous pedicellariæ, in half side view (5 and 7), and from the inside (6). $\times 125$; 8—9. secondary spines, $\times 12$ (8) and $\times 50$ (9); 10. head of tridentate pedicellaria. $\times 95$.
- 11. *Acanthocidaris hastigera* A. Ag. & H. L. Cl. Part of primary spine, at the border between the collar and the shaft. $\times 10$.
- 12—15. *Acanthocidaris maculicollis* (de Meij.). 12—13. Valves of large globiferous pedicellariæ, slightly in side view. $\times 120$; 14. valve of small globiferous pedicellaria, in half side view. $\times 115$; 15. valve of tridentate pedicellaria, side view. $\times 95$.
- 16—18. *Acanthocidaris curvatispinis* (Bell.). Valves of large globiferous pedicellariæ, from the inside (16), and in half side view (17); valve of small globiferous pedicellaria, in half side view (18). All $\times 115$.
- 19—21. *Plococidaris verticillata* (Lamk.). 19. Valve of tridentate pedicellaria, in half side view. $\times 95$; 20. valve of large globiferous pedicellaria, in half side view. $\times 95$; 21. spine from the apical system. $\times 30$.
- 22. *Actinocidaris Thomasi* (A. Ag. & H. L. Cl.). Head of tridentate pedicellaria. $\times 65$.
- 23. *Homalocidaris gigantea* (H. L. Cl.). Basal part of primary spine. $\times 10$.

Plate LXXXIV.

- Figs. 1—11. *Stylocidaris Reini* (Död.). 1. Large globiferous pedicellaria, $\times 50$; 2. tridentate pedicellaria, $\times 65$; 3—7. valves of large globiferous pedicellariæ, from the inside, of specimens from the Sagami Sea (3 and 6), off Queensland (4), the Goto Isl. (5), the Kei Isl. (7). $\times 65$; 8. bivalve

- small globiferous pedicellaria, $\times 65$; 9—10. valves of irregular globiferous pedicellariæ, side view (9), and from the inside (10), $\times 95$; 11. valve of small globiferous pedicellaria, side view, of specimen from the "Albatross" St. 5617. $\times 65$.
- Figs. 12—15. *Stylocidaris calacantha* (A. Ag. & H. L. Cl.). 12. Valve of small globiferous pedicellaria, from the inside, $\times 95$; 13. tridentate pedicellaria, $\times 65$; 14. spicules of tubefoot, $\times 125$; 15. "stump" from primary spine, $\times 125$.
- 16—18. *Stylocidaris albidens* H. L. Clark. 16. Valve of large globiferous pedicellaria, from the inside; 17. valve of small globiferous pedicellaria, half side view; 18. valve of tridentate pedicellaria. All $\times 95$.
- 19. *Stylocidaris* (?) *albidens* H. L. Clark. Valve of large globiferous pedicellaria, from the inside, $\times 95$; of specimen from the Macclesfield Bank.
- 20—25. *Stylocidaris rufa* Mrtsn. 20. Valve of small globiferous pedicellaria, in half side view, $\times 65$; 21. tridentate pedicellaria, $\times 50$; 22. valve of slender form of tridentate pedicellariæ, side view, $\times 65$; 23. head of slender form of tridentate pedicellariæ, $\times 50$; 24. head of coarse form of tridentate pedicellariæ, $\times 50$; 25. valve of coarse form of tridentate pedicellariæ, side view, $\times 65$.
- 26—30. *Stylocidaris* (?) *fusispina* Mrtsn. 26—27. Valves of tridentate pedicellariæ, half side view, $\times 65$ (26) and $\times 50$ (27); 28—29. valves of small globiferous pedicellariæ, from the inside (28), and in side view (29), $\times 65$; 30. primary spine. $\times 8$.
- 31—32. *Stylocidaris Lorioli* (Koehler). 21. Valve of tridentate pedicellaria, $\times 65$; 22. tridentate pedicellaria, $\times 50$.

Plate LXXXV.

Pedicellariæ; secondary spines.

- Figs. 1—2, 4—7. *Stylocidaris bracteata* (A. Ag.). 1. Large globiferous pedicellaria, $\times 65$; 2. valve of large globiferous pedicellaria, from the inside, $\times 95$; 4. valve of irregular globiferous pedicellaria, side view, $\times 95$; 5. irregular globiferous pedicellaria, $\times 95$; 6. valve of tridentate pedicellaria, half side view, $\times 95$; 7. scrobicular spine, $\times 12$.
- 8—15. *Stylocidaris maculosa* Mrtsn. 8 and 15. Valves of small globiferous pedicellaria, half side view; 9—10. valves of more slender form of large globiferous pedicellariæ, half side view; 11. and 13. valves of usual form of large globiferous pedicellariæ, from the inside; 12. slender-valved form of large globiferous pedicellariæ; 14. valve of large globiferous pedicellaria, slightly in side view, of specimen from the Macclesfield bank. 12. $\times 65$; the other figures $\times 95$.
- 3, 16—20. *Stylocidaris brevicollis* (de Meij.). 3. Valve of irregular globiferous pedicellaria, half side view, $\times 95$; 16. scrobicular spine, $\times 12$; 17. stalk of large globiferous pedicellaria; 18. valve of large globiferous pedicellaria; 19. valve of tridentate pedicellaria, side view; 20. valve of small globiferous pedicellaria, from the inside. 17—20. $\times 95$.
- 21—23. *Stylocidaris amboinæ* Mrtsn. Valves of large (21) and small globiferous pedicellariæ (22—23), from the inside (21—22) and in side view (23). $\times 65$.
- 24—26. *Stylocidaris tiara* (Anderson). 24. Tridentate pedicellaria, $\times 50$; 25. valve of tridentate pedicellaria, side view, $\times 65$; 26. valve of small globiferous pedicellaria, half side view, $\times 65$.
- 27—29. *Stylocidaris badia* (H. L. Clark). 27. Valve of tridentate pedicellaria, $\times 60$; 28. valve of large globiferous pedicellaria, from the inside, $\times 95$; 29. valve of small globiferous pedicellaria, half side view, $\times 125$.
- 30—32. *Stylocidaris conferta* (H. L. Cl.). 30. Valve of large globiferous pedicellaria, slightly in side view, $\times 65$; 31. valve of small globiferous pedicellaria, half side view, $\times 65$; 32. tridentate pedicellaria. $\times 50$.

Plate LXXXVI.

Pedicellariæ.

- Figs. 1—7. *Eucidaris Thouarsi* (Val.). 1. Large globiferous pedicellaria, $\times 50$; 2 and 7. valves of large globiferous pedicellariæ, from the inside (2), and in half side view (7), $\times 65$; 3. valve of coarse tridentate pedicellaria, side view, $\times 65$; 4. coarse form of tridentate pedicellaria, $\times 50$; 5. valve of slender form of tridentate pedicellaria, $\times 65$; 6. slender form of tridentate pedicellaria. $\times 50$.
- 8—10. *Eucidaris galapagensis* Död. 8. Large globiferous pedicellaria, $\times 50$; 9—10. valves of large globiferous pedicellariæ, from the inside (9), and in half side view (10). $\times 65$.
- 11—14. *Eucidaris metularia* (Lamk.). 11—12 and 14. Various forms of tridentate pedicellariæ; 13. large globiferous pedicellaria. All $\times 65$.
- 15. *Eucidaris clavata* Mrtsn. Valve of large globiferous pedicellaria, from the inside. $\times 95$.
- 16. *Eucidaris tribuloides* (Lamk.). Tridentate pedicellaria. $\times 65$.
- 17—19. *Prionocidaris australis* (Ramsay). Valves of large globiferous pedicellariæ, in half side view (17), and from the inside (18) $\times 65$; tridentate pedicellaria (19) $\times 60$.
- 20—21. *Prionocidaris pistillaris* (Lamk.). Valves of large globiferous pedicellariæ, from the inside (20) and slightly in side view (21), $\times 65$.

Plate LXXXVII.

Pedicellariæ; spines.

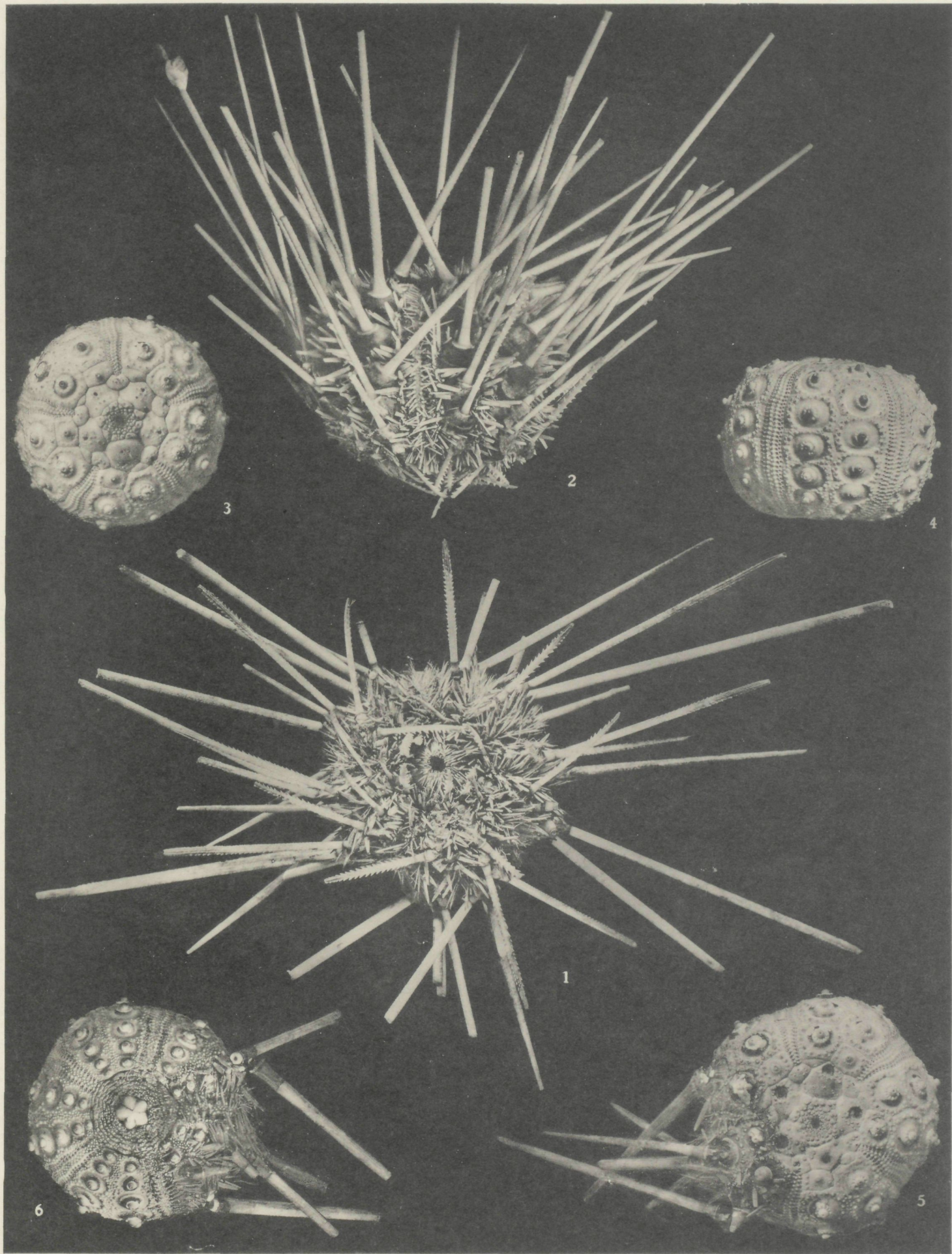
- Figs. 1—4. *Prionocidaris baculosa* (Lamk.). Tridentate pedicellaria (1), $\times 60$; valves of large globiferous pedicellariæ, in half side view (2), and from the inside (3), $\times 95$; valve of small globiferous pedicellaria, side view (4), $\times 95$.
- 5. *Prionocidaris baculosa*, var. *annulifera* (Lamk.). Tridentate pedicellaria. $\times 60$.
- 6—8. *Prionocidaris australis* (Ramsay). Valve of small globiferous pedicellaria, half side view (6), $\times 65$; stalk of large globiferous pedicellaria (7), $\times 65$; terminal opening of valve of large globiferous pedicellaria (8), $\times 150$.
- 9. *Prionocidaris glandulosa* (de Meij.). Valve of large globiferous pedicellaria, from the inside, $\times 95$.
- 10—11. *Prionocidaris baculosa*, var. *longicollis* Mrtsn. Oral primary spine (10), $\times 12$; valve of small globiferous pedicellaria, half side view (11), $\times 95$.
- 12. *Prionocidaris bispinosa* (Lamk.). Valve of large globiferous pedicellaria, slightly in side view, $\times 95$.
- 13—19. *Chondrocidaris brevispina* H. L. Clark. Valves of large globiferous pedicellariæ, in side view (13), and from the inside (14), $\times 65$; marginal ambulacral spine, side view (15), scrobicular spines, outer (16) and inner side (17), $\times 18$; tridentate pedicellaria (18), $\times 50$; valve of tridentate pedicellaria, side view (19), $\times 65$.

Plate LXXXVIII.

Pedicellariæ, spines.

- Figs. 1—3. *Phyllacanthus magnificus* H. L. Clark. 1. Valve of tridentate pedicellaria, side view, (basal part restored) $\times 50$; 2. scrobicular spine, $\times 12$; 3. valve of large globiferous pedicellaria, half side view; opening partly restored, $\times 95$.
- 4—10. *Phyllacanthus imperialis* (Lamk.). Valves of large globiferous pedicellariæ, half side view, of specimen from Mauritius (4), and from Tongatabu (forma *unicolor*) (5). $\times 95$; valves of small globiferous pedicellariæ, side view, specimen from Mauritius, half side view (6) and side view (10), $\times 95$; valves of tridentate pedicellariæ, half side view, specimen from Tongatabu (7), and side view, specimen from Mauritius (8), $\times 50$; stalk of large globiferous pedicellaria (9), $\times 65$.

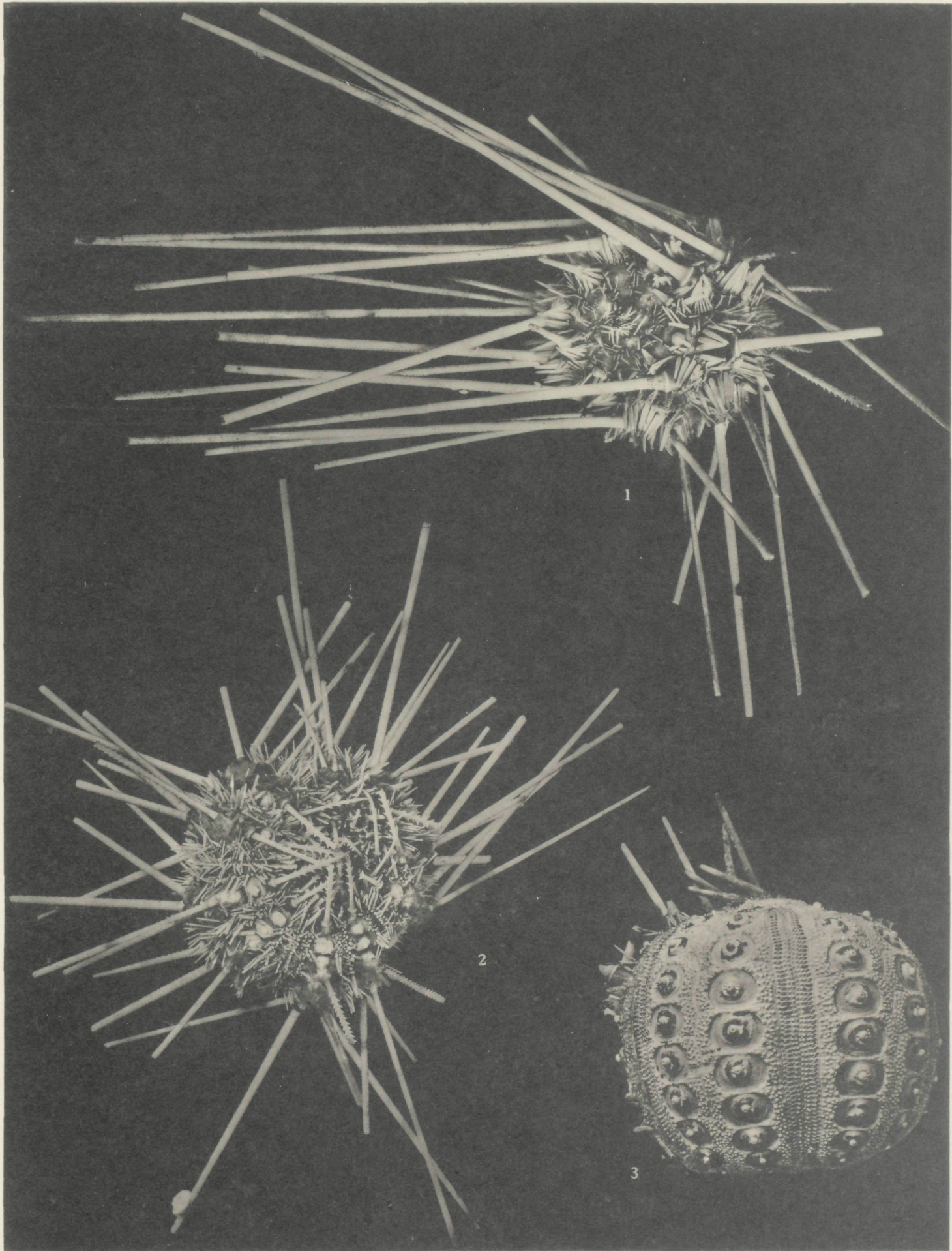
- Figs. 11—12. *Phyllacanthus irregularis* Mrtsn. Valves of large globiferous pedicellariæ, from the inside (11), and in half side view (12), $\times 50$.
- 13—17. *Phyllacanthus dubius* Brandt. 13. Valve of small globiferous pedicellaria, half side view, $\times 95$; 14—16. valves of tridentate pedicellariæ and forms intermediate between tridentate and small globiferous pedicellariæ, half side view, $\times 65$; 17. valve of large globiferous pedicellaria, from the inside, $\times 90$.
- 18—24. *Phyllacanthus parvispinus* Ten. Woods. 18. Valve of small globiferous pedicellaria, side view, $\times 95$; 19, 22—24. valves of tridentate pedicellariæ and forms intermediate between tridentate and small globiferous pedicellariæ, half side view, 19, 22—23. $\times 65$; 24. $\times 50$; 20—21. valves of large globiferous pedicellariæ, slightly in side view (20), and from the inside (21). 20. $\times 50$; 21. $\times 65$.
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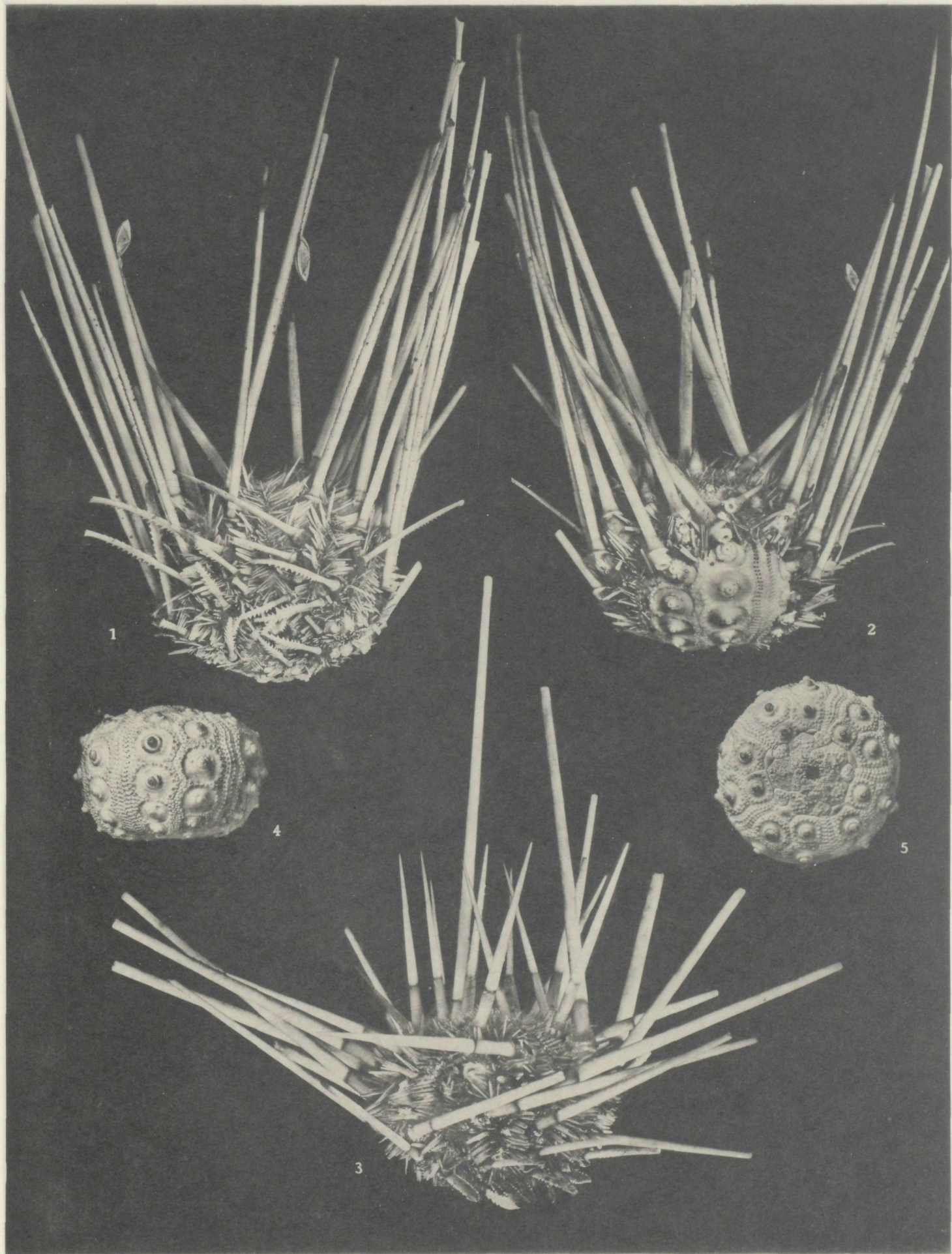
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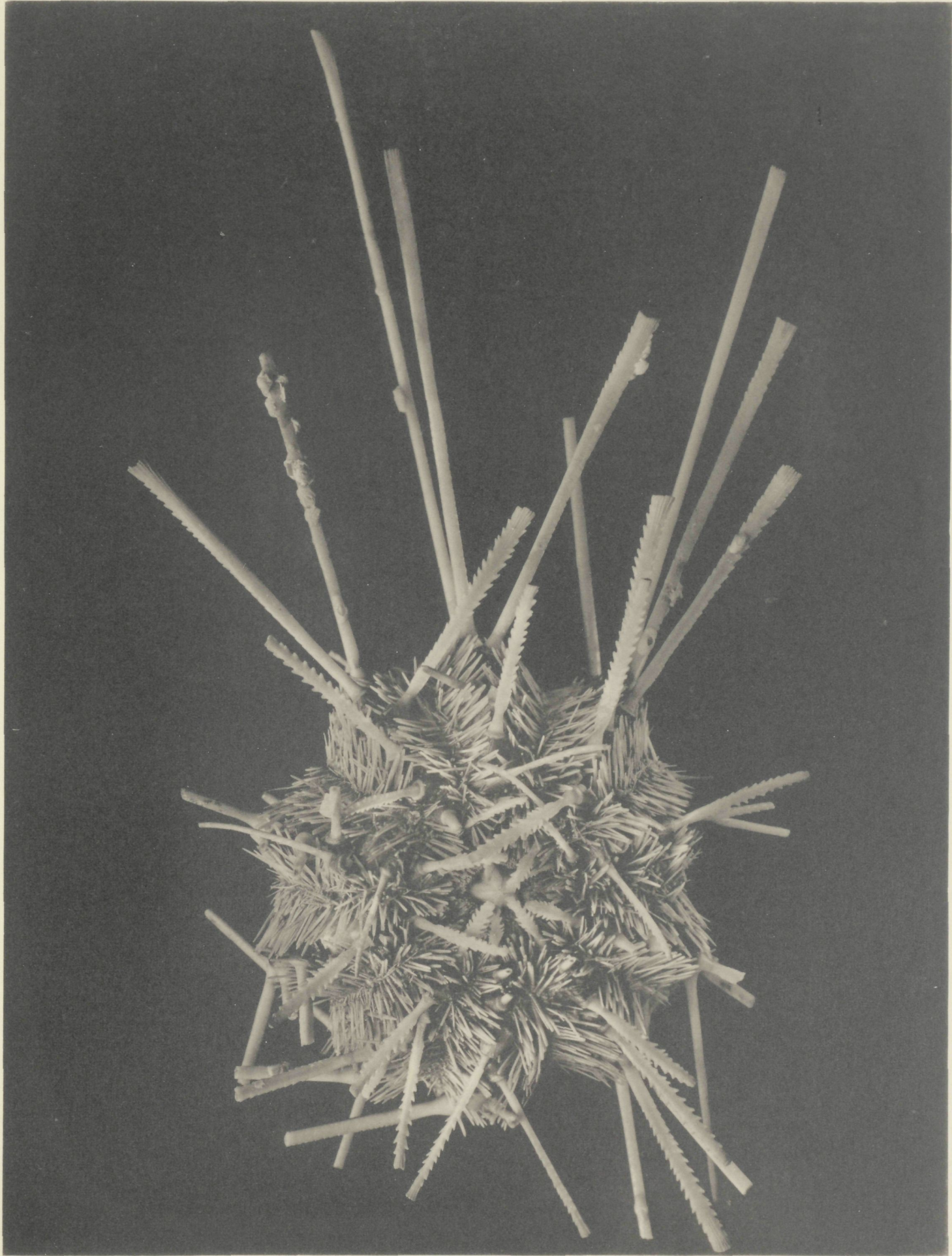
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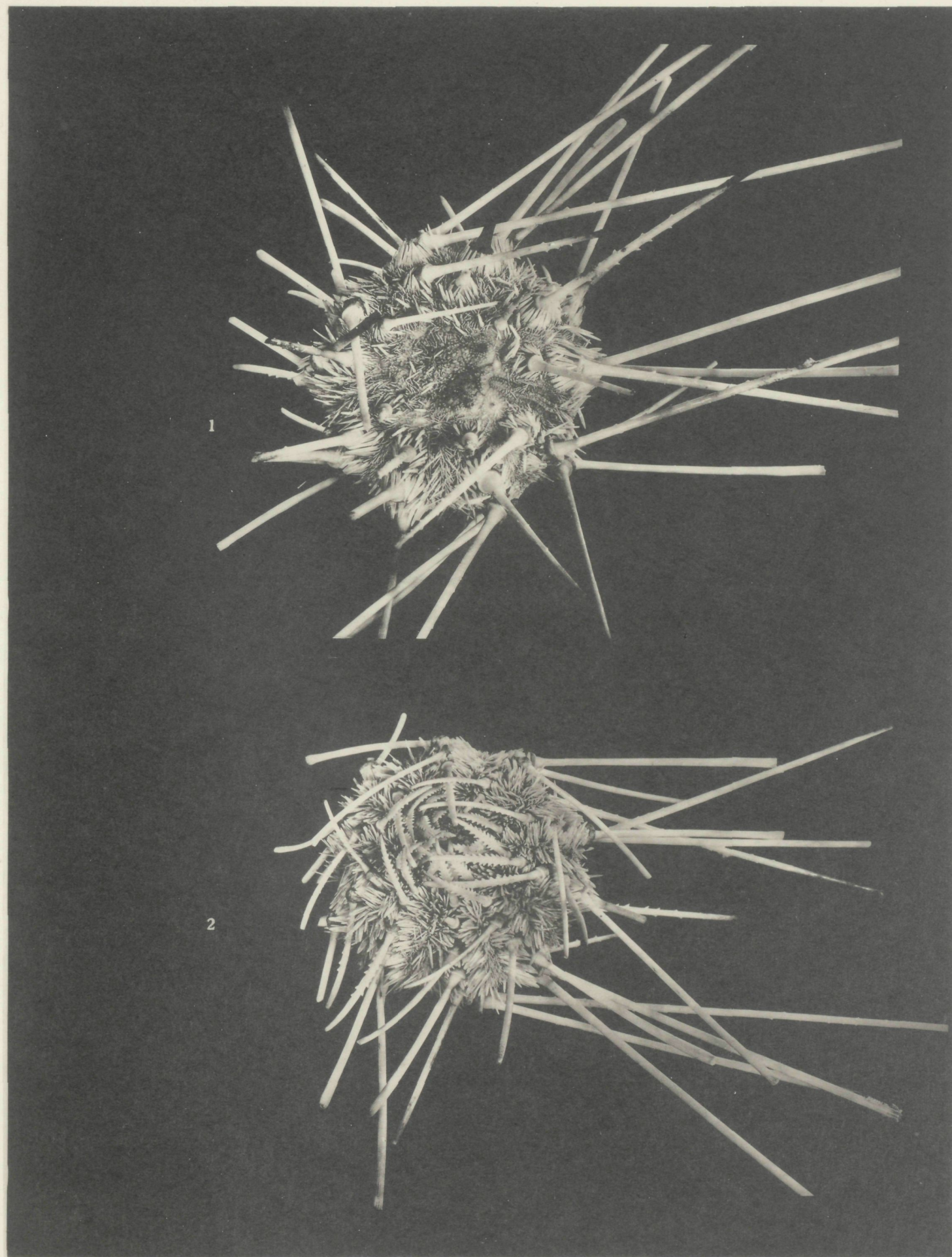
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FOTOTYPI, PACHT & CRONE'S EFT.

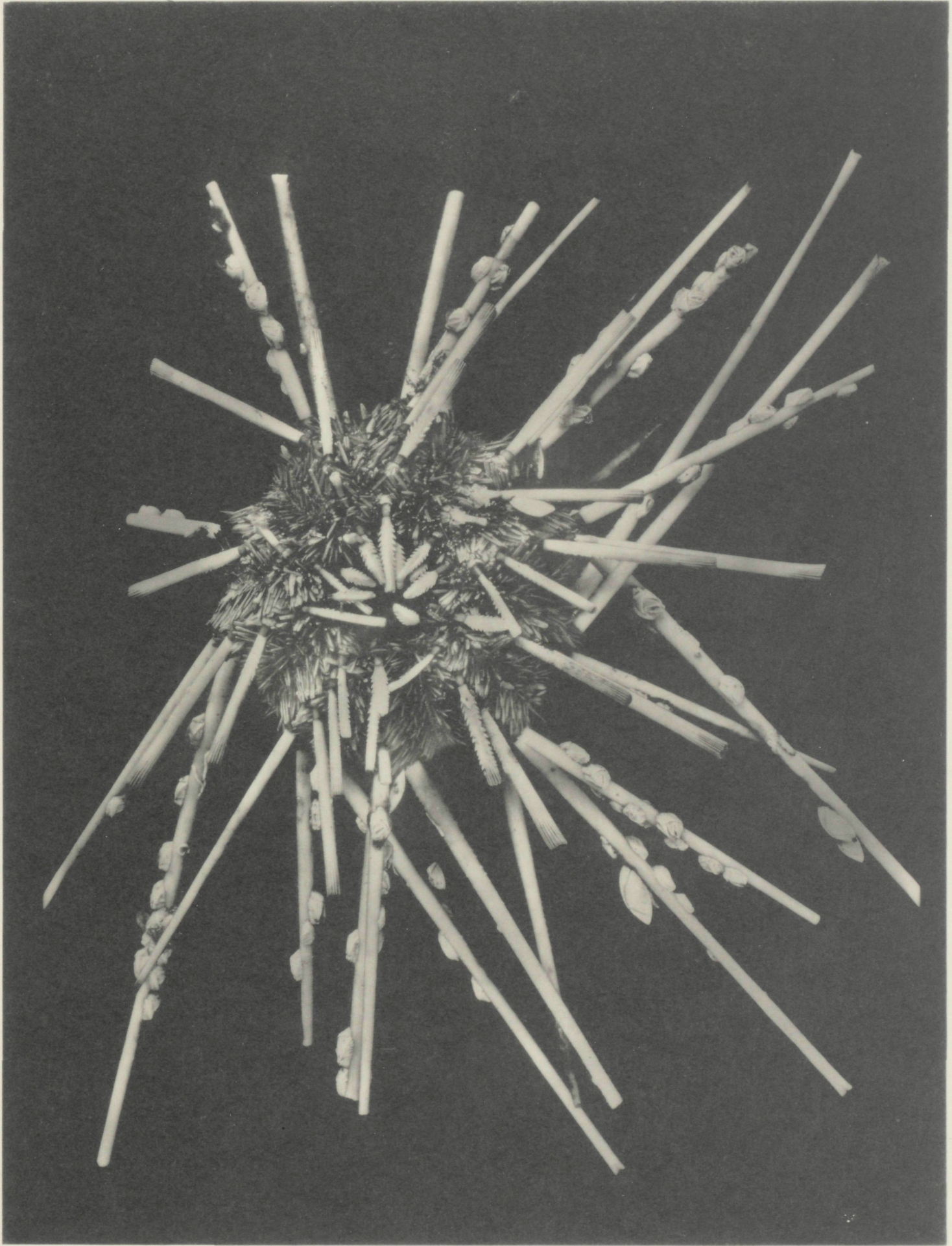
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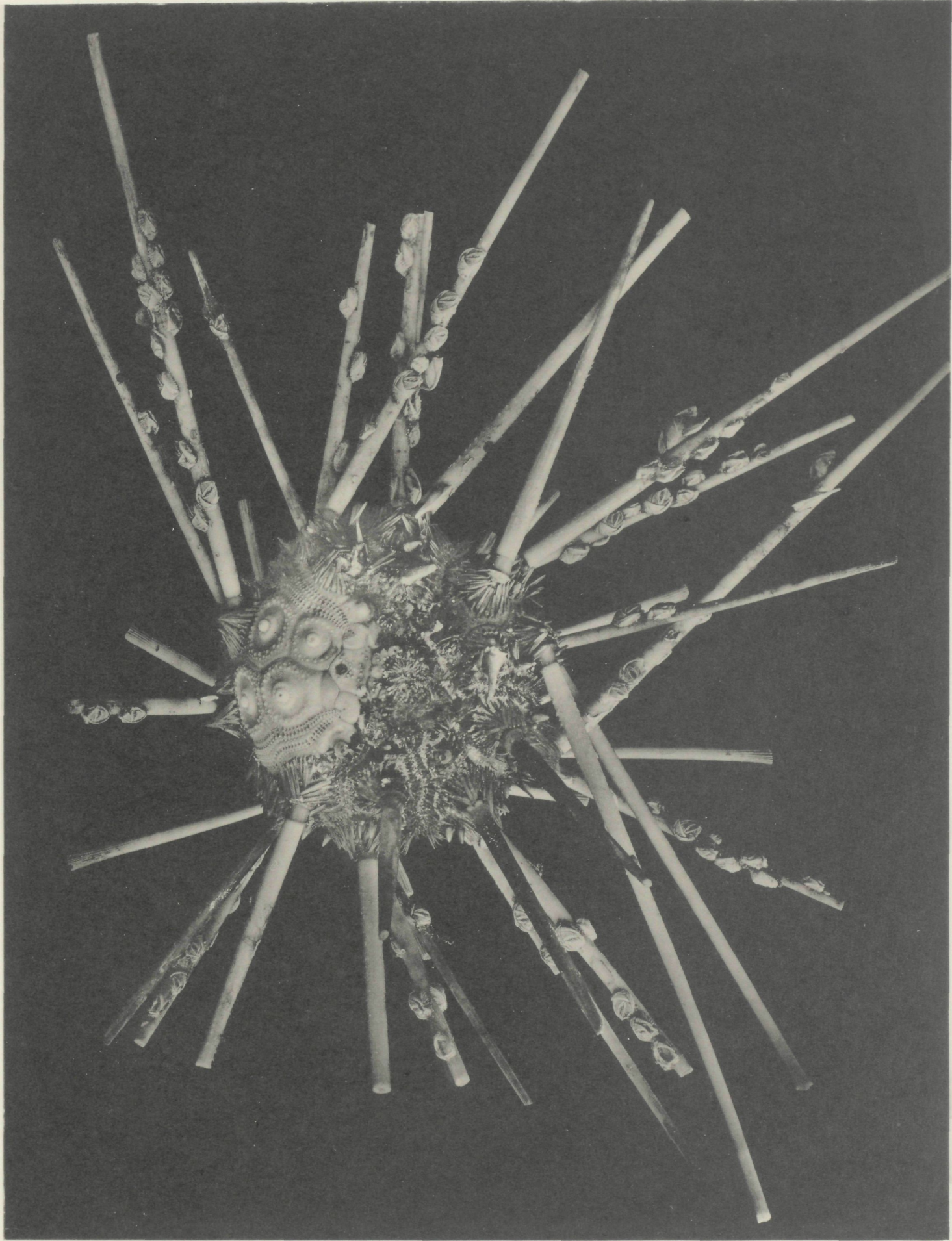
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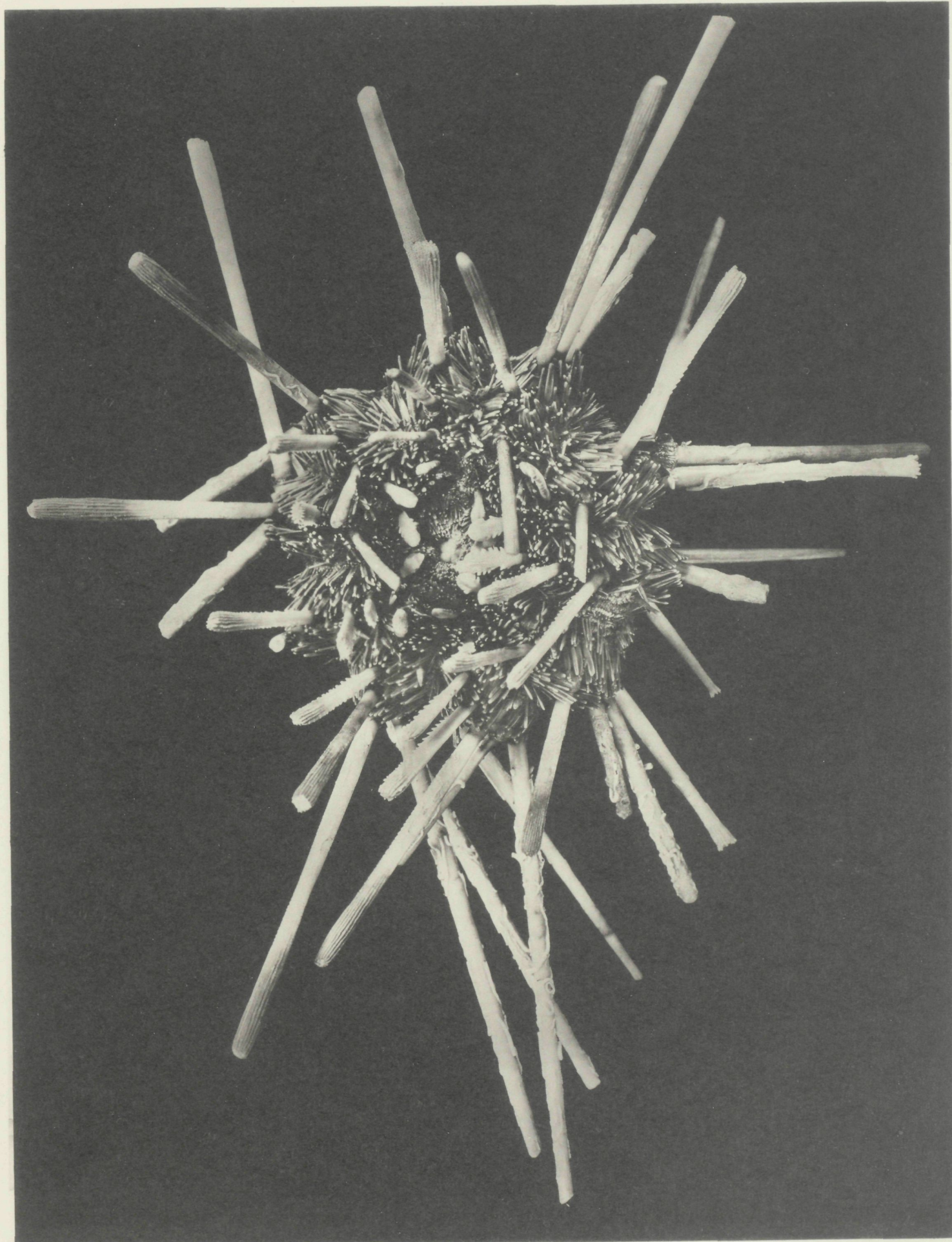
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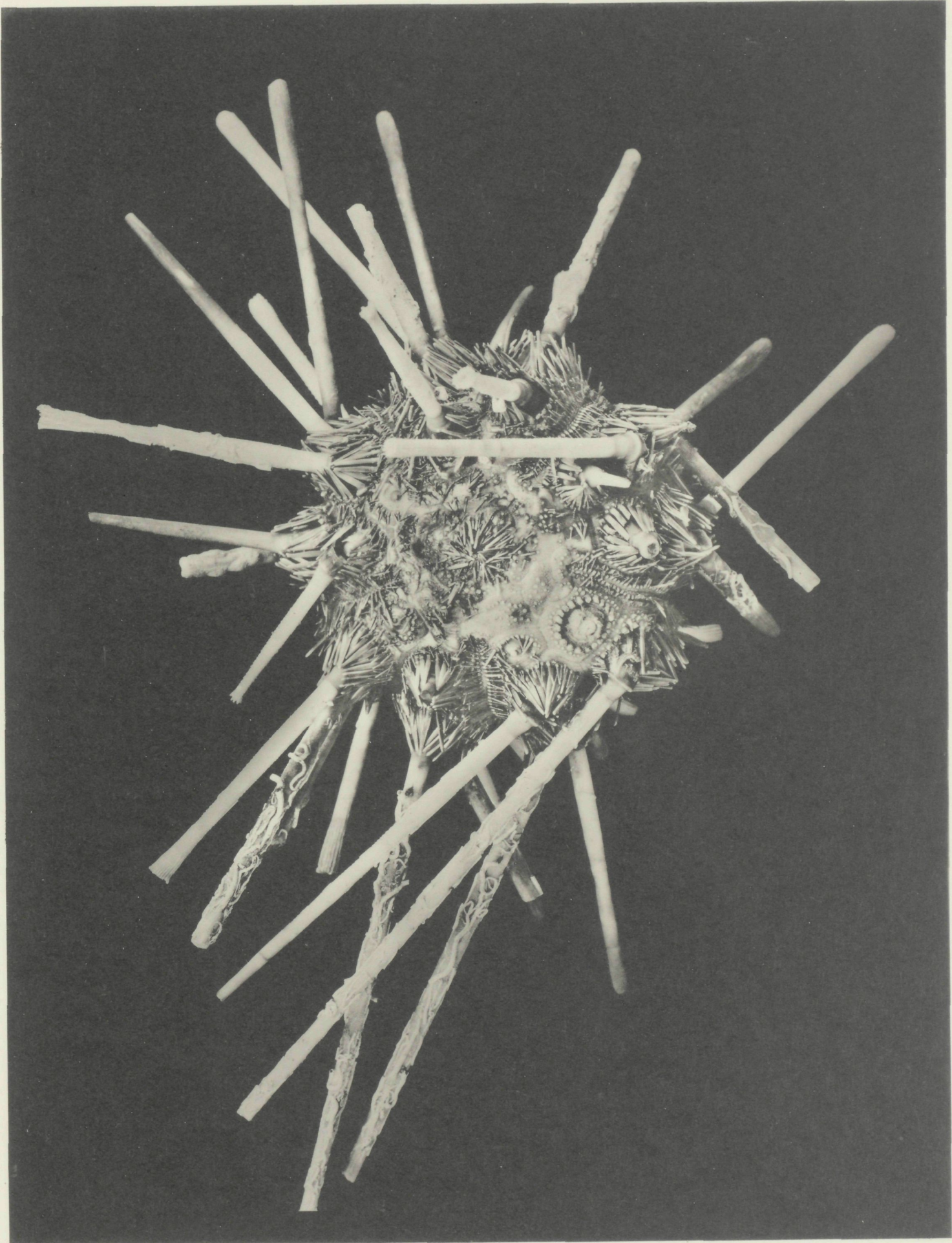
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v. HUTH PHOT.

FOTOTYPI, PACT & CRONE'S EFT.

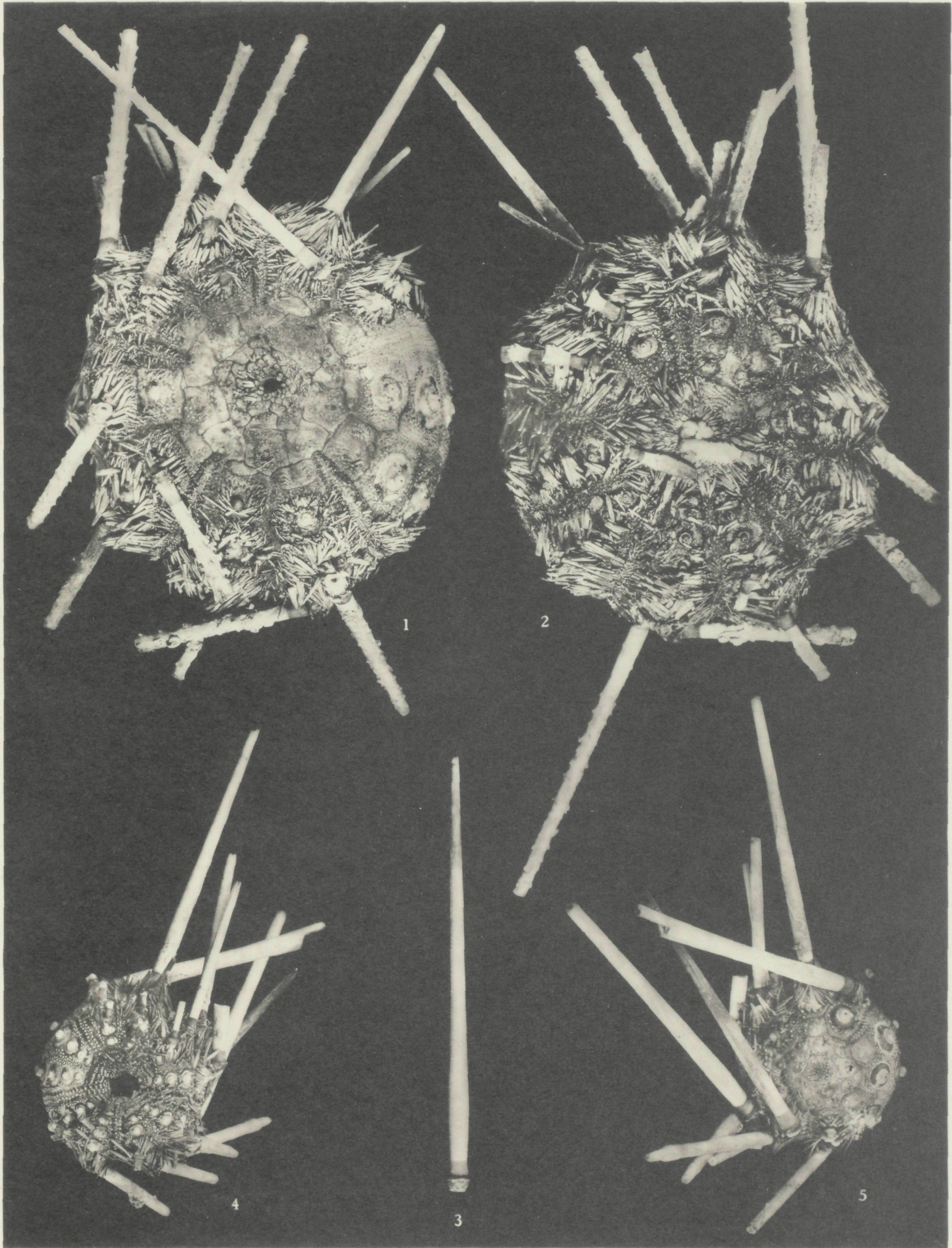
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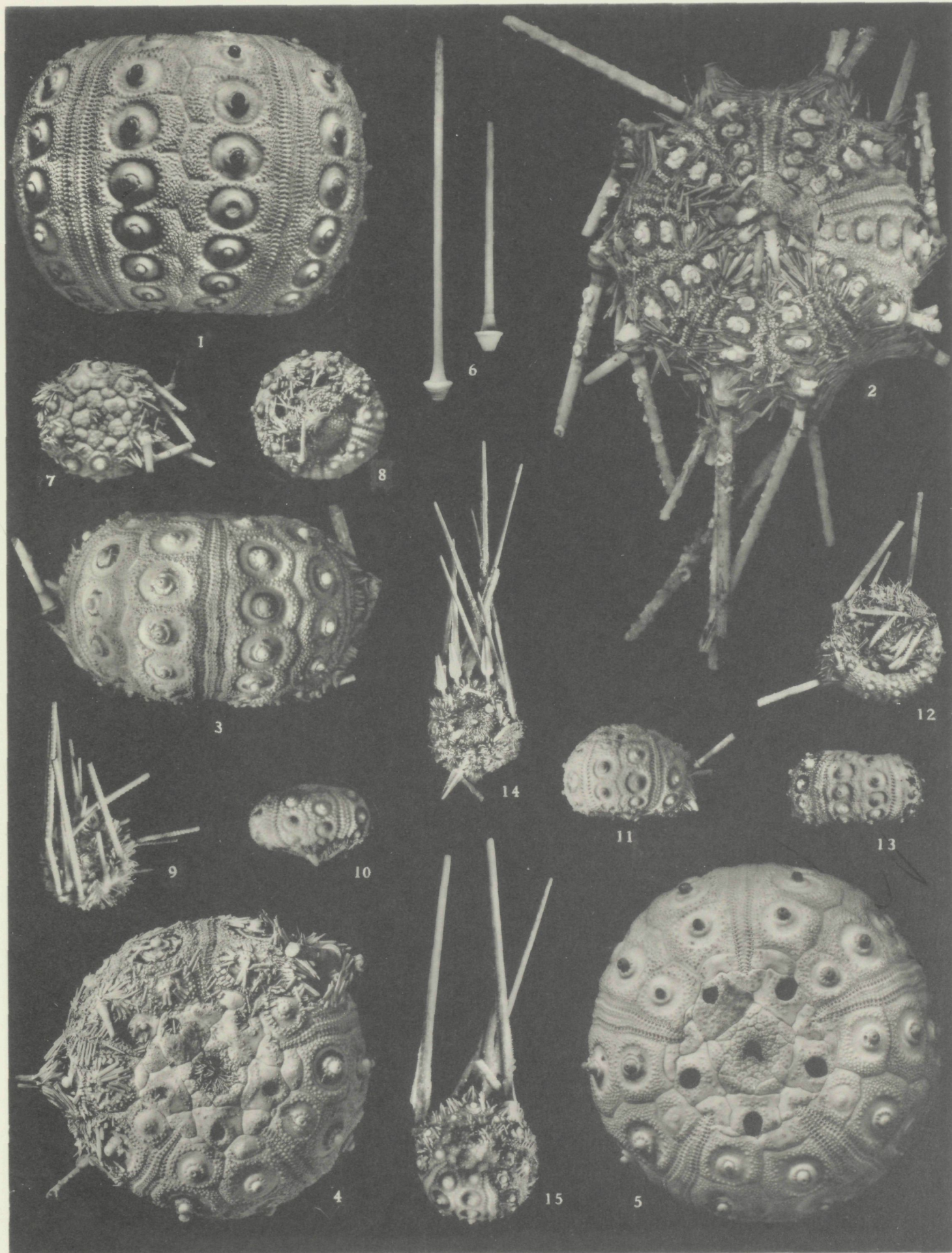
HISTOCIDARIS SHARRERI (A. AG.).



v. HUTH PHOT.

FOTOTYPI, PACHT & CRONE'S EFT.

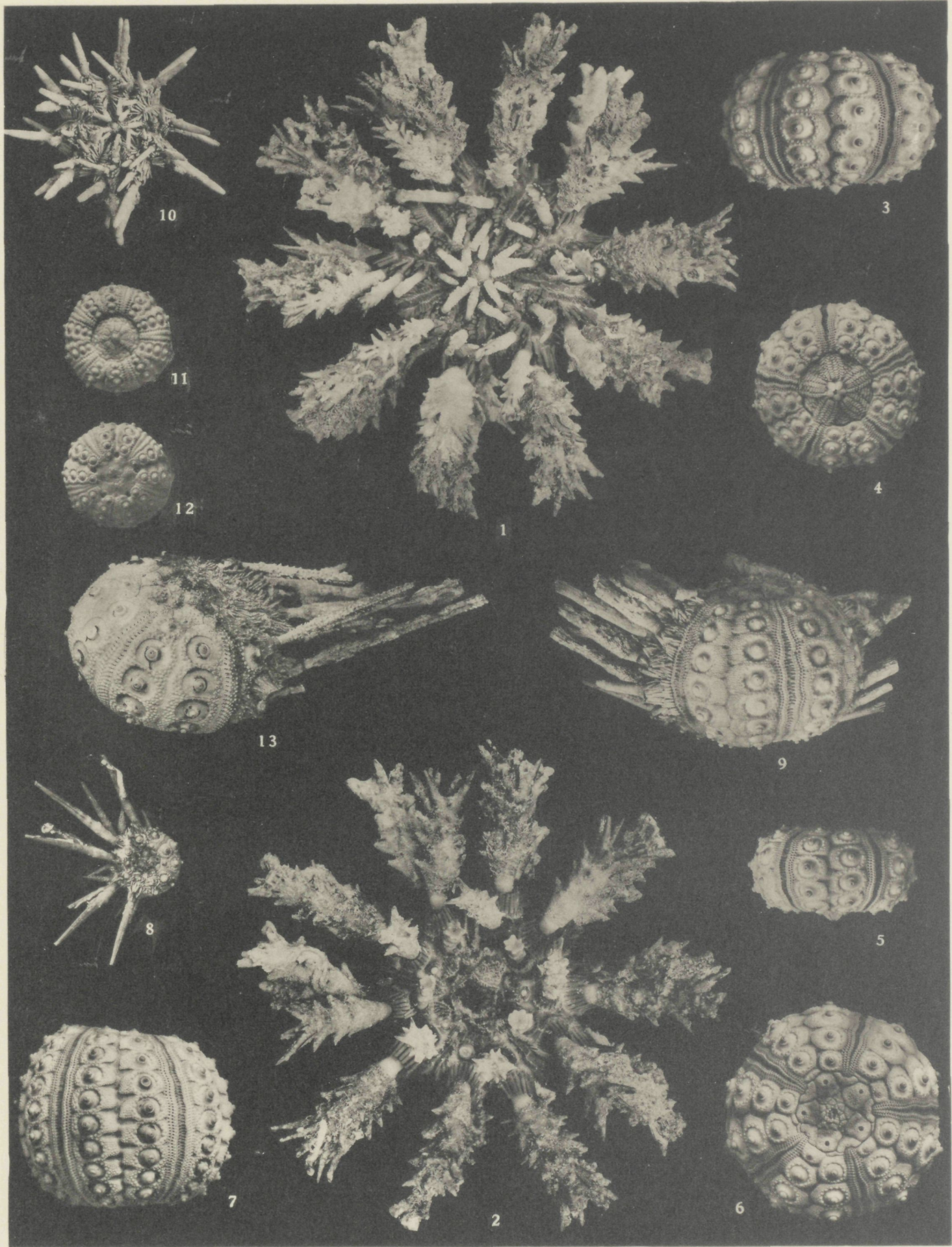
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V. HUTH PHOT.

FOTOTYPI, PACT & CRONE'S EFT.

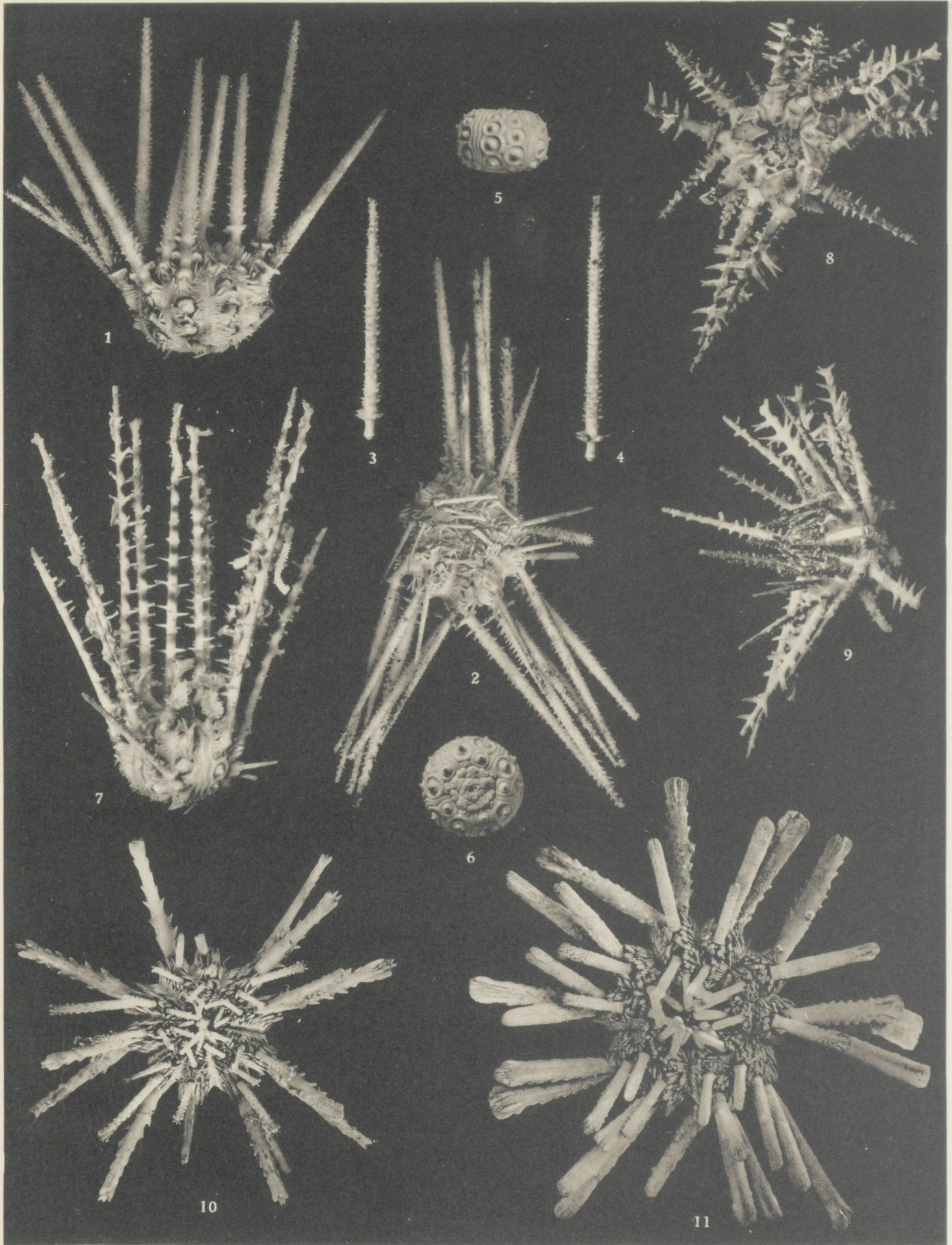
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 11. A. MILLERI (A. AG.); 12. A. FRAGILIS A. AG. & H. L. CL.; 13-15. NOTOCIDARIS MORTENSENI (KOEHLER).



v. HUTH PHOT.

FOTOTYPI, PACHT & CRONE'S EFT.

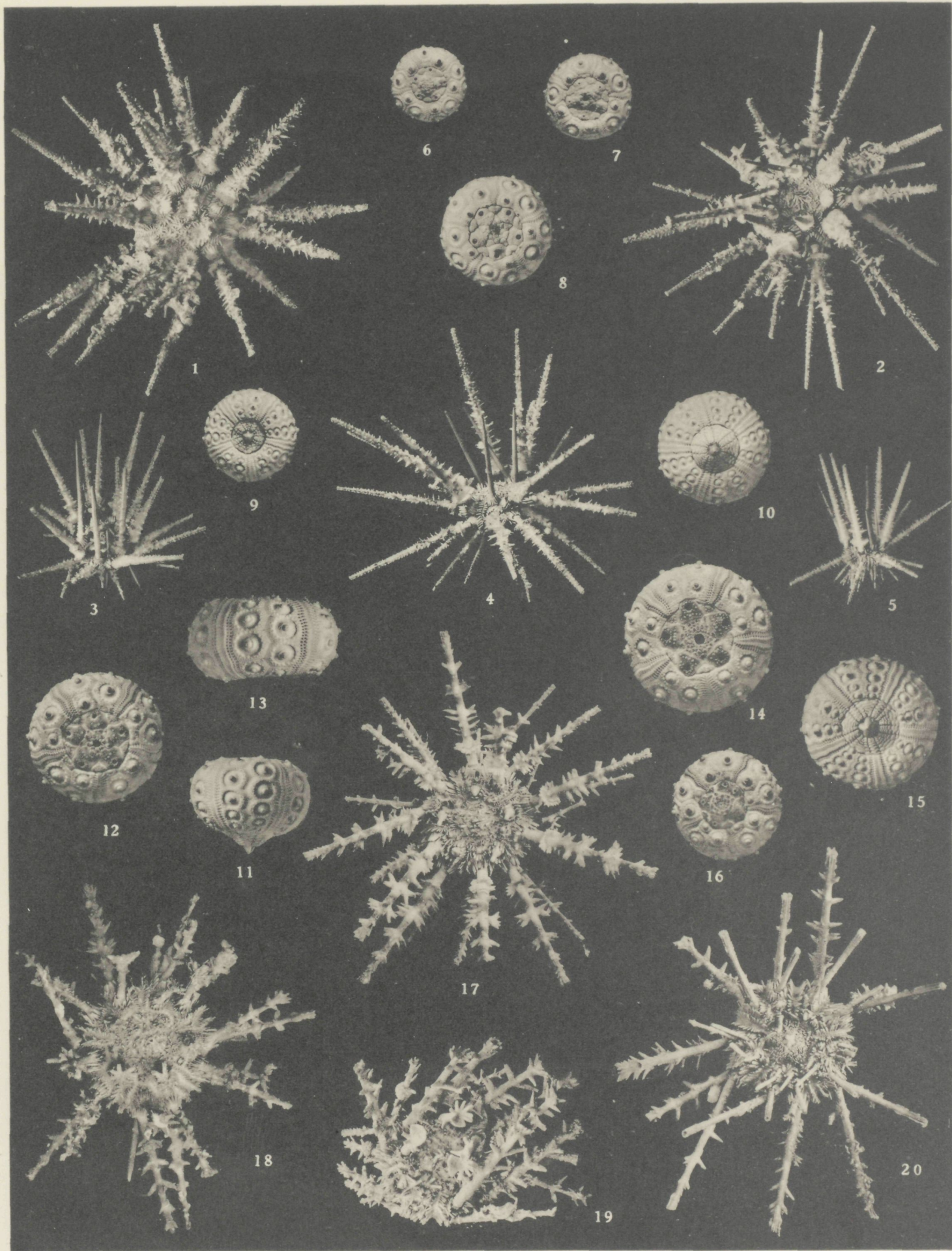
1-7. GONIOCIDARIS TUBARIA (LAMK.); 8-9. G. TUBARIA, VAR. IMPRESSA KOEHLER; 10-12. G. UMBRACULUM (HUTTON);
13. CTENOCIDARIS SPINOSA (KOEHLER).



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FOTOTYPI, PACT & CRONE'S EFT.

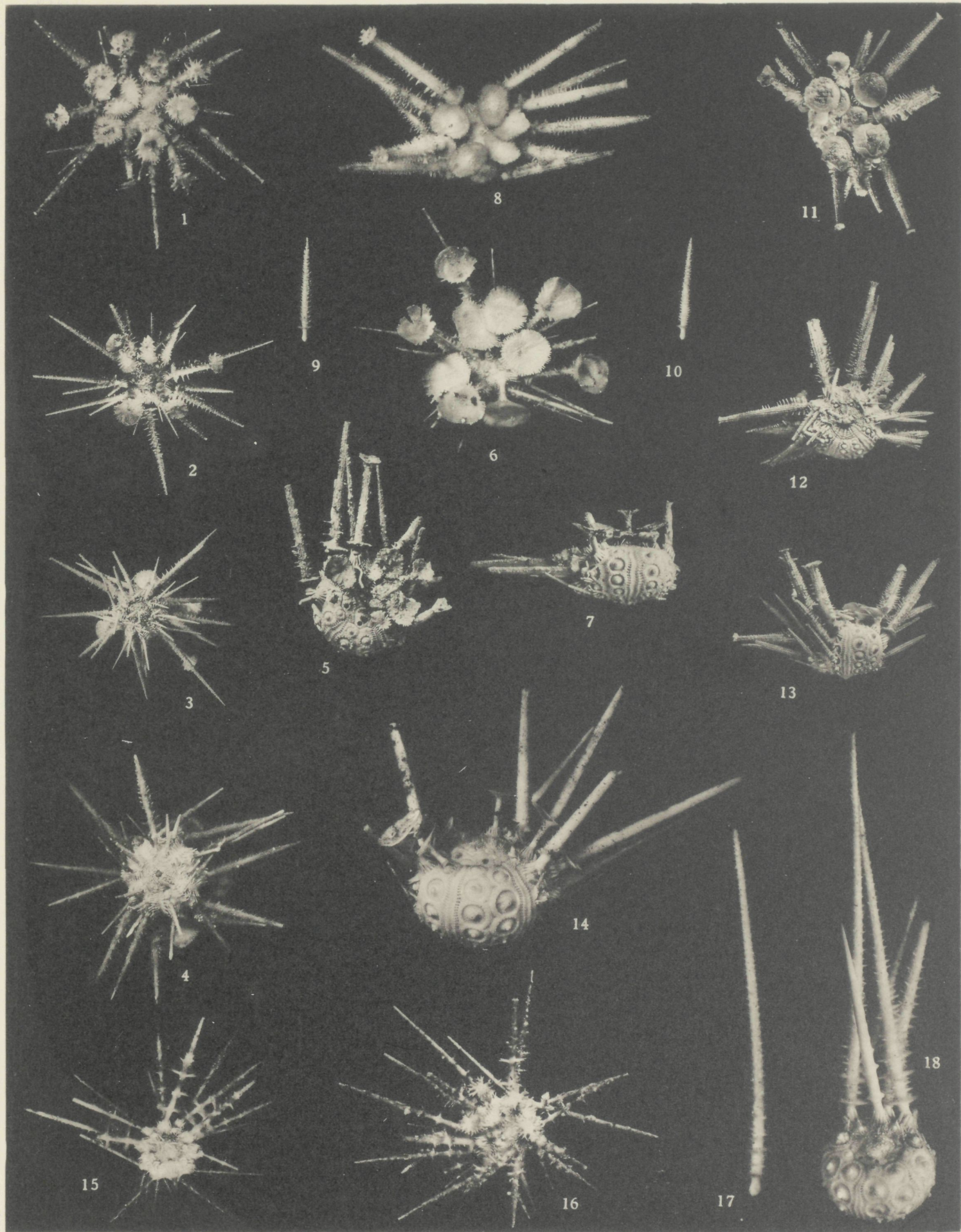
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10-11. G. TUBARIA (LAMK.).



v. HUTH PHOT.

FOTOTYPI, PACTH & CRONE'S EFT.

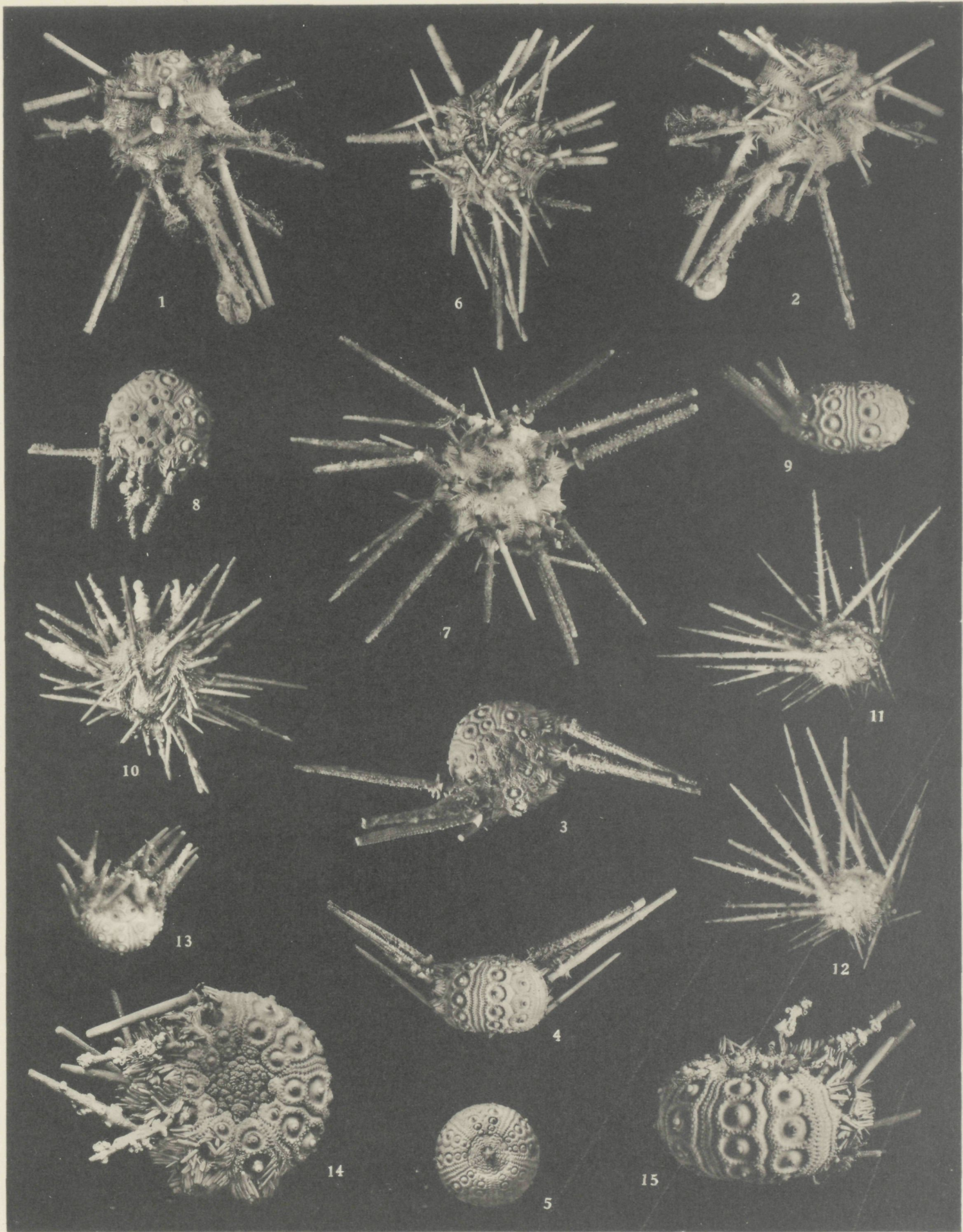
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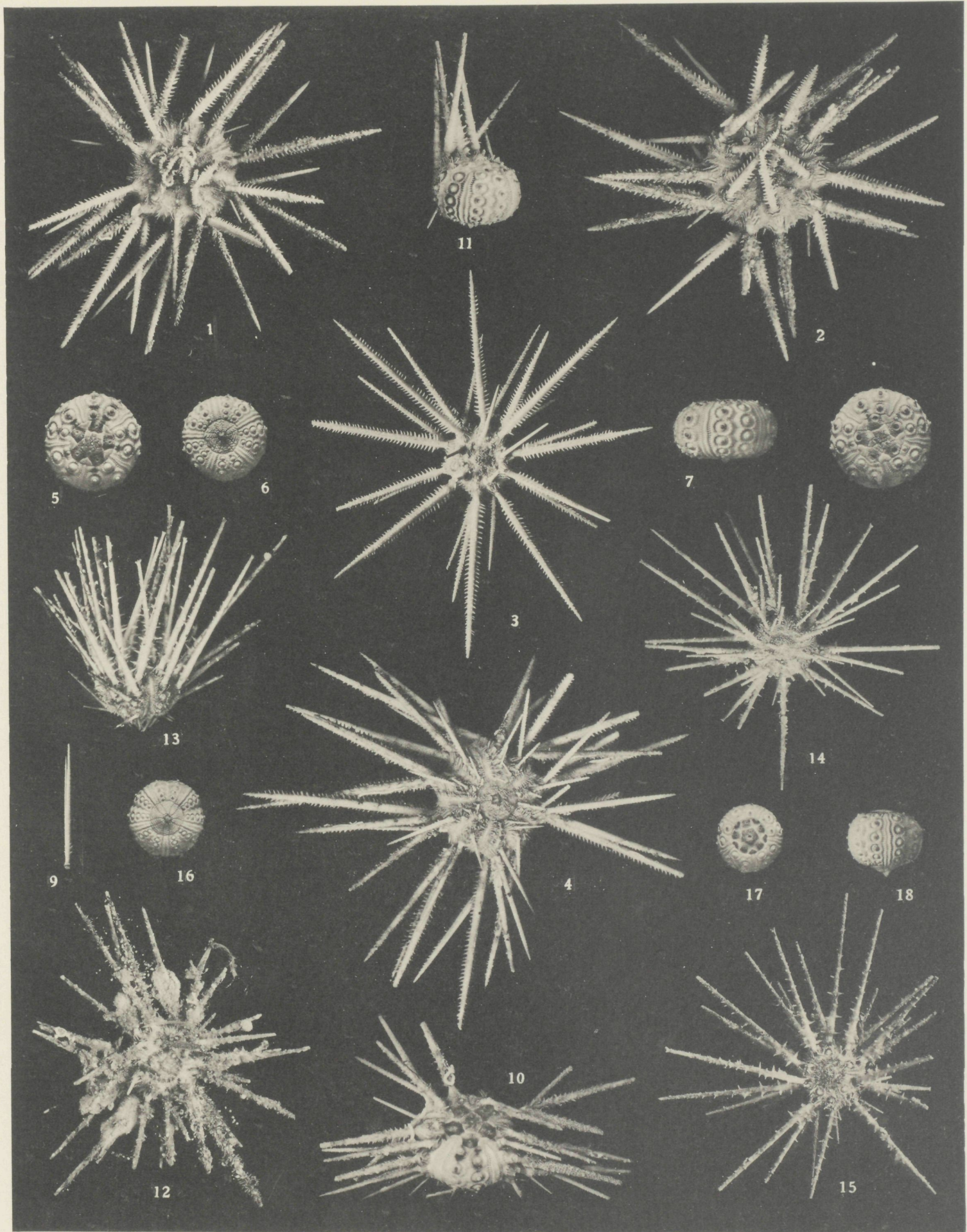
1-7. GONIOCIDARIS CLYPEATA DÖD; 8-13. G. FIMBRIATA DE MEIJERE; 14. G. ALBA MRTSN.;
15. G. MIKADO X RH. ROSEA; 16. G. MIKADO X CLYPEATA; 17-18. G. PELTATA MRTSN.



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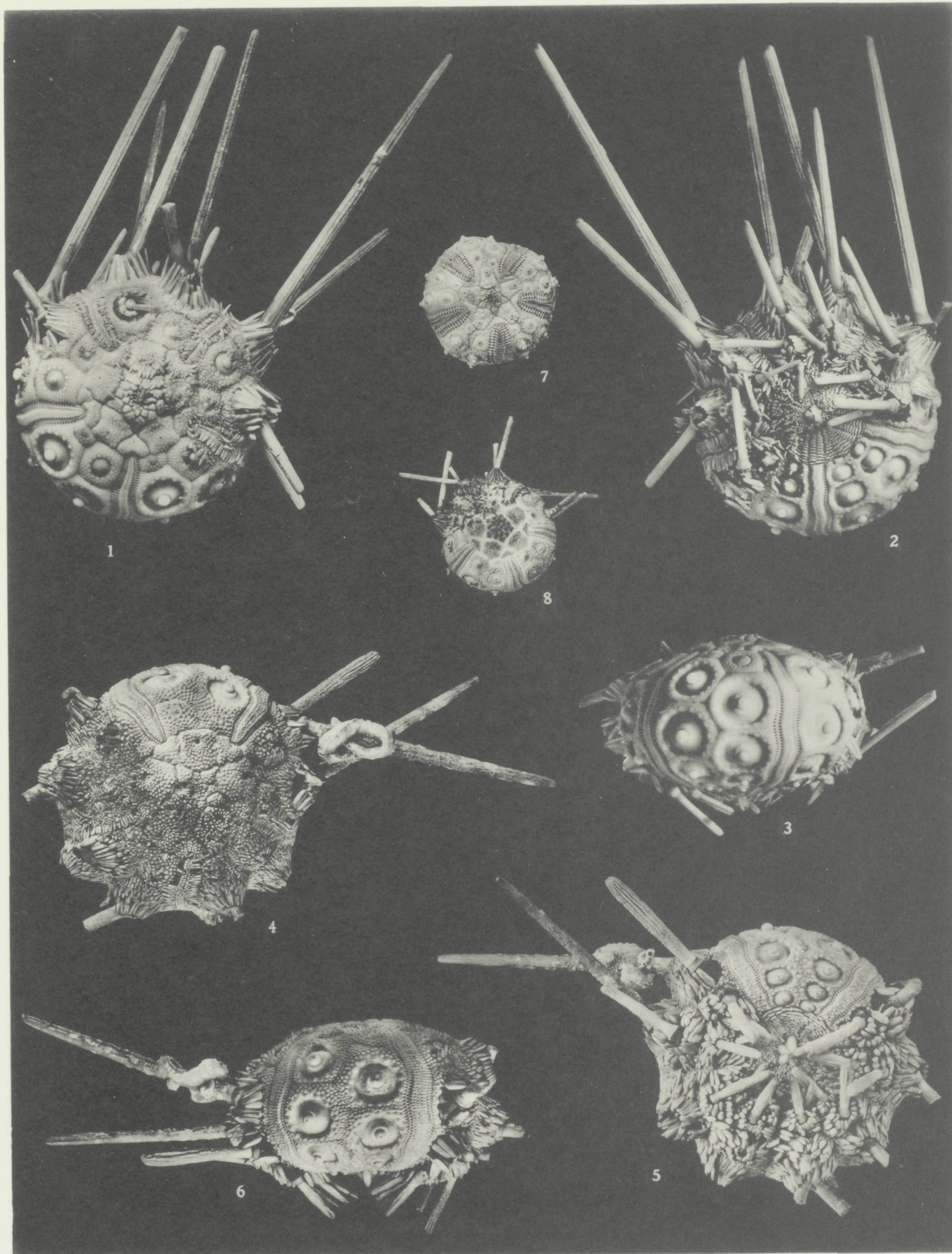
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13. RH. HIRSUTISPINA (DE MEJERE); 14—15. AUSTRUCIDARIS CANALICULATA (A. AG.).



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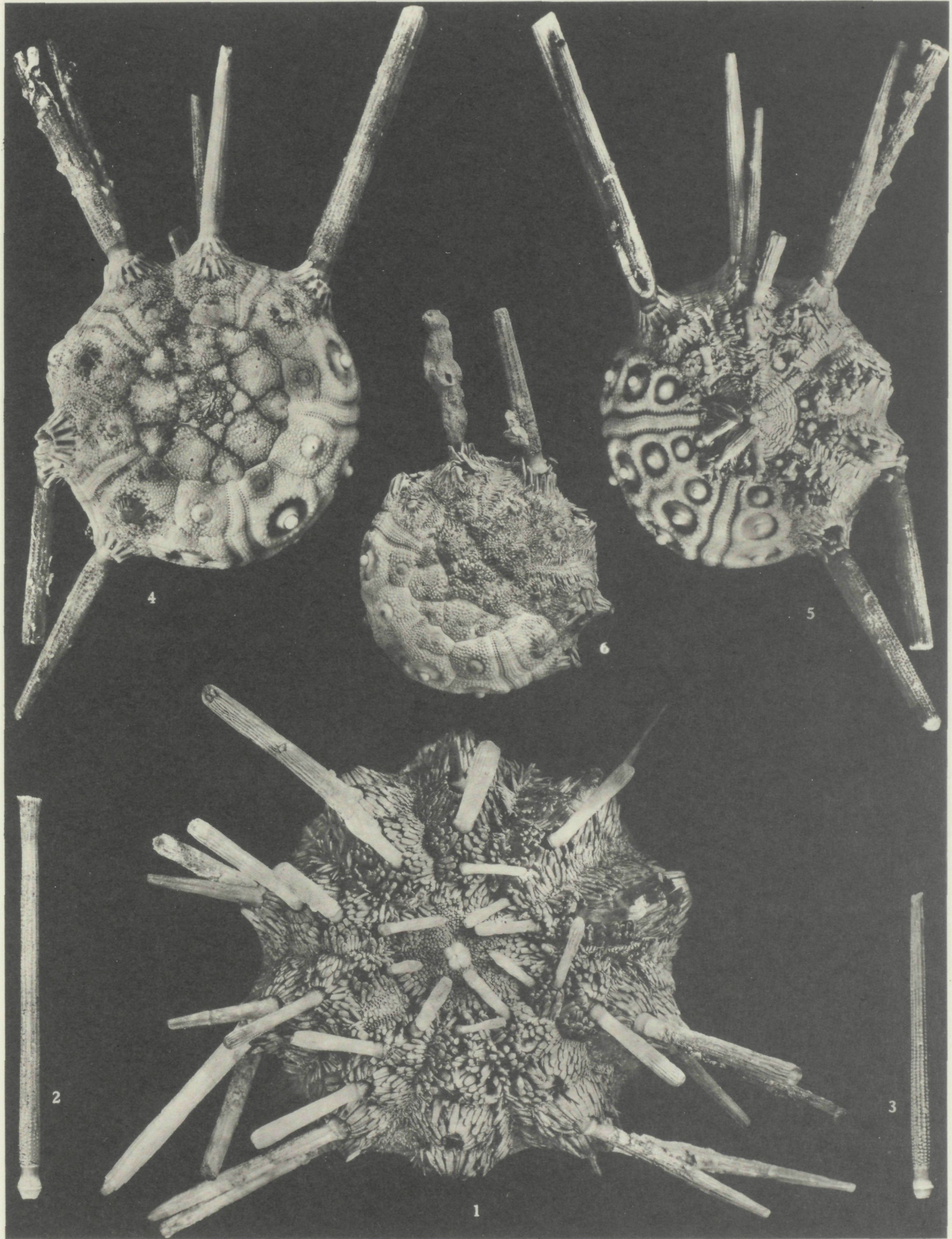
1-9. SCHIZOCIDARIS ASSIMILIS MRTSN.; 10. SCH. SERRATA MRTSN.; 11-12. RHOPALOCIDARIS GRACILIS (DÖD.);
13-18. RH. ROSEA MRTSN.



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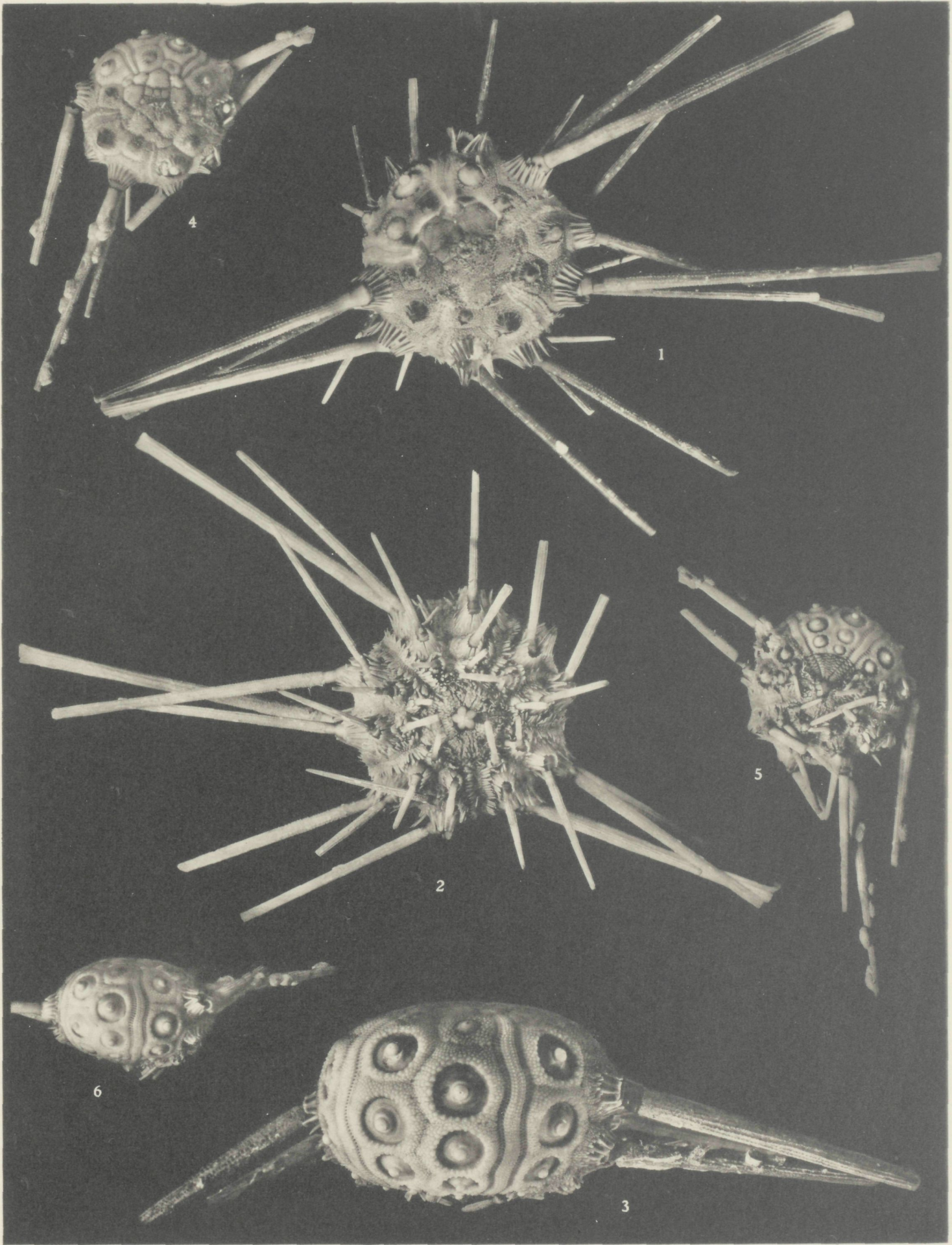
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8. HESPEROCIDARIS PANAMENSIS (A. AG.)



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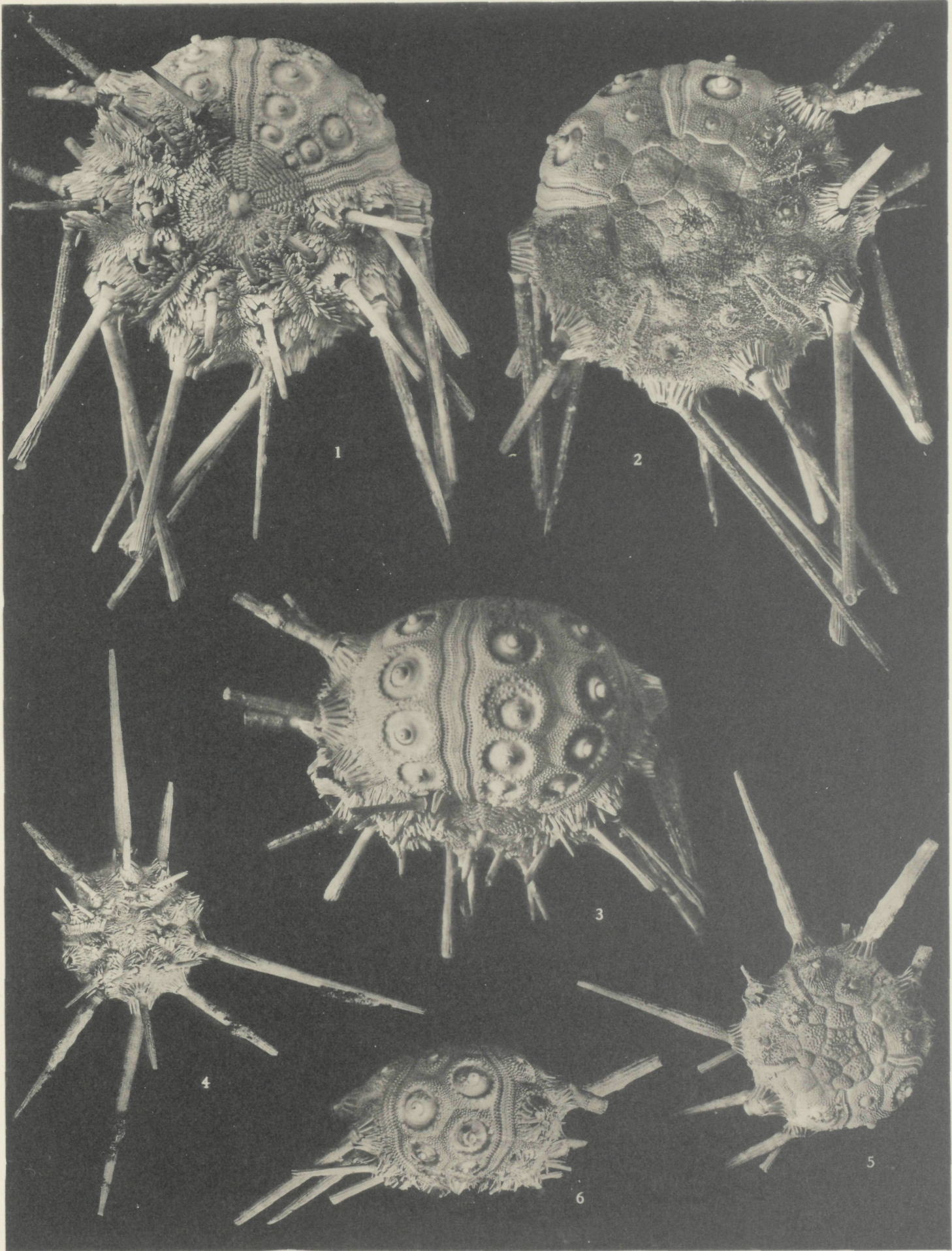
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FOTOTYPI, PACHT & CRONE'S EFT

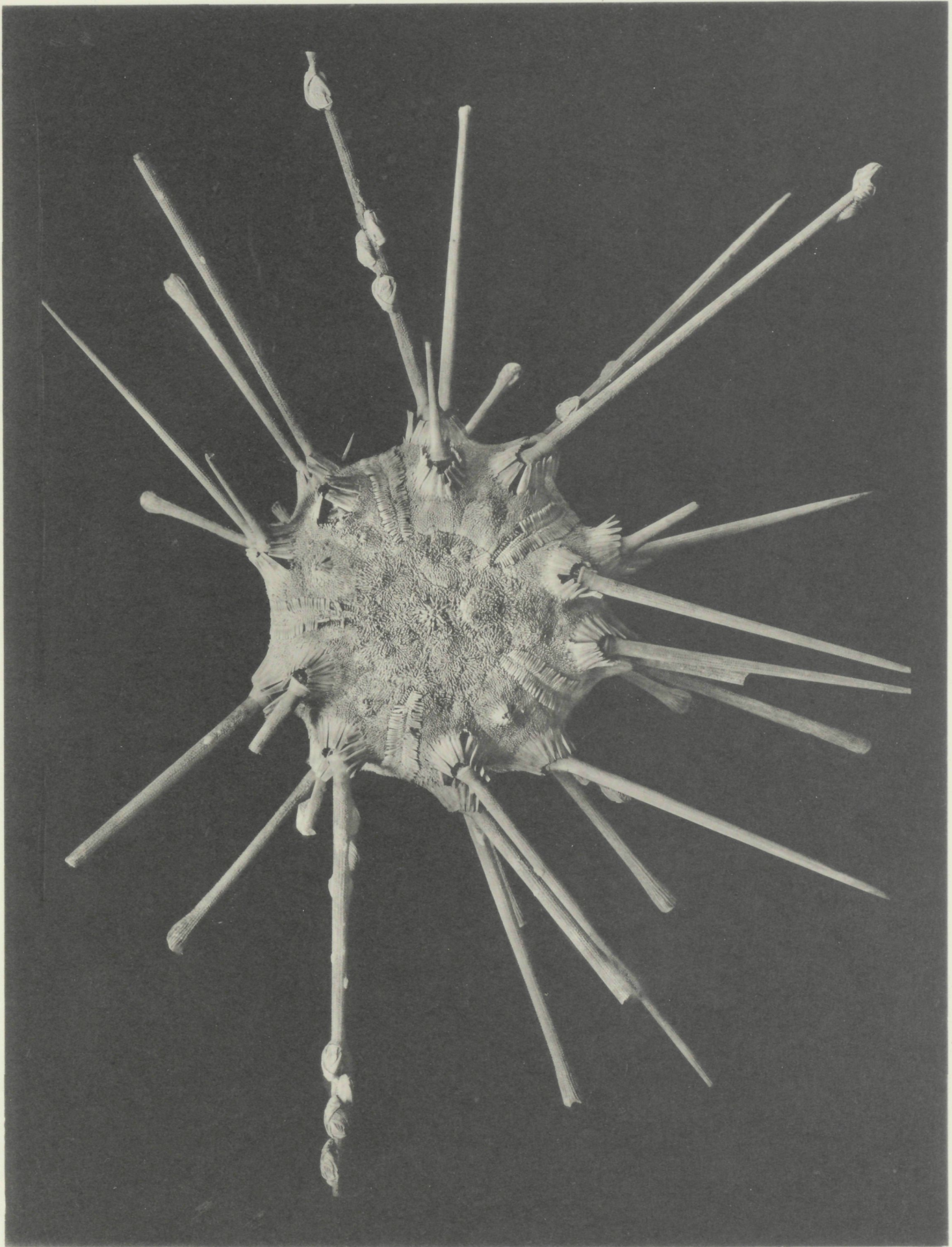
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FOTOTYPI, PACTH & CRONE'S EFT.

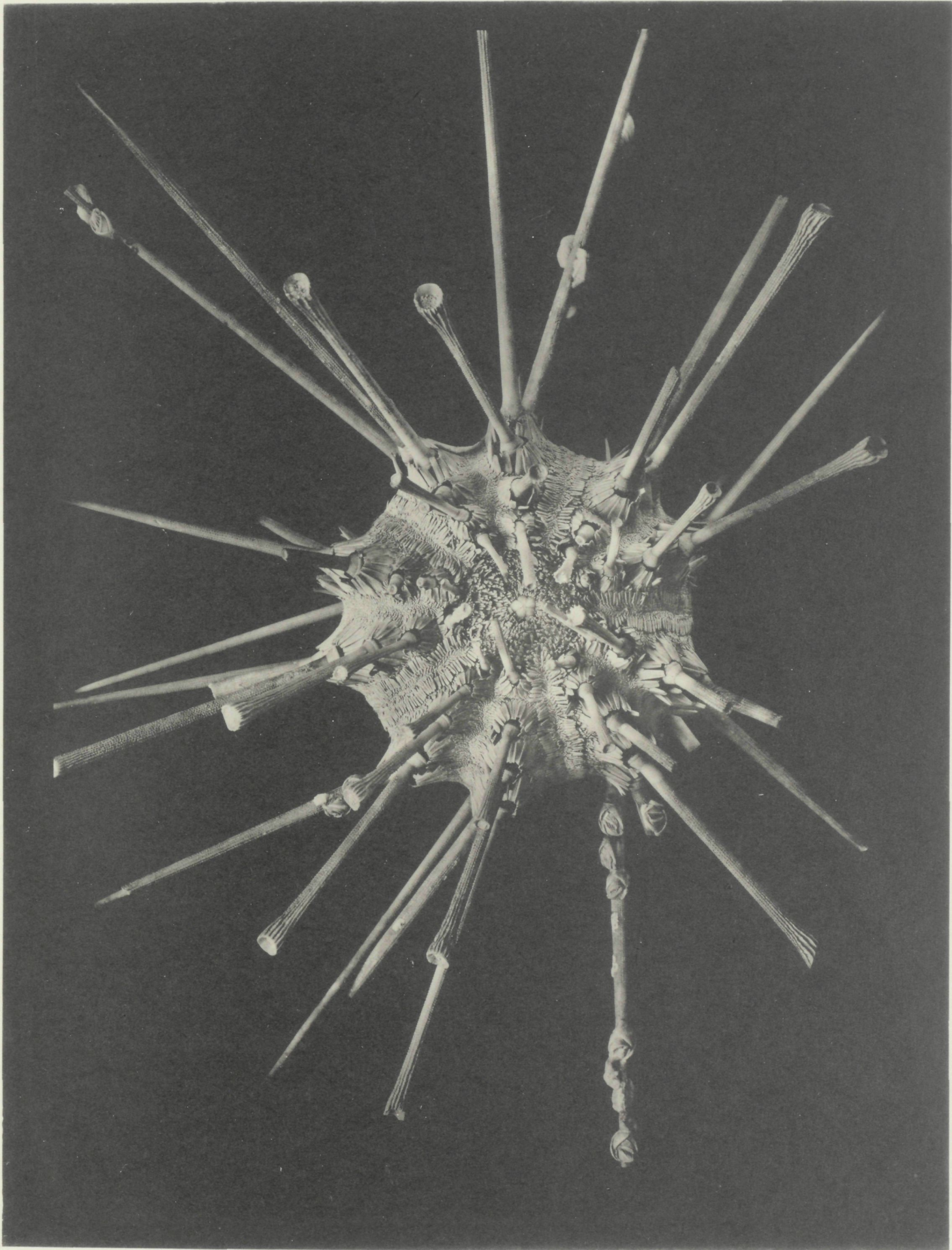
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FOTOTYPI, PAGHT & CRONE'S EFT.

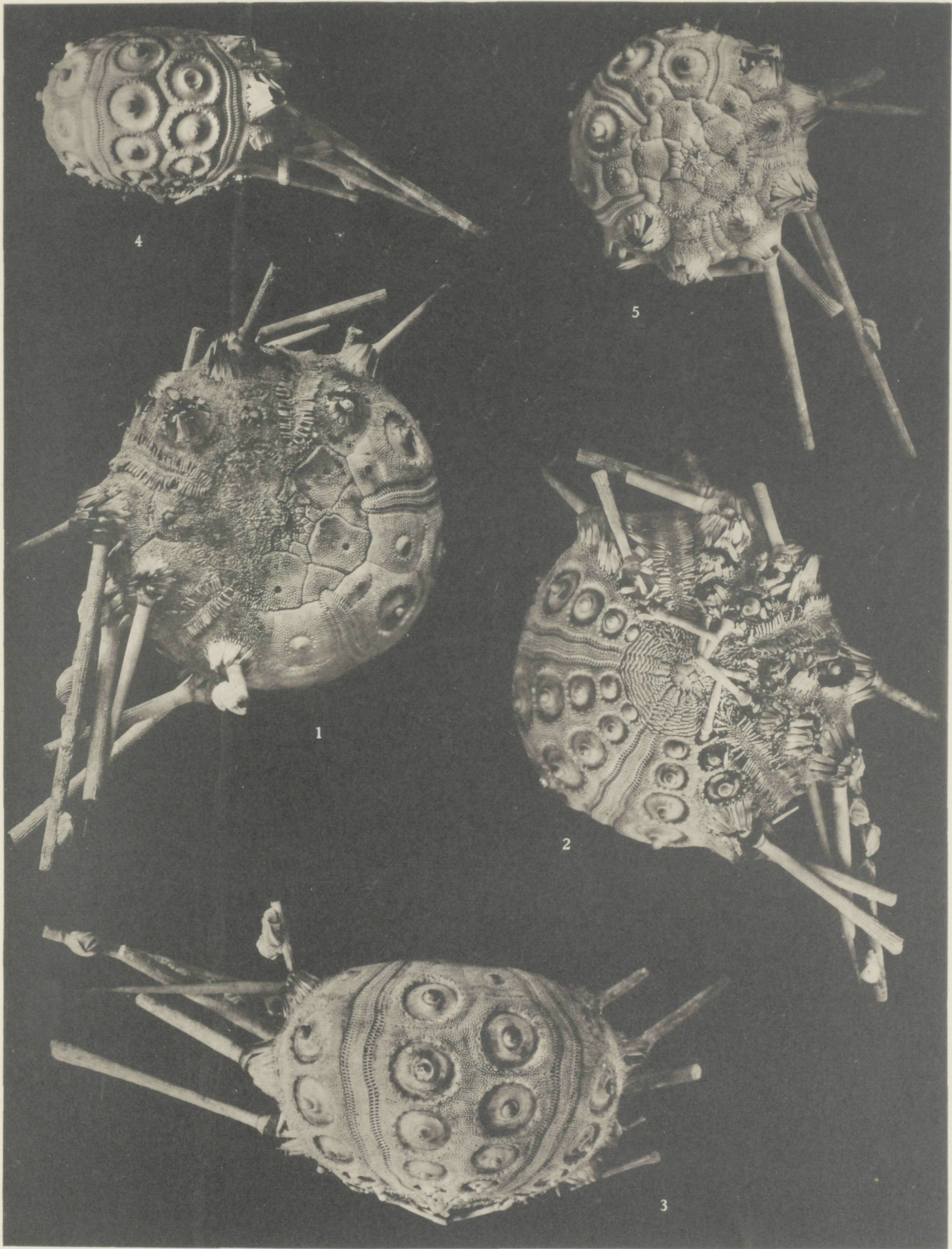
STEREOCIDARIS TUBIFERA MRTSN.



V. HUTH PHOT.

FOTOTYPI, PACT & CRONE'S EFT.

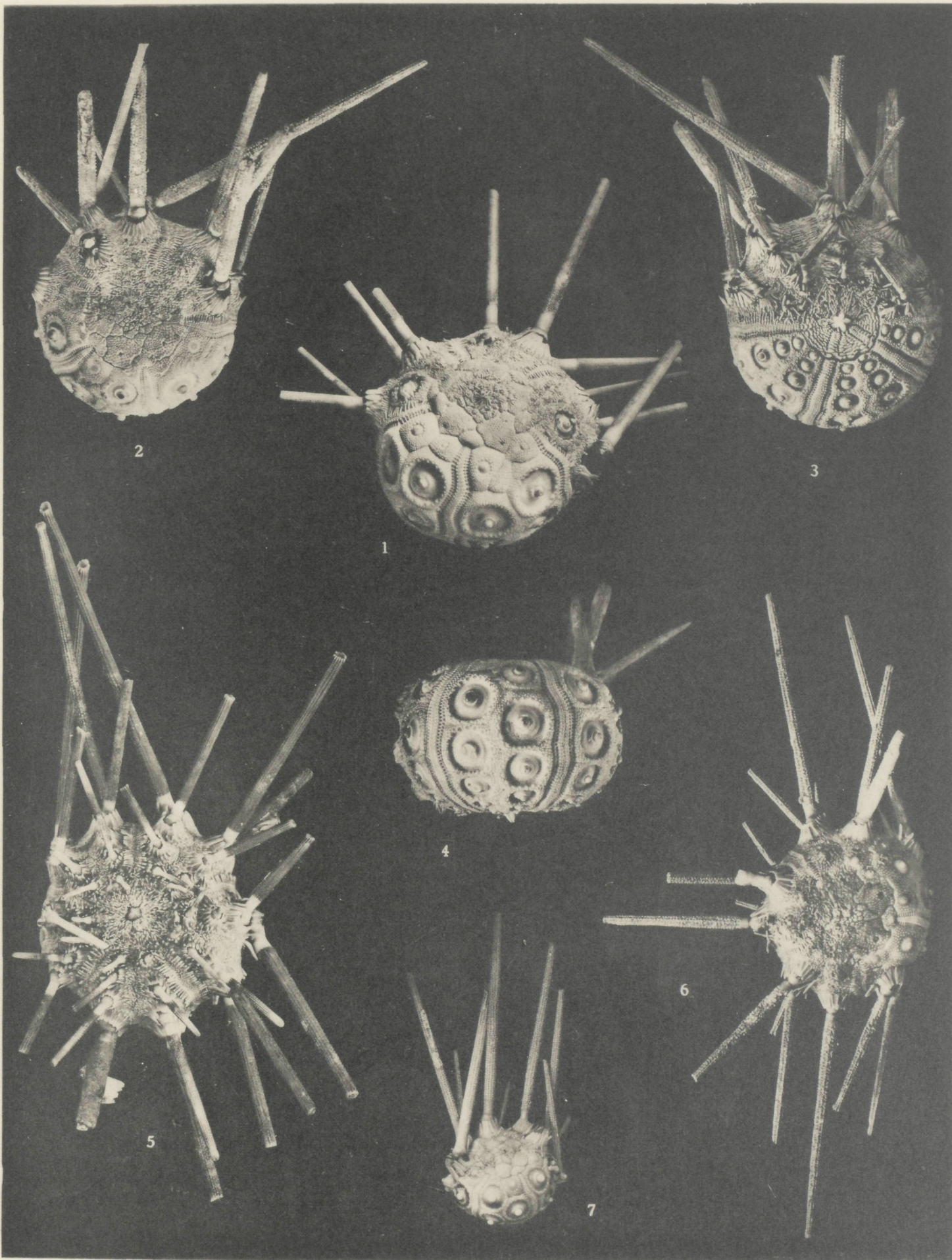
STEREOCIDARIS TUBIFERA MRTSN.



V. HUTH PHOT.

FOTOTYPI, PACHT & CRONE'S EFT.

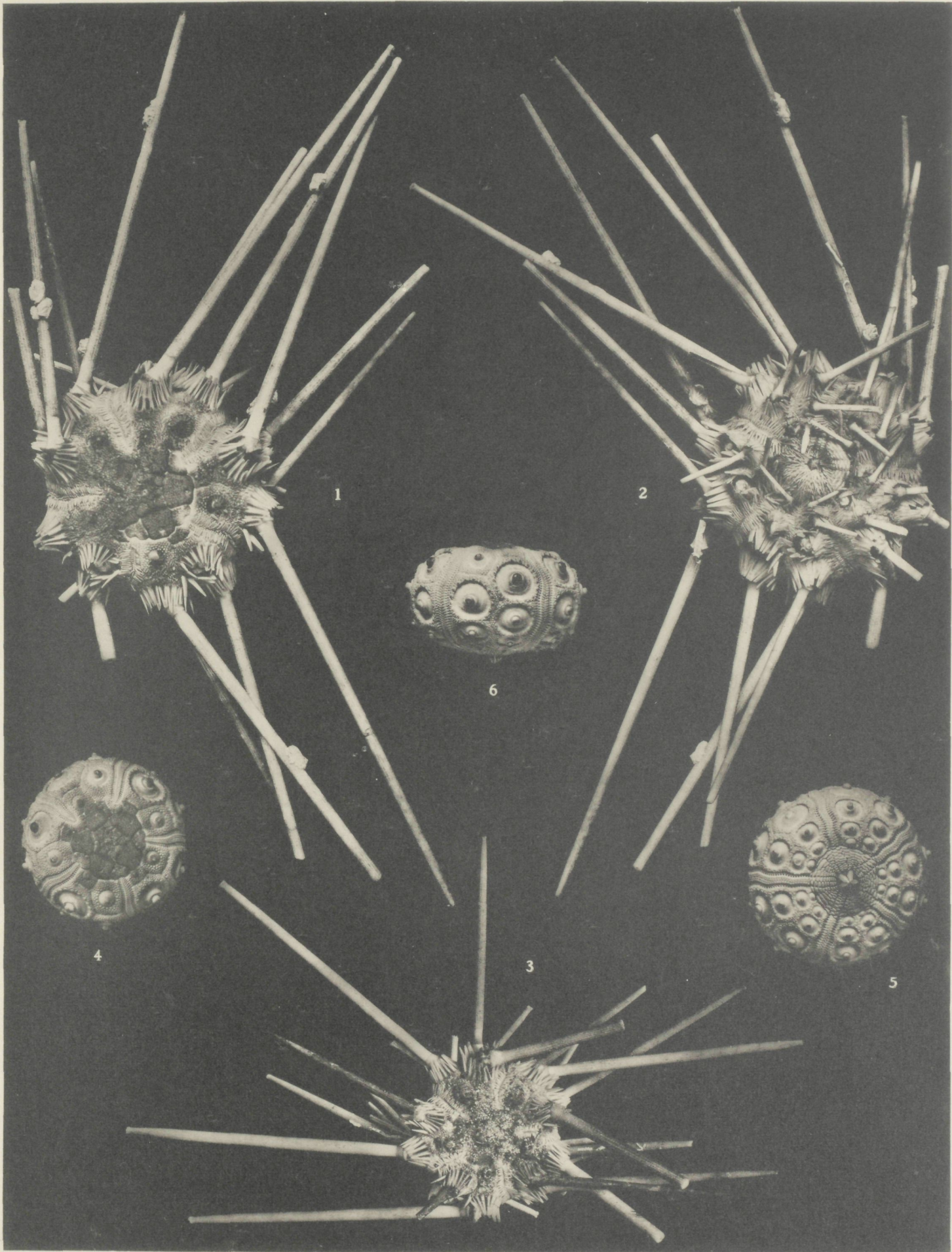
1-3. STEREOCIDARIS TUBIFERA MRTSN.; 4-5. ST. TUBIFERA, VAR. IMPRESSA MRTSN.



V. HUTH PHOT.

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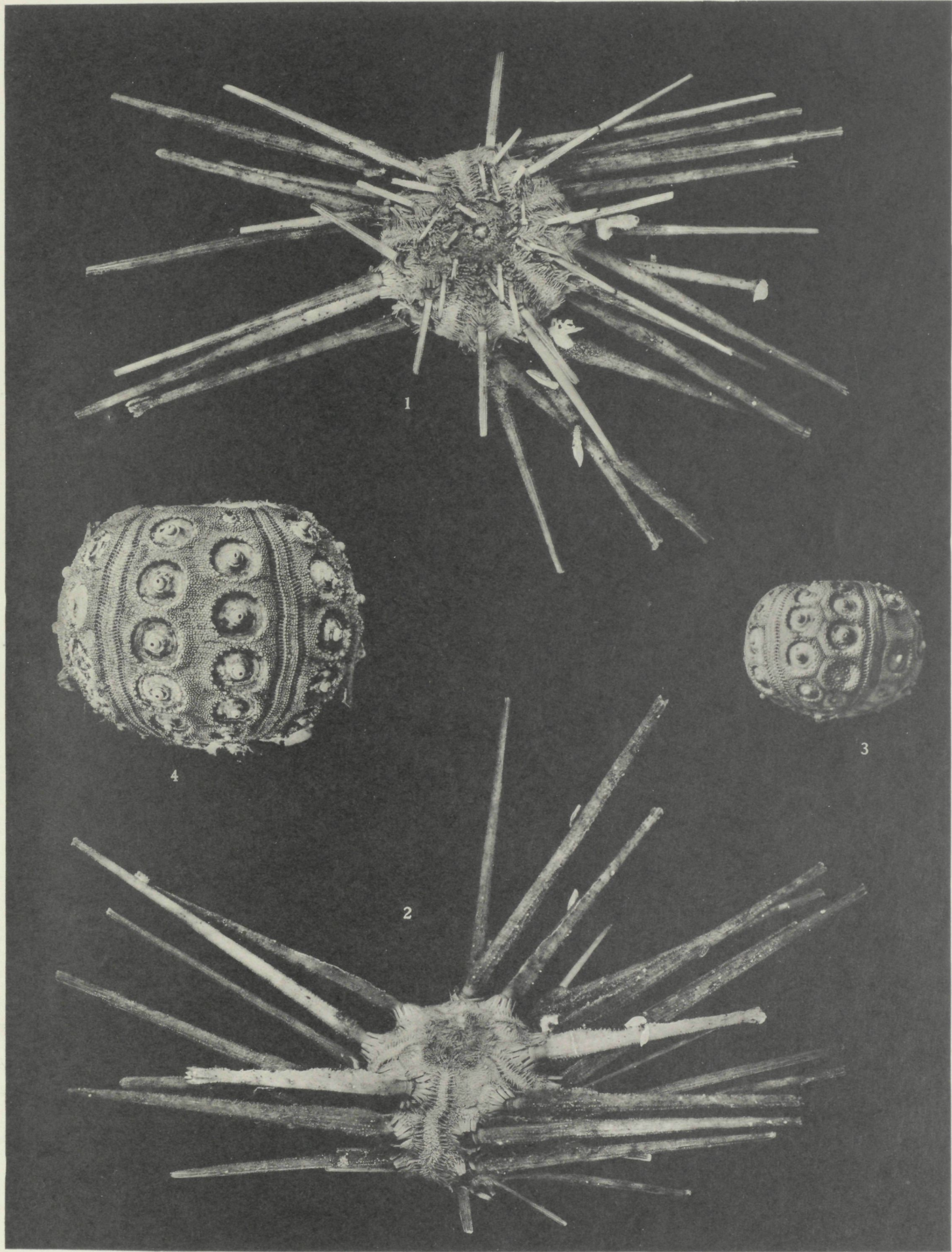
1. STEREOCIDARIS INDICA DÖDERL.; 2-7. ST. GRANULARIS MRTSN.



V. HUTH PHOT.

FOTOTYPI, PACTH & CRONE'S EFT.

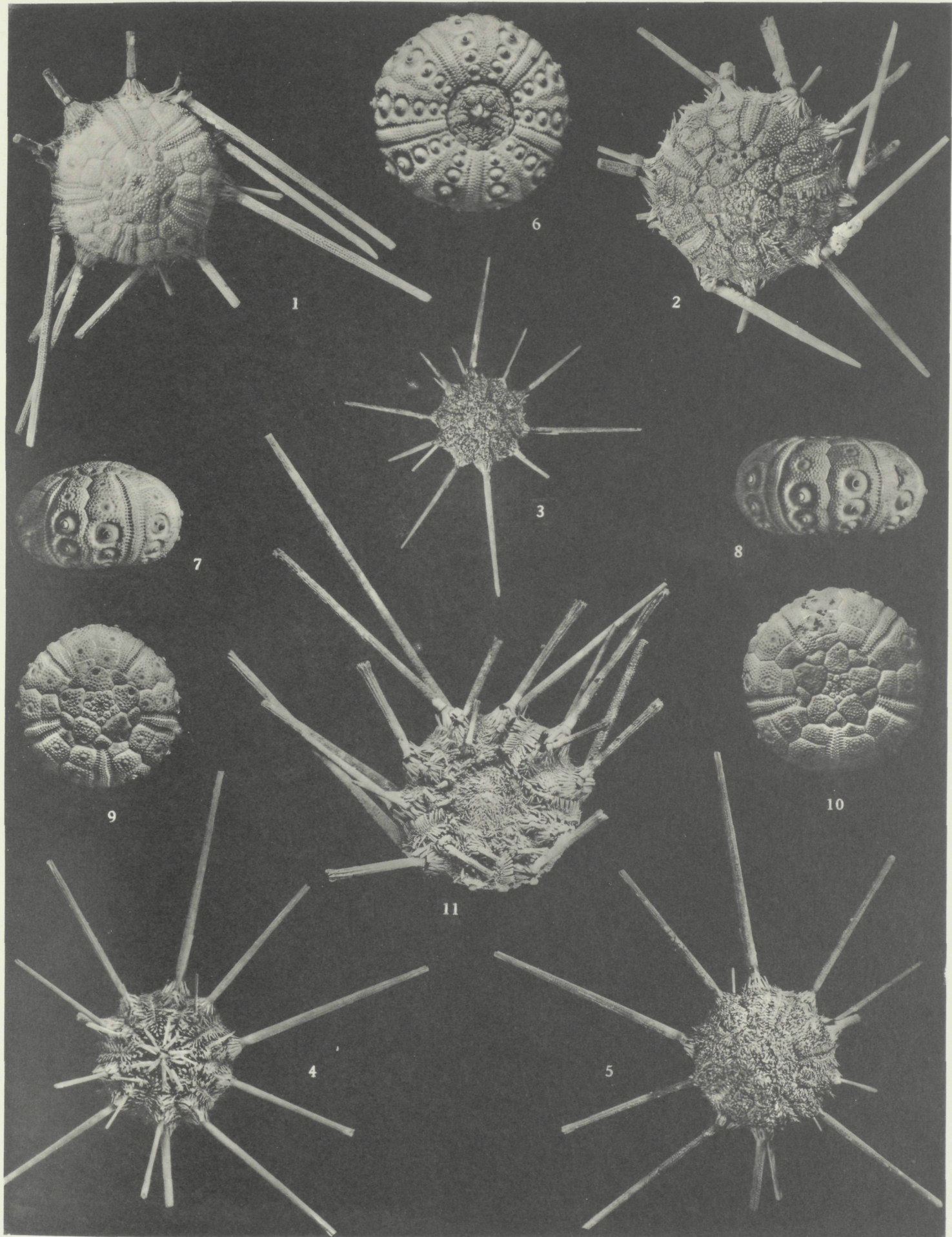
1-6. STEREOCIDARIS PURPURASCENS MRTSN.



V. HUTH PHOT.

FOTOTYPI, PACT & CRONE'S EFT.

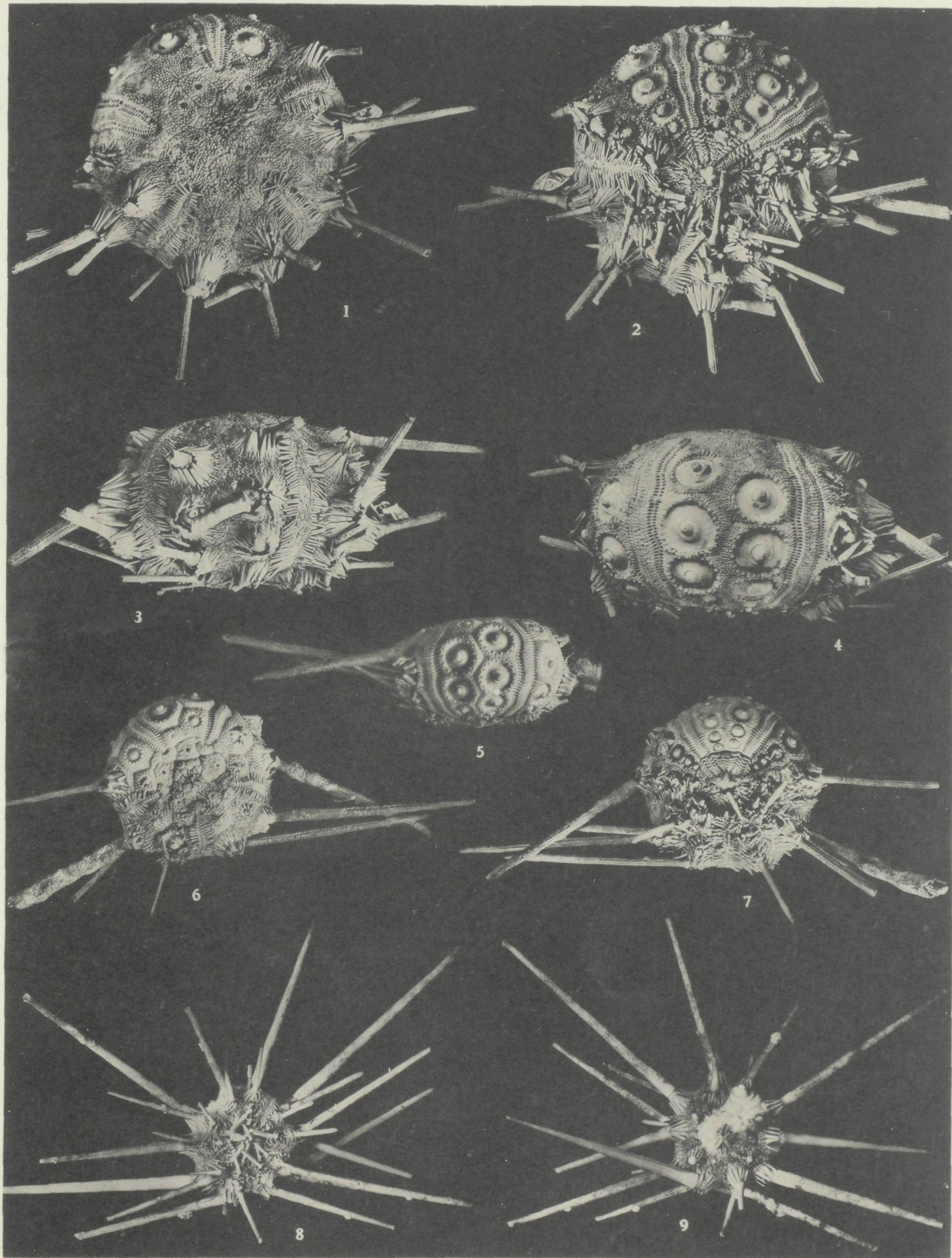
1—3. STEREOCIDARIS INGOLFIANA MRTSN.; 4. STEREOCIDARIS SP.



V. HUTH PHOT.

FOTOTYPI, PACTH & CRONE'S EFT.

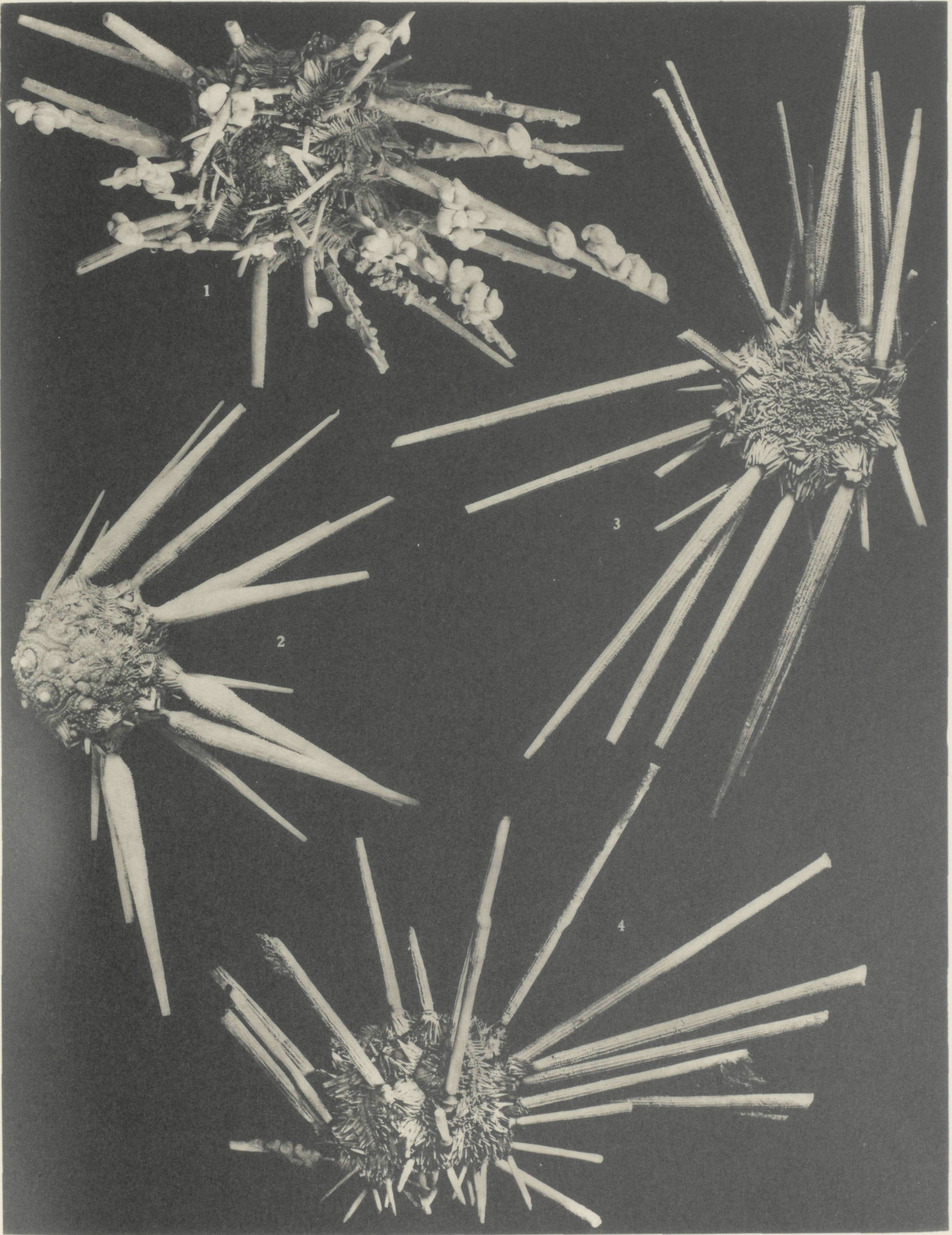
1-10. STEREOCIDARIS JAPONICA (DÖDERLEIN); 11. ST. LEUCACANTHA A. AG. & H. L. CL.



V. HUTH PHOT.

FOTOTYPI, PACT & CRONE'S EFT.

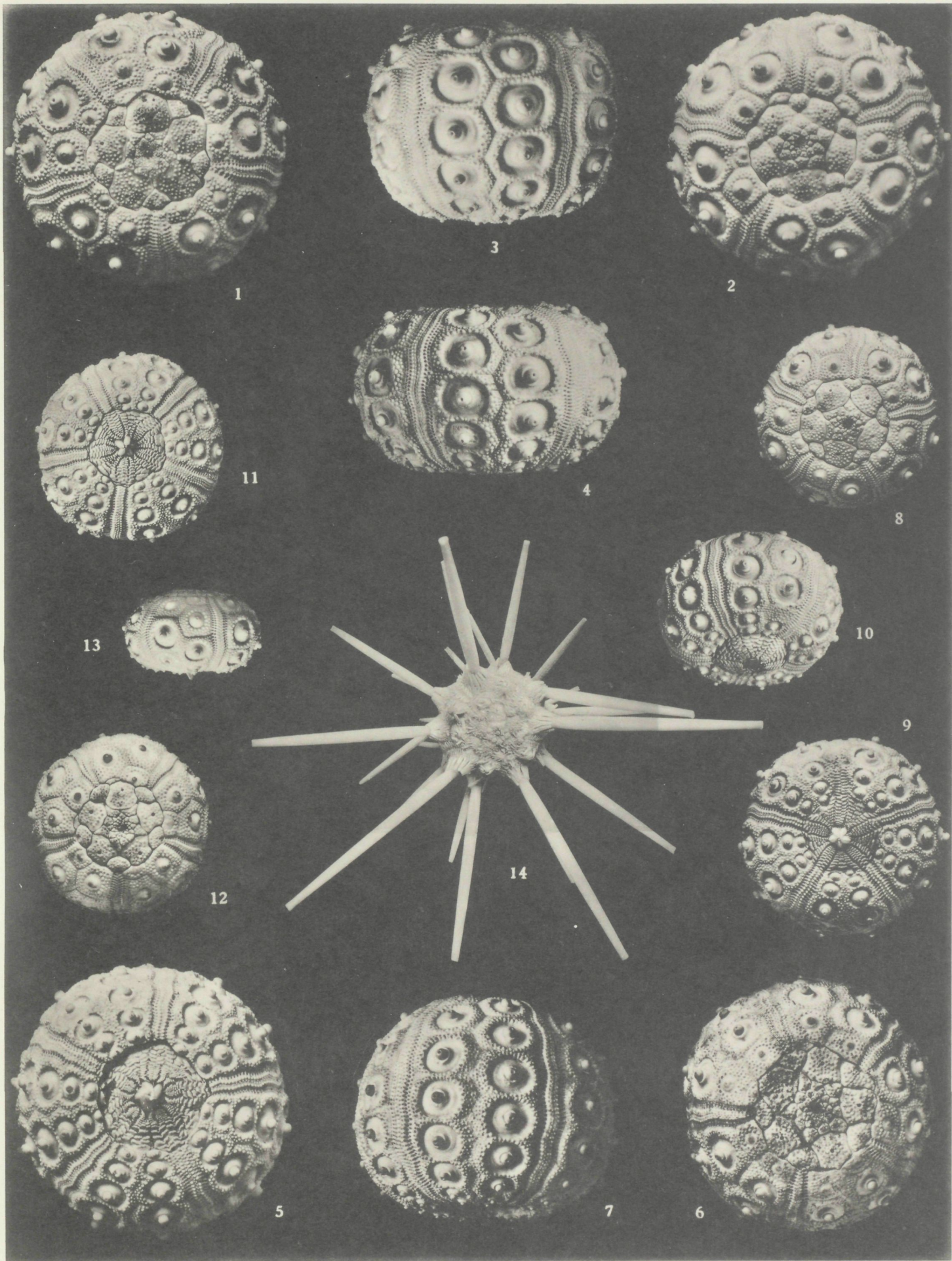
1-4. STEREOCIDARIS STYLIFERA MRTSN.; 5-7. ST. SCEPTRIFEROIDES DÖDERLEIN;
8-9. ST. SCEPTRIFEROIDES, VAR. LANCEOLATA MRTSN.



3-4 v. HUTH PHOT.

FOTOTYPI, PACHT & CRONE'S EFT.

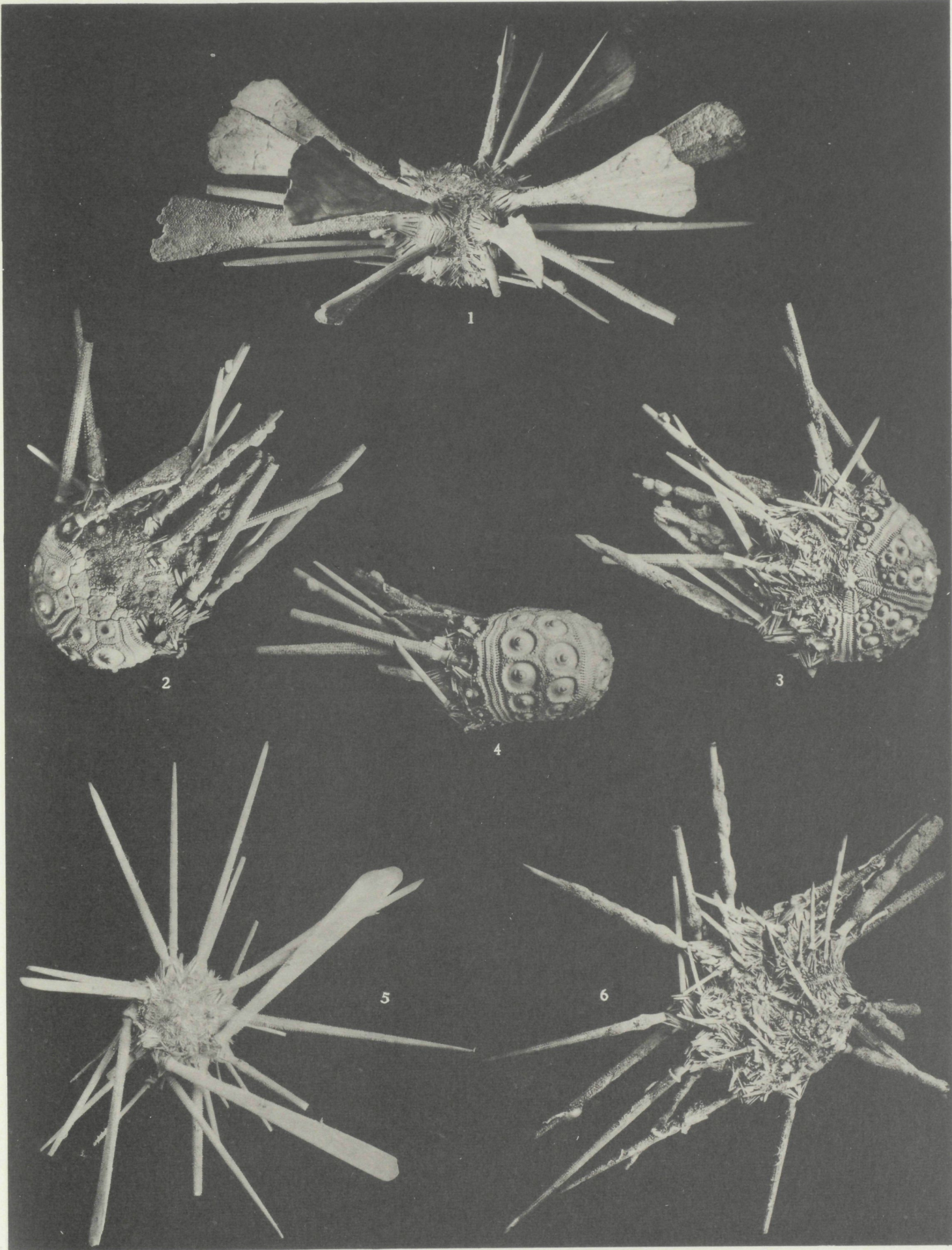
1-2. *CIDARIS RUGOSA* (H. L. CLARK); 3-4. *CIDARIS CIDARIS* (LINN.).



V. HUTH PHOT.

FOTOTYPI, PACT & CRONE'S EFT.

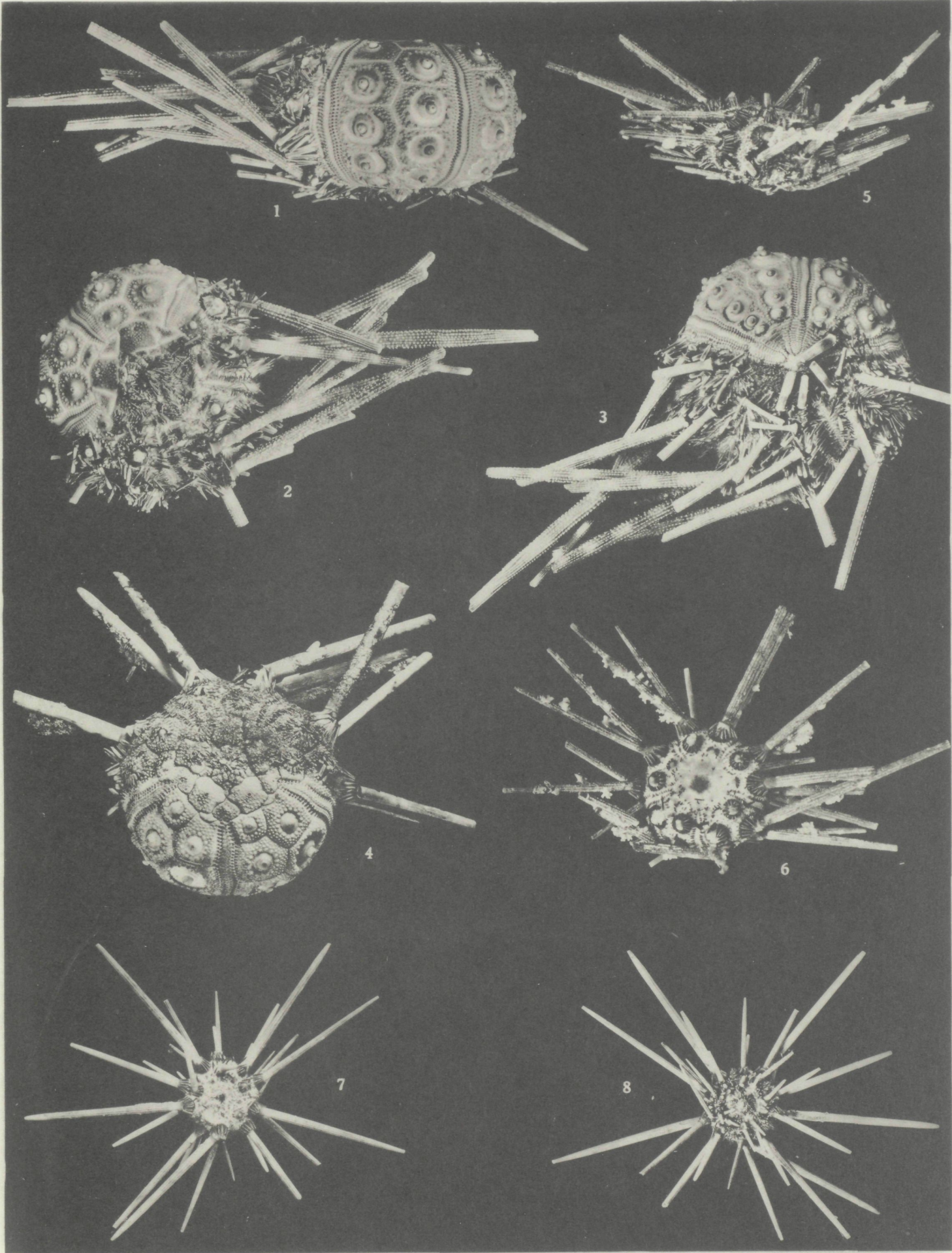
1-7. CIDARIS CIDARIS (LINN.); 8-10. CID. CIDARIS, VAR. MERIDIONALIS MRTSN.; 11-14. CID. ABYSSICOLA (A. AG.)



V. HUTH PHOT.

FOTOTYPI, PACT & CRONE'S EFT.

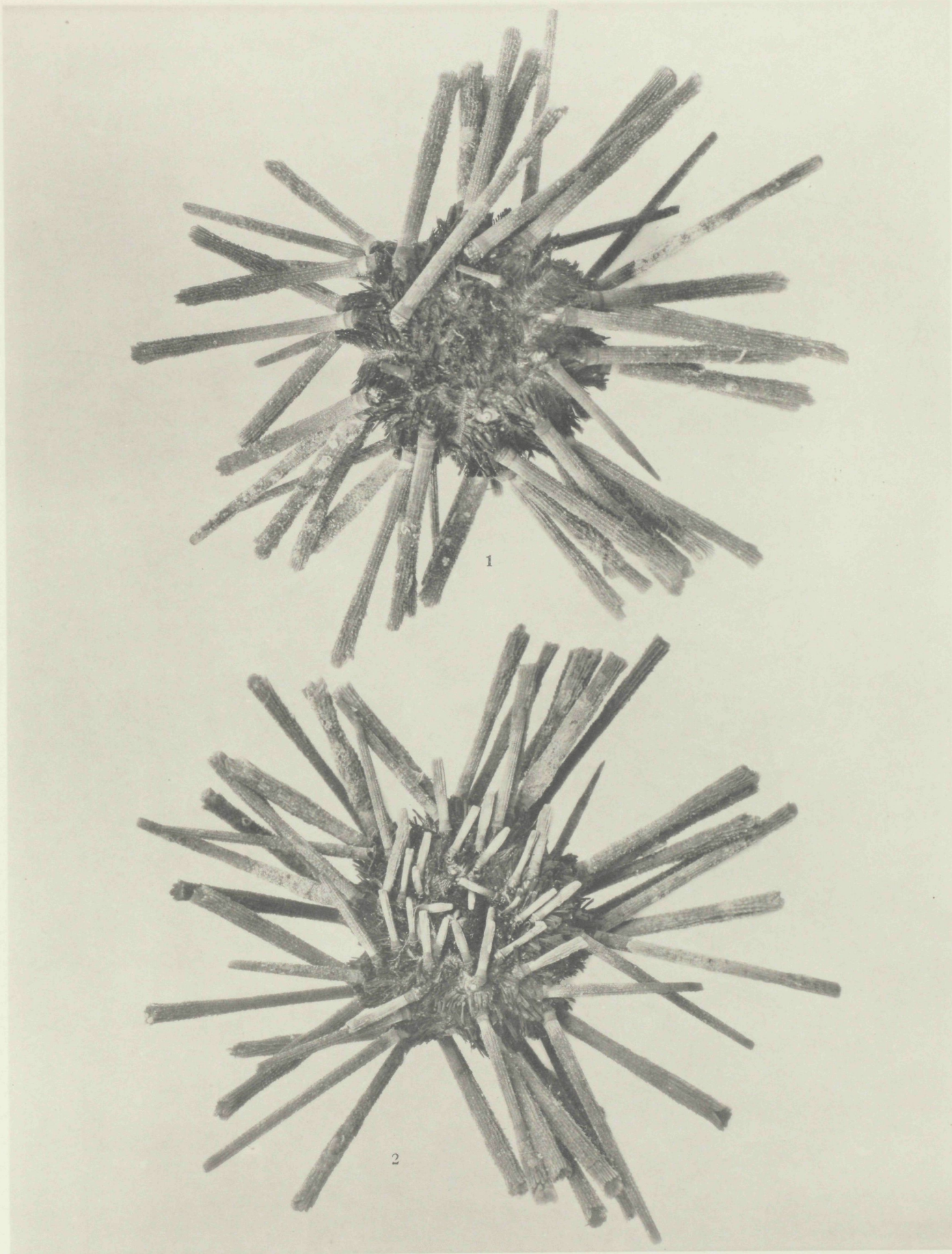
1-6. CIDARIS BLAKEI (A. AG.)



V. HUTH PHOT.

FOTOTYPI, PACTH & CRONE'S EFT.

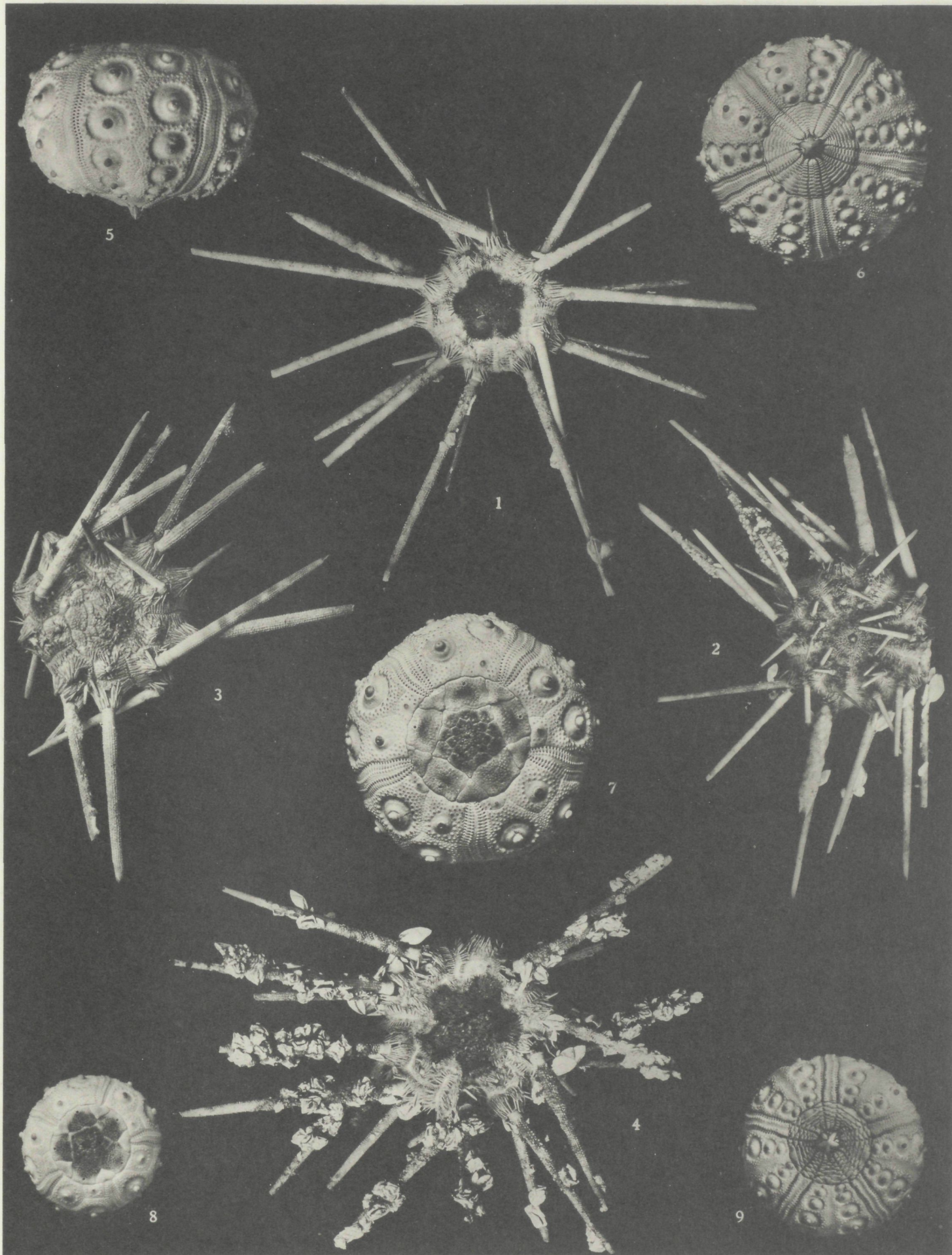
1-3. TRETOCIDARIS SPINOSA MRTSN.; 4. CIDARIS ABYSSICOLA (A. AG.); 5-8. CIDARIS NUDA (MRTSN.)



V. HUTH PHOT.

FOTOTYPI, PACTH & CRONE'S EFT.

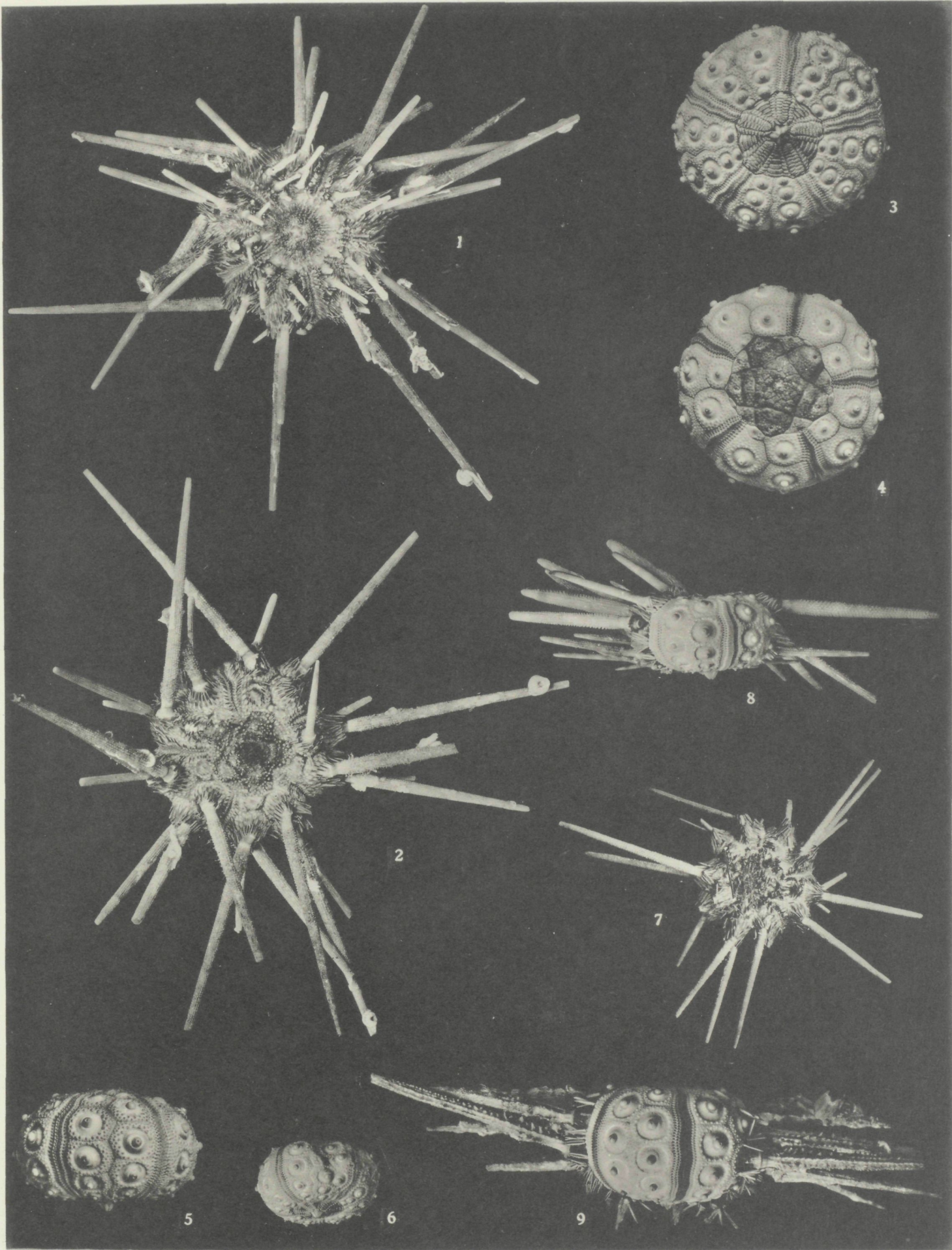
1-2. TRETOCIDARIS SPINOSA MRTSN.



V. HUTH PHOT.

FOTOTYPI, PACT & CRONE'S EFT.

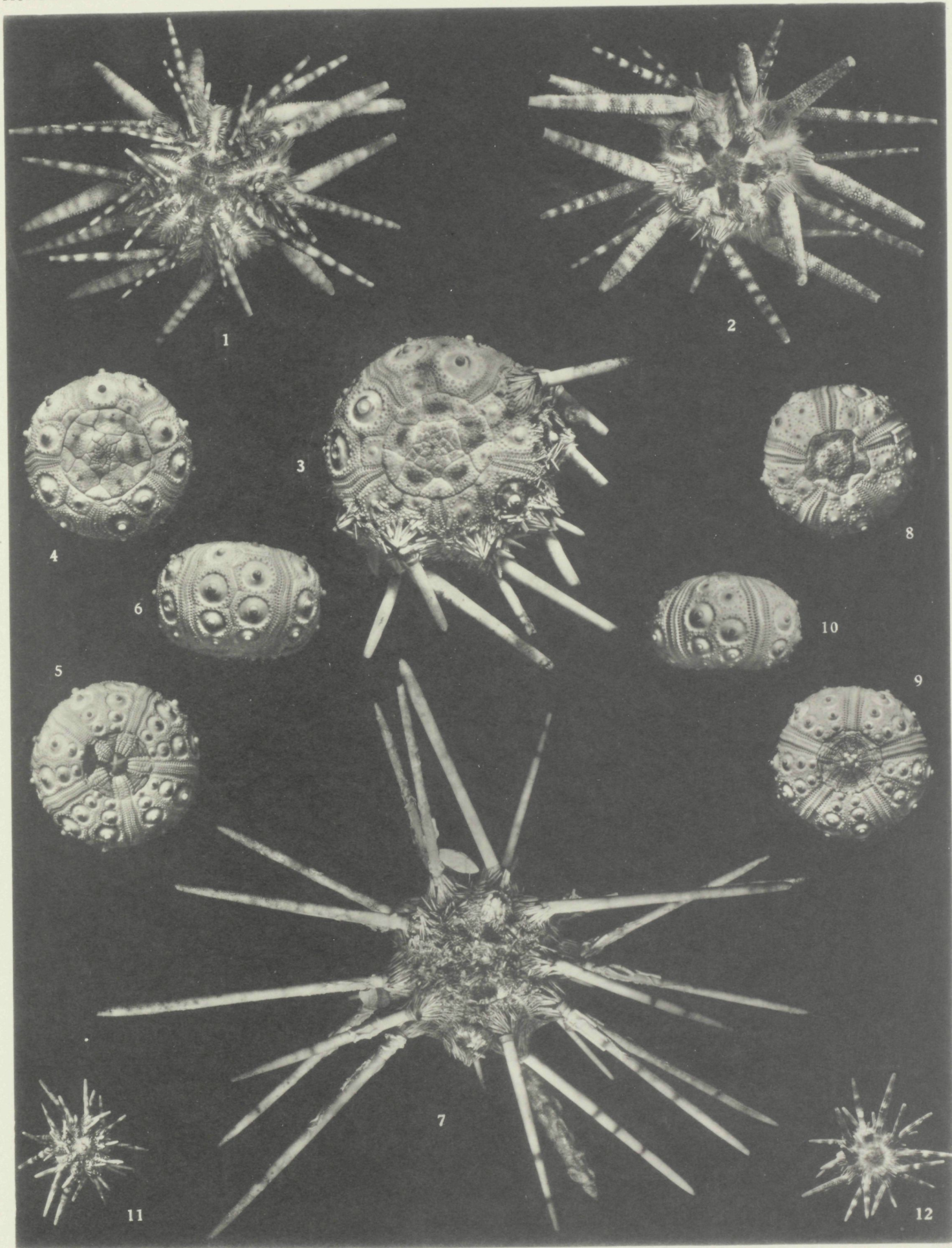
1-9. *STYLOCIDARIS REINI* (DÖDERLEIN).



V. HUTH PHOT.

FOTOTYPI, PACHT & CRONE'S EFT.

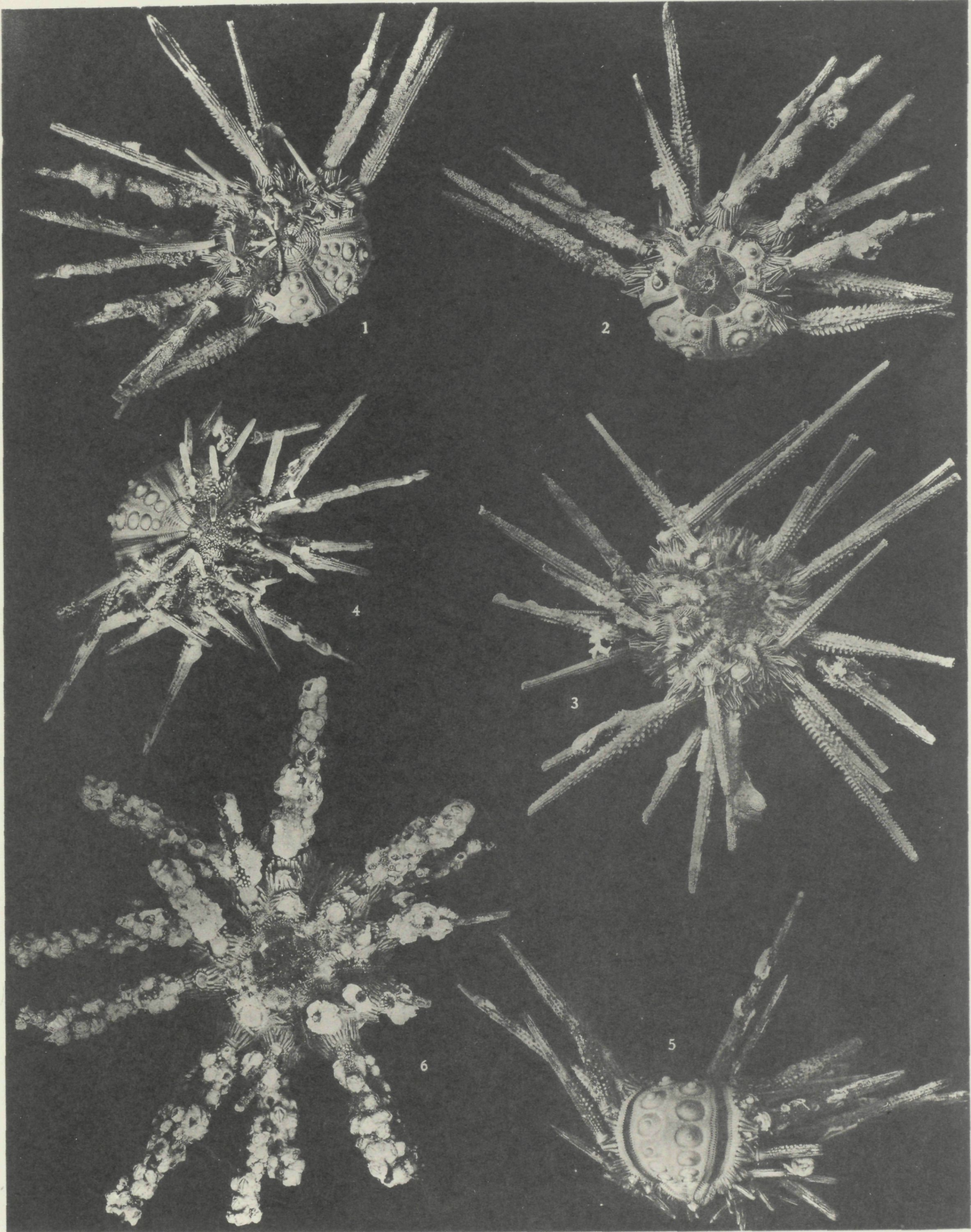
1-7. *STYLOCIDARIS AFFINIS* (PHIL.); 8. *ST. AMBOINÆ* MRTSN.; 9. *ST. ALBIDENS* H. L. CLARK.



V. HUTH PHOT.

FOTOTYPI, PACTH & CRONE'S EFT.

1—2. *STYLOCIDARIS AMBOINCE* MRTSN.; 3—7. *ST. CONFERTA* (H. L. CLARK);
8—10. *ST. TIARA* (ANDERSON); 11—12. *ST. FUSISPINA* MRTSN.



V. HUTH PHOT.

FOTOTYPI, PACTH & CRONE'S EFT.

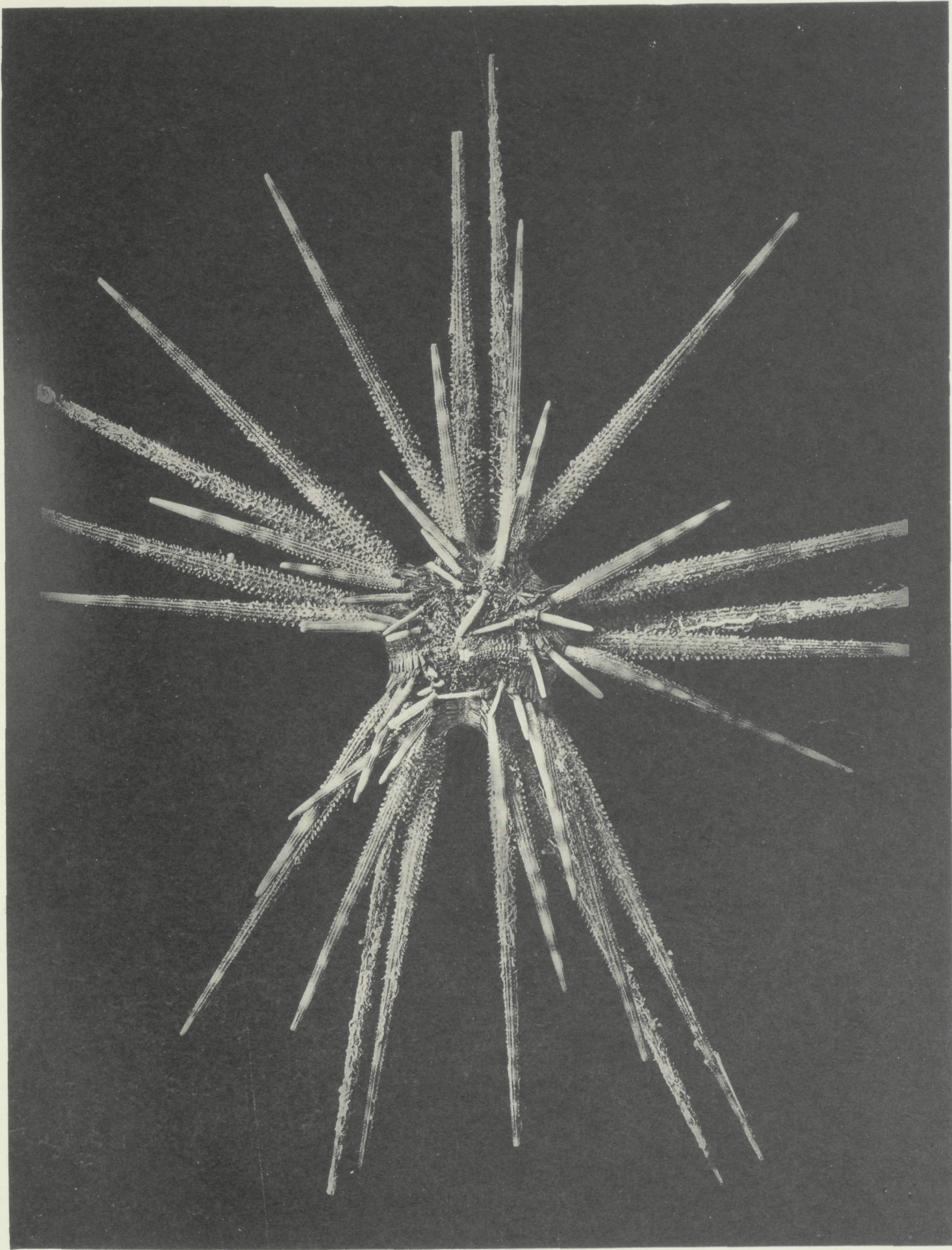
1-3. *STYLOCIDARIS ALBIDENS* H. L. CLARK; 4-6. *ST. BREVICOLLIS* (DE MEIJERE).



V. HUTH PROT.

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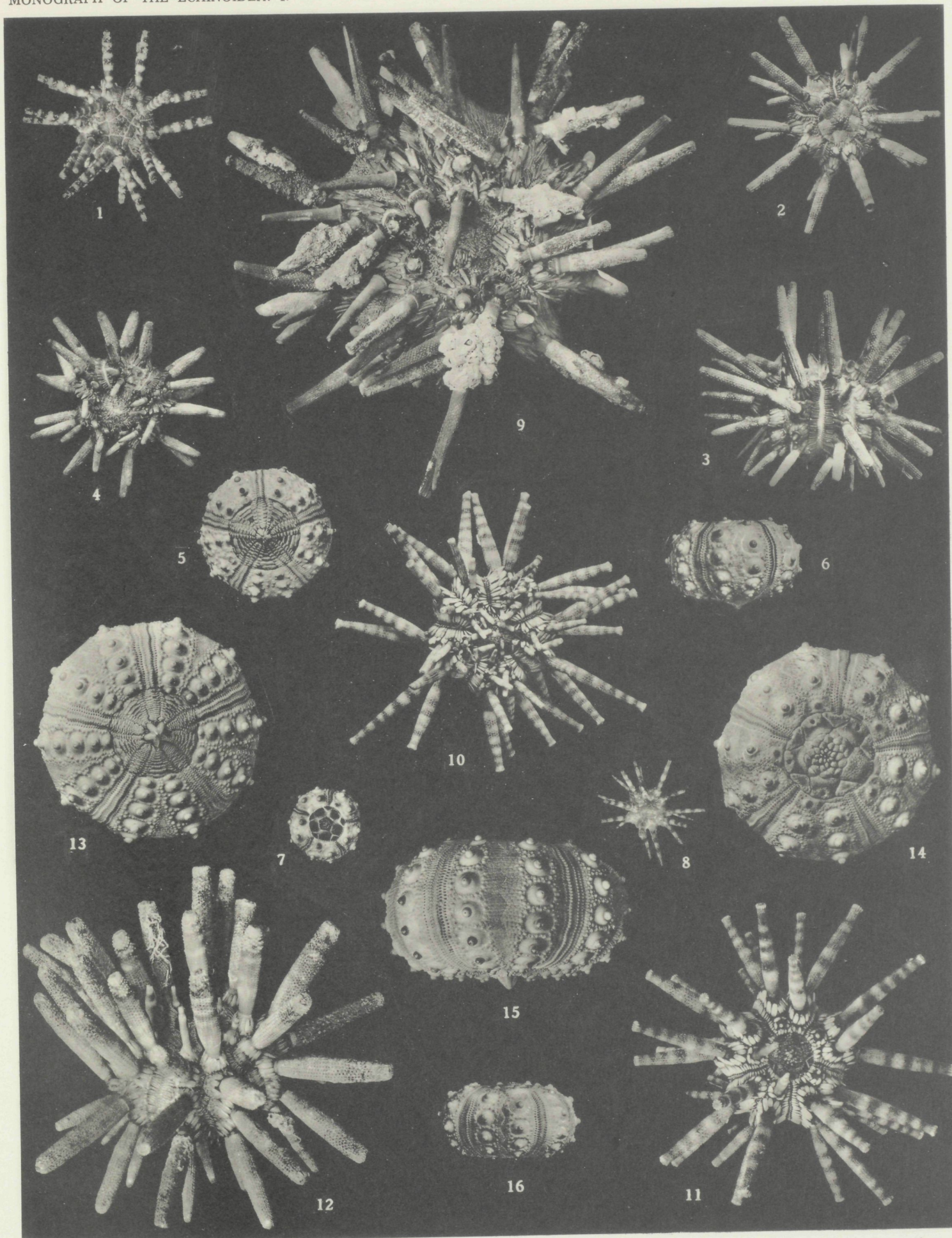
1-6. *STYLOCIDARIS BRACTEATA* (A. AG.); 7-12. *ST. MACULOSA* MRTSN.; 13-14. *ST. LONGICOLLIS* MRTSN.



V. HUTH PHOT.

FOTOTYPI, PACTH & CRONE'S EFT.

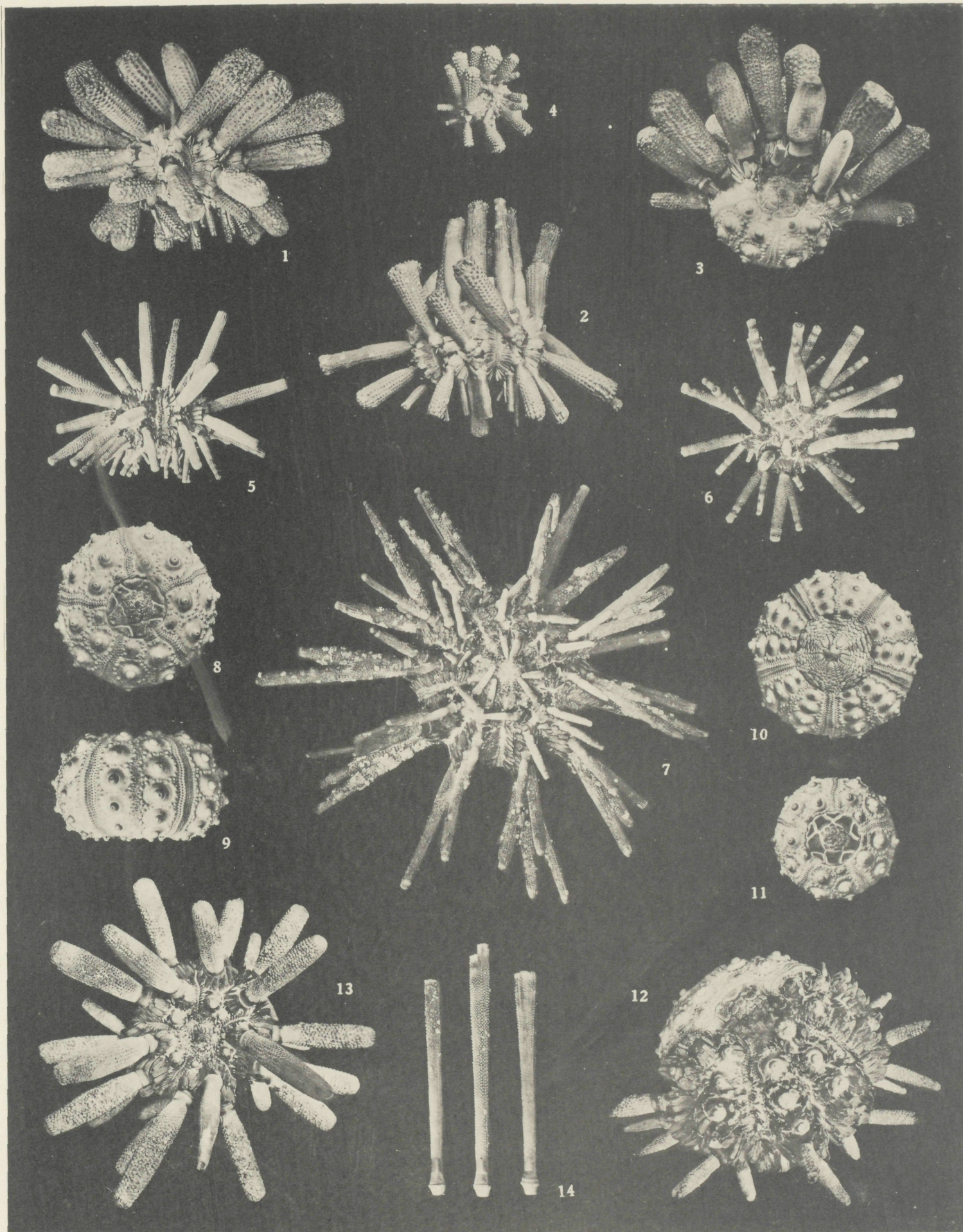
STYLOCIDARIS BADIA (H. L. CLARK)



V. HUTH PHOT.

FOTOTYPI, PACHT & CRONE'S EPT.

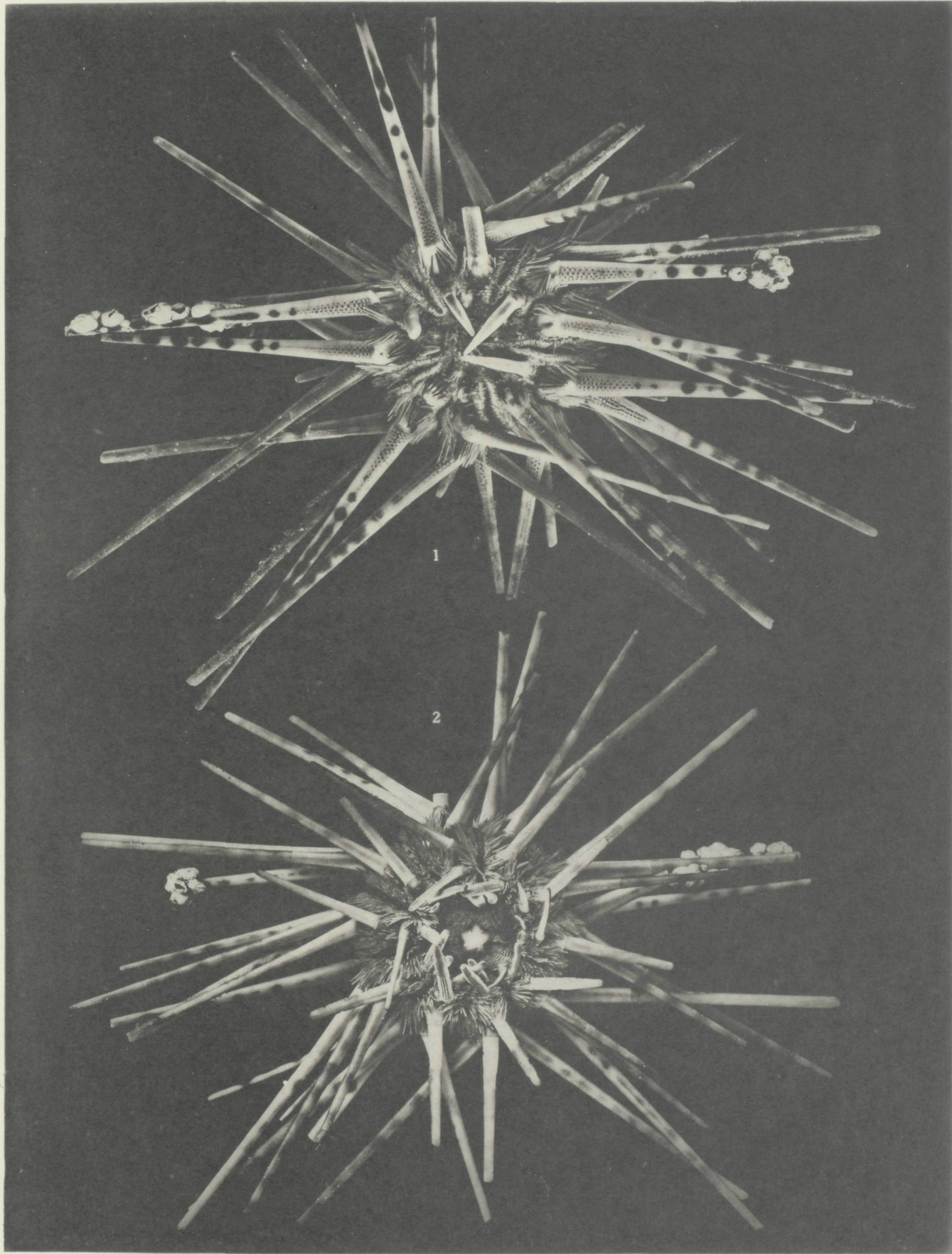
1-8. EUCIDARIS METULARIA (LAMK.); 9-16. E. TRIBULOIDES (LAMK.)



V. HUTH PHOT.

FOTOTYPI, PACT & CRONE'S EFT.

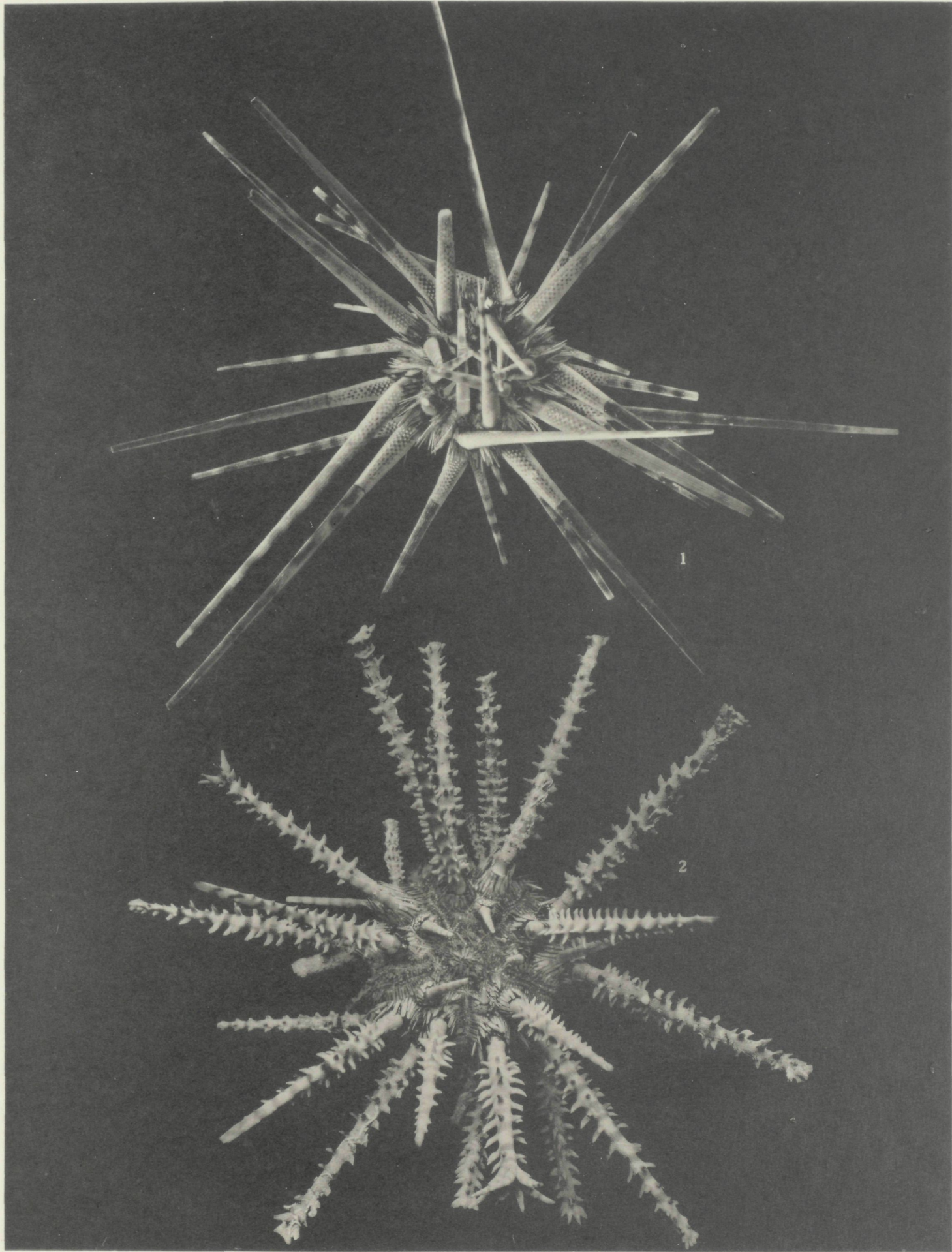
1-4. *EUCIDARIS CLAVATA* MRSN.; 5-12. *E. THOUARSHI* (VAL); 13. *E. GALAPAGENSIS* DÖDERLEIN;
14. *HESPEROCIDARIS PERPLEXA* (H. L. CLARK).



V. HUTH PHOT.

FOTOTYPI, PACHT & CRONE'S EFT.

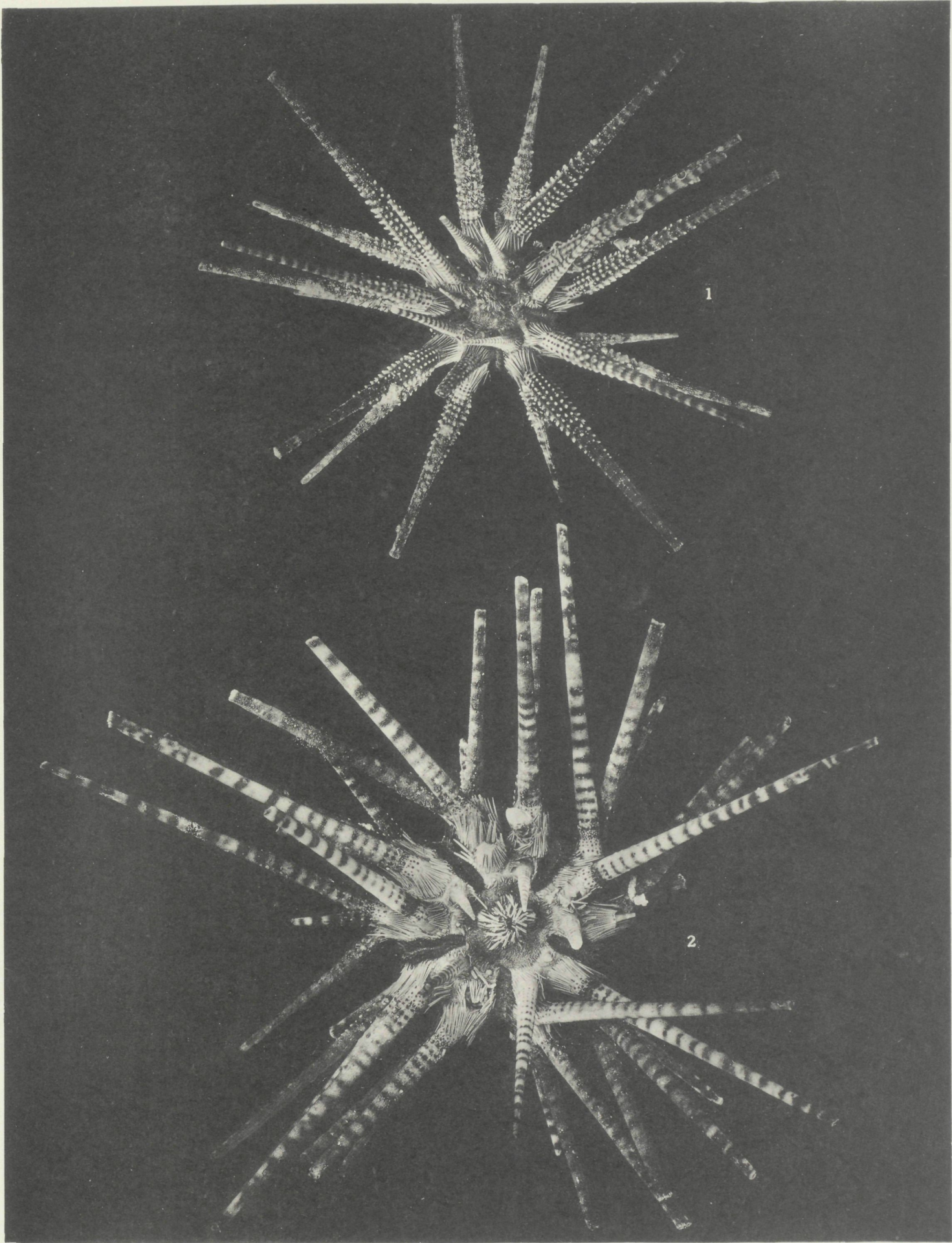
ACANTHOCIDARIS MACULICOLLIS (DE MEIJERE).



V. HUTH PHOT.

FOTOTYPI, PACHT & CRONE'S EFT.

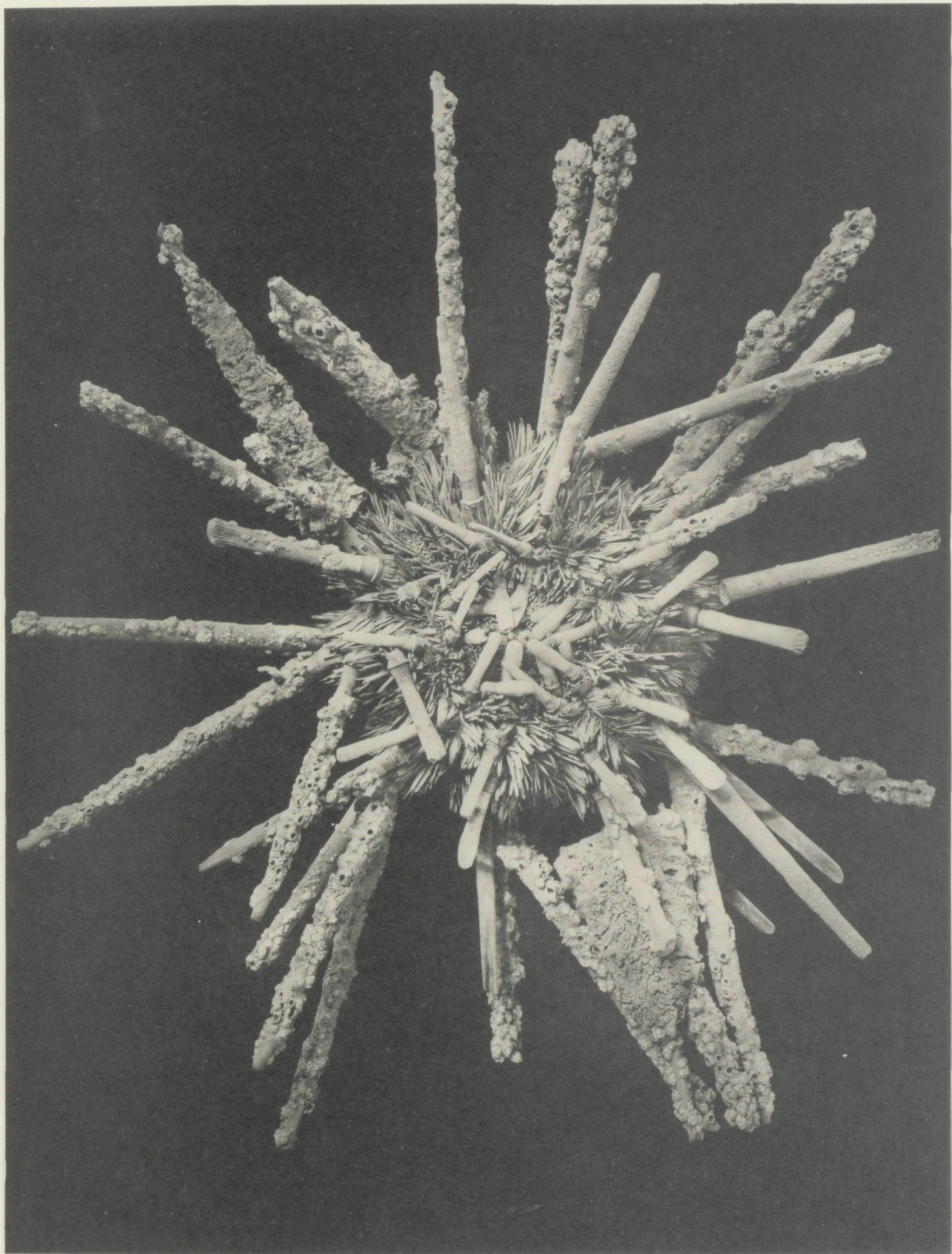
1. ACANTHOCIDARIS MACULICOLLIS (DE MEJERE); 2. PRIONOCIDARIS BISPINOSA (LAMK.)



V. HUTH PHOT.

FOTOTYPI, PACTH & CRONE'S EFT.

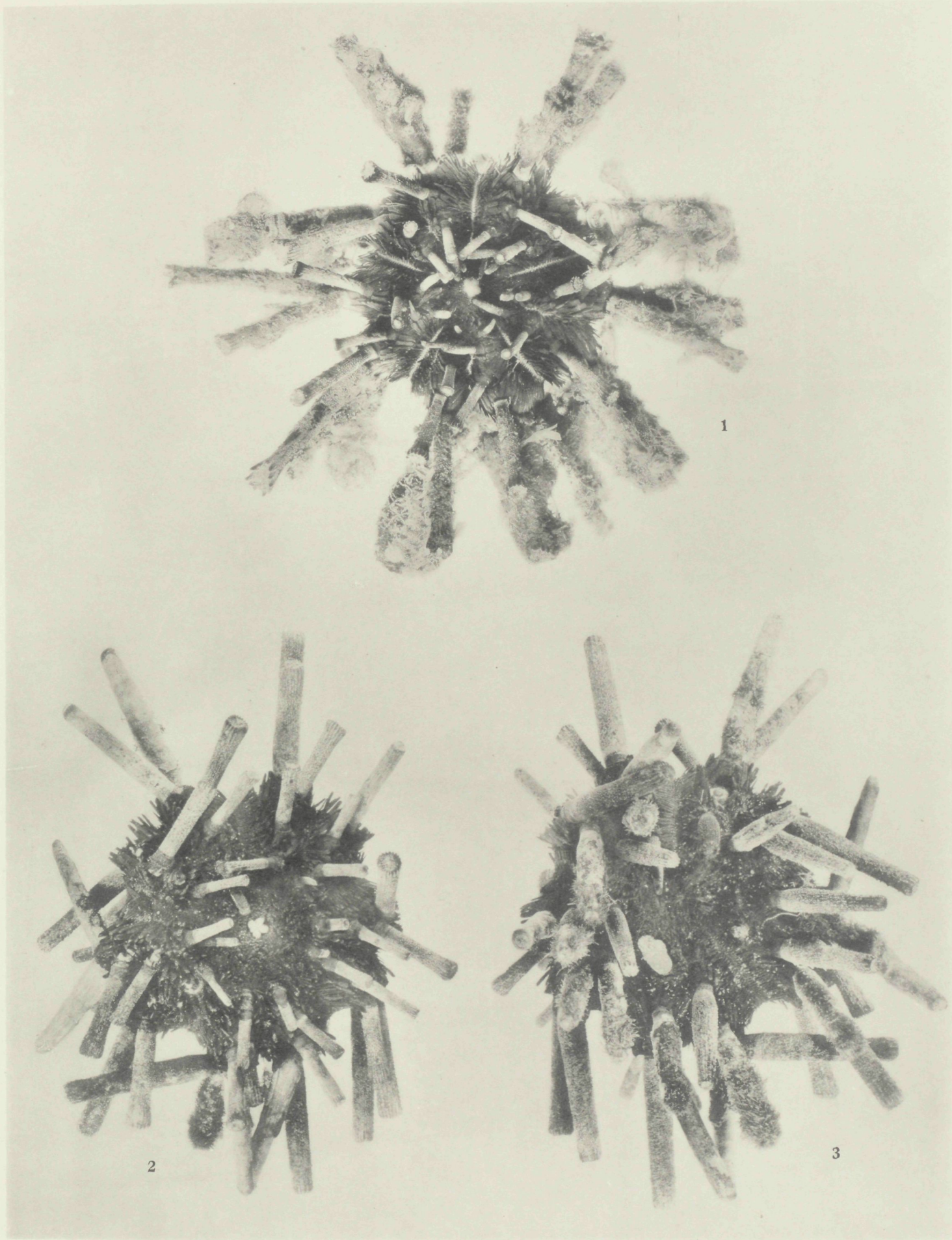
PRIONOCIDARIS BACULOSA, VAR. *ANNULIFERA* (LAMK.)



v. HUTH PHOT

FOTOTYPI, PACT & CRONE'S EFT.

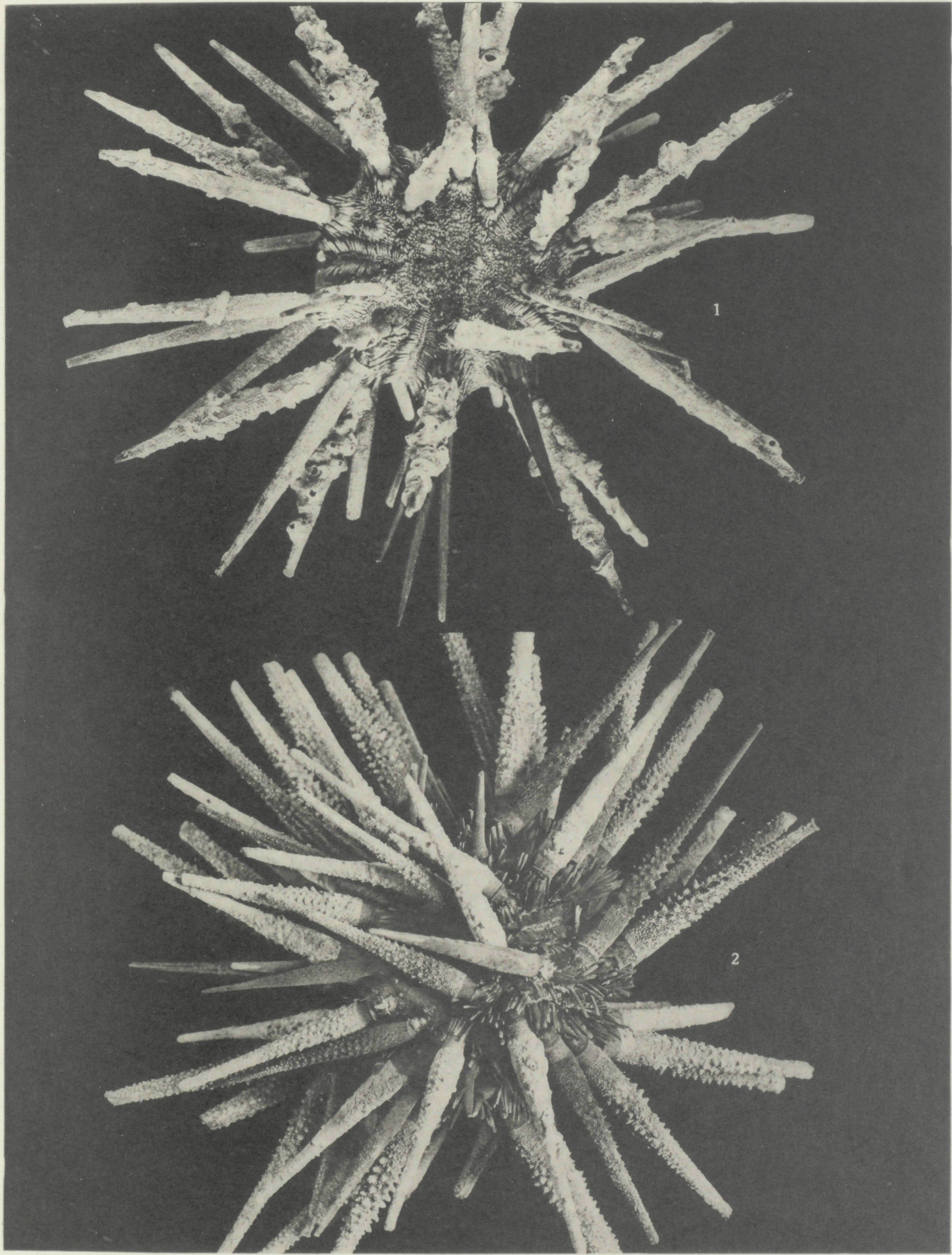
PRIONOCIDARIS BACULOSA, VAR. ANNULIFERA (LAMK.)



V. HUTH PHOT.

FOTOTYPI, PACHT & CRONE'S EFT.

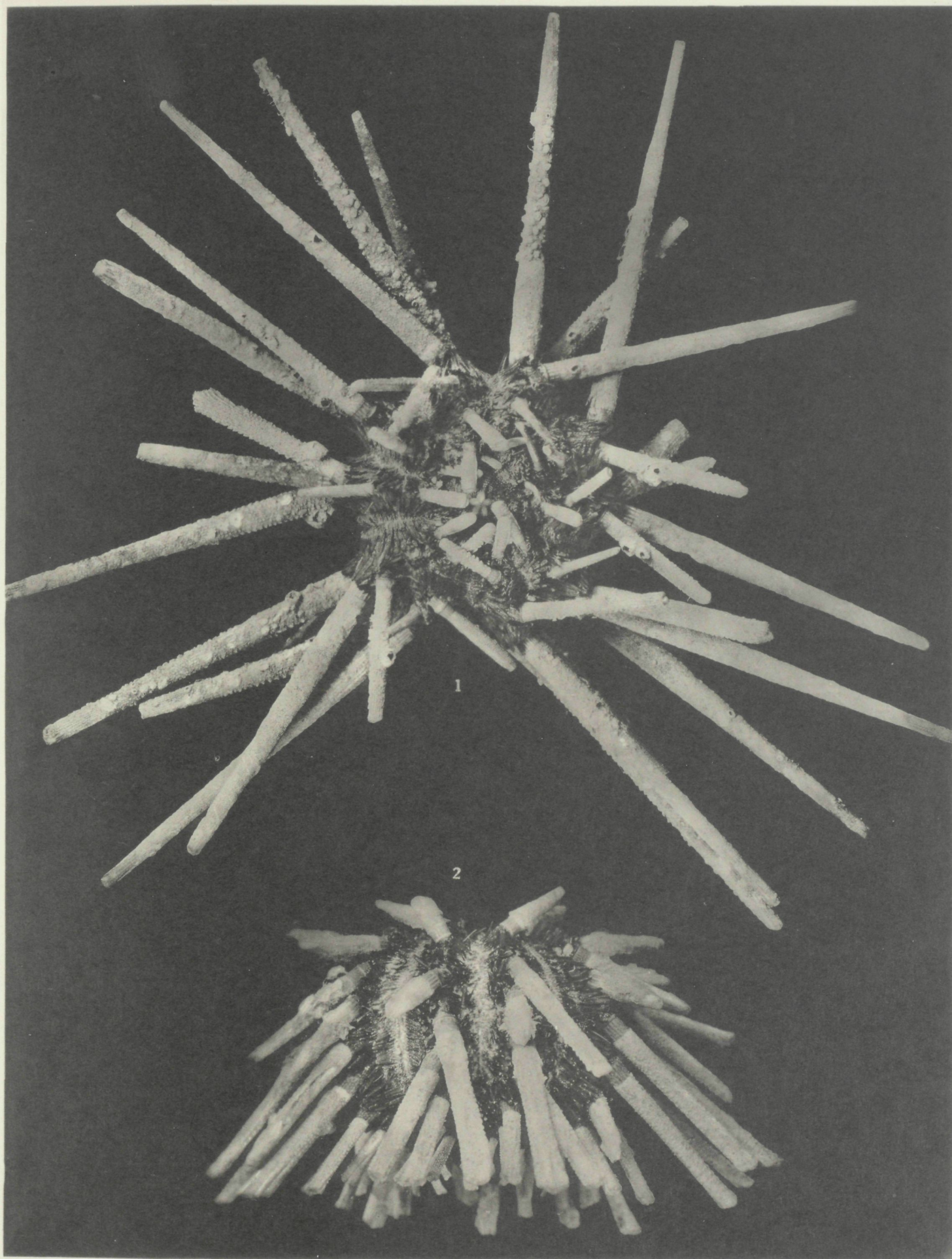
1. PRIONOCIDARIS BISPINOSA, VAR. NIGRO-BRUNNEA MRTSN.; 2-3. PRIONOCIDARIS BACULOSA (LAMK.)



V. HUTH PHOT.

FOTOTYPI, PACHT & CRONE'S EFT.

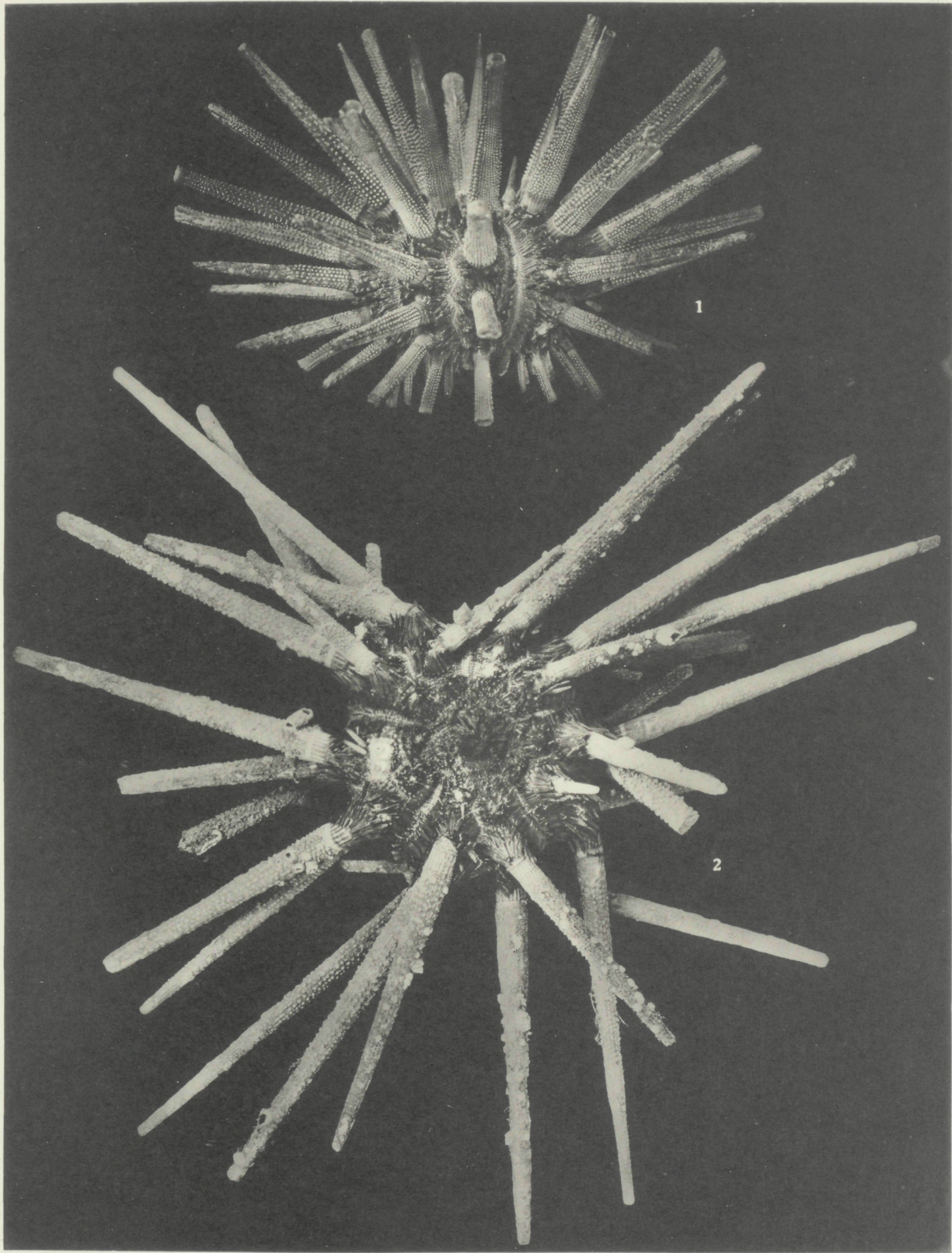
1. EUCIDARIS TRIBULOIDES (LAMK.); 2. PRIONOCIDARIS BACULOSA (LAMK.)



V. HUTH PHOT.

FOTOTYPI, PACT & CRONE'S EFT.

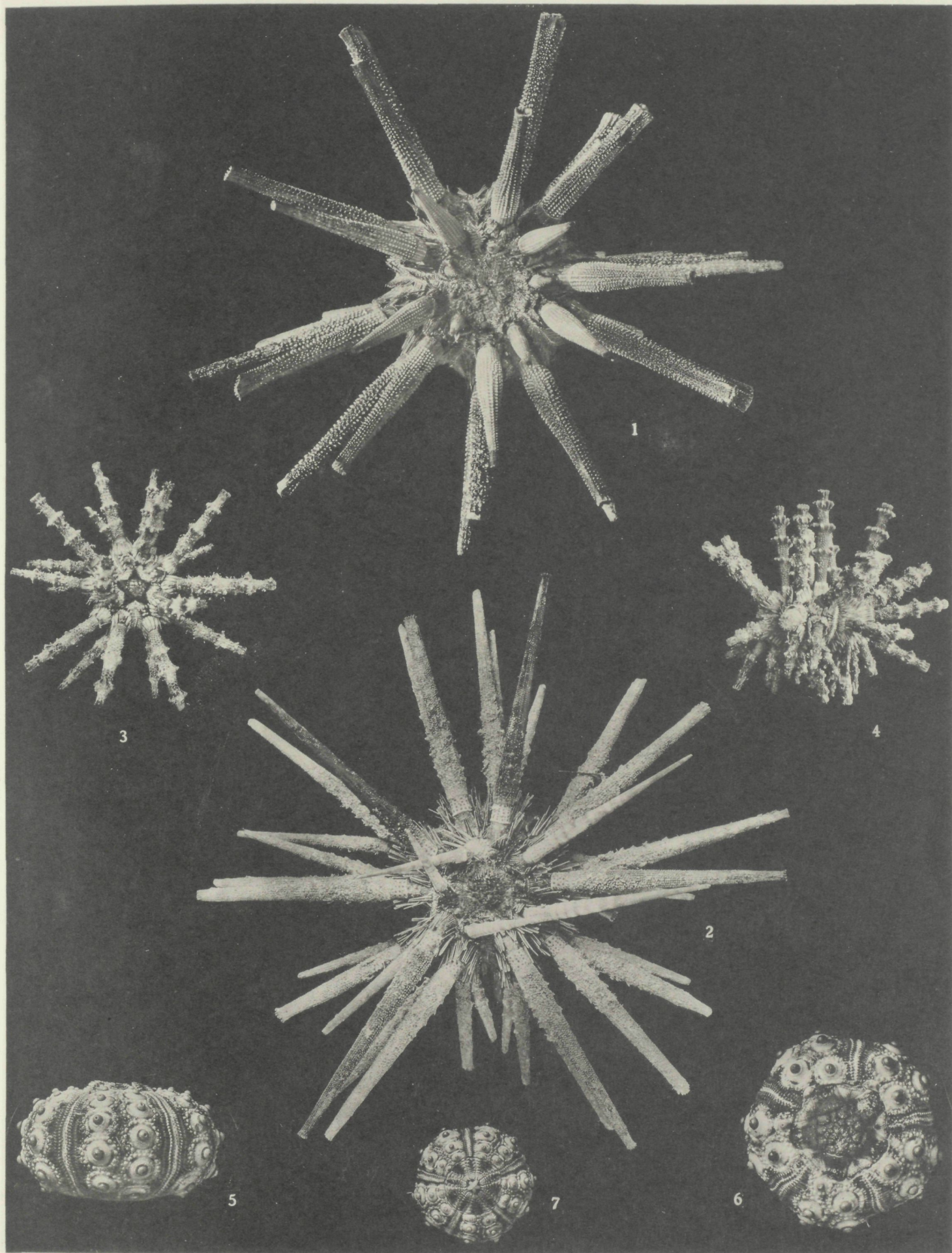
PRIONOCIDARIS PISTILLARIS (LAMK.)



V. HUTH PHOT.

FOTOTYPI, PACT & CRONE'S EFT.

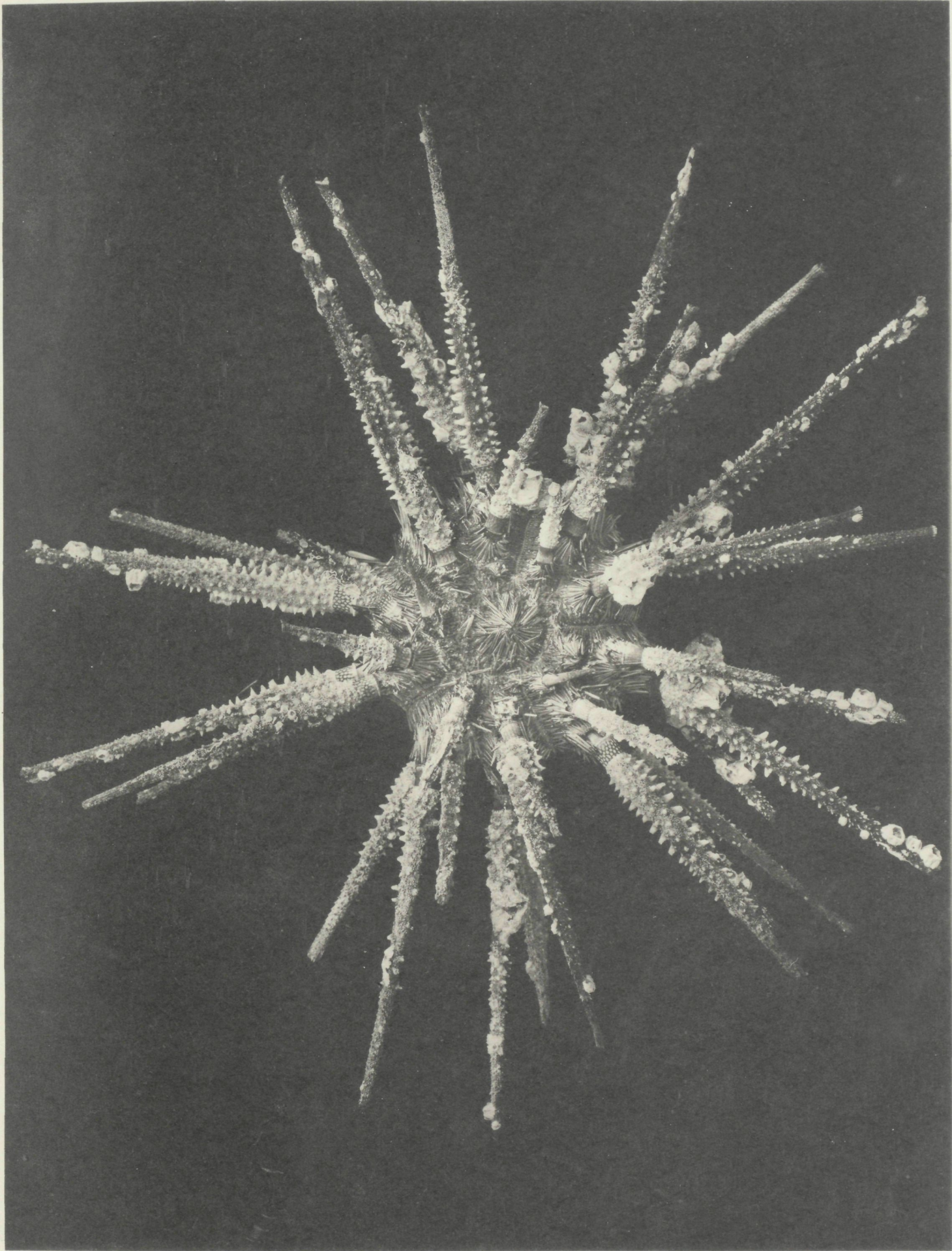
PRIONOCIDARIS PISTILLARIS (LAMK.)



V. HUTH PHOT.

FOTOTYPI, PACT & CRONE'S EFT.

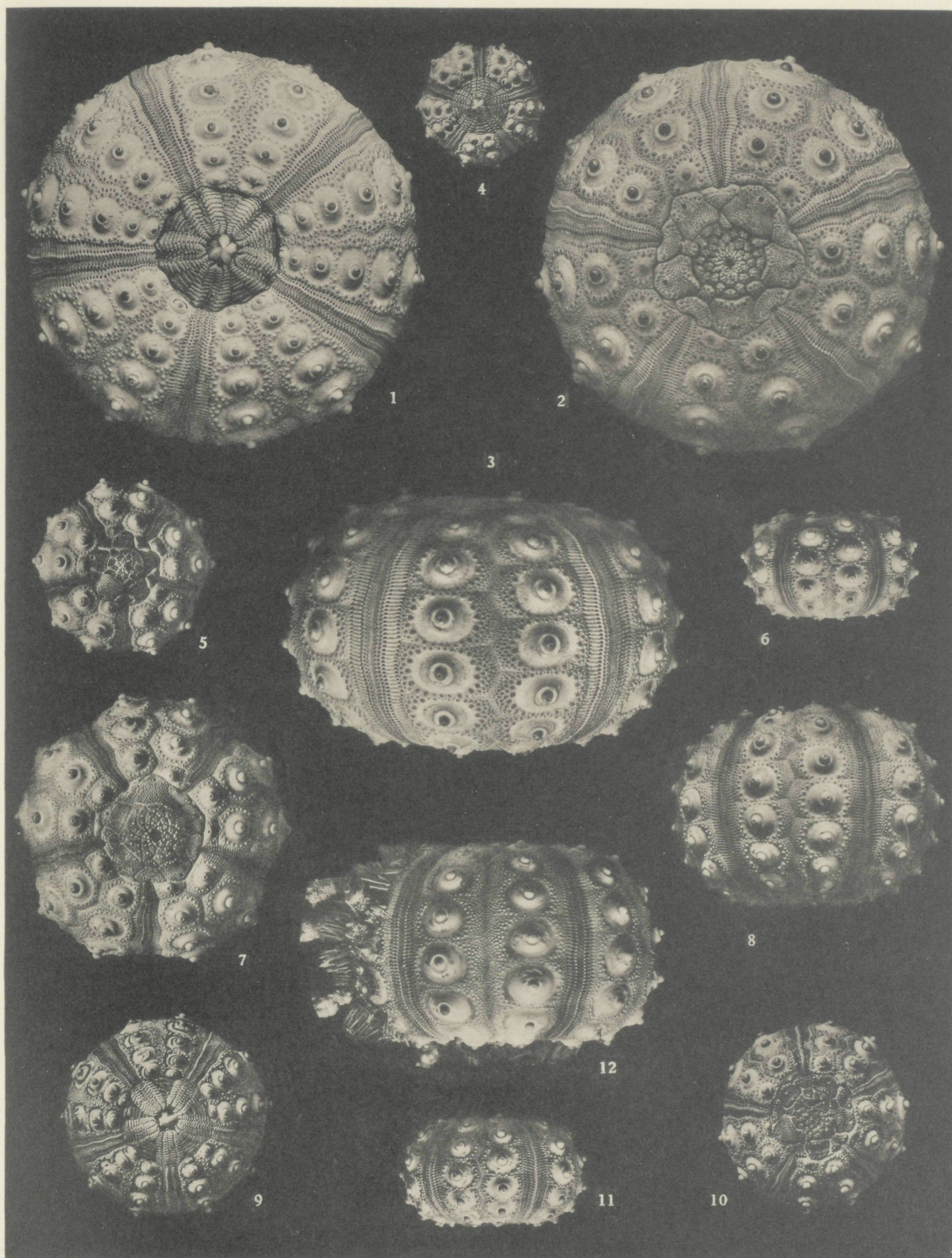
1. PRIONOCIDARIS PISTILLARIS (LAMK.); 2. PRIONOCIDARIS BACULOSA, VAR. ANNULIFERA (LAMK.);
3-7. PLOCOCIDARIS VERTICILLATA (LAMK.)



V. HUTH PHOT.

FOTOTYPI, PACTH & CRONE'S EFT.

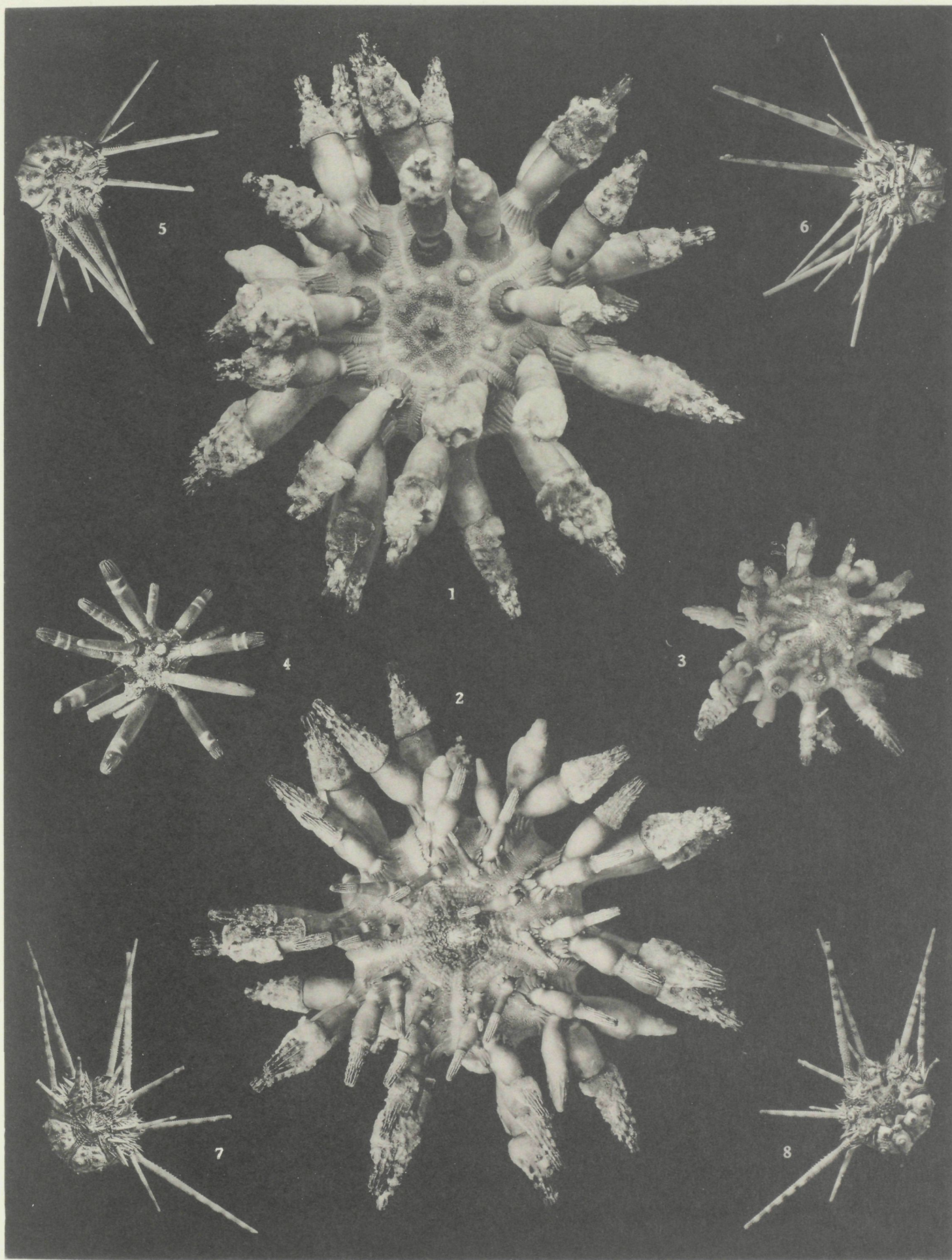
PRIONOCIDARIS AUSTRALIS (RAMSAY).



V. HUTH PHOT.

FOTOTYPI, PACT & CRONE'S EFT.

1-3. PRIONOCIDARIS BISPINOSA (LAMK.); 4-8 PR. BACULOSA, VAR. ANNULIFERA (LAMK.);
9-11. PR. BACULOSA (LAMK.); 12. PR. AUSTRALIS (RAMSAY).



V. HUTH PHOT.

FOTOTYPI, PACTH & CRONE'S EFT.

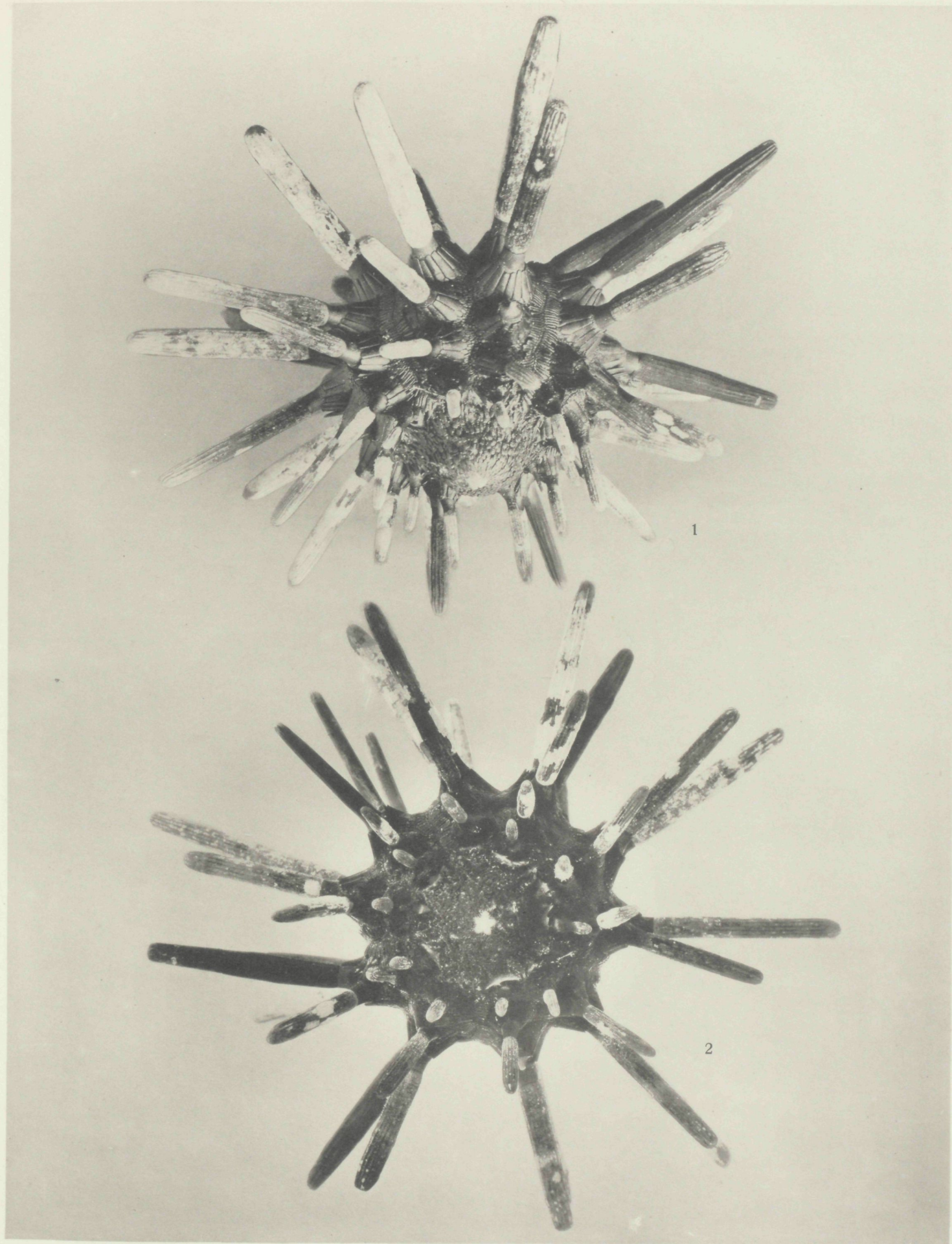
1—3. CHONDROCIDARIS BREVISPINA H. L. CLARK; 4. PHYLLACANTHUS IMPERIALIS (LAMK.);
5—6. ACANTHOCIDARIS MACULICOLLIS (DE MEIJERE); 7—8. PRIONOCIDARIS GLANDULOSA (DE MEIJERE).



V. HUTH PHOT.

FOTOTYPI, PACTH & CRONE'S EFT.

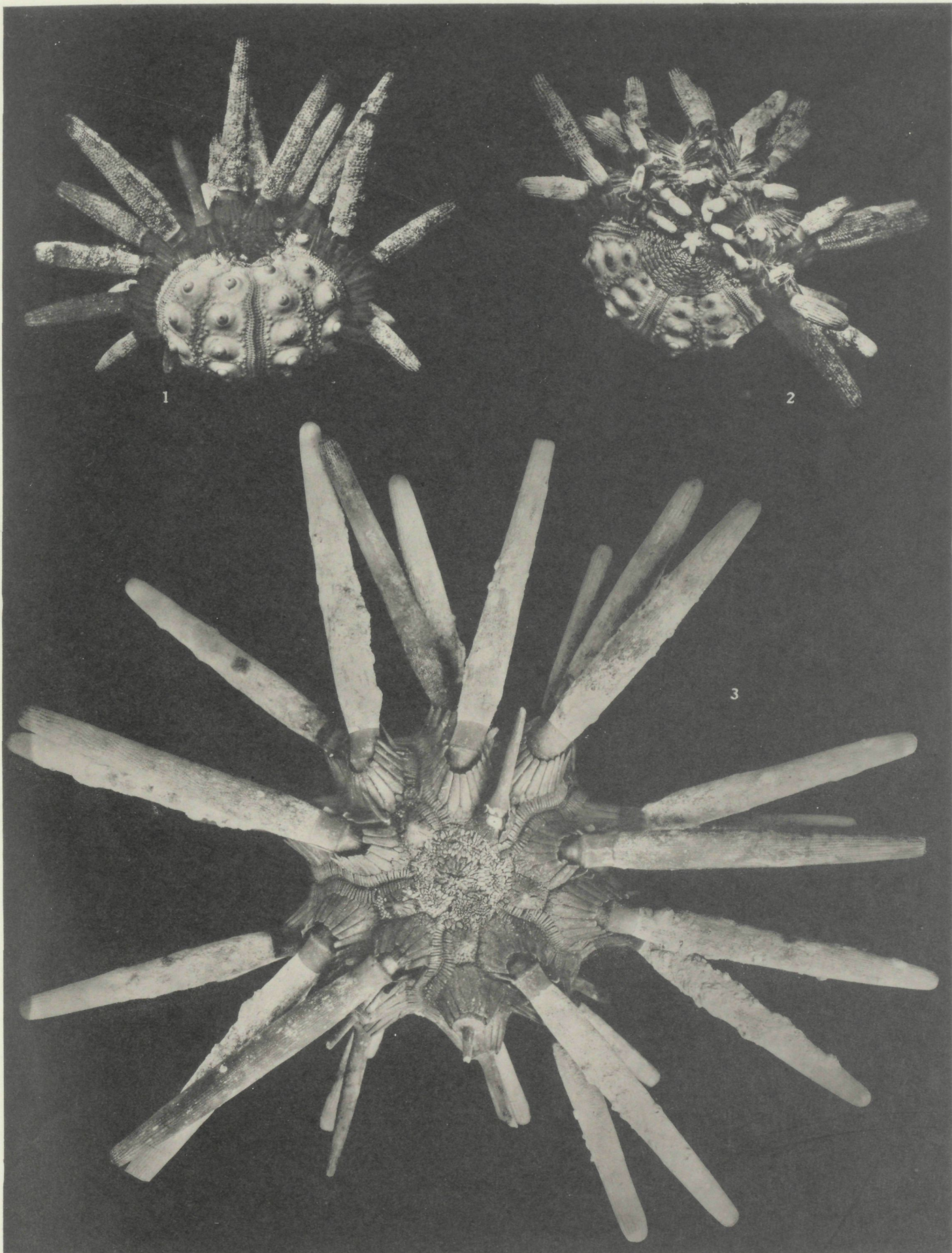
1. PHYLLACANTHUS DUBIUS BRANDT; 2. PRIONOCIDARIS BACULOSA (LAMK.).



V. HUTH PHOT.

FOTOTYPI, PACTH & CRONE'S EFT.

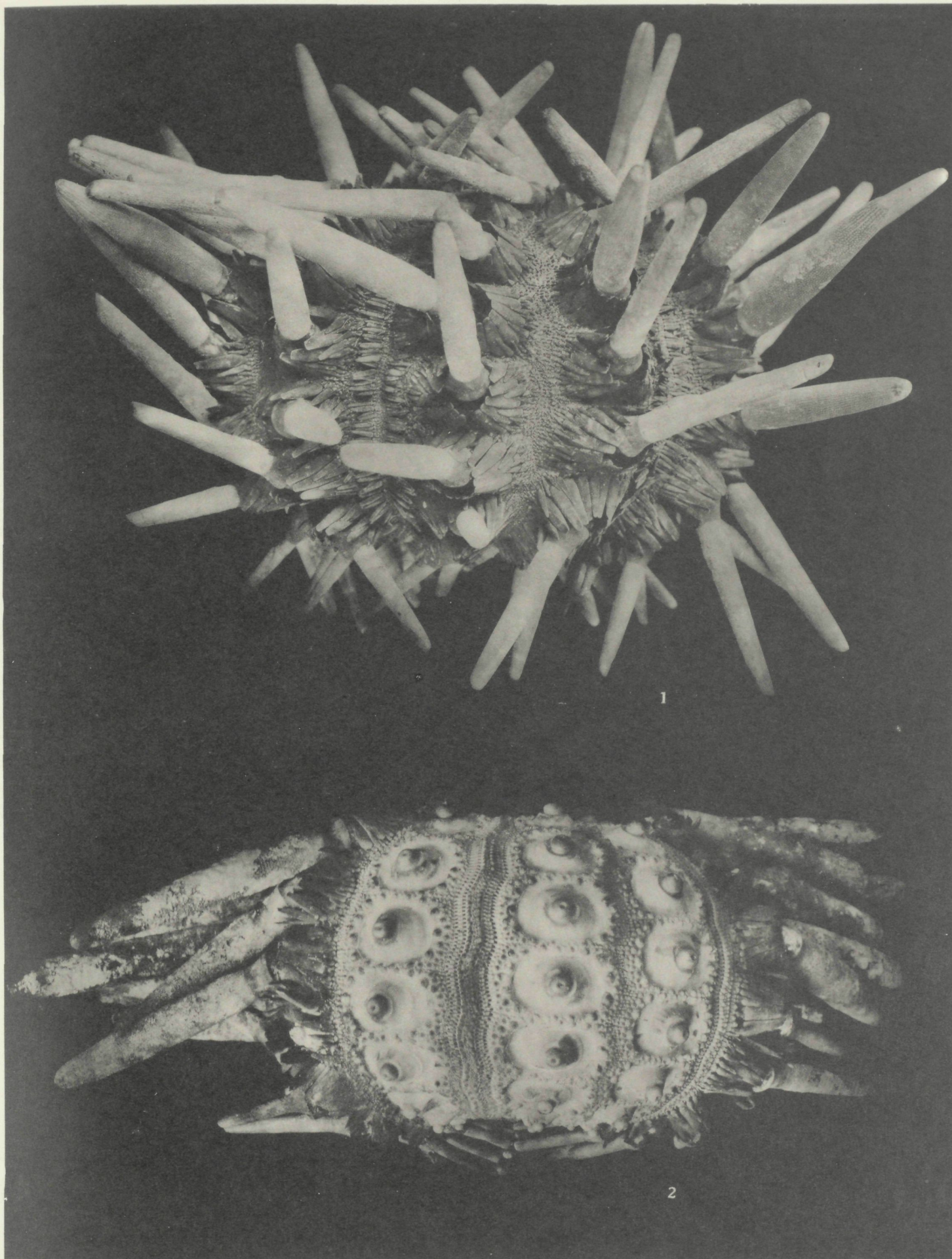
1-2. PHYLLACANTHUS DUBIUS BRANDT.



V. HUTH PHOT.

FOTOTYPI, PACHT & CRONE'S EFT.

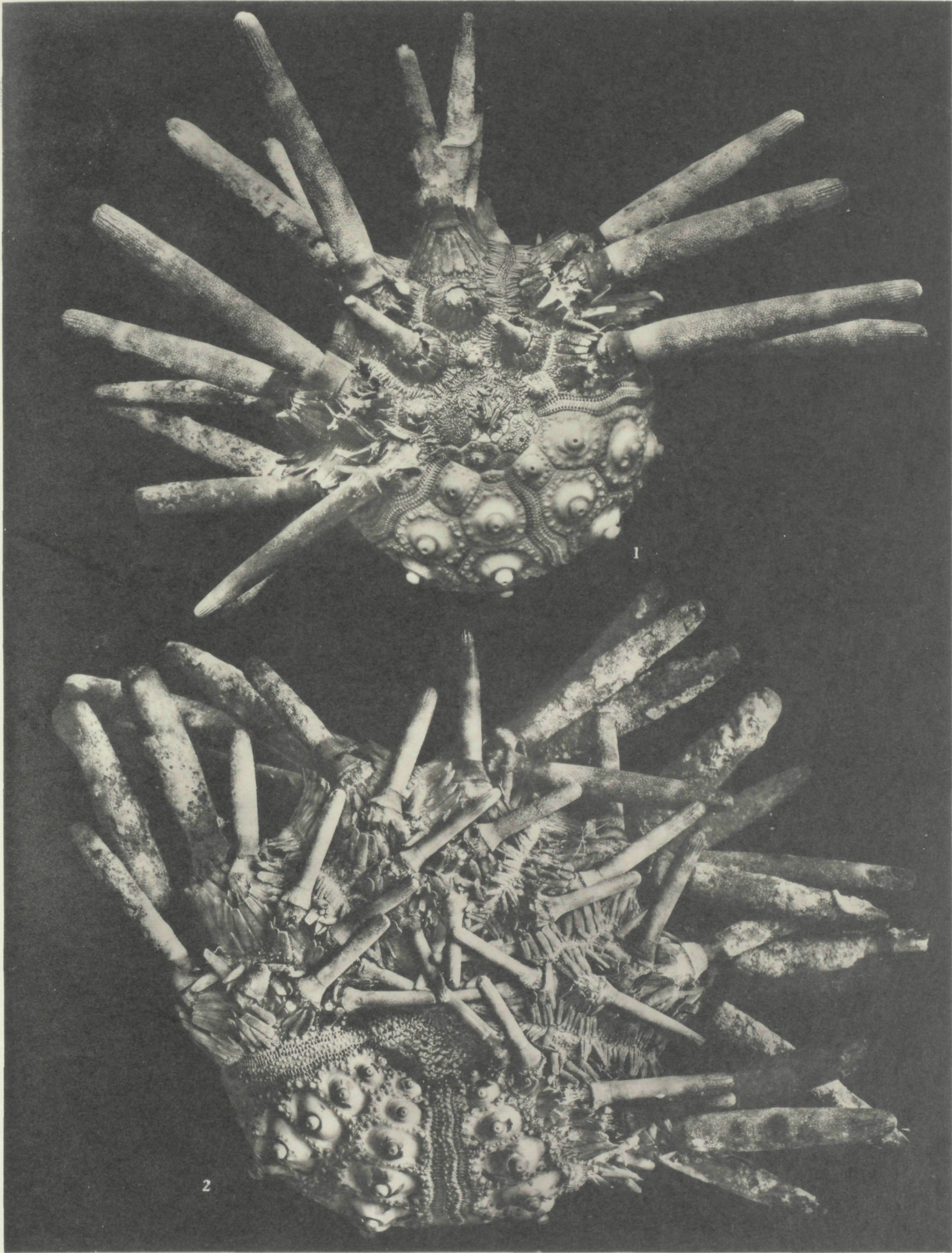
1—2. *EUCIDARIS THOUARSHI* (VAL.), VAR.; 3. *PHYLLACANTHUS IMPERIALIS* (LAMK.)



V. HUTH PHOT

FOTOTYPI, PACT & CRONE'S EFT.

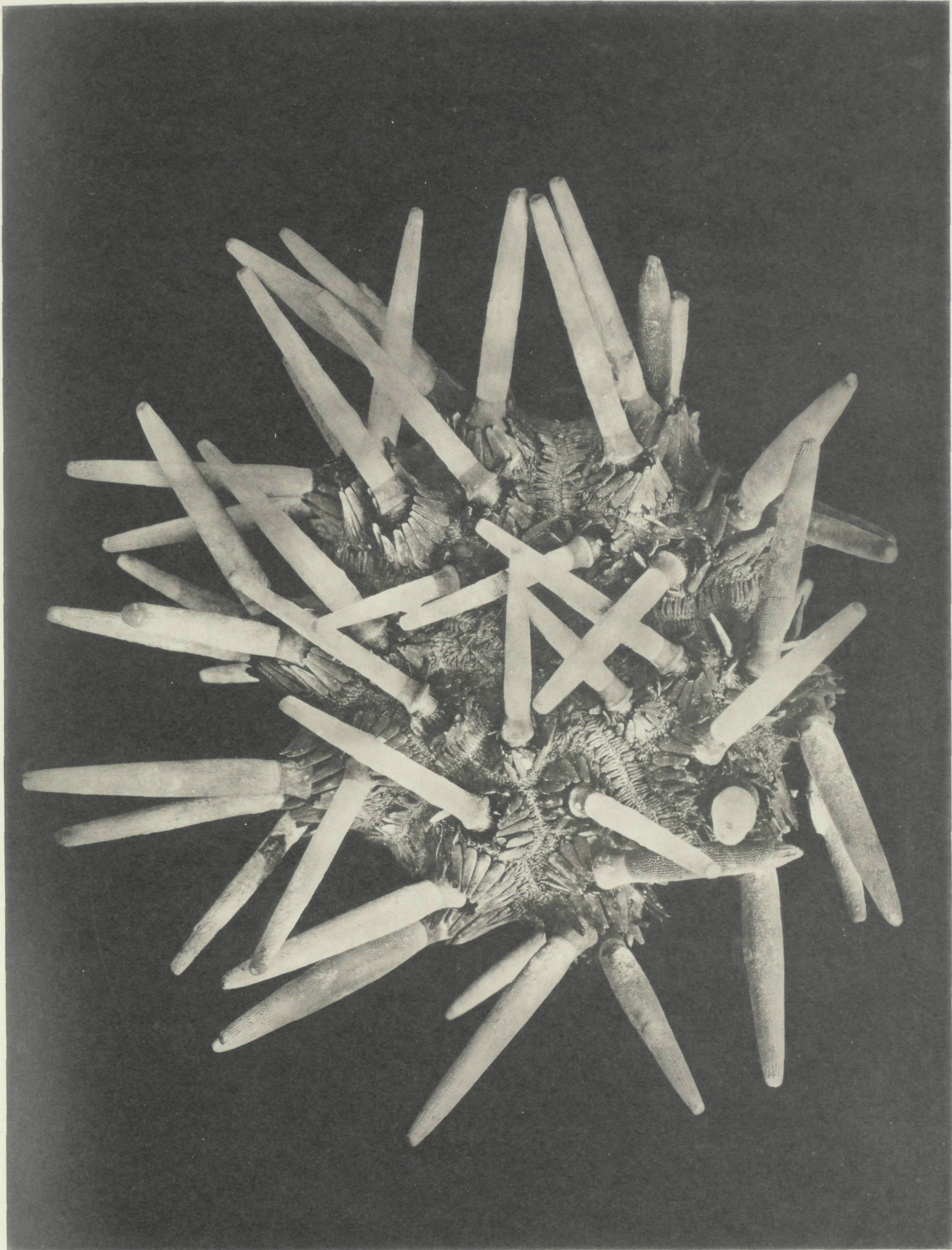
PHYLLACANTHUS IRREGULARIS MRTSN.



v. HUTH PHOT.

FOTOTYPI, PACT & CRONE'S EFT.

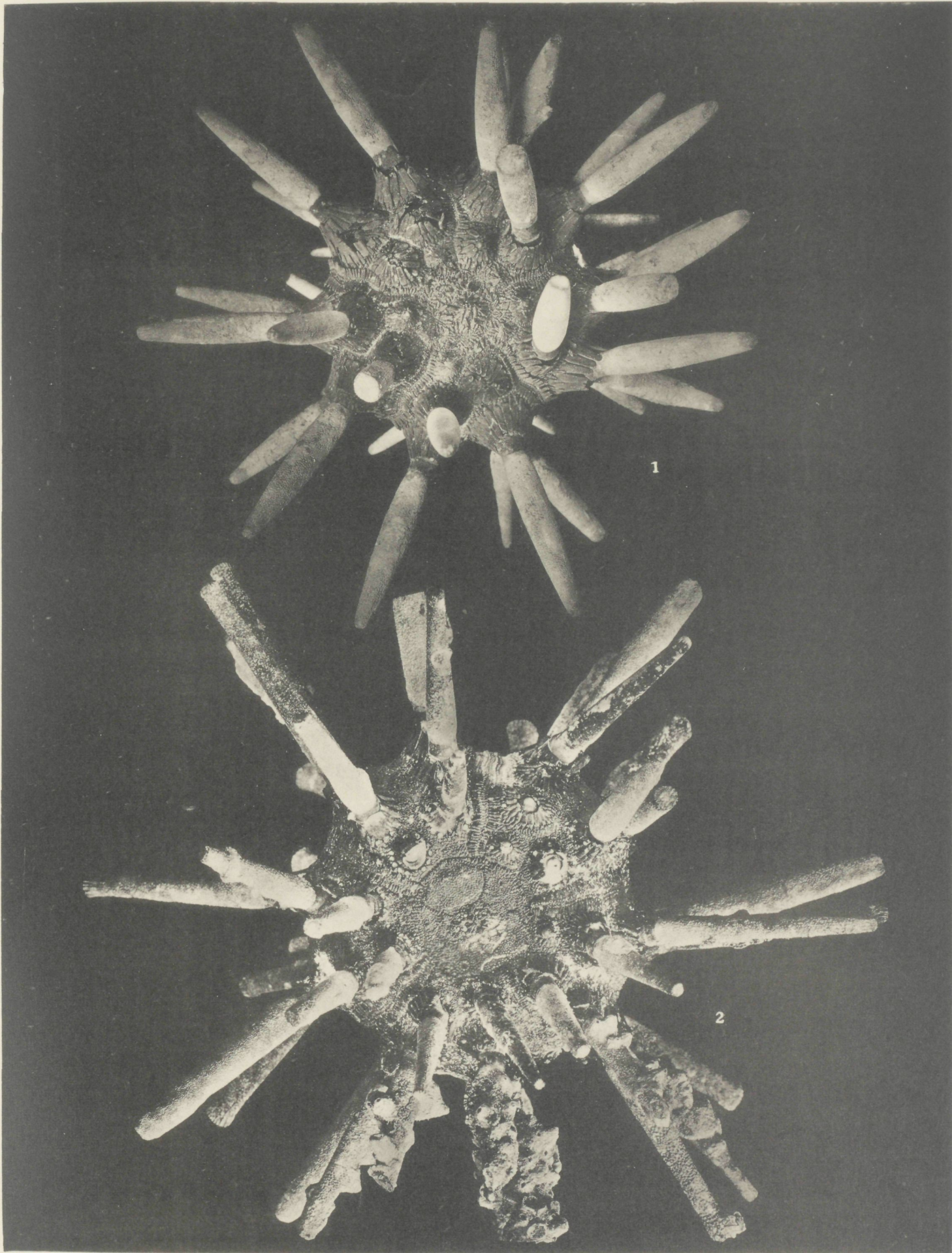
PHYLLACANTHUS IRREGULARIS MRTSN.



V. HUTH PHOT.

FOTOTYPI, PACTH & CRONE'S EFT.

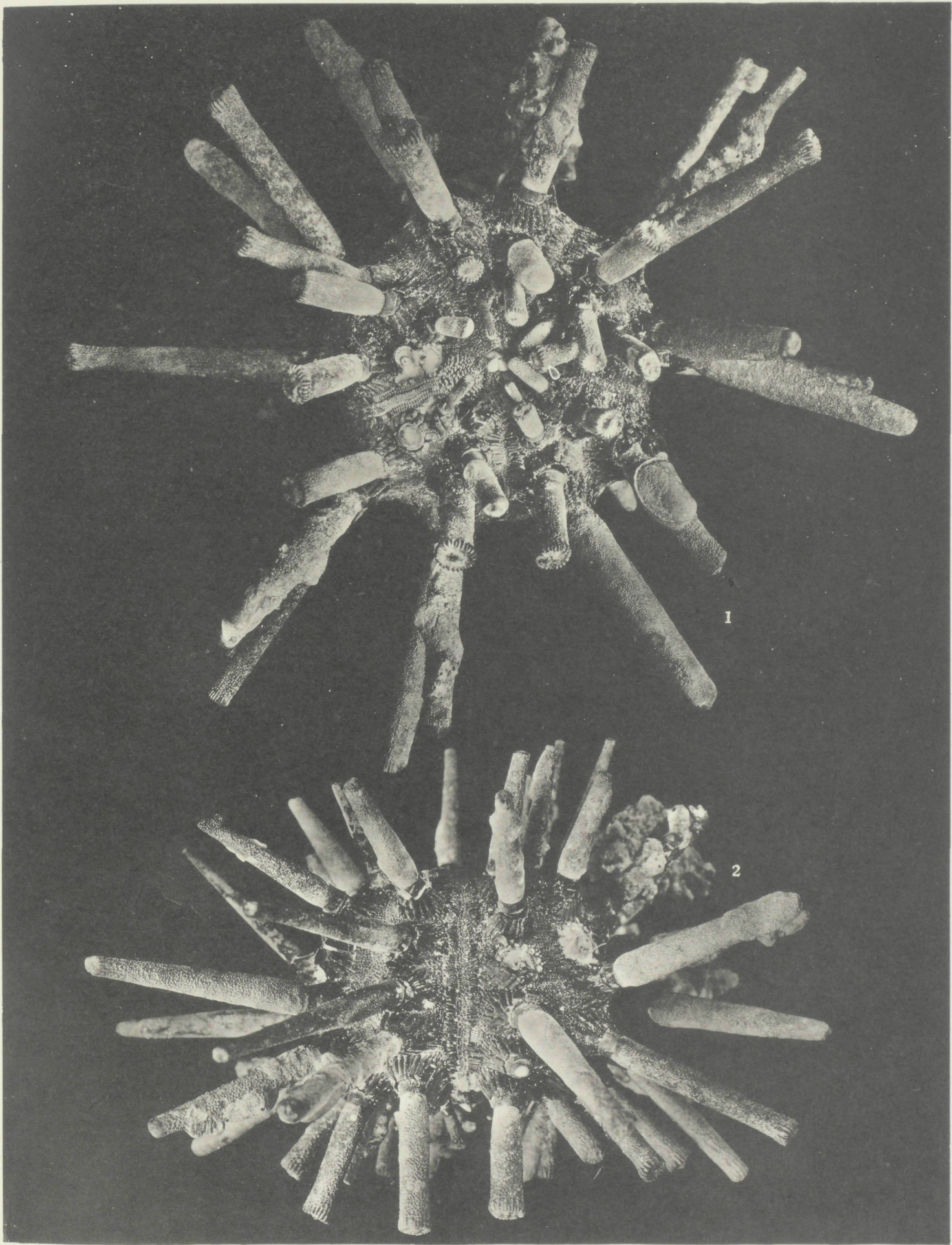
PHYLLACANTHUS IRREGULARIS MRTSN.



V. HUTH PHOT.

FOTOTYPI, PACTH & CRONE'S EFT.

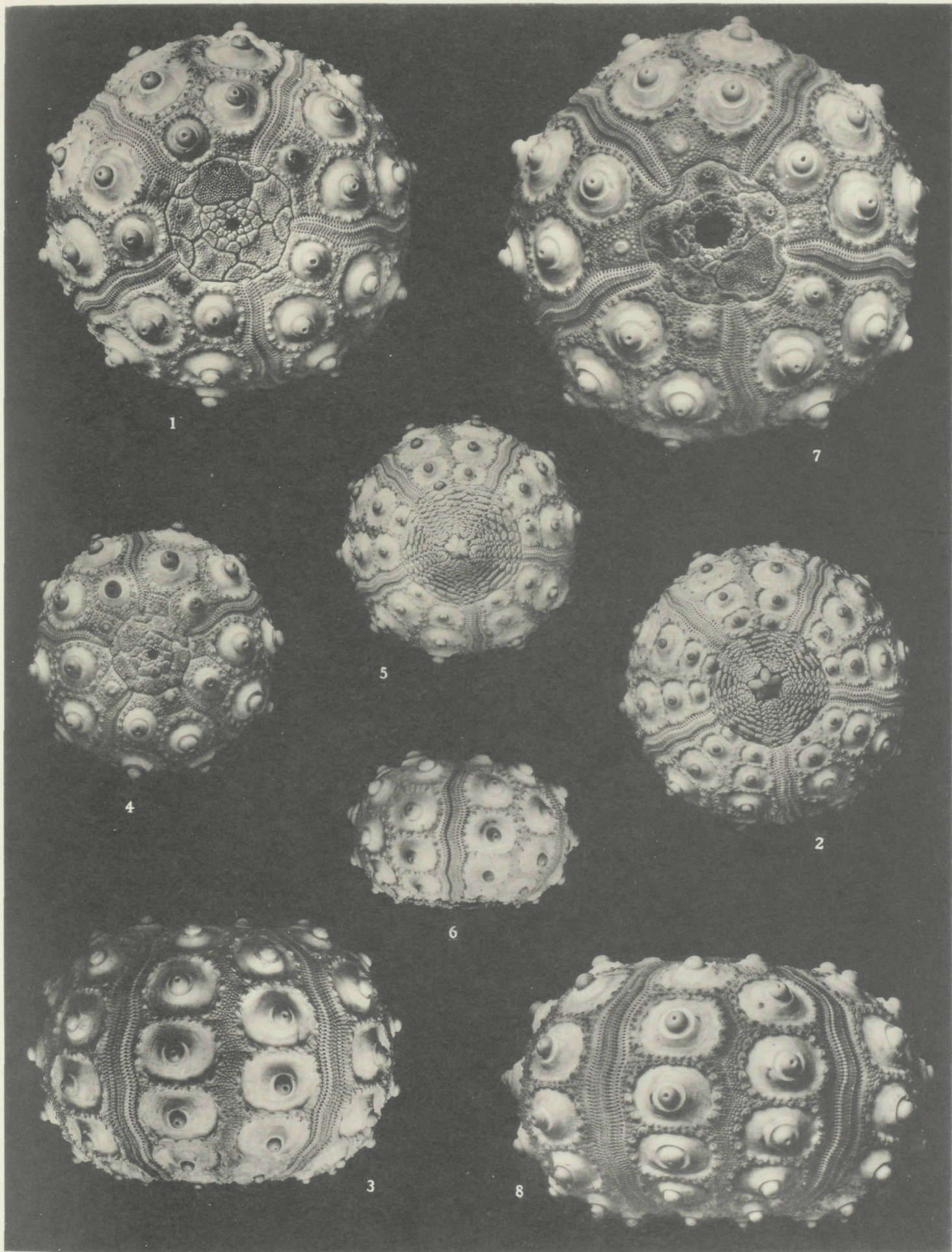
1. PHYLLACANTHUS IRREGULARIS MRTSN.; 2. PHYLLACANTHUS MAGNIFICUS H. L. CLARK.



V. HUTH PHOT.

FOTOTYPI, PACTH & CRONE'S EFT.

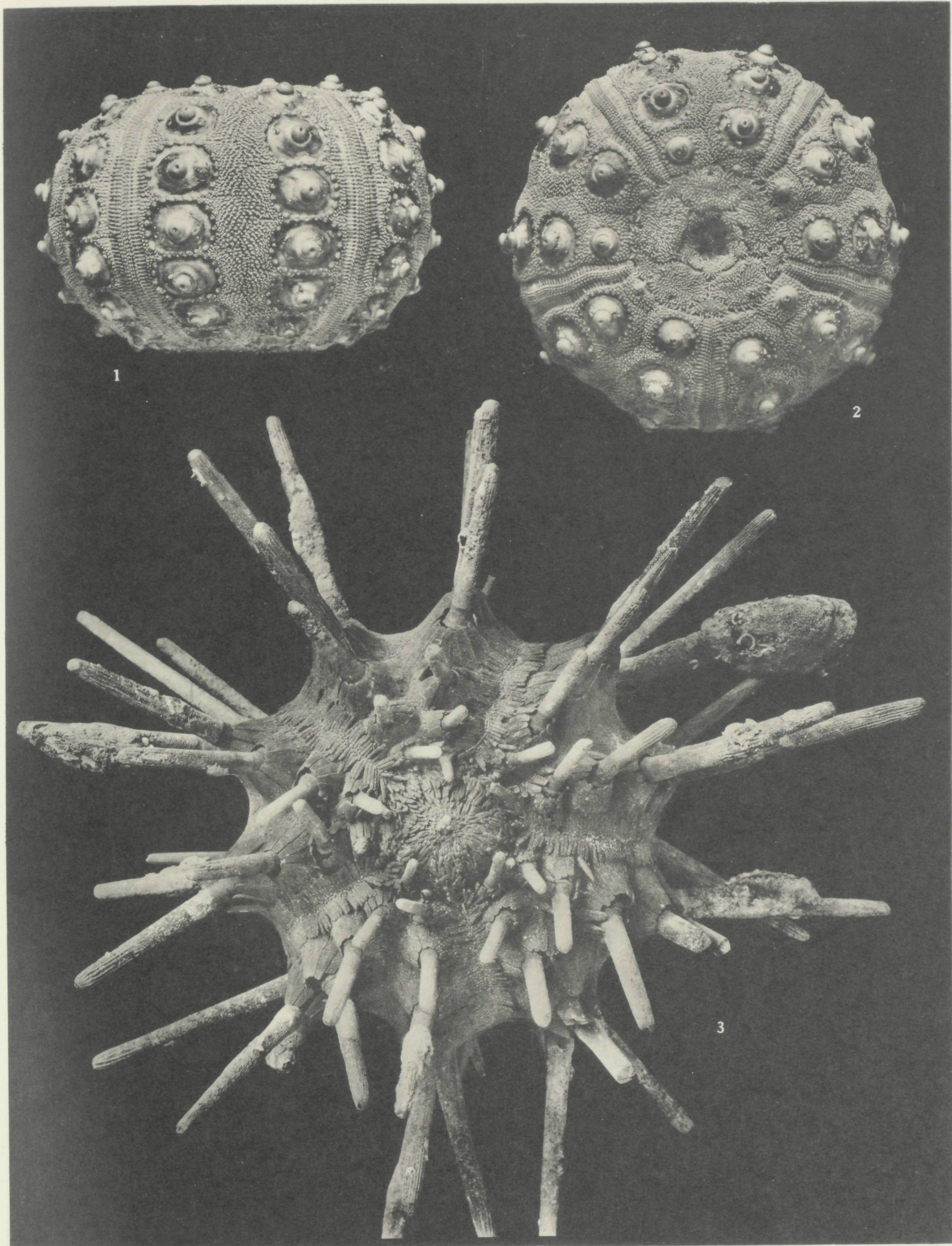
PHYLLACANTHUS MAGNIFICUS H. L. CLARK.



V. HUTH PHOT.

FOTOTYPI, PACT & CRONE'S EFT.

1-3. PHYLLACANTHUS PARVISPINUS TEN. WOODS; 4-6. PHYLL. DUBIUS BRANDT; 7-8. PHYLL. LONGISPINUS MRTSN.



V. HUTH PHOT.

FOTOTYPI, PACHT & CRONE'S EFT.

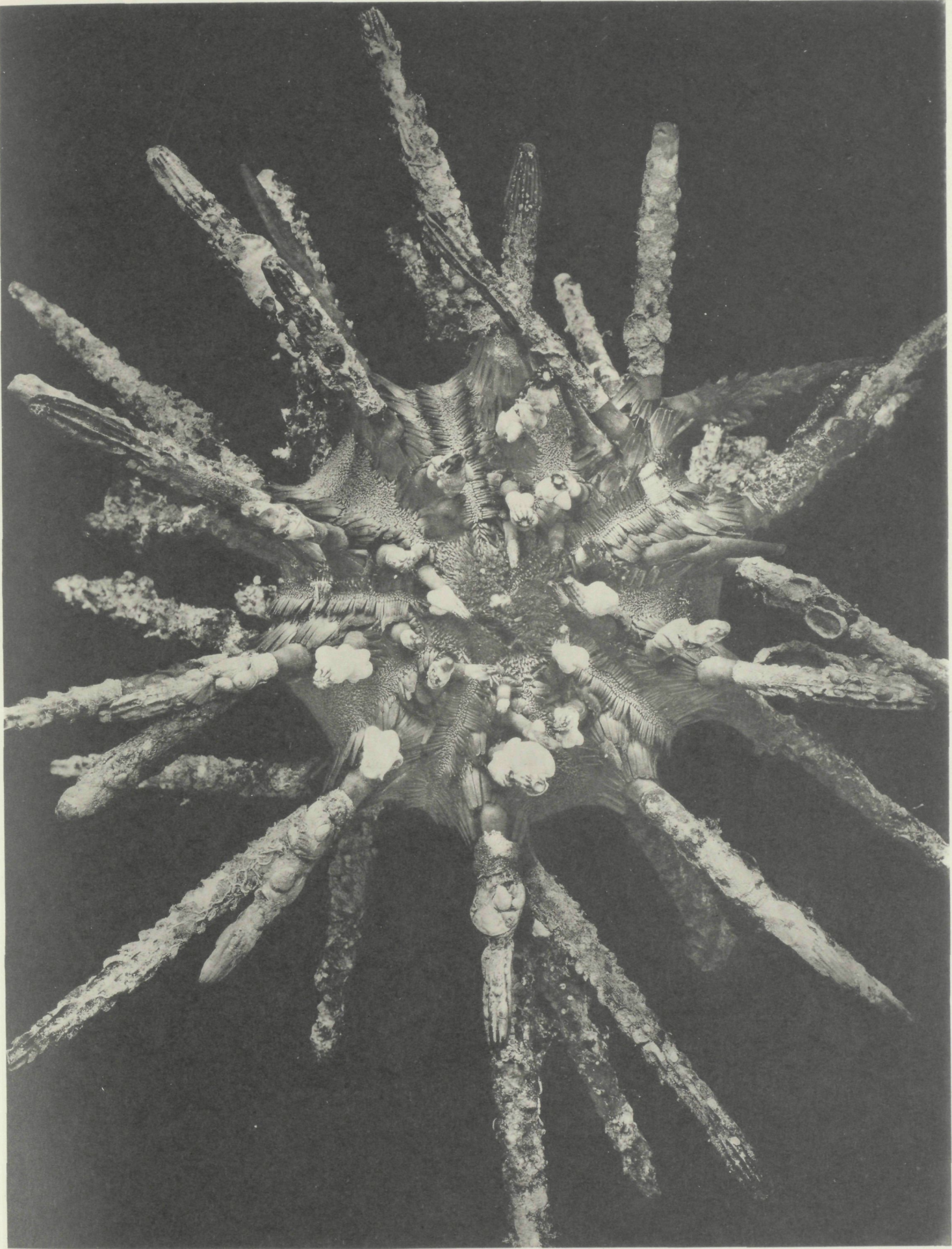
1—2. CHONDROCIDARIS GIGANTEA A. AG.; 3. PHYLLACANTHUS PARVISPINUS TEN. WOODS.



V. HUTH PHOT.

FOTOTYPI, PACT & CRONE'S EFT.

CHONDROCIDARIS GIGANTEA A. AG.



V. HUTH PHOT.

FOTOTYPI, PACT & CRONE'S EFT.

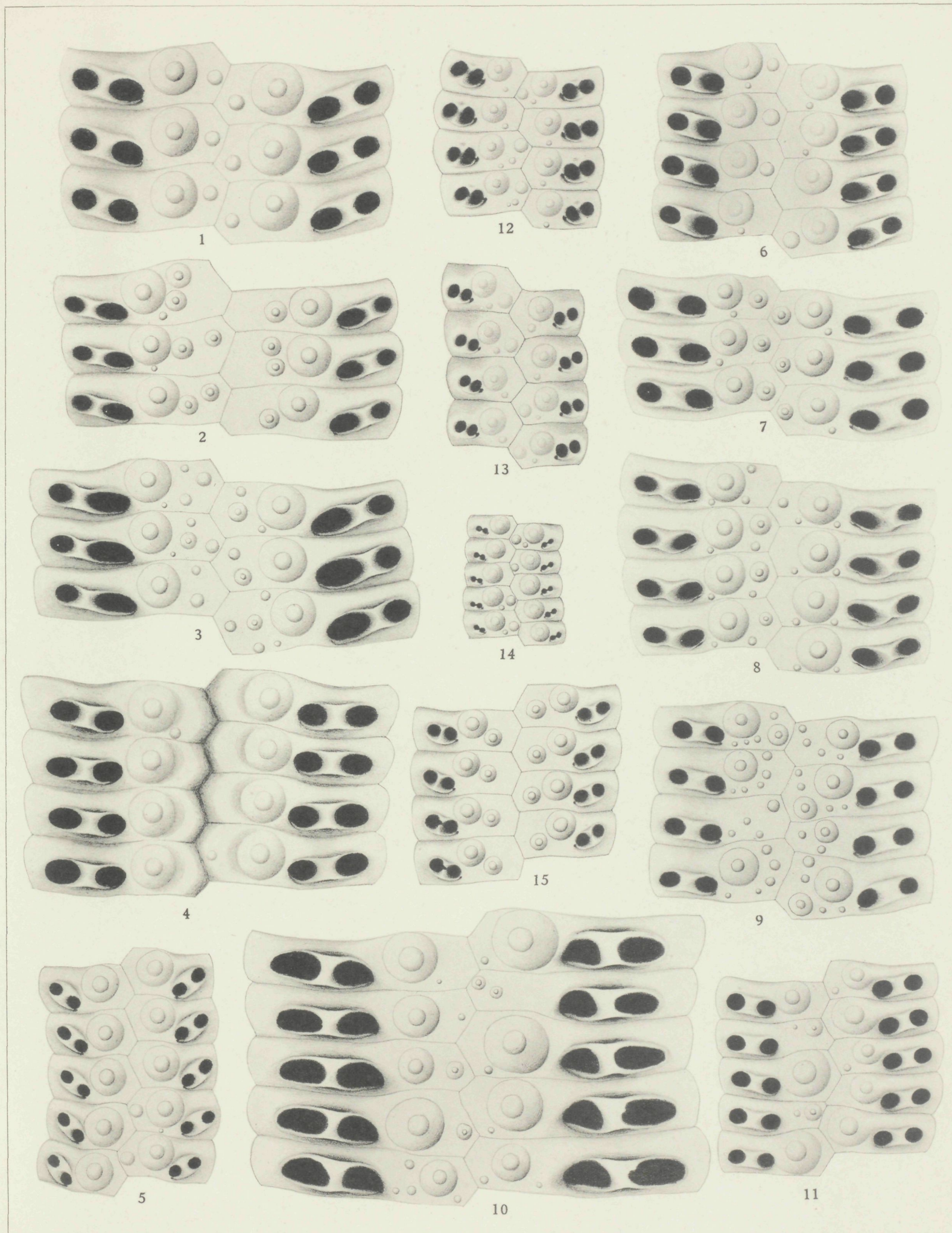
CHONDROCIDARIS GIGANTEA A. AG.



V. HUTH PHOT.

FOTOTYPI, PACHT & CRONE'S EFT.

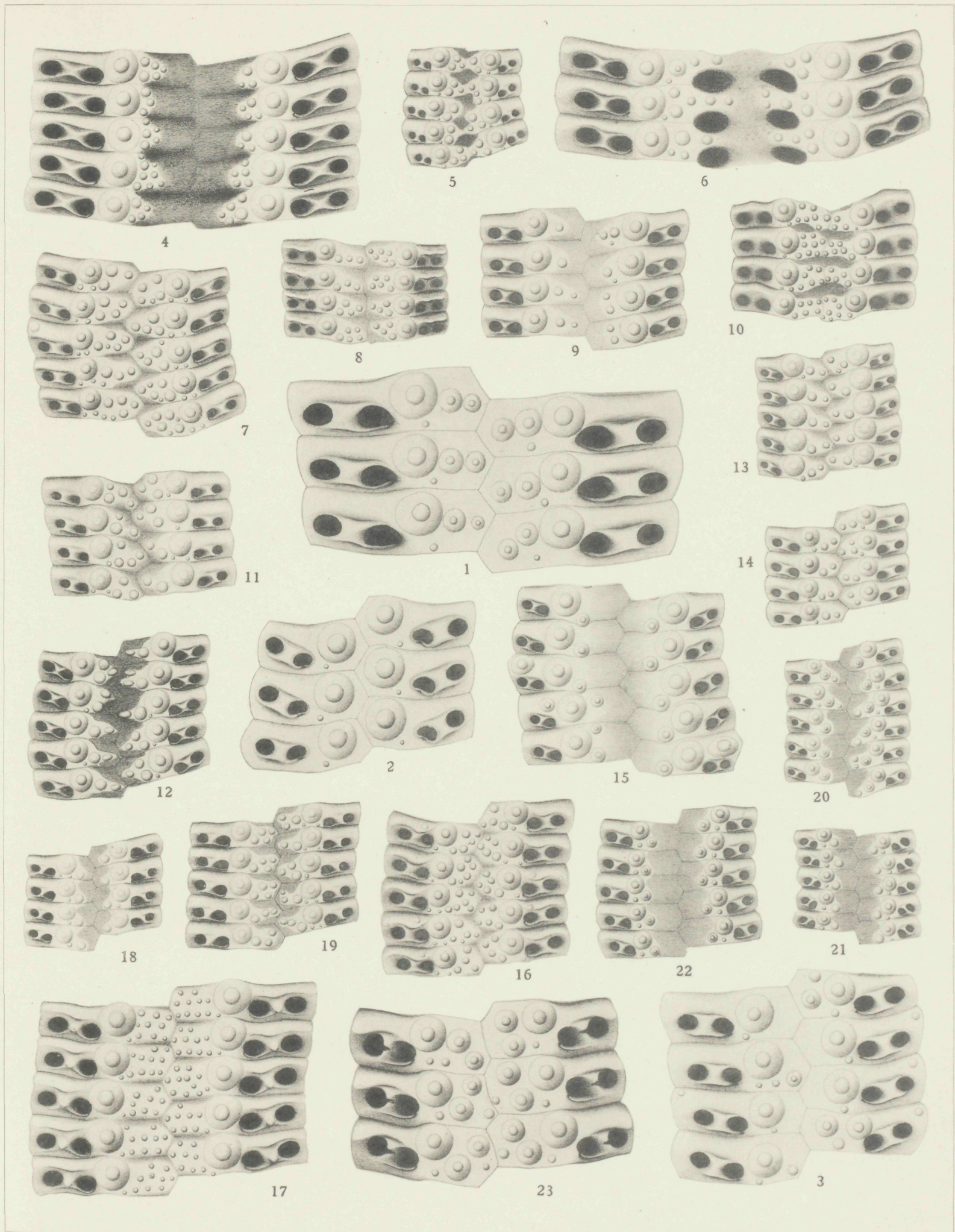
- 1—3, 13. STEREOCIDARIS SCEPTRIFEROIDES DÖD.; 4. STYLOCIDARIS LORIOLI (KOEHLER);
 5. CIDARIS CIDARIS, VAR. MERIDIONALIS MRTSN.; 6—7. PRIONOCIDARIS BACULOSA, VAR. LONGICOLLIS (MRTSN.);
 8. EUROCIDARIS NUTRIX, VAR. LONGISPINA MRTSN.; 9. TRETOCIDARIS SPINOSA MRTSN.;
 10—11. EUCIDARIS CLAVATA MRTSN.; 12. STEREOCIDARIS GRANULARIS MRTSN.



TH. MORTENSEN DEL.

FOTOTYPI, PACTH & CRONE'S EFT.

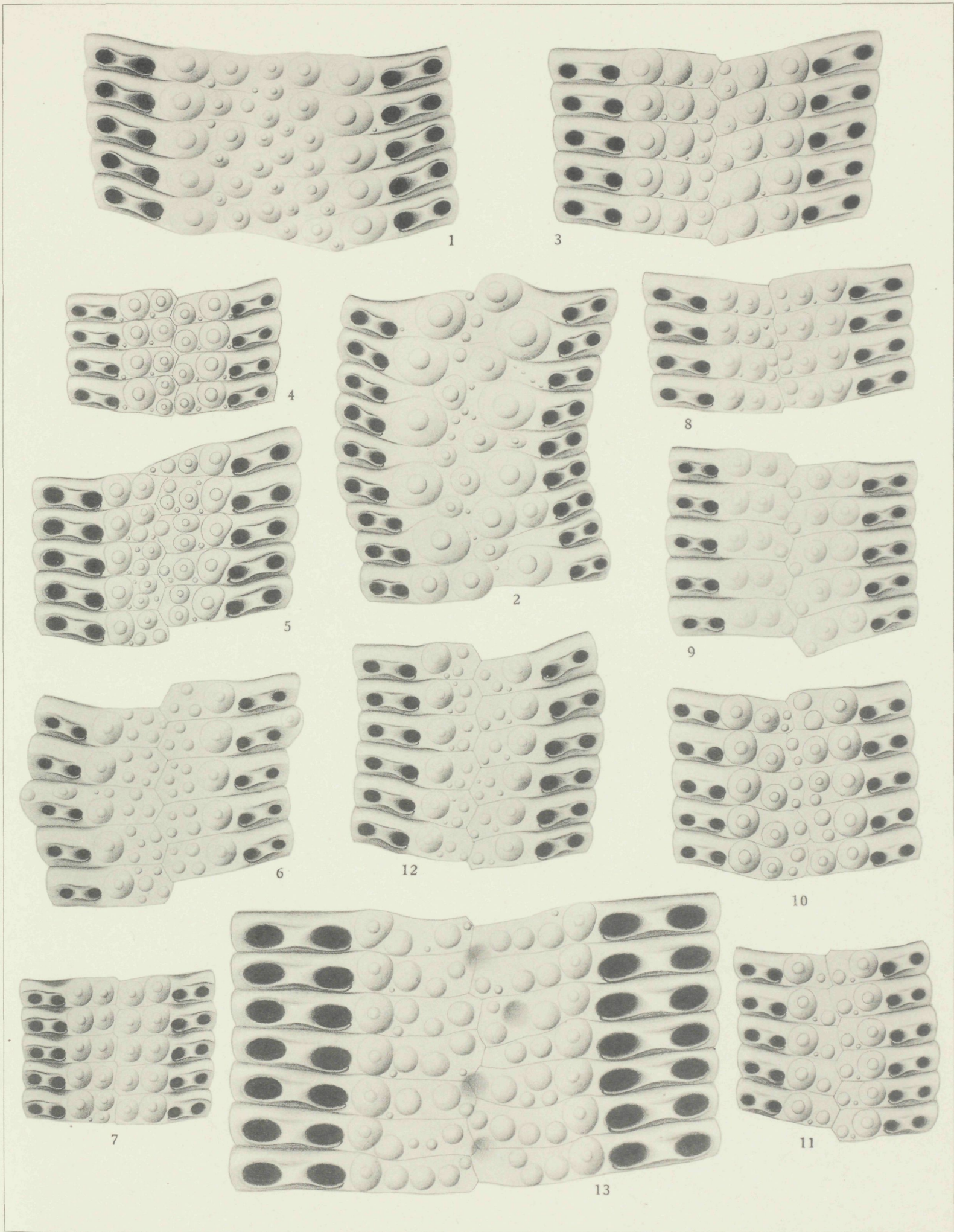
1-3. HISTOCIDARIS AUSTRALIE MRTSN; 4. H. SHARRERI (A. AG.); 5. H. CRASSISPINA MRTSN; 6. H. ELEGANS (A. AG.);
 7. H. VARIABILIS (A. AG. & H. L. CL.); 8. H. RECURVATA MRTSN; 9-10. H. FORMOSA MRTSN; 11. H. COBOSI (A. AG.);
 12. APOROCIDARIS MILLERI (A. AG.); 13. A. FRAGILIS A. AG. & H. L. CL.; 14. A. INCERTA (KOEHLER); 15. NOTOCIDARIS MORTENSENI (KOEHLER).



TH. MORTENSEN DEL.

FOTOTYPI, PACHT & CRONE'S EFT.

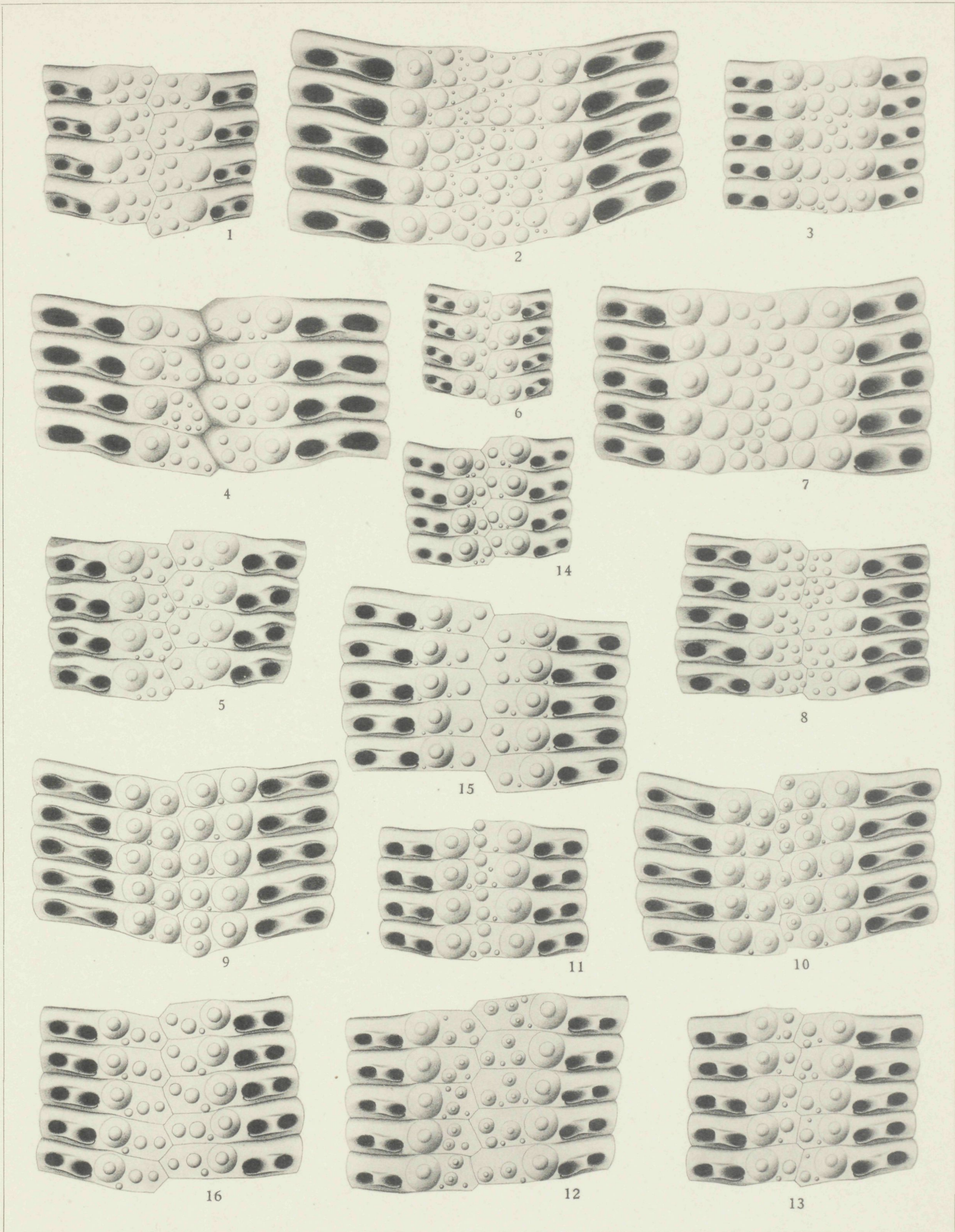
1. HISTOCIDARIS CARINATA MRTSN; 2. H. MISAKIENSIS (YOSH.); 3. H. SHARRERI (A. AG.)(?); 4-17. GONIOCIDARIS;
 18-19. SCHIZOCIDARIS ASSIMILIS MRTSN; 20. RHOPALOCIDARIS ROSEA MRTSN; 21. RH. HIRSUTISPINA (DE MEL.);
 22. RH. GRACILIS (DÖD.); 23. CTENOCIDARIS PERRIERI KOEHLER.



TH. MORTENSEN DEL.

FOTOTYPI, PACTH & CRONE'S EFT.

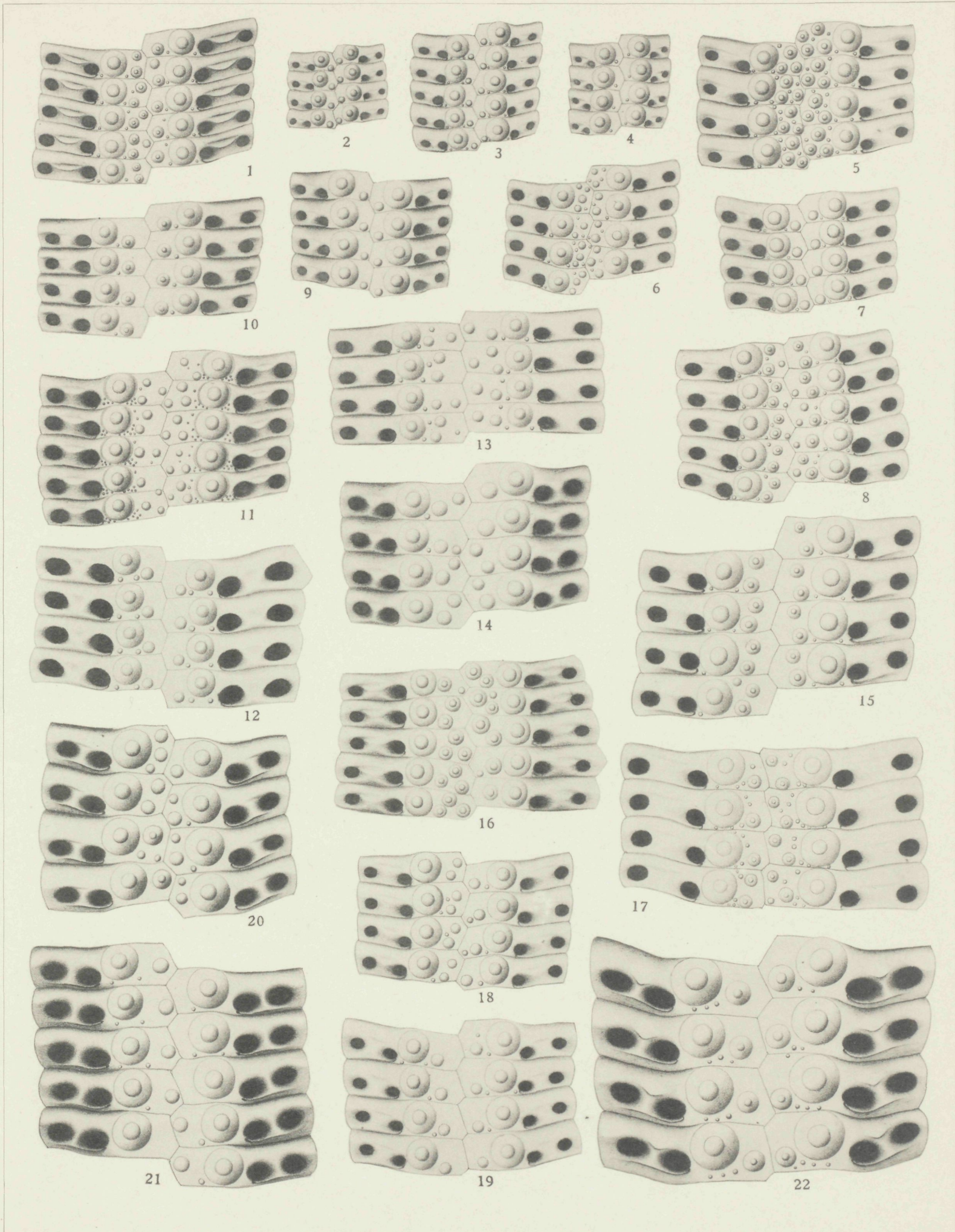
1—2. STEREOCIDARIS GRANDIS (DÖD.); 3. ST. GRANDIS, VAR. HYATORINA MRTSN; 4—5. ST. GRANULARIS MRTSN;
6. ST. INGOLFIANA MRTSN; 7. ST. SQUAMOSA MRTSN; 8. ST. TUBIFERA, VAR. IMPRESSA MRTSN; 9. ST. JAPONICA (DÖD);
10—11. ST. HAWAIIENSIS MRTSN; 12. ST. SCEPTRIFEROIDES DÖD.; 13. ST. STYLIFERA MRTSN.



TH. MORTENSEN DEL.

FOTOTYPI, PACTH & CRONE'S EFT.

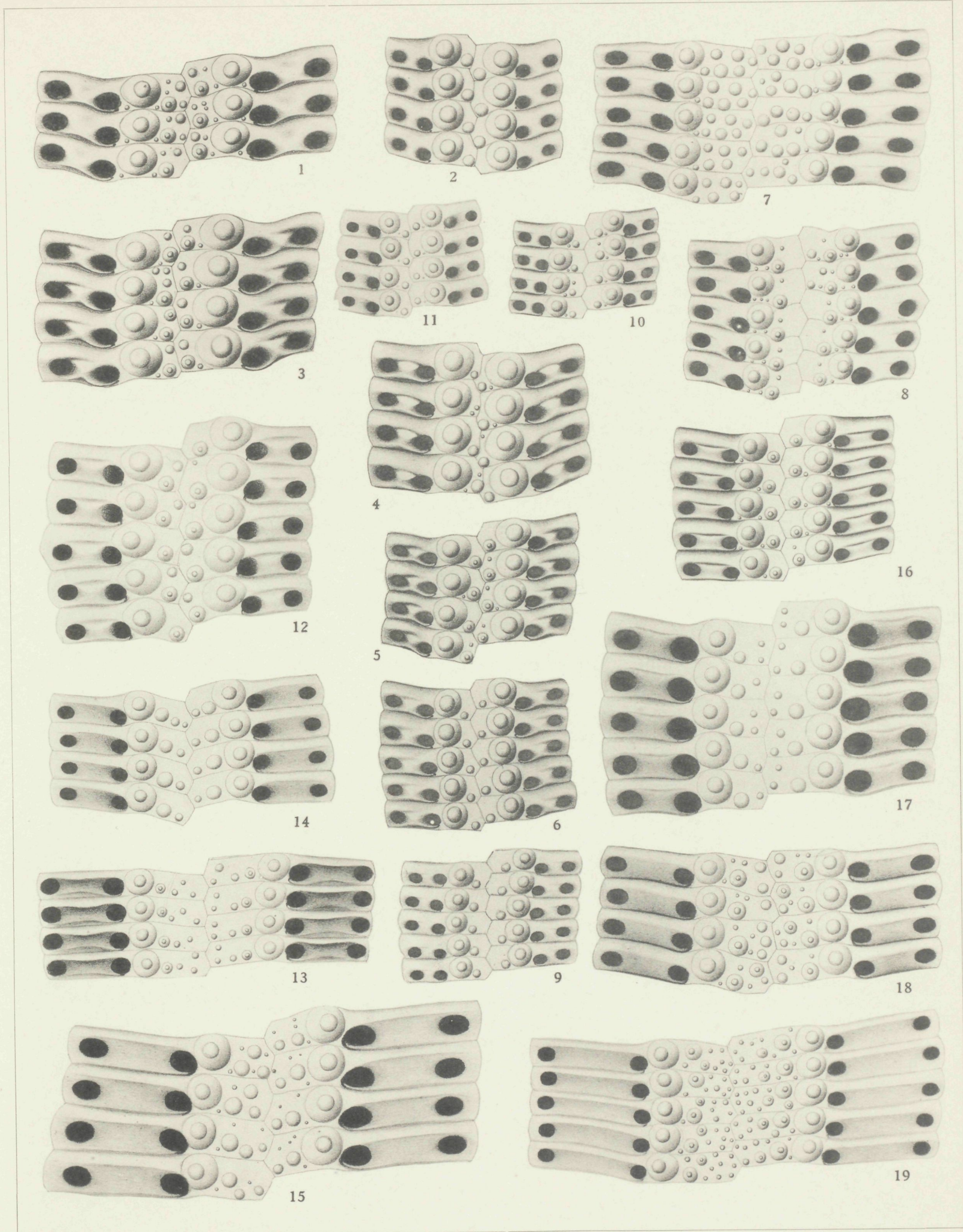
1. STEREOCIDARIS CAPENSIS DÖD.; 2. ST. TUBIFERA MRTSN.; 3. ST. PURPURASCENS MRTSN.; 4-5. ST. INDICA DÖD.;
 6. ST. SCEPTRIFEROIDES, VAR. LANCEOLATA MRTSN.; 7. ST. MICROTUBERCULATA (YOSH.); 8. ST. ALCOCKI (ANDERSON); 9-10. ST. SULCATISPINIS MRTSN.;
 11-13. ST. LEUCACANTHA A. AG. & H. L. CL.; 14. CIDARIS NUDA (MRTSN.); 15. TRETOCIDARIS SPINOŞA MRTSN.; 16. CIDARIS BLAKEI (A. AG.).



TH. MORTENSEN DEL.

10TOTYPI, PACHT & CRONE'S EFT.

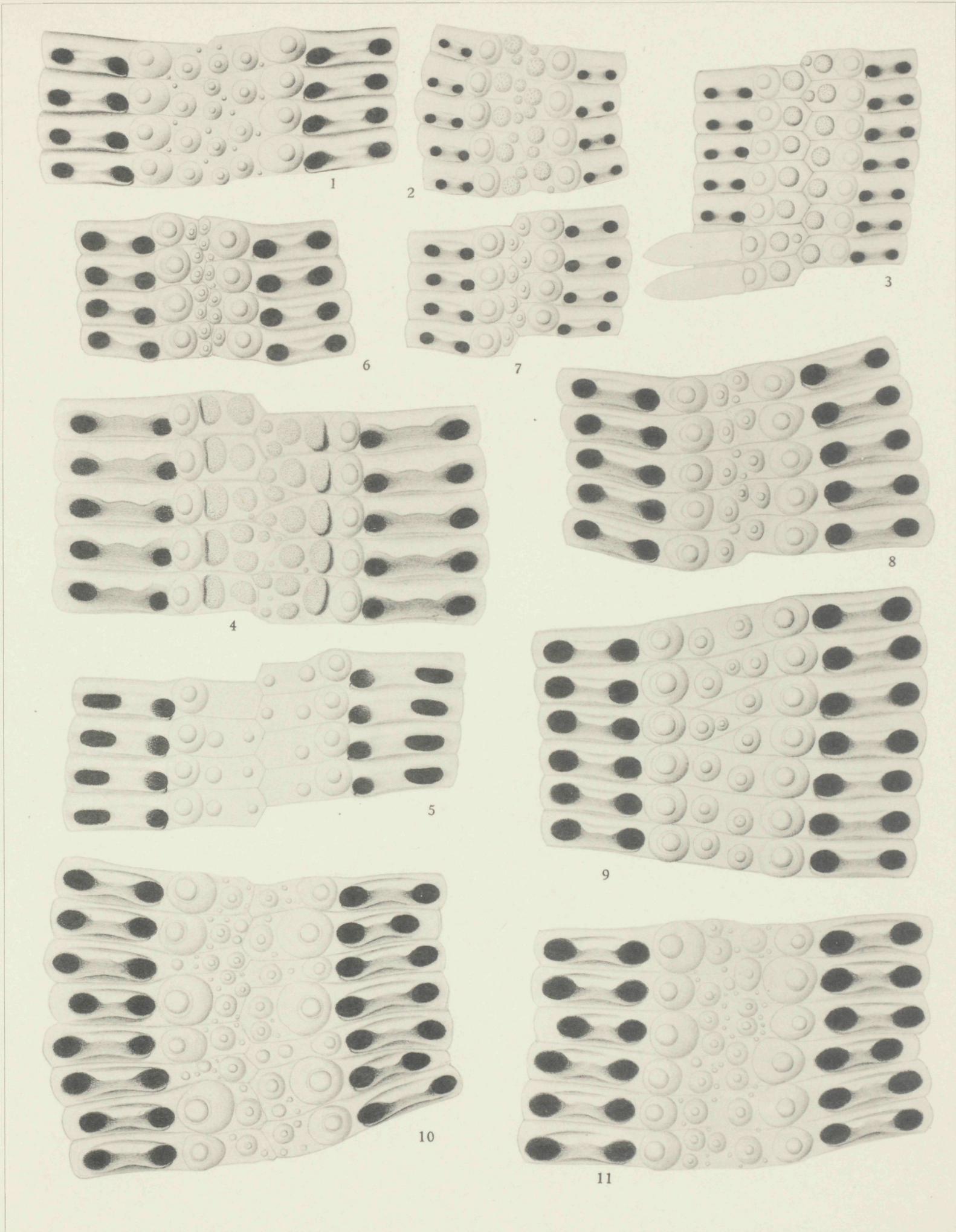
1-19. STYLOCIDARIS; 20-22. CIDARIS.



TH. MORTENSEN DEL.

FOTOTYPI, PACTH & CRONE'S EFT.

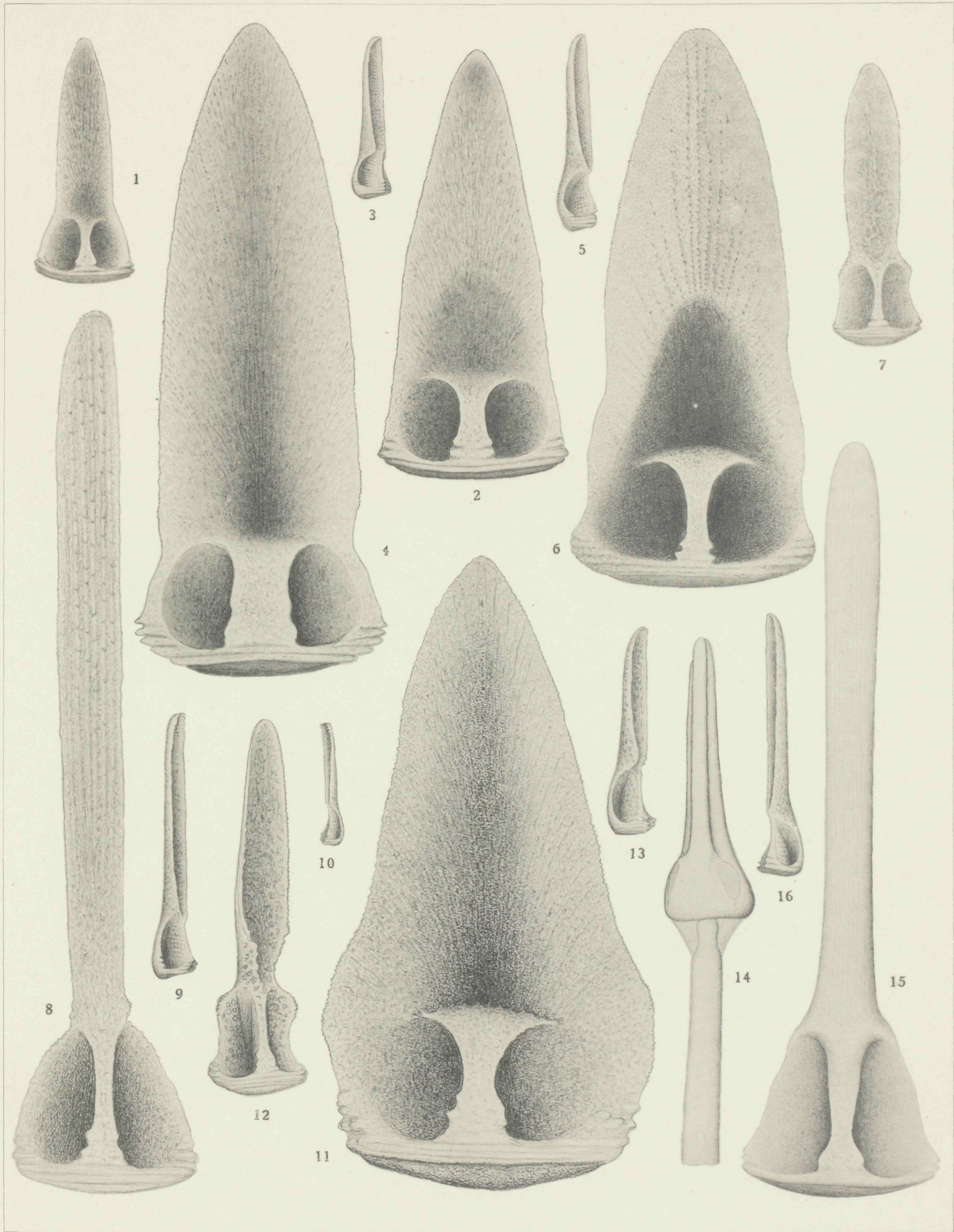
1-6. EUCIDARIS; 7-9. HESPEROCIDARIS; 10. CENTROCIDARIS; 11-19. PRIONOCIDARIS.



TH. MORTENSEN DEL.

FOTOTYPI, PAGHT & CRONE'S²EFT.

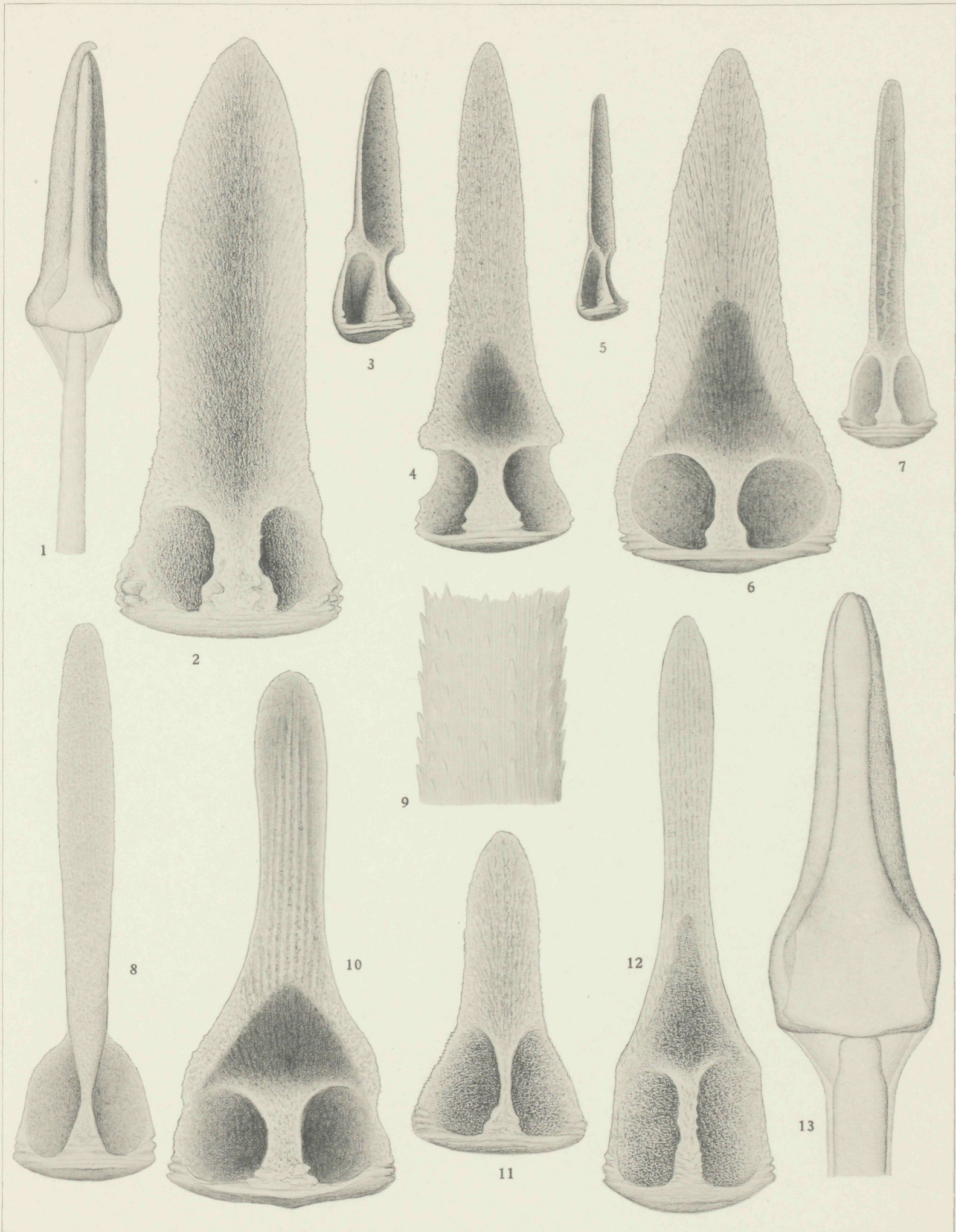
1. ACTINOCIDARIS; 2-4. CHONDROCIDARIS; 5. PLOCOCIDARIS; 6-11. PHYLLACANTHUS.



TH. MORTENSEN DEL.

FOTOTYPI, PACTH & CRONE'S EFT.

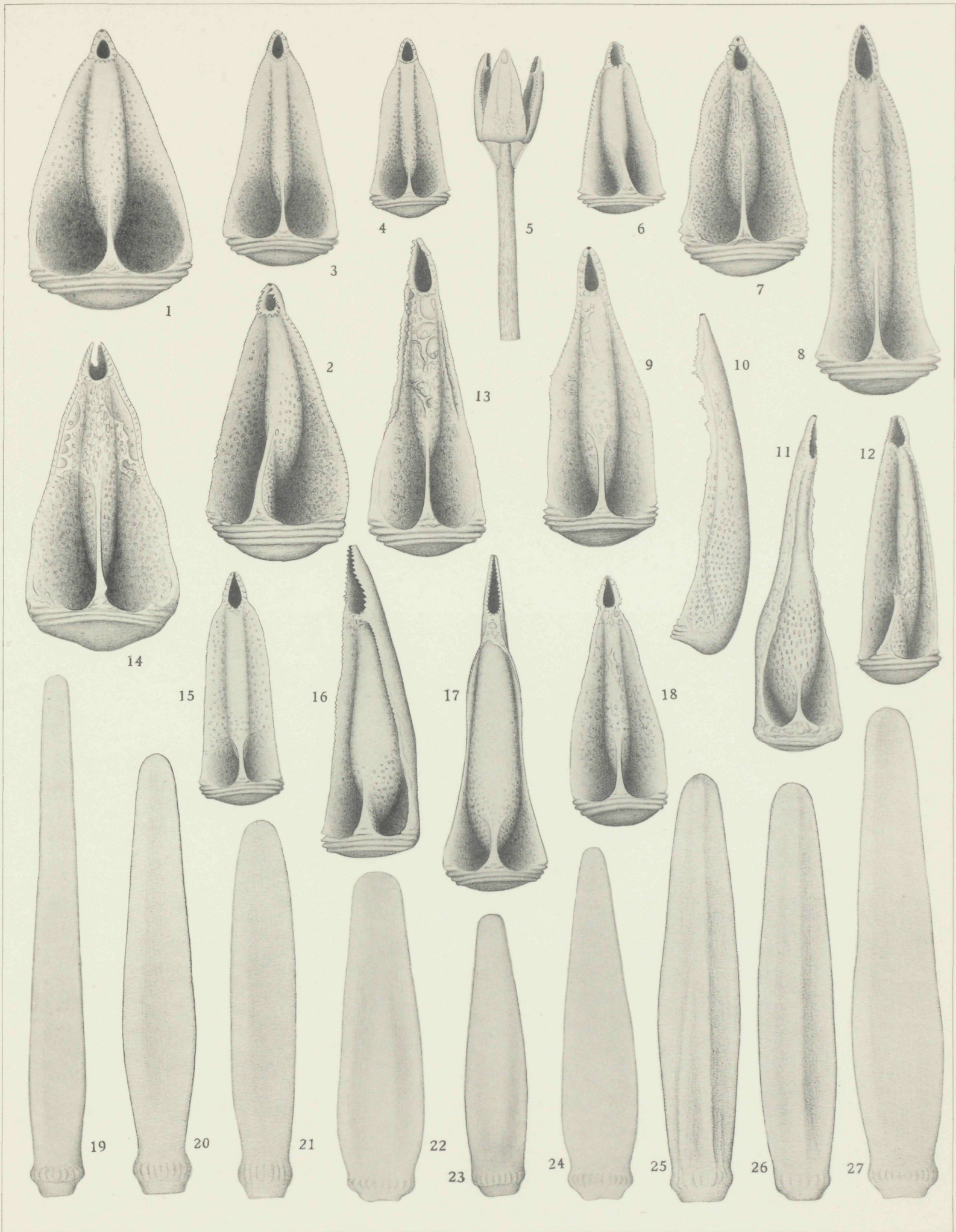
1-2. HISTOCIDARIS CRASSISPINA MRTSN; 3-4. H. MISAKIENSIS (YOSH.); 5-7. H. RECURVATA MRTSN;
 8-10. H. FORMOSA MRTSN; 11-13. H. CARINATA MRTSN; 14-15. H. DENTICULATA KOEHLER; 16. H. ELEGANS (A. AG.).



TH. MORTENSEN DEL.

FOTOTYPI, PACHT & CRONE'S EFT.

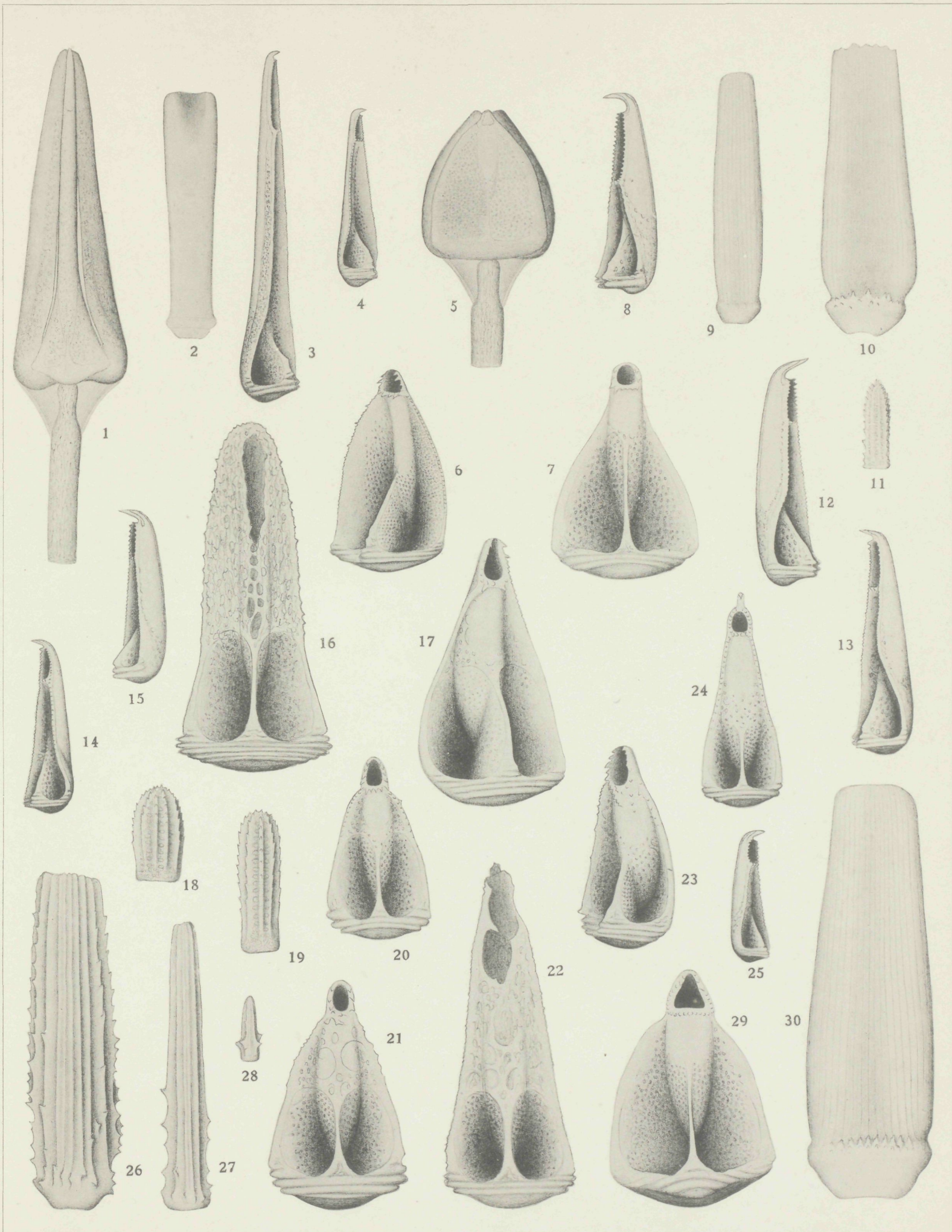
1-2. HISTOCIDARIS VARIABILIS (A. AG. & H. L. CL.); 3-5. H. COBOSI (A. AG.); 6-7. H. SHARRERI (A. AG.);
 8. H. NUTTINGII MRTSN; 9-13. H. ELEGANS (A. AG.).



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FOTOTYPI, PACT & CRONE'S EFT.

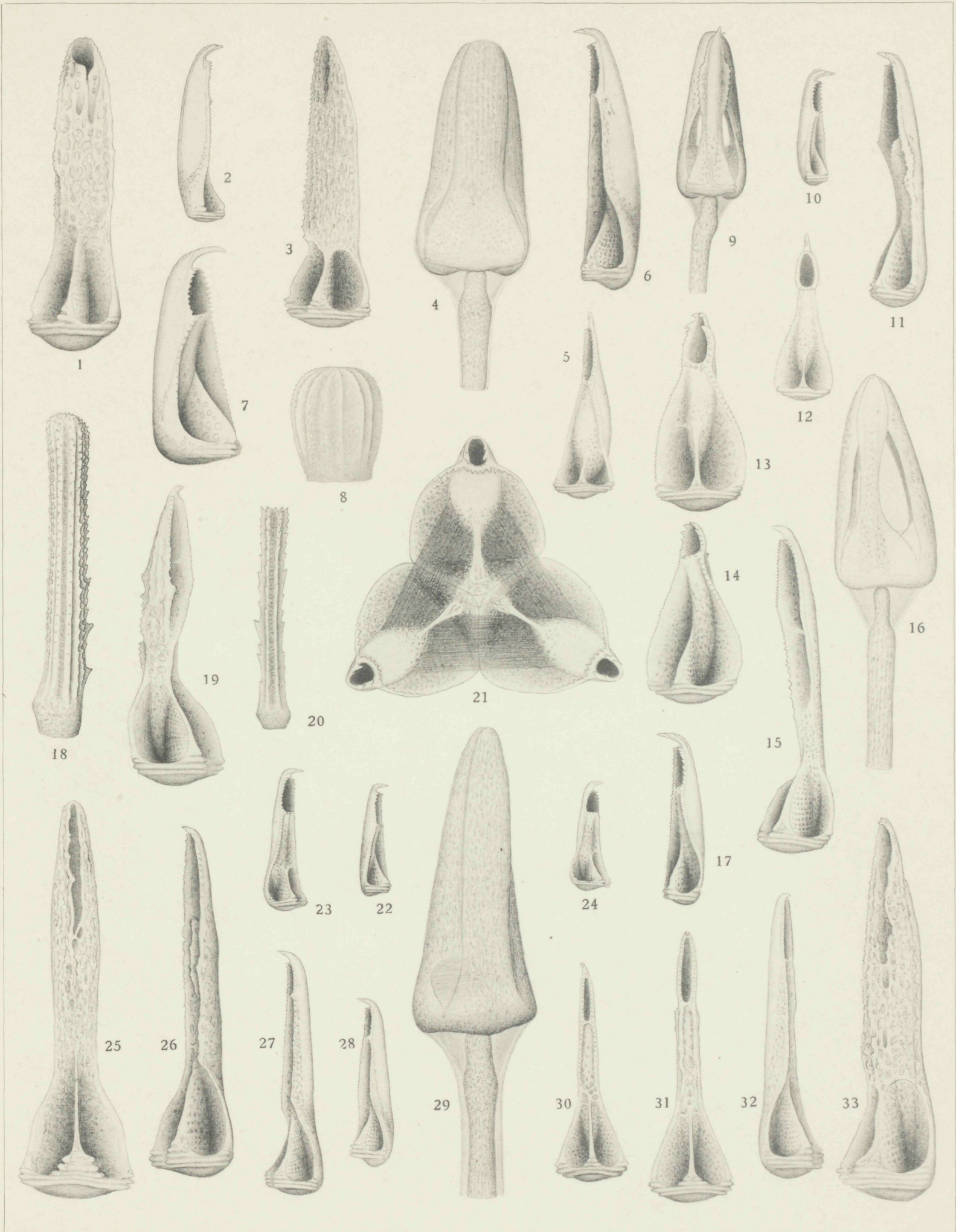
1-7. APOCIDARIS; 8-12. CTENOCIDARIS; 13. OGMOCIDARIS; 14. HOMALOCIDARIS;
 15-17. NOTOCIDARIS; 18. AUSTRUCIDARIS; 19-27. HISTOCIDARIS.



TH. MORTENSEN DEL.

FOTOTYPI, PACTH & CRONE'S EFT.

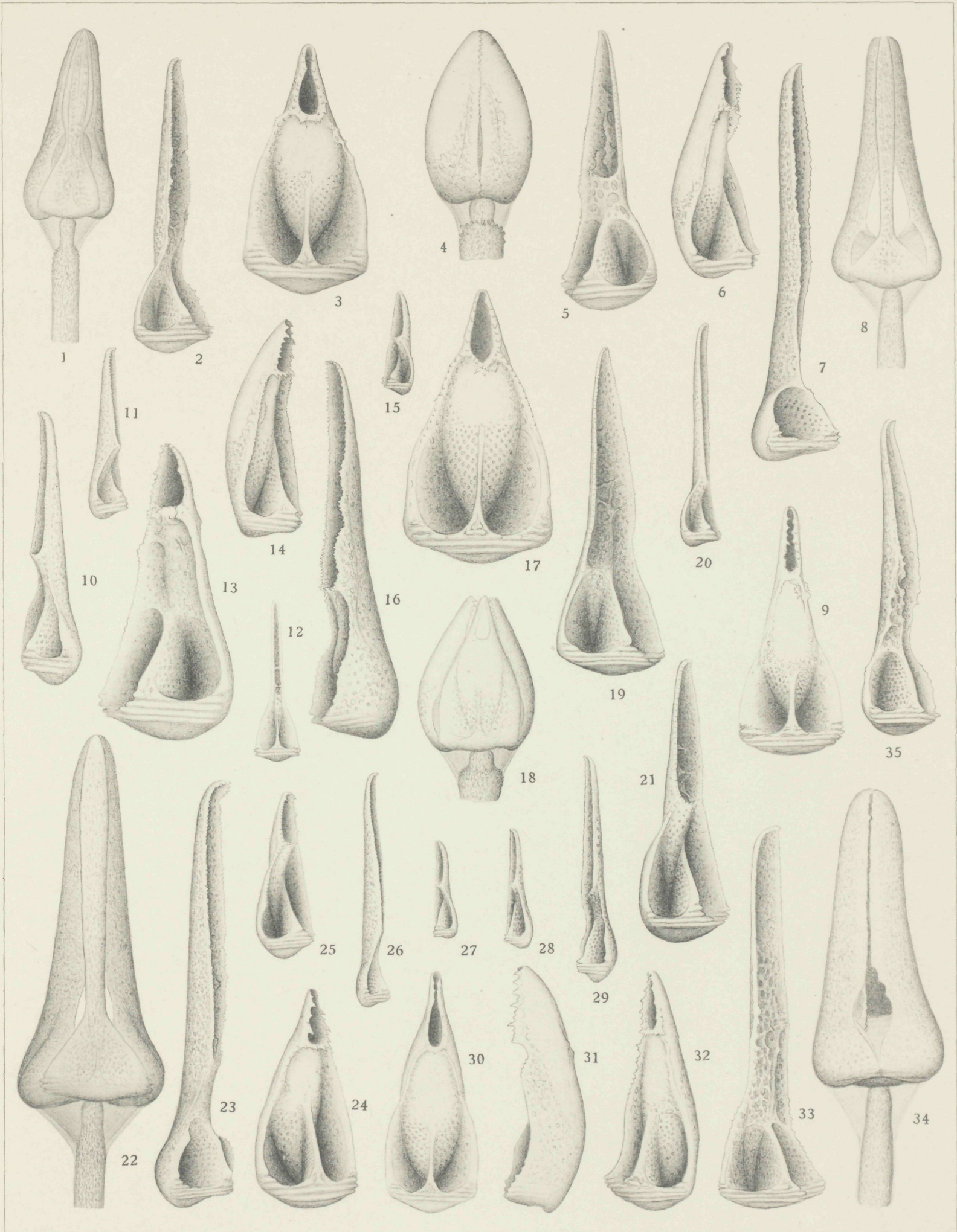
1-6. GONIOCIDARIS TUBARIA (LAMK.); 7-11. G. SPINOSA MRTSN; 12-13. G. FIMBRIATA (DE MEIJ.); 14-16. G. SIBOGGE MRTSN;
 17-20. G. CLYPEATA DÖD.; 21-25. G. AUSTRALIGE MRTSN; 26-28. G. FLORIGERA A. AG.; 29-30. G. BISERIALIS (DÖD.).



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FOTOTYPI, PACTH & CRONE'S EFT.

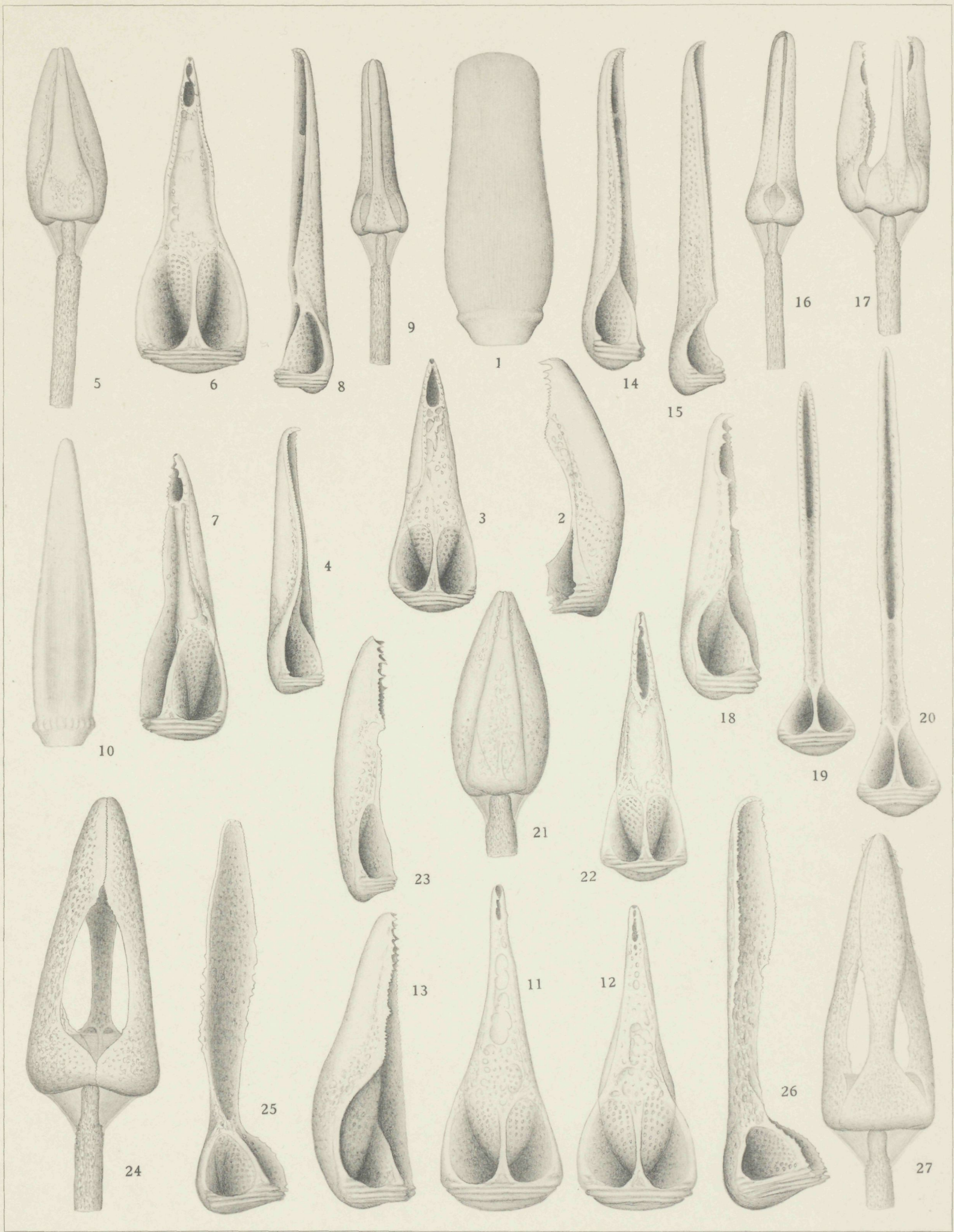
1. GONIOCIDARIS UMBRACULUM (HUTTON); 2-5. CRASSA MRTSN; 6. G. ALBA MRTSN; 7-8. G. MIKADO (DÖD);
 9-11. RHOPALOCIDARIS HIRSUTISPINA (DE MEIJ); 12-17. RH. GRACILIS (DÖD); 18-22. RH. ROSEA MRTSN;
 23-24. SCHIZOCIDARIS SERRATA (MRTSN); 25-33. SCH. ASSIMILIS MRTSN.



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FOTOTYPI, PACTH & CRONE'S EFT.

1-5. STEREOCIDARIS SULCATISPINIS MRTSN; 6-9. ST. HAWAIIENSIS MRTSN; 10-16. ST. SQUAMOSA MRTSN;
 17-21. ST. STYLIFERA MRTSN; 22-27. ST. PURPURASCENS MRTSN; 28-34. ST. GRANDIS, VAR. HYATORINA MRTSN;
 35. ST. GRANDIS (DÖD.).



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FOTOTYPI, PACHT & CRONE'S EFT.

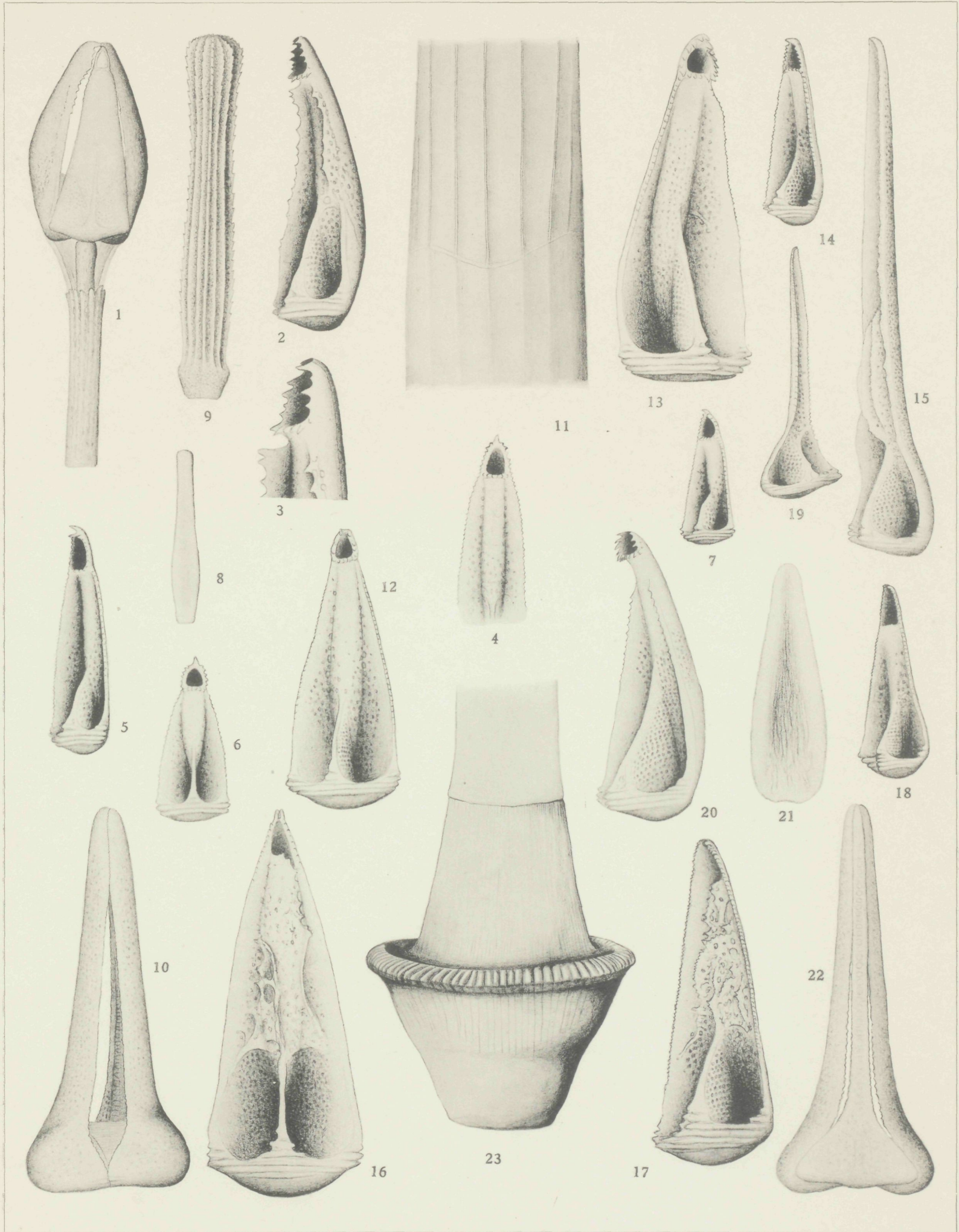
1-4. STEREOCIDARIS SCEPTRIFEROIDES (DÖD); 5-10. ST. SCEPTRIFEROIDES, VAR. LANCEOLATA MRTSN;
 11-14. ST. SCEPTRIFEROIDES, VAR. LAMELLATA MRTSN; 15-20. ST. INDICA, VAR. PHILIPPINENSIS MRTSN.
 21-27. ST. LEUCACANTHA A. AG. & H. L. CL.



TH. MORTENSEN DEL.

FOTOTYPI, PACHT & CRONE'S EFT.

1-18. STEREOCIDARIS; 19-31. HESPEROCIDARIS; 32-36, 41. TRETOCIDARIS; 39-40. CIDARIS BLAKEI (A. AG.).



TH. MORTENSEN & I. LIEBERKIND DEL.

FOTOTYPI, PACT & CRONE'S EFT.

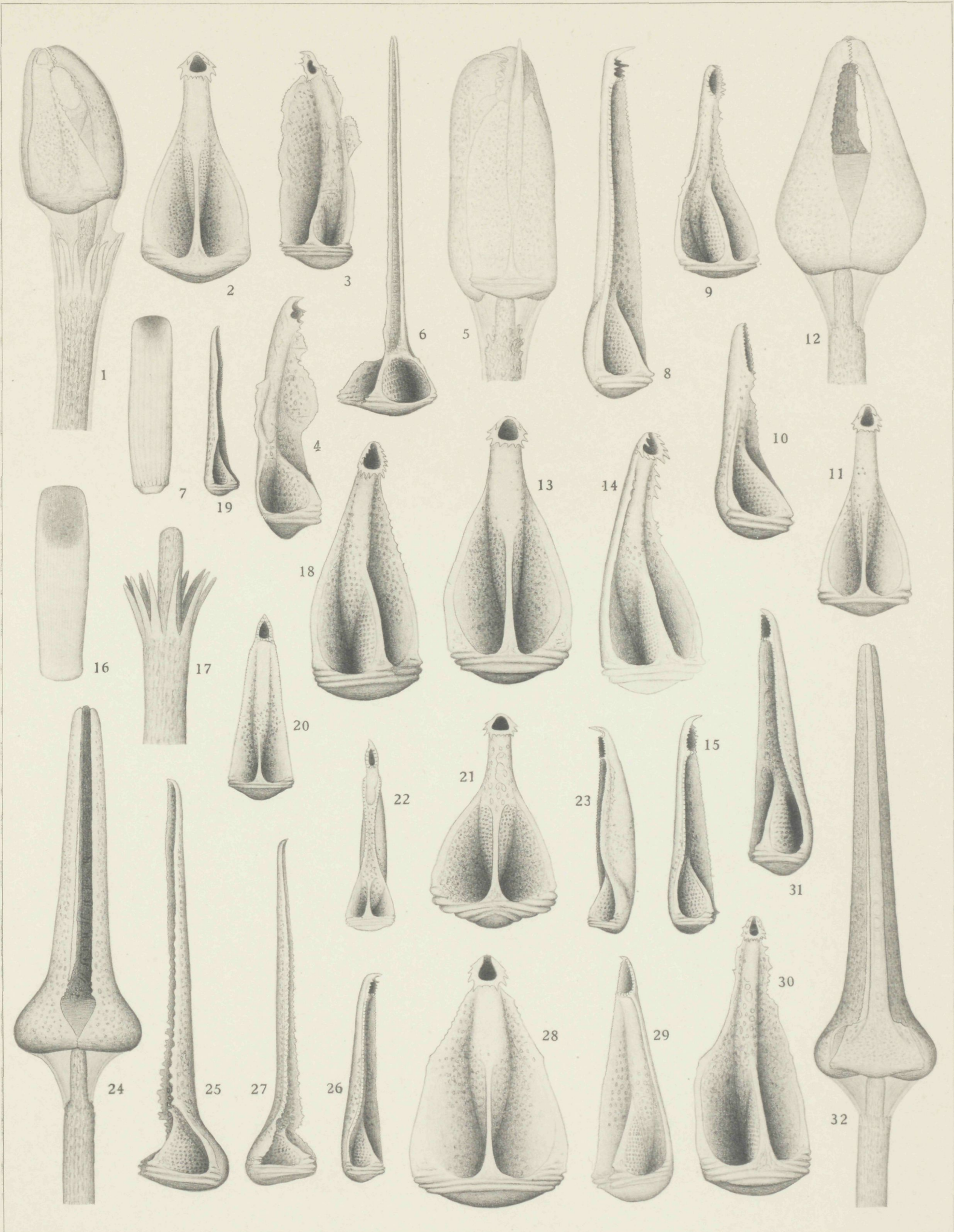
1—10. *CENTROCIDARIS DÖDERLEINI* (A. AG.); 11. *ACANTHOCIDARIS HASTIGERA* A. AG. & H. L. CL.;
 12—15. *A. MACULICOLLIS* (DE MEIJ.); 16—18. *A. CURVATISPINIS* (BELL); 19—21. *PLOCOCIDARIS VERTICILLATA* (LAMK.);
 22. *ACTINOCIDARIS THOMASI* (A. AG. & H. L. CL.); 23. *HOMALOCIDARIS GIGANTEA* H. L. CL.)



TH. MORTENSEN DEL.

FOTOTYPI, PACHT & CRONE'S EFT.

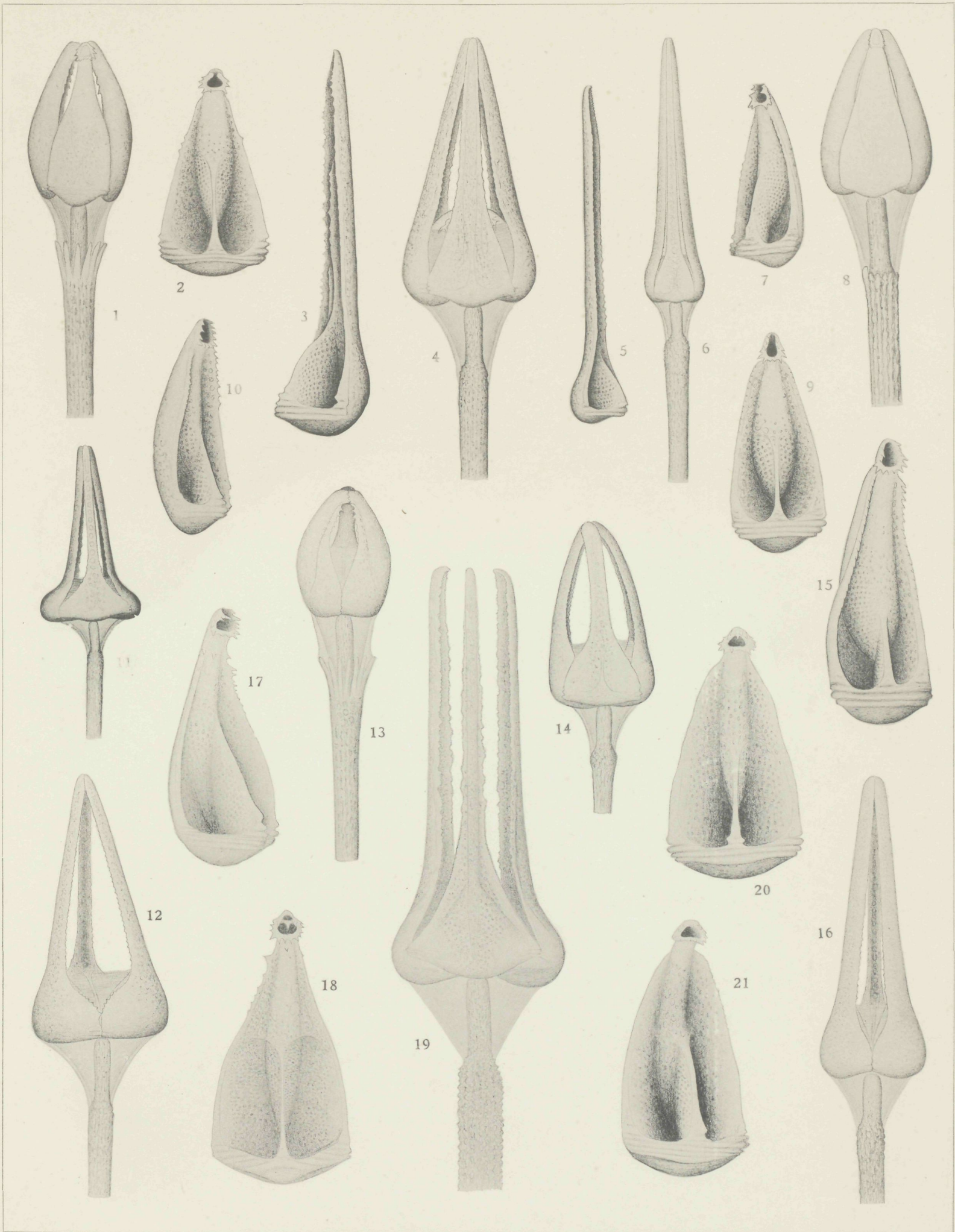
1-11. *STYLOCIDARIS REINI* (DÖD.); 12-15. *ST. CALACANTHA* (A. AG. & H. L. CL.); 16-19. *ST. ALBIDENS* H. L. CL.;
 20-25. *ST. RUFUS* MRTSN; 26-30. *ST. FUSISPINA* MRTSN; 31-32. *ST. LORIOLI* (KOEHLER).



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FOTOTYPI, PACT & CRONE'S EFT.

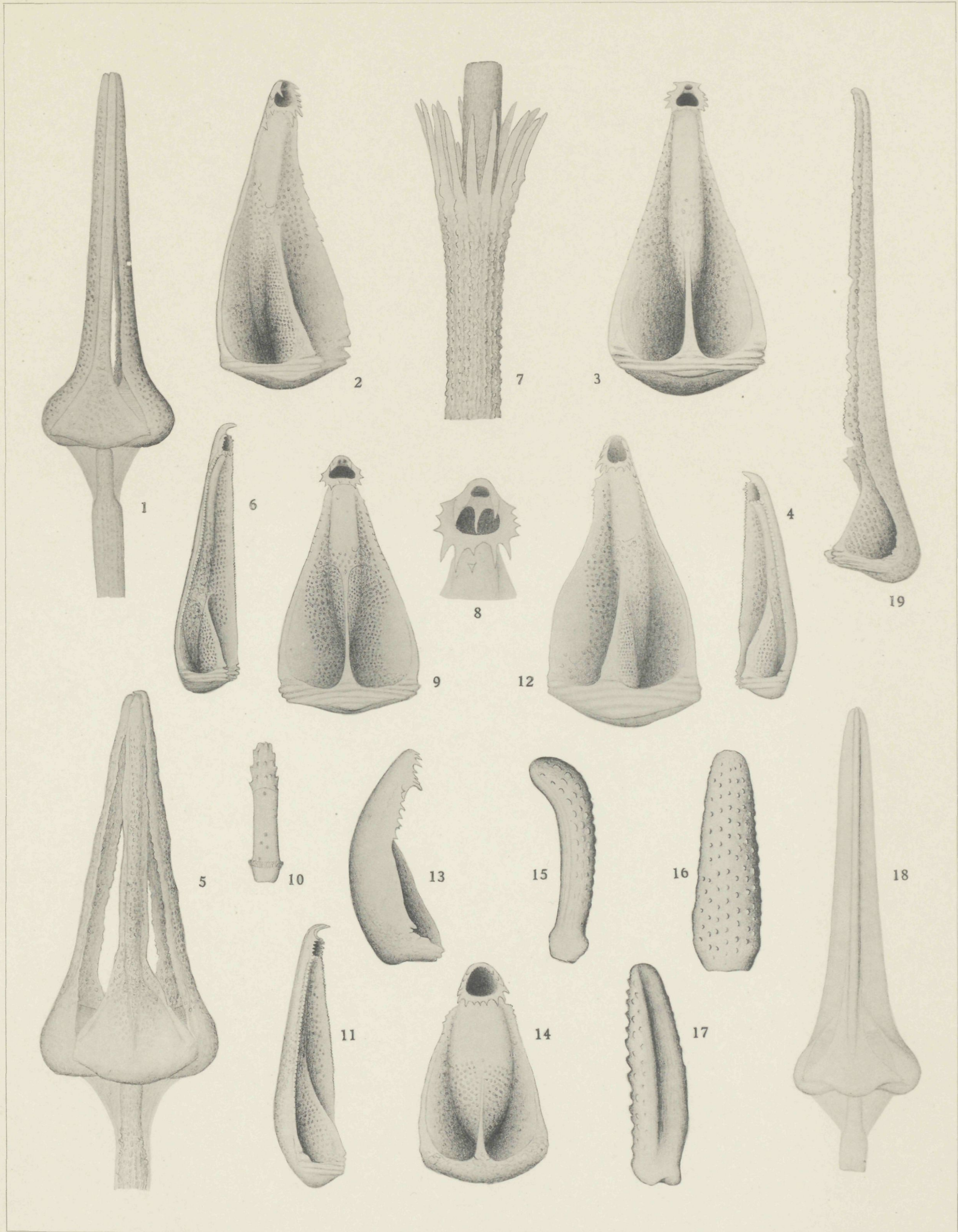
1-2, 4-7. *STYLOCIDARIS BRACTEATA* (A. AG.); 8-15. *ST. MACULOSA* MRTSN; 3, 16-20. *ST. BREVICOLLIS* (DE MEIJ.);
 21-23. *ST. AMBOINCE* MRTSN; 24-26. *ST. TIARA* (ANDERSON); 27-29. *ST. BADIA* (H. L. CL.); 30-32. *ST. CONFERTA* (H. L. CL.).



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FOTOTYPI, PACHT & CRONE'S EFT.

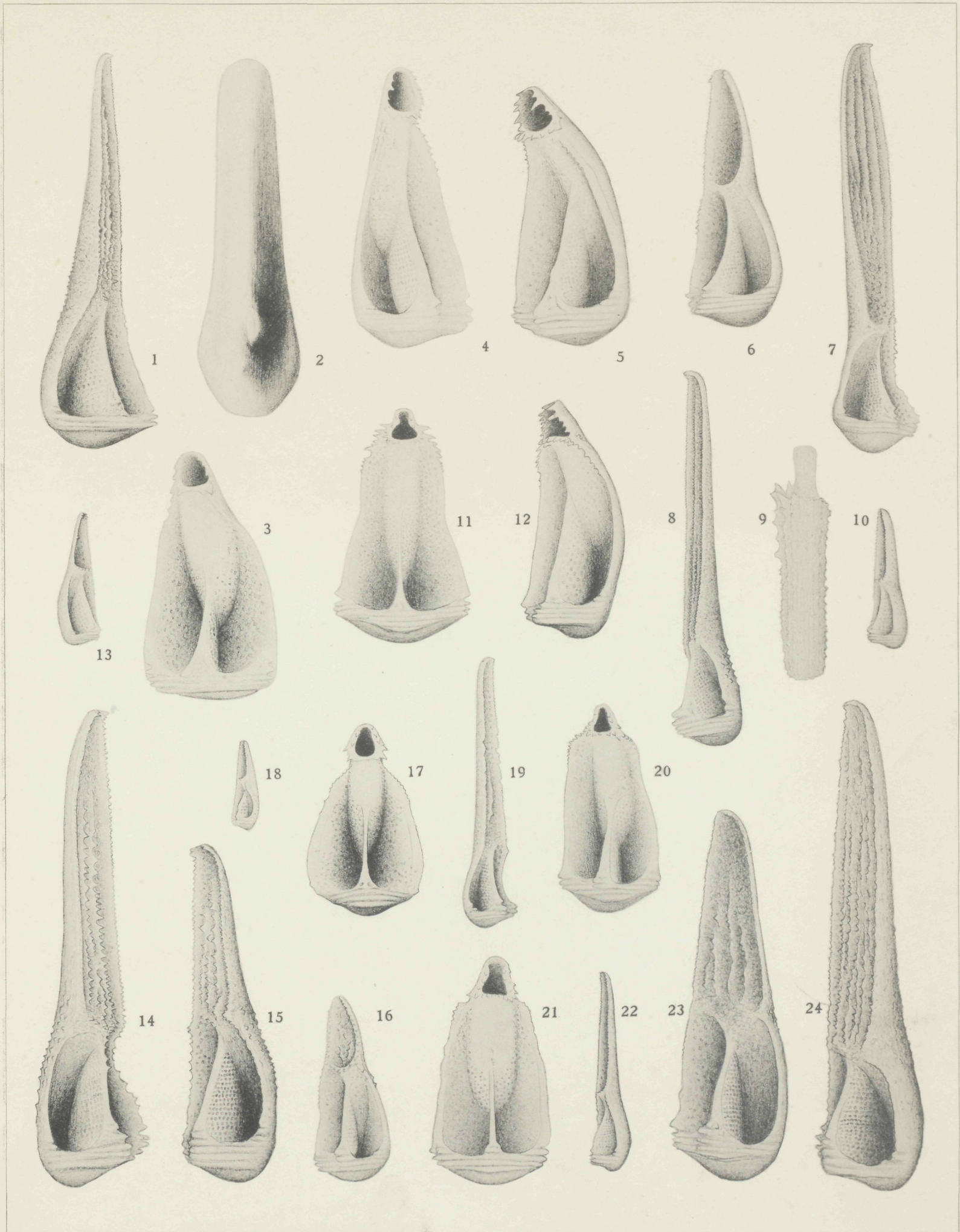
1-7. *EUCIDARIS THOUARSI* (VAL.); 8-10. *E. GALAPAGENSIS* DÖD.; 11-14. *E. METULARIA* (LAMK.);
 15. *E. CLAVATA* MRTSN; 16. *E. TRIBULOIDES* (LAMK.); 17-19. *PRINOCIDARIS AUSTRALIS* (RAMSAY);
 20-21. *PR. PISTILLARIS* (LAMK.).



TH. MORTENSEN DEL.

FOTOTYPI, PACTH & CRONE'S EFT.

1-4. PRONOCIDARIS BACULOSA (LAMK.); 5. PR. BACULOSA, VAR. ANNULIFERA (LAMK.); 6-8. PR. AUSTRALIS (RAMSAY);
 9. PR. GLANDULOSA (DE MEIJ.); 10-11. PR. BACULOSA, VAR. LONGICOLLIS (MRTSN); 12. PR. BISPINOSA (LAMK.);
 13-19. CHONDROCIDARIS BREVISPIÑA H. L. CL.



TH. MORTENSEN & H. FASMER DEL.

FOTOTYPI, PACHT & CRONE'S EFT.

1-3. *PHYLLACANTHUS MAGNIFICUS* H. L. CL.; 4-10. *PH. IMPERIALIS* (LAMK.); 11-12. *PH. IRREGULARIS* MRTSN;
 13-17. *PH. DUBIUS* BRANDT; 18-24. *PH. IARVISPINUS* TEN. WOODS.

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