

REPORT  
ON THE  
SCIENTIFIC RESULTS  
OF THE  
VOYAGE OF H.M.S. CHALLENGER  
DURING THE YEARS 1873-76

UNDER THE COMMAND OF  
CAPTAIN GEORGE S. NARES, R.N., F.R.S.  
AND THE LATE  
CAPTAIN FRANK TOURLE THOMSON, R.N.

PREPARED UNDER THE SUPERINTENDENCE OF  
THE LATE  
Sir C. WYVILLE THOMSON, Knt., F.R.S., &c.  
REGIUS PROFESSOR OF NATURAL HISTORY IN THE UNIVERSITY OF EDINBURGH  
DIRECTOR OF THE CIVILIAN SCIENTIFIC STAFF ON BOARD  
AND NOW OF  
JOHN MURRAY  
ONE OF THE NATURALISTS OF THE EXPEDITION

ZOOLOGY—VOL. XVIII.  
PLATES

Published by Order of Her Majesty's Government

PRINTED FOR HER MAJESTY'S STATIONERY OFFICE  
AND SOLD BY  
LONDON:—EYRE & SPOTTISWOODE, EAST HARDING STREET, FETTER LANE  
EDINBURGH:—ADAM & CHARLES BLACK  
DUBLIN:—HODGES, FIGGIS, & CO.

1887

*Price (in Two Parts, with a Volume of Plates) £5, 10s.*

PLATE 129.

Legion ACANTHARIA.

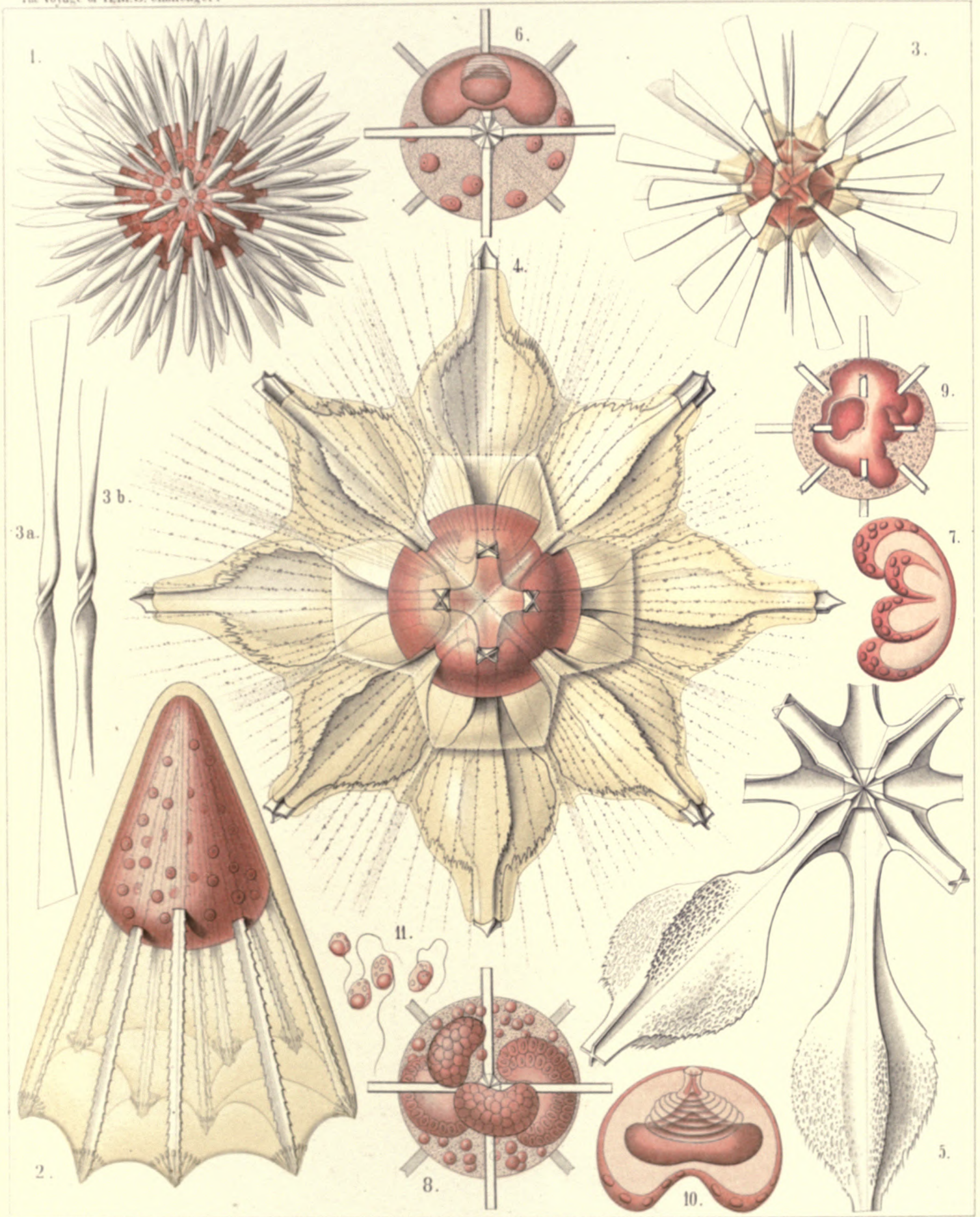
Orders ACTINELLIDA ET ACANTHONIDA.

Families ASTROLOPHIDA, LITHOLOPHIDA, CHIASTOLIDA et  
ASTROLONCHIDA.

PLATE 129.

ASTROLOPHIDA, LITHOLOPHIDA, CHIASTOLIDA et ASTROLONCHIDA.

	Diam.	Page
Fig. 1. <i>Actinelius primordialis</i> , n. sp., . . . . .	× 100	730
The red central capsule, coloured by carmine, contains numerous intensely stained nuclei.		
Fig. 2. <i>Litholophus decapristis</i> , n. sp., . . . . .	× 300	735
The conical central capsule contains numerous nuclei. The calymma exhibits on the distal end of each spine a coronet of myophriscs.		
Fig. 3. <i>Chiastolus amphicopium</i> , n. sp., . . . . .	× 150	738
Sixteen diametral spines pierce the spherical, red-coloured central capsule. The conical sheets of the calymma bear myophriscs.		
Figs. 3a, 3b. Two isolated diametral spines exhibiting the peculiar spiral revolution at their central part, . . . . .		
	× 300	
Fig. 4. <i>Xiphacantha ciliata</i> , n. sp., . . . . .	× 300	761
The spherical central capsule is coloured red. The yellowish calymma envelops the radial spines completely. The polygonal network of lines, in which the radiating pseudopodia are symmetrically arranged, is partly visible.		
Fig. 5. <i>Xiphacantha ciliata</i> , n. sp., . . . . .	× 300	761
The central part of the skeleton, exhibiting the central junction of the radial spines.		
Fig. 6. <i>Acanthometron dolichoscion</i> , n. sp., . . . . .	× 300	743
Central capsule of a young specimen; in its upper half the peculiar kidney-shaped nucleus is visible, with its invagination; in the lower half some nucleated yellow cells are visible (intracapsular xanthellæ). These and the nucleus are stained by carmine.		
Fig. 7. <i>Acanthometron dolichoscion</i> , n. sp., . . . . .	× 300	743
Cleavage of an isolated nucleus, with four buds.		
Fig. 8. <i>Acanthometron dolichoscion</i> , n. sp., . . . . .	× 300	743
A central capsule with four large budding nuclei; and numerous small spherical nuclei produced by gemmation.		
Fig. 9. <i>Acanthonia tetracopa</i> , n. sp., . . . . .	× 400	749
Central capsule of a young specimen, with a large, irregularly lobate nucleus.		
Fig. 10. <i>Acanthonia tetracopa</i> , n. sp., . . . . .	× 400	749
An isolated nucleus, exhibiting the peculiar invagination, with its circular folds, and the connection with the flatly conical nucleolus.		
Fig. 11. <i>Acanthonia tetracopa</i> , n. sp., . . . . .	× 800	749
Four flagellate spores.		



H. Hancock and A. Gibbels Del.

Kjellman Sculp. Lithogr.

1. ACTINELIUS, 2. LITHOLOPHUS, 3. CHIASTOLUS, 4-11. LACANTHONIA.

PLATE 130.

Legion ACANTHARIA.

Order ACANTHONIDA.

Family ASTROLONCHIDA.

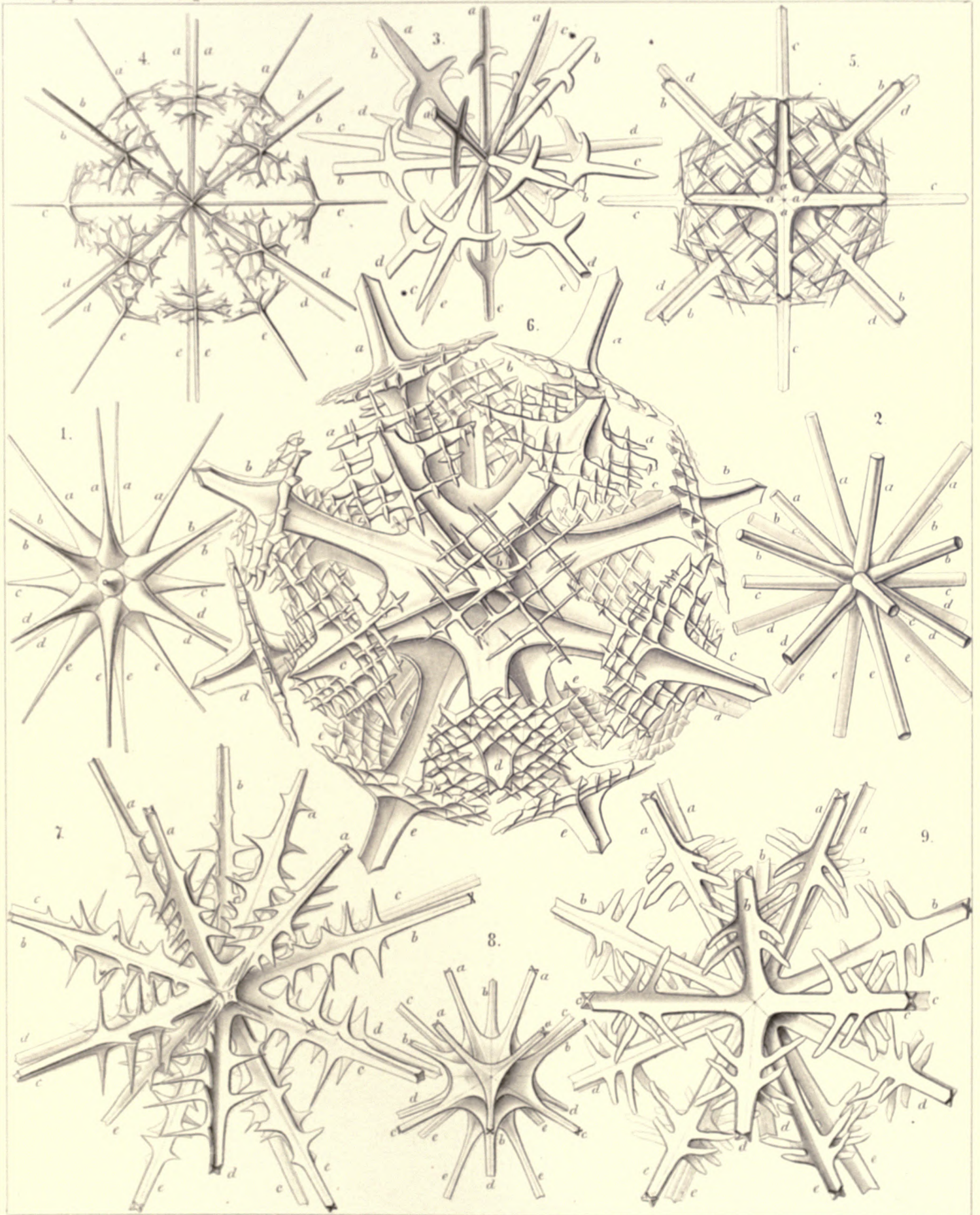
PLATE 130.

N.B.—The signification of the characters is the same in all the figures (compare p. 718).

- a. Northern polar spines.  
 b. Northern tropical spines.  
 c. Equatorial spines.  
 d. Southern tropical spines.  
 e. Southern polar spines.

ASTROLONCHIDA.

	Diam.	Page
Fig. 1. <i>Acanthometron bulbiferum</i> , n. sp., . . . . .	× 300	745
Fig. 2. <i>Acanthometron cylindricum</i> , n. sp., . . . . .	× 200	743
Fig. 3. <i>Lithophyllum gladiatum</i> , n. sp., . . . . .	× 200	754
Fig. 4. <i>Stauracantha quadrifurca</i> , n. sp., . . . . .	× 300	764
Fig. 5. <i>Stauracantha orthostaura</i> , n. sp., . . . . .	× 200	762
Fig. 6. <i>Phatnacantha icosaspis</i> , n. sp., . . . . .	× 400	765
Fig. 7. <i>Pristacantha polyodon</i> , n. sp., . . . . .	× 300	766
Fig. 8. <i>Pristacantha dodecodon</i> , n. sp., . . . . .	× 300	766
Only the central parts and the leaf-cross.		
Fig. 9. <i>Pristacantha octodon</i> , n. sp., . . . . .	× 200	765



Ed. Sch. Jena, Lithogr.

Ed. Sch. Jena, Lithogr.

1. 2. ACANTHOMETRON, 3. LITHOPHYLLIUM, 4-6. STAURACANTHA, 7-9. PRISTACANTHA.

PLATE 131.

Legion ACANTHARIA.

Order ACANTHONIDA.

Family QUADRILONCHIDA.



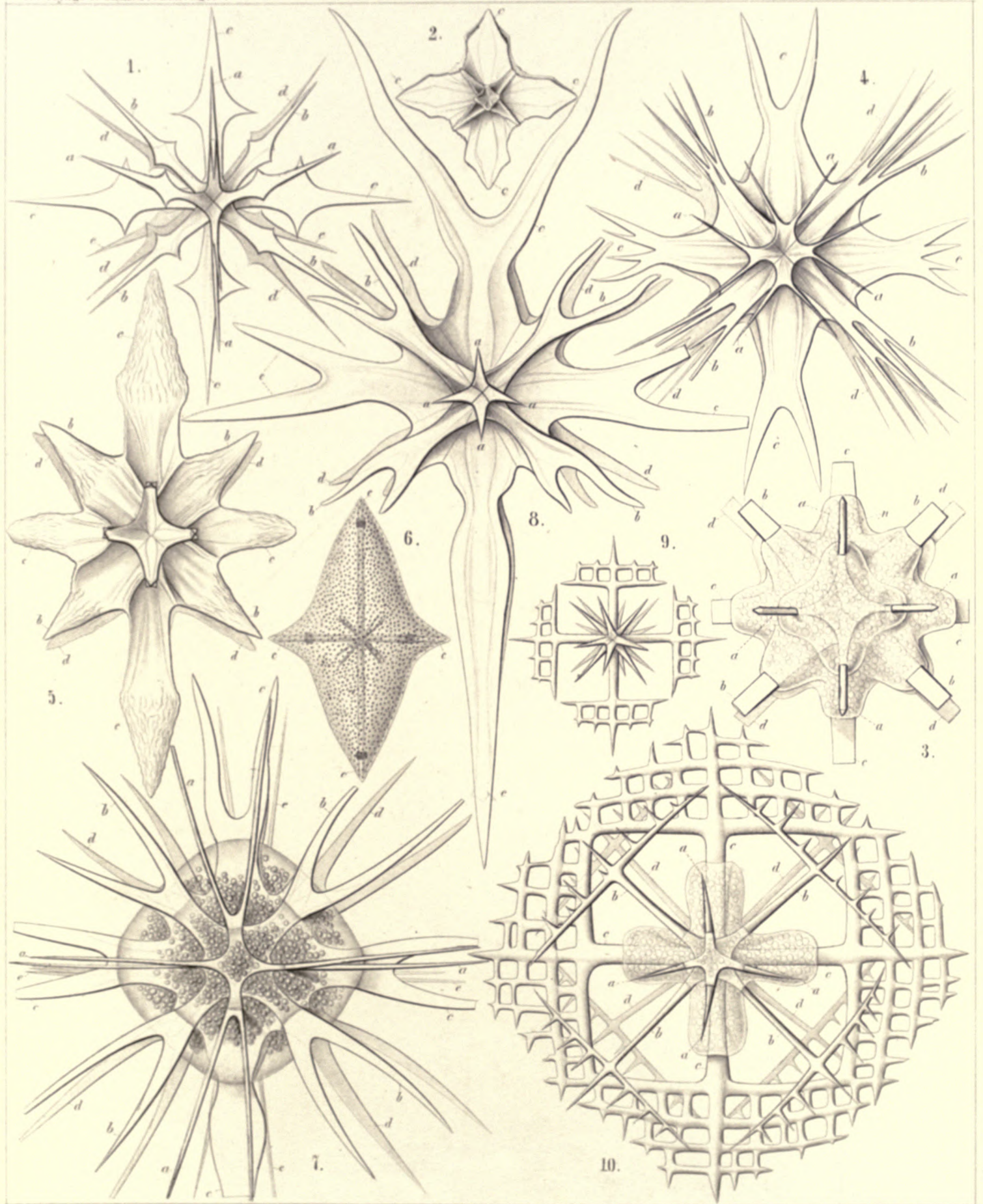
PLATE 131.

N.B.—The signification of the characters is the same in all the figures (compare p. 718).

- a.* Northern polar spines.  
*b.* Northern tropical spines.  
*c.* Equatorial spines.  
*d.* Southern tropical spines.  
*e.* Southern polar spines.

QUADRILONCHIDA.

	Diam.	Page
Fig. 1. <i>Quadrilonche mesostaura</i> , n. sp., . . . . .	× 300	777
Fig. 2. <i>Quadrilonche platystaura</i> , n. sp., . . . . .	× 100	777
Fig. 3. <i>Xiphoptera dodecactena</i> , n. sp., . . . . .	× 200	778
The central capsule with the central part of the skeleton.		
Fig. 4. <i>Lonchostaurus bifurcus</i> , n. sp., . . . . .	× 300	773
Fig. 5. <i>Lonchostaurus crystallinus</i> , n. sp., . . . . .	× 400	773
Fig. 6. <i>Lonchostaurus rhomboides</i> , n. sp., . . . . .	× 200	772
The radial spines are completely enclosed in the rhombic calymma, the surface of which is covered with small plates, similar to those in the shell of the Sphærocapsida.		
Fig. 7. <i>Zygostaurus amphitectus</i> , n. sp., . . . . .	× 300	774
The square central capsule envelops the half skeleton.		
Fig. 8. <i>Zygostaurus sagittalis</i> , n. sp., . . . . .	× 300	775
Fig. 9. <i>Lithoptera tetraptera</i> , n. sp., . . . . .	× 300	779
Fig. 10. <i>Lithoptera quadrata</i> , n. sp., . . . . .	× 300	780
The central part of the skeleton is enclosed by the four-lobed central capsule.		



H. Schuchert del.

H. Schuchert lith.

1-3. QUADRILONCHE, 4-6. BELONOSTAURUS, 7. 8. LONCHOSTAURUS, .  
 9. 10. LITHOPTERA.

PLATE 132.

Legion ACANTHARIA.

Orders ACTINELLIDA ET ACANTHONIDA.

Families ASTROLOPHIDA, ASTROLONCHIDA et AMPHILONCHIDA.

PLATE 132.

N.B.—The signification of the characters is the same in all the figures (compare p. 718).

- a.* Northern polar spines.  
*b.* Northern tropical spines.  
*c.* Equatorial spines.  
*d.* Southern tropical spines.  
*e.* Southern polar spines.

ASTROLOPHIDA, ASTROLONCHIDA et AMPHILONCHIDA.

	Diam.	Page
Fig. 1. <i>Amphilonche lanceolata</i> , n. sp., . . . . .	× 300	783
Fig. 2. <i>Amphilonche hydrotomica</i> , n. sp., . . . . .	× 300	786
The spindle-shaped central capsule is filled up with small granules. The clear calymma forms conical sheaths for the spines, with myophriscs.		
Fig. 3. <i>Amphilonche diodon</i> , n. sp., . . . . .	× 300	783
Fig. 4. <i>Amphilonche concreta</i> , n. sp., . . . . .	× 100	787
A complete specimen with the cylindrical central capsule.		
Fig. 4a. Central part of the skeleton, . . . . .		
	× 400	
Fig. 5. <i>Amphilonche violina</i> , n. sp., . . . . .	× 300	787
Fig. 6. <i>Amphilonche conica</i> , n. sp., . . . . .	× 300	785
The ellipsoidal central capsule contains numerous nuclei and is enclosed by the calymma. The conical sheaths of the latter include the radial spines completely and exhibit coronets of myophriscs.		
Fig. 7. <i>Acantholonche amphipolaris</i> , n. sp., . . . . .	× 200	790
Fig. 8. <i>Acantholonche peripolaris</i> , n. sp., . . . . .	× 300	791
Fig. 9. <i>Amphibelone pyramidata</i> , n. sp., . . . . .	× 300	789
Fig. 10. <i>Amphibelone cultellata</i> , n. sp., . . . . .	× 400	789
The central capsule contains numerous spherical nuclei and is enclosed by the hyaline calymma, which forms conical sheaths around the spines.		
Fig. 11. <i>Stauracantha johannis</i> , n. sp., . . . . .	× 400	763
Basal part of a radial spine, exhibiting the peculiar torsion of the basal leaf-cross and the central apex.		
Fig. 12. <i>Astrolophus solaris</i> , n. sp., . . . . .	× 200	732
Fig. 12a. A group of larger and smaller radial spines united in the centre.		
Fig. 12b. Three isolated spines (one larger and two smaller), . . . . .		
	× 200	



E. Haeckel und A. Reibsch Del.

E. Giltlich Jena Lithogr.

1-6. AMPHILONCHE, 7. 8. ACANTHOLONCHE, 9-12. AMPHIBELONE.

PLATE 133.

Legion ACANTHARIA.

Order SPHÆROPHRACTA.

Families SPHÆROCAPSIDA, DORATASPIDA et PHRACTOPELTIDA.

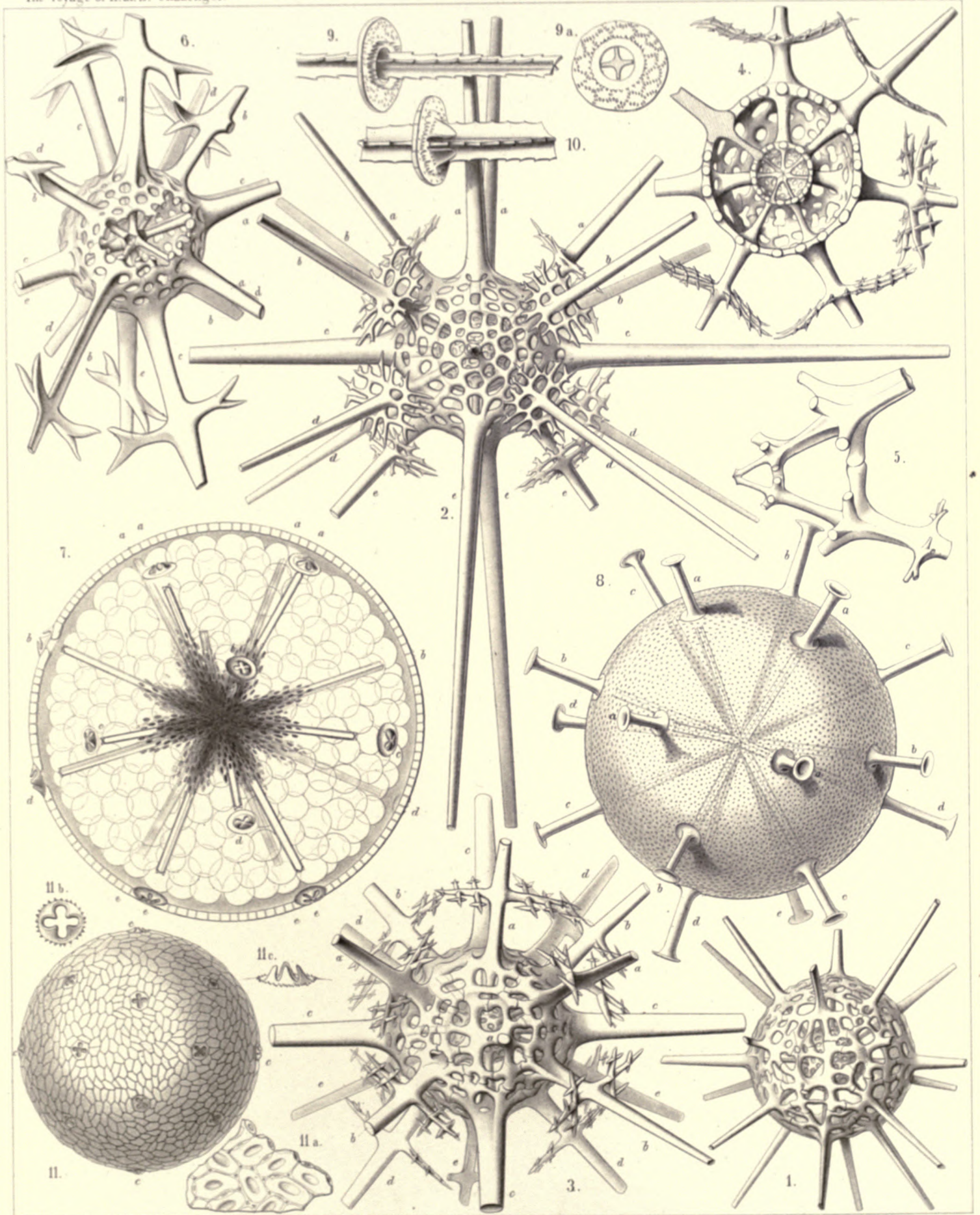
PLATE 133.

N.B.—The signification of the characters is the same in all the figures (compare p. 718).

- a. Northern polar spines.  
 b. Northern tropical spines.  
 c. Equatorial spines.  
 d. Southern tropical spines.  
 e. Southern polar spines.

SPHÆROCAPSIDA, DORATASPIDA et PHRACTOPELTIDA.

	Diam.	Page
Fig. 1. <i>Phractopelta dorataspis</i> , n. sp., . . . . .	× 300	852
Fig. 2. <i>Dorypelta tessaraspis</i> , n. sp., . . . . .	× 300	858
Fig. 3. <i>Stauropelta cruciata</i> , n. sp., . . . . .	× 400	859
Fig. 4. <i>Pantopelta icosaspis</i> , n. sp., . . . . .	× 400	855
Meridional section through the double shell.		
Fig. 5. <i>Octopelta scutella</i> , n. sp., . . . . .	× 400	856
Proximal part of two meeting spines, isolated.		
Fig. 6. <i>Orophaspis furcata</i> , n. sp., . . . . .	× 400	818
Fig. 7. <i>Porocapsa murrayana</i> , n. sp., . . . . .	× 300	800
The central capsule is filled up by spherical vacuoles and enclosed by the porous shell; in the centre radii of small granules (nuclei ?) occur.		
Fig. 8. <i>Cannocapsa stethoscopium</i> , n. sp., . . . . .	× 300	801
The shell alone.		
Fig. 9. <i>Astrocapsa coronata</i> , n. sp., . . . . .	× 400	799
Middle part of one spine with the four aspinal holes.		
Fig. 9a. Transverse section of a radial spine, with the four surrounding aspinal holes and the neighbouring part of the shell,	× 400	
Fig. 10. <i>Astrocapsa stellata</i> , n. sp., . . . . .	× 400	799
Part of one spine, with the aspinal holes and their four triangular teeth.		
Fig. 11. <i>Cenocapsa nirvana</i> , n. sp., . . . . .	× 200	802
The entire shell, with its pavement of small plates and the twenty cruciform perspinal holes.		
Fig. 11a. A group of small ovate plates which compose the shell; in each plate a dimple with a porule, . . . . .	× 400	
Fig. 11b. A cruciform perspinal hole, seen from the face, . . . . .	× 400	
Fig. 11c. A cruciform perspinal hole, with its four teeth, seen in profile, . . . . .	× 400	



1-5. PHRACTOPELTA, 6. OROPHASPIS, 7. POROCAPSA, 8. CANNOCAPSA,  
9. 10. ASTROCAPSA, 11. CENOCAPSA.



PLATE 134.

Legion ACANTHARIA.

Order SPHÆROPHRACTA.

Family DORATASPIDA.

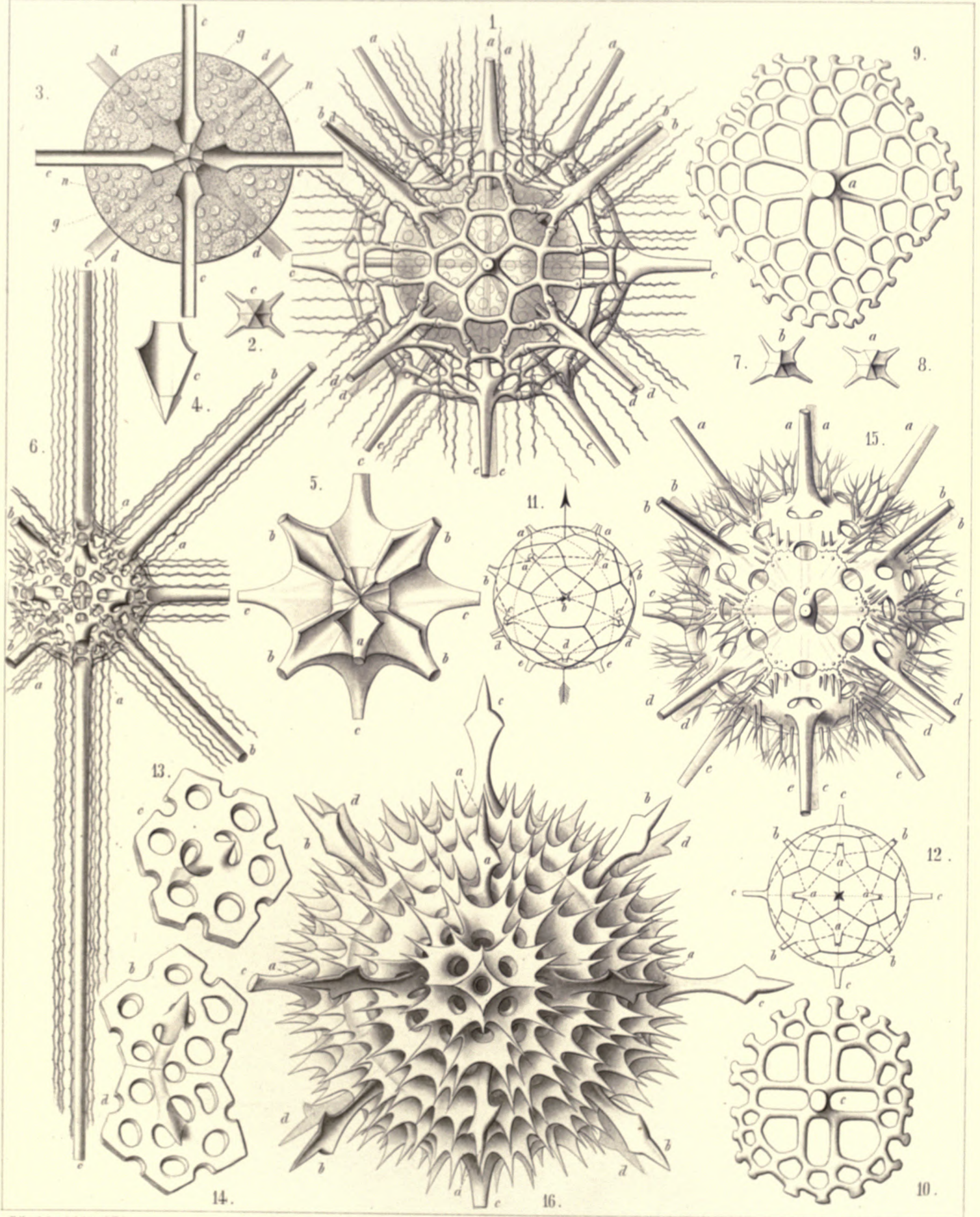
PLATE 134.

*N.B.*—The signification of the characters is the same in all the figures (compare p. 718).

- a.* Northern polar spines.  
*b.* Northern tropical spines.  
*c.* Equatorial spines.  
*d.* Southern tropical spines.  
*e.* Southern polar spines.

DORATASPIDA.

	Diam.	Page
Fig. 1. <i>Dodecaspis tricincta</i> , n. sp., . . . . .	× 400	834
The enclosed central capsule contains numerous spherical nuclei.		
Fig. 2. <i>Lychnaspis minima</i> , n. sp., . . . . .	× 400	841
Six-sided basal pyramid of an equatorial spine, with the leaf-cross, seen from the centre.		
Fig. 3. <i>Zonaspis cingulata</i> , n. sp., . . . . .	× 400	834
Equatorial section through the central capsule. <i>n</i> , nuclei; <i>g</i> , yellow bodies (intracapsular xanthellæ).		
Fig. 4. <i>Zonaspis cingulata</i> , n. sp., . . . . .	× 800	834
Central pyramidal base of an equatorial spine, with the leaf-cross.		
Fig. 5. <i>Stauraspis cruciata</i> , n. sp., . . . . .	× 400	831
Central union of the radial spines, three polar spines being taken off.		
Fig. 6. <i>Lychnaspis longissima</i> , n. sp., . . . . .	× 400	841
Fig. 7. <i>Lychnaspis minima</i> , n. sp., . . . . .	× 400	841
Five-sided basal pyramid of a tropical spine, with the leaf-cross, seen from the centre.		
Fig. 8. <i>Lychnaspis minima</i> , n. sp., . . . . .	× 400	841
Six-sided basal pyramid of a polar spine, with the leaf-cross, seen from the centre.		
Fig. 9. <i>Icosaspis elegans</i> , n. sp., . . . . .	× 400	844
An isolated polar plate.		
Fig. 10. <i>Icosaspis cruciata</i> , n. sp., . . . . .	× 400	844
An isolated equatorial plate.		
Figs. 11, 12. <i>Dorataspis</i> species, . . . . .	× 100	
Diagram of the composition of the shell of twenty plates (and also of the central union of the basal leaf-cross).		
Fig. 11. Oblique equatorial aspect.		
Fig. 12. Accurate polar aspect (compare p. 804, 805).		
Fig. 13. <i>Coscinaspis isopora</i> , n. sp., . . . . .	× 400	828
An isolated equatorial plate (with two aspinal and six coronal pores).		
Fig. 14. <i>Coscinaspis isopora</i> , n. sp., . . . . .	× 400	828
Two isolated tropical plates ( <i>b</i> , northern; <i>d</i> , southern), each with two aspinal and five coronal pores).		
Fig. 15. <i>Diporaspis nephropora</i> , n. sp., . . . . .	× 400	816
Fig. 16. <i>Acontaspis hastata</i> , n. sp., . . . . .	× 400	829



E. Haackel and Ad. Seltner, Del.

R. Giltner, Jena, Lithogr.

1-5. DODECASPIS, 6-8. LYCHNASPIS, 9, 10. ICOSASPIS, 11-14. COSCINASPIS,  
 15. DIPORASPIS, 16. ACONTASPIS.

PLATE 135

PLATE 135.

Legion ACANTHARIA.

Order SPHÆROPHRACTA.

Families SPHÆROCAPSIDA et DORATASPIDA.

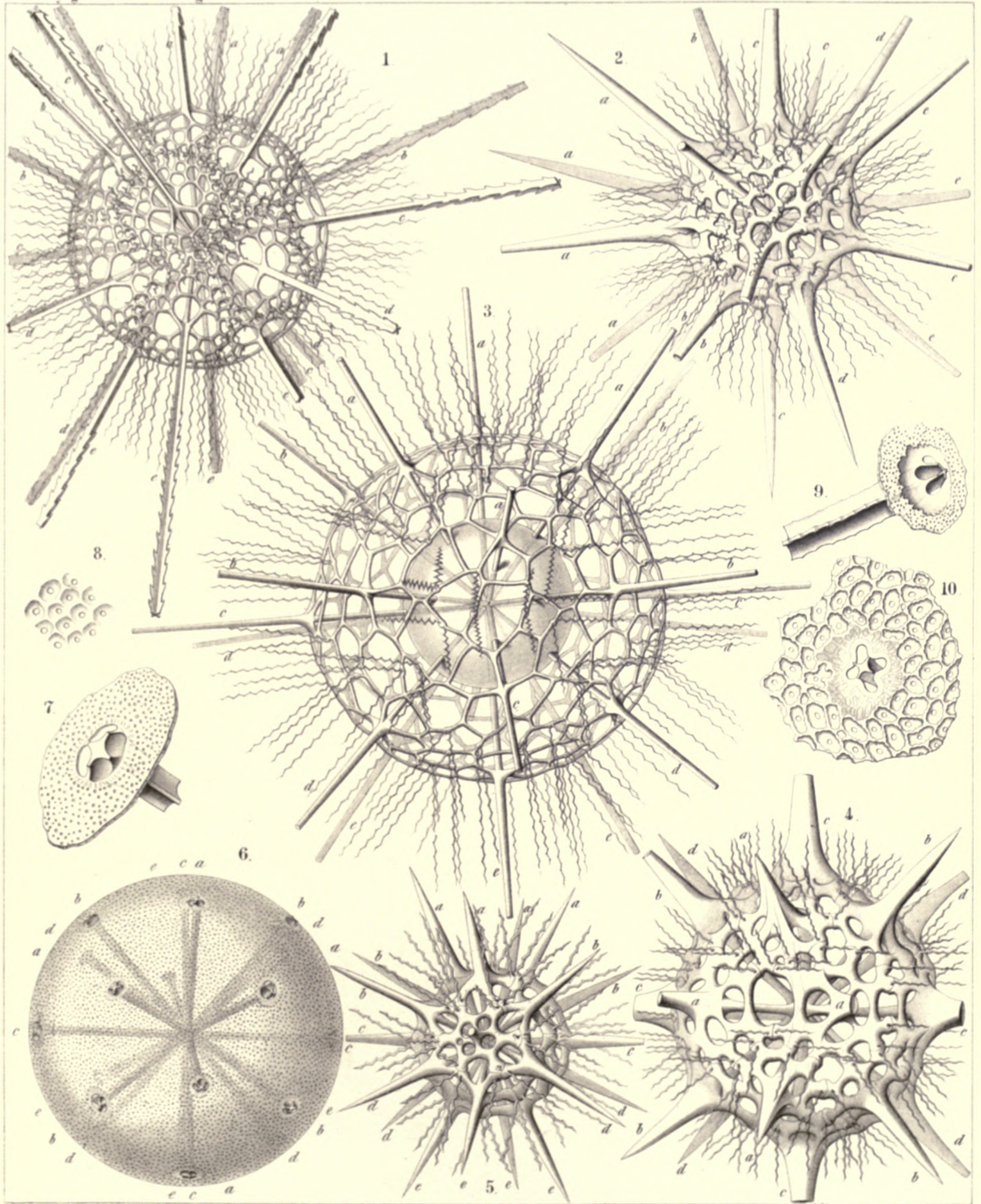
PLATE 135.

*N.B.*—The signification of the characters is the same in all the figures (compare p. 718).

- a.* Northern polar spines.  
*b.* Northern tropical spines.  
*c.* Equatorial spines.  
*d.* Southern tropical spines.  
*e.* Southern polar spines.

SPHÆROCAPSIDA et DORATASPIDA.

	Diam.	Page
Fig. 1. <i>Hylaspis serrulata</i> , n. sp., . . . . .	× 300	846
Fig. 2. <i>Lychnaspis undulata</i> , n. sp., . . . . .	× 400	841
Fig. 3. <i>Lychnaspis giltschii</i> , n. sp., . . . . .	× 400	839
The spherical central capsule is enclosed in the shell.		
Fig. 4. <i>Lychnaspis rottenburgii</i> , n. sp., . . . . .	× 400	841
Fig. 5. <i>Zonaspis æquatorialis</i> , n. sp., . . . . .	× 300	834
Fig. 6. <i>Sphærocapsa cruciata</i> , n. sp., . . . . .	× 150	798
The entire shell, with its twenty cruciate perspinal holes.		
Fig. 7. <i>Sphærocapsa cruciata</i> , n. sp., . . . . .	× 800	798
Insertion of one spine in the cruciate perspinal hole of the shell.		
Fig. 8. <i>Sphærocapsa quadrata</i> , n. sp., . . . . .	× 800	798
A group of pores and dimples in the shell surface.		
Fig. 9. <i>Sphærocapsa dentata</i> , n. sp., . . . . .	× 800	798
Insertion of one spine in the cruciate perspinal hole of the shell.		
Fig. 10. <i>Sphærocapsa pavimentata</i> , n. sp., . . . . .	× 800	798
Insertion of one spine in the perspinal hole of the shell, which is composed of four cruciate aspinal holes and surrounded by a group of dimples and pores.		



H. Haackel and E. Sittich del.

K. Giltach, Jena, Lithogr.

1-5. LYCHNASPIS, 6-10. SPHAEROCAPSA.

PLATE 136.

Legion ACANTHARIA.

Orders SPHÆROPHRACTA ET PRUNOPHRACTA.

Families DORATASPIDA et BELONASPIDA.

PLATE 136.

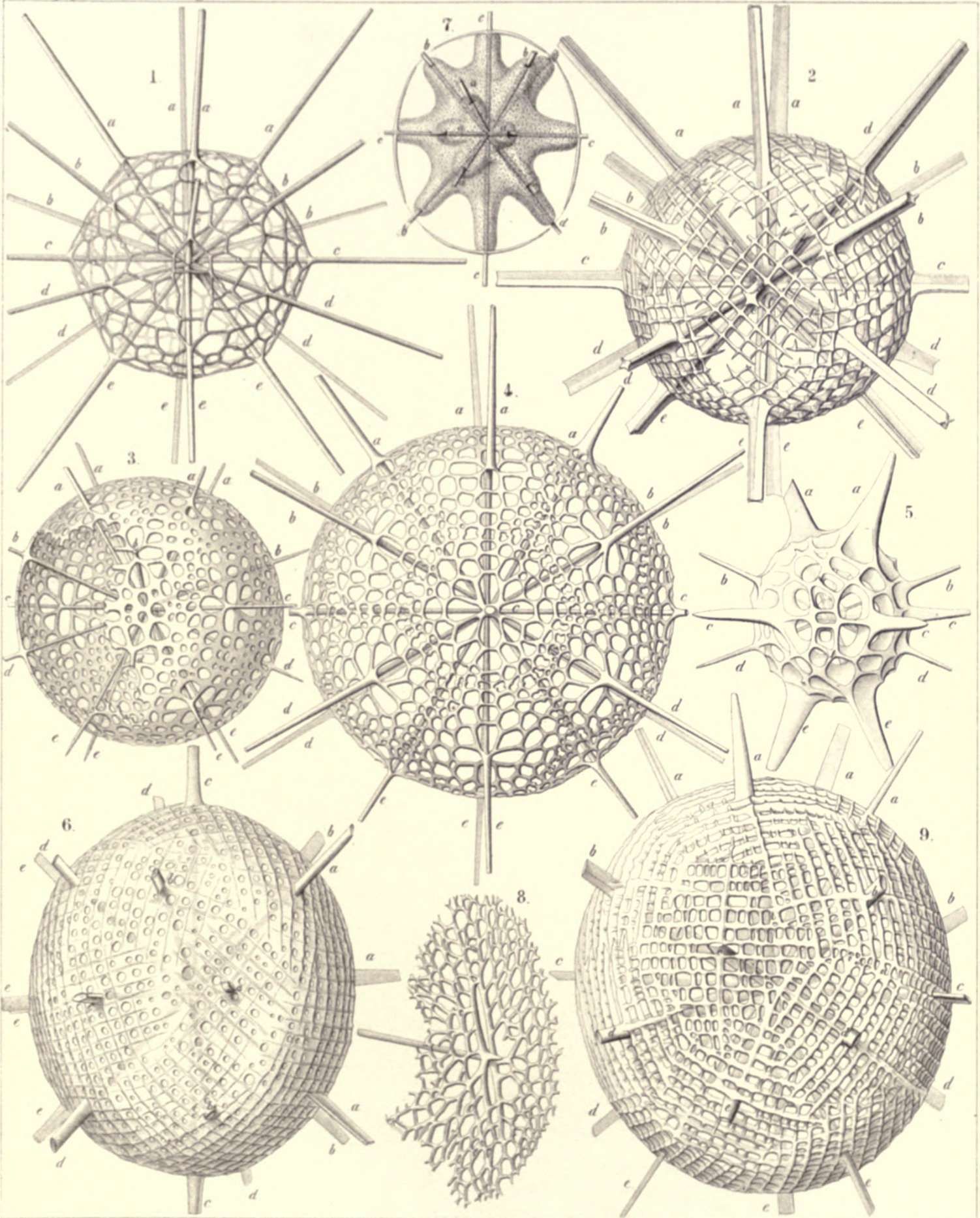
*N.B.*—The signification of the characters is the same in all the figures (compare p. 718).

- a.* Northern polar spines.  
*b.* Northern tropical spines.  
*c.* Equatorial spines.  
*d.* Southern tropical spines.  
*e.* Southern polar spines.

DORATASPIDA et BELONASPIDA.

	Diam.	Page
Fig. 1. <i>Tessaraspis arachnoides</i> , n. sp., . . . . .	× 300	836
Fig. 2. <i>Icosaspis tabulata</i> , n. sp., . . . . .	× 200	843
Fig. 3. <i>Icosaspis icosastaura</i> , n. sp., . . . . .	× 400	846
Fig. 4. <i>Icosaspis elegans</i> , n. sp., . . . . .	× 300	844
Fig. 5. <i>Tessaraspis concreta</i> , n. sp., . . . . .	× 400	838
Fig. 6. <i>Phatnaspis cristata</i> , n. sp., . . . . .	× 400	869
Fig. 7. <i>Phatnaspis haliommidium</i> , n. sp., . . . . .	× 200	871
Central capsule within the shell—outline.		
Fig. 8. <i>Coscinaspis polypora</i> , n. sp., . . . . .	× 300	827
A single lattice-plate of the shell.		
Fig. 9. <i>Phatnaspis lacunaria</i> , n. sp., . . . . .	× 400	869





H. Eiseckel and J. D. Schuch, Del.

K. Sitte, Jena, Lithogr.

1-5. TESSARASPLS, 6-9. PHATNASPIS.

PLATE 137.

Legion ACANTHARIA,

Order SPHÆROPHRACTA,

Family DORATASPIDA.

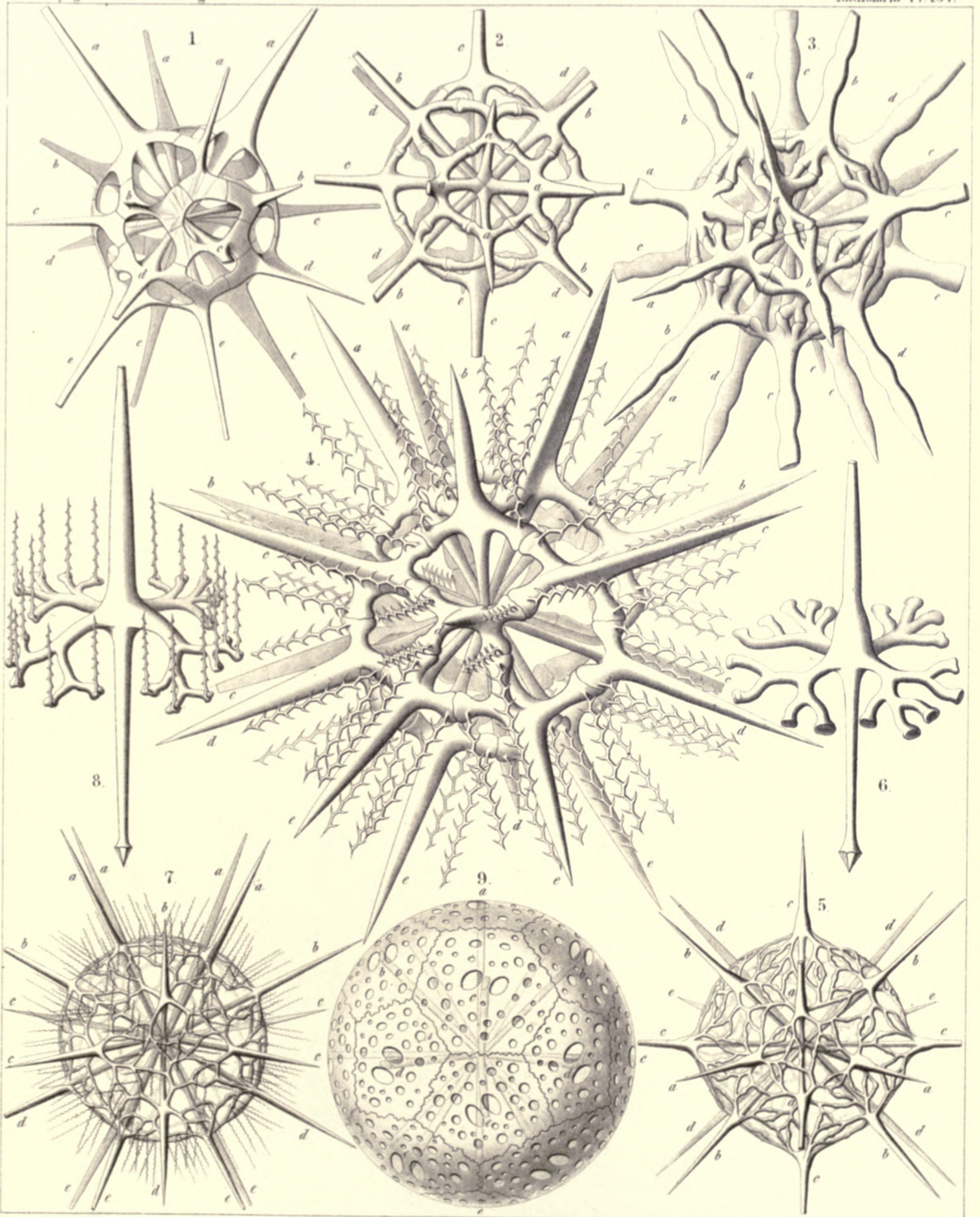
PLATE 137.

N.B.—The signification of the characters is the same in all the figures (compare p. 718).

a. Northern polar spines.  
 b. Northern tropical spines.  
 c. Equatorial spines.  
 d. Southern tropical spines.  
 e. Southern polar spines.

DORATASPIDA.

	Diam.	Page
Fig. 1. <i>Phractaspis complanata</i> , n. sp., . . . . .	× 400	809
Fig. 2. <i>Phractaspis prototypus</i> , n. sp., . . . . .	× 400	809
Fig. 3. <i>Phractaspis constricta</i> , n. sp., . . . . .	× 400	810
Fig. 4. <i>Pleuraspis horrida</i> , n. sp., . . . . .	× 400	811
Fig. 5. <i>Stauraspis stauracantha</i> , n. sp., . . . . .	× 300	832
Fig. 6. <i>Stauraspis stauracantha</i> , n. sp., . . . . .	× 600	832
A single spine.		
Fig. 7. <i>Echinaspis echinoides</i> , n. sp., . . . . .	× 300	833
Fig. 8. <i>Echinaspis echinoides</i> , n. sp., . . . . .	× 800	833
A single spine.		
Fig. 9. <i>Coscinaspis parmipora</i> , n. sp., . . . . .	× 400	827



K. Hecksel and J. G. Hecksel, Del.

K. Giltich, Jena, Lithogr.

1-3. PHRACTASPIS, 4. PLEURASPIS, 5. 6. STAURASPIS.  
 7. 8. ECHINASPIS, 9. DORATASPIS.

PLATE 138

PLATE 138

PLATE 138

PLATE 138

**PLATE 138.**

**Legion ACANTHARIA.**

**Order SPHEROPHRACTA.**

**Family DORATASPIDA.**

138  
139  
140  
141  
142  
143  
144  
145  
146  
147  
148  
149  
150  
151  
152  
153  
154  
155  
156  
157  
158  
159  
160

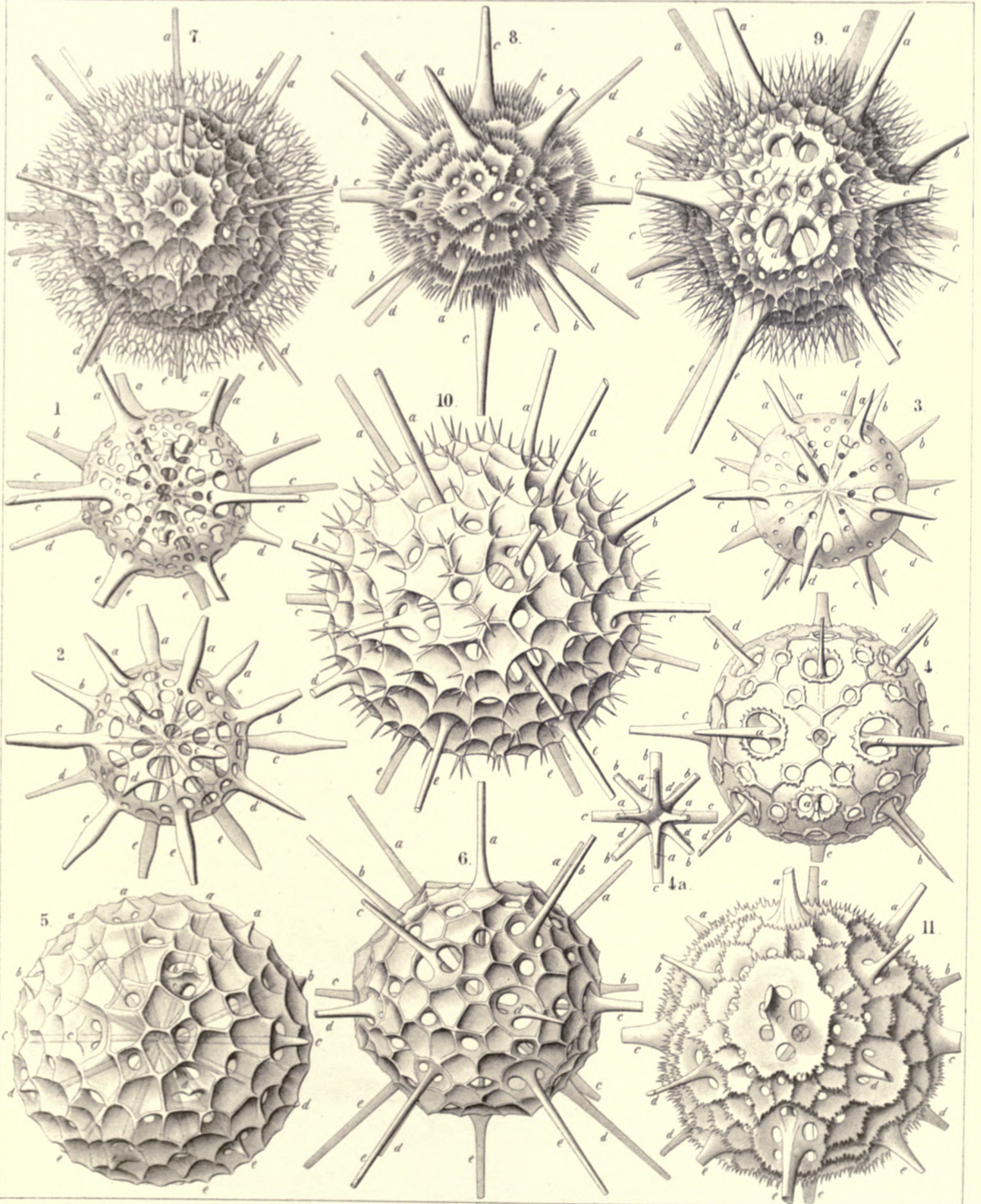
PLATE 138.

*N.B.*—The signification of the characters is the same in all the figures (compare p. 718),

- a.* Northern polar spines.  
*b.* Northern tropical spines.  
*c.* Equatorial spines.  
*d.* Southern tropical spines.  
*e.* Southern polar spines.

DORATASPIDA.

	Diam.	Page
Fig. 1. <i>Coscinaspis peripora</i> (vel <i>Dorataspis peripora</i> ), n. sp., . . . . .	× 300	826
Fig. 2. <i>Dorataspis fusigera</i> , n. sp., . . . . .	× 400	813
Fig. 3. <i>Dorataspis micropora</i> , n. sp., . . . . .	× 300	815
Fig. 4. <i>Dorataspis typica</i> , n. sp., . . . . .	× 300	815
Fig. 4 <i>a.</i> Polar view of the central union of the twenty spines, . . . . .	× 300	815
Fig. 5. <i>Ceriaspis inermis</i> , n. sp., . . . . .	× 400	821
Fig. 6. <i>Ceriaspis favosa</i> , n. sp., . . . . .	× 400	821
Fig. 7. <i>Hystrichaspis fruticata</i> , n. sp., . . . . .	× 300	825
Fig. 8. <i>Hystrichaspis pectinata</i> , n. sp., . . . . .	× 300	822
Fig. 9. <i>Hystrichaspis furcata</i> , n. sp., . . . . .	× 400	822
Fig. 10. <i>Hystrichaspis dorsata</i> , n. sp., . . . . .	× 300	823
Fig. 11. <i>Hystrichaspis cristata</i> (vel <i>Siphonaspis cristata</i> , n. sp.), . . . . .	× 400	823



Haeckel and Lüftsch. del.

F. Giltach, Jena, Lithogr.

1-4. DORATASPIS, 5, 6. CERIASPIS, 7-11. HYSTRICHASPIS.

PLATE 139.

Legion ACANTHARIA.

Order PRUNOPHRACTA.

Families BELONASPIDA et HEXALASPIDA.



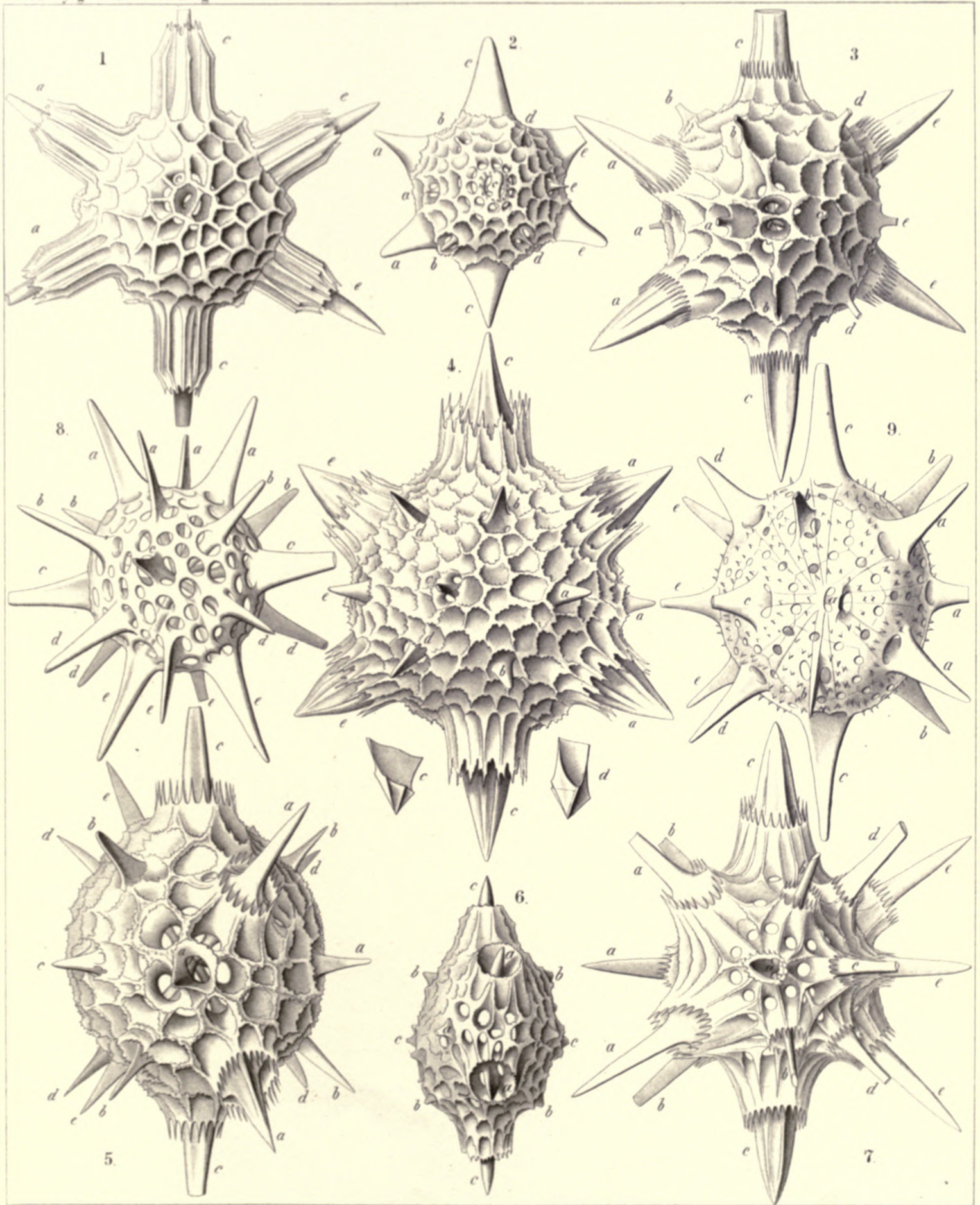
PLATE 139.

*N.B.*—The signification of the characters is the same in all the figures (compare p. 718).

- a.* Northern polar spines.  
*b.* Northern tropical spines.  
*c.* Equatorial spines.  
*d.* Southern tropical spines.  
*e.* Southern polar spines.

BELONASPIDA et HEXALASPIDA.

	Diam.	Page
Fig. 1. <i>Hexacolpus nivalis</i> , n. sp., . . . . .	× 300	880
Fig. 2. <i>Hexalaspis heliodiscus</i> , n. sp., . . . . .	× 300	875
Fig. 3. <i>Hexaconus ciliatus</i> , n. sp., . . . . .	× 300	876
Fig. 4. <i>Hexaconus serratus</i> , n. sp., . . . . .	× 300	877
<i>c</i> , Central base of an equatorial spine; <i>d</i> , central base of a tropical spine.		
Fig. 5. <i>Hexaconus coronatus</i> , n. sp., . . . . .	× 300	877
Fig. 6. <i>Hexaconus velatus</i> , n. sp., . . . . .	× 300	877
Marginal view of the shell.		
Fig. 7. <i>Hexaconus vaginatus</i> , n. sp., . . . . .	× 300	877
Fig. 8. <i>Thoracaspis bipennis</i> , n. sp., . . . . .	× 300	862
Fig. 9. <i>Belonaspis datura</i> , n. sp., . . . . .	× 400	863



Haeckel and Giltch Del.

Giltch, Jena, Lithogr.

1-7. HEXALASPIS, 8. THORACASPIS, 9. BELONASPIS.

PLATE 140.

Legion ACANTHARIA.

Order PRUNOPHRACTA.

Families BELONASPIDA, HEXALASPIDA et DIPLOCONIDA.

PLATE 140.

*N.B.*—The signification of the characters is the same in all the figures (compare p. 718).

- a.* Northern polar spines.  
*b.* Northern tropical spines.  
*c.* Equatorial spines.  
*d.* Southern tropical spines.  
*e.* Southern polar spines.

BELONASPIDA, HEXALASPIDA et DIPLOCONIDA.

	Diam.	Page
Fig. 1. <i>Diploconus amalla</i> , n. sp., . . . . .	× 300	885
Fig. 2. <i>Diploconus hexaphyllus</i> , n. sp., . . . . .	× 300	886
Fig. 3. <i>Diploconus cyathiscus</i> , n. sp., . . . . .	× 300	885
Fig. 4. <i>Diploconus cotyliscus</i> , n. sp., . . . . .	× 400	886
Polar view.		
Fig. 5. <i>Diplocolpus serratus</i> , n. sp., . . . . .	× 300	888
Fig. 6. <i>Diplocolpus cristatus</i> , n. sp., . . . . .	× 400	887
Fig. 7. <i>Diplocolpus costatus</i> , n. sp., . . . . .	× 400	887
Fig. 8. <i>Diplocolpus sulcatus</i> , n. sp., . . . . .	× 300	888
Fig. 9. <i>Diplocolpus dentatus</i> , n. sp., . . . . .	× 300	888
Meridional section through the centre of the shell.		
Fig. 10. <i>Hexacolpus infundibulum</i> , n. sp., . . . . .	× 300	881
Fig. 11. <i>Hexacolpus trypanon</i> , n. sp., . . . . .	× 300	881
Fig. 12. <i>Hexaconus echinatus</i> , n. sp., . . . . .	× 300	878
Fig. 13. <i>Coleaspis vaginata</i> , n. sp., . . . . .	× 300	866
Meridional section through the shell.		
Fig. 14. <i>Coleaspis hydrotomica</i> , n. sp., . . . . .	× 400	867
Fig. 15. <i>Hexonaspis hexapleura</i> , n. sp., . . . . .	× 400	879
A single spine with its thick apophyses.		
Fig. 16. <i>Hexonaspis hastata</i> , n. sp., . . . . .	× 400	879



E. Haeckel and A. Altrock del.

E. Haeckel Jena Lithogr.

1-3. DIPLOCONUS. 4-8. DIPLOCOLPUS. 9-12. HEXACONUS.  
 13. 14. COLEASPIS. 15. 16. HEXONASPIS.