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CATALOGUE

OF THE

CHELONIANS,

RHYNCHOCEPHALIANS,

AND

CROCODILES

IN THE

BRITISH MUSEUM

(NATURAL HISTORY).

NEW EDITION.

BY

GEORGE ALBERT BOULENGER.



LONDON:

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1889.

THE CLEVELAND MUSEUM
OF NATURAL HISTORY
LIBRARY

- The suture between the pectoral and the marginals shorter than that between the abdominal and the marginals ; carapace unicarinate 2. *dhor*, p. 131.
- The suture between the pectoral and the marginals shorter than that between the abdominal and the marginals ; carapace tricarinate 3. *mouhotii*, p. 132.
- II. Plastron nearly completely closing the shell in the adult ; carapace tricarinate in the young ; posterior margin not serrated.
- Hind lobe of plastron angularly notched 4. *trifasciata*, p. 133.
- Plastron not notched ; digits distinctly webbed 5. *amboinensis*, p. 133.
- Plastron not notched ; digits without distinct web 6. *flavomarginata*, p. 135.

1. *Cyclemys platynota*.

Emys platynota, Gray, *Proc. Zool. Soc.* 1834, p. 54, and *Ill. Ind. Zool.* ii. pl. lvii. fig. 1 (1834), and *Cat. Tort.* p. 16 (1844) ; *Strauch, Verth. Schildkr.* p. 57 (1865).

Cyclemys platynota, Gray, *Cat. Sh. Rept.* i. p. 43 (1855).

Notochelys platynota, Gray, *Proc. Zool. Soc.* 1863, p. 177 ; *Günth. Rept. Brit. Ind.* p. 17 (1864) ; Gray, *Suppl. Cat. Sh. Rept.* i. p. 21 (1870).

Cyclemys dentata (*non* Gray), *Giebel, Zeitschr. f. ges. Naturw.* xxvii. p. 15, pl. iii. (1866).

Geoemyda grandis, part., Gray, *Suppl. Cat. Sh. Rept.* i. p. 26.

Cyclemys giebelii, *Hubrecht, Notes Leyd. Mus.* iii. p. 45 (1881).

Carapace depressed, angular, the vertebral region flat, with an interrupted obtuse keel ; posterior margin serrated ; six, rarely seven, vertebral shields, the small additional shield intercalated between the fourth and fifth ; vertebrals much broader than long, at least as broad as the costals ; first vertebral broader than long and somewhat narrower than second. Plastron narrower than the opening of the shell, hind lobe openly emarginate, connected with the carapace by a distinct bridge, the width of which is contained twice and a half to twice and two thirds in the length of the plastron ; the hyo- and hypoplastral bones contribute to an equal degree to the formation of the bridge ; no distinct transverse hinge ; a large inguinal shield ; the suture between the pectoral shield and the marginals longer than that between the abdominal and the marginals ; the median suture between the pectoral shields as long as or a little longer than that between the abdominals. Hook of the upper jaw bicuspid, divided by a median groove. Digits extensively webbed, claws long, curved, sharp. Front part of arm with broad, band-like transverse shields. Carapace reddish brown, or yellowish brown with radiating brown lines ; young with a pair of round black spots on each vertebral shield, and one or two similar

spots on each costal; plastron yellow with brown spots, or brown with the sutures between the shields yellow. Head yellowish brown; neck brown, with irregular yellowish streaks, the broadest of which extends from the posterior corner of the eye.

Length of shell 24 centim.

Sumatra, Borneo, Malay Peninsula, Mergui.

| | | |
|----------------------------------|------------|---|
| <i>a.</i> Ad., stffid. | Sumatra. | (Type.) |
| <i>b.</i> Yg., spir. | Banka. | Dr. Bleeker (<i>Cistudo bankanensis</i>). |
| <i>c-e.</i> Hgr. & yg., spir. | Sarawak. | A. Everett, Esq. [C.]. |
| <i>f, g, h.</i> Ad., stffid. | Singapore. | A. R. Wallace, Esq. [P.]. |
| <i>i, k.</i> Hgr. & yg., shells. | Singapore. | A. R. Wallace, Esq. [P.]. |

2. *Cyclemys dhor*.

Emys dhor, part., *Gray, Syn. Rept.* p. 23 (1831).

Cyclemys orbiculata, *Bell, Proc. Zool. Soc.* 1834, p. 17, and *Mon. Test.* p. —, pls. xxiv., xxv. (1842); *Gray, Proc. Zool. Soc.* 1863, p. 178; *Theob. Journ. Linn. Soc.* x. p. 12 (1870).

Emys dentata, *Gray, Ill. Ind. Zool.* ii. pl. lviii. fig. 2 (1834).

Cistudo diardii, *Dum. & Bibr.* ii. p. 227 (1835).

— *dentata*, *Gray, Cat. Tort.* p. 32 (1844).

Emys diardii, *Schleg. Verhand. Naturk. Afbeeld.* p. 44, figs. 6 & 7 (1849).

Cyclemys dentata, *Gray, Cat. Sh. Rept.* i. p. 42, pl. xix. (1855); *Jerdon, Proc. As. Soc. Beng.* 1870, p. 68; *Theob. Cat. Rept. Brit. Ind.* p. 8 (1876).

Emys dhor, *Strauch, Chelon. Stud.* p. 28 (1862), and *Verth. Schildkr.* p. 58 (1865).

Cyclemys oldhamii, *Gray, Proc. Zool. Soc.* 1863, p. 178; *Günth. Rept. Brit. Ind.* p. 15, pl. v. fig. B (1864); *Gray, Suppl. Cat. Sh. Rept.* i. p. 23 (1870).

— *ovata*, *Gray, Proc. Zool. Soc.* 1863, p. 178, and *Suppl. Cat. Sh. Rept.* i. p. 23.

— *bellii*, *Gray, Proc. Zool. Soc.* 1863, p. 179.

Cistudo orbiculata, *Giebel, Zeitschr. f. ges. Naturw.* xxvii. p. 13 (1866).

Cyclemys dhor, *Gray, Suppl. Cat. Sh. Rept.* i. p. 23.

Carapace depressed, with a single, obtuse keel; posterior margin serrated; vertebral shields as broad as long or broader than long, narrower than the costals. Plastron narrower than the opening of the shell, hind lobe angularly notched, connected with the carapace by a distinct bridge, the width of which is contained twice and three fourths to three times in the length of the plastron; the hyo- and hypoplastral bones contribute to a nearly equal degree to the formation of the bridge; the transverse hinge between the hyo- and hypoplastrals, which does not correspond with the curved suture between the pectoral and abdominal shields, is only developed in adult specimens; a small inguinal shield may be present; the suture between the pectoral shield and the marginals shorter than that between the abdominal and the marginals; the longest median suture is that between the pectorals. Hook of upper jaw bicuspid.

Digits distinctly webbed, with sharp claws. Front part of arm with broad transverse scales. Carapace brown, or yellowish brown spotted with dark brown; plastron yellowish or pale brown in the young, with dark brown spots or radiating lines; in the adult dark brown. Neck with dark and light longitudinal lines.

Length of shell 19 centim.

Malay Archipelago and Peninsula, Camboja, Siam, Burma, N. India.

| | | |
|--|--------------------|--|
| <i>a.</i> Ad., skel. | Java. | Leyden Museum. |
| <i>b.</i> Yg., spir. | Java. | Leyden Museum. |
| <i>c.</i> Yg., spir. | Java. | T. Bell, Esq. [P.]. |
| <i>d.</i> Ad., skel. | Java? | |
| <i>e, f.</i> Yg., spir. | Sarawak. | A. Everett, Esq. [C.]. |
| <i>g.</i> Ad., shell. | Sarawak. | A. R. Wallace, Esq. [P.]. (Type of <i>C. ovata</i> .) |
| <i>h.</i> Yg., dry. | Sarawak. | A. R. Wallace, Esq. [P.]. |
| <i>i.</i> Yg., spir. | Malay Archipelago. | Dr. Bleeker. |
| <i>k.</i> Yg., stffd. | Lao Mountains. | M. Mouhot [C.]. |
| <i>l.</i> Ad., stffd. | Lao Mountains. | M. Mouhot [P.]. |
| <i>m.</i> Ad., shell. | Mergui. | Prof. Oldham [P.]. } (Types of <i>C. oldhami</i> .) |
| <i>n-o.</i> Yg., spir. | Pegu. | W. Theobald, Esq. [C.]. |
| <i>p.</i> Yg., skel. | Pegu. | W. Theobald, Esq. [C.]. |
| <i>q-r.</i> Hgr. & yg., shells. | Pegu. | W. Theobald, Esq. [C.]. |
| <i>s.</i> Hgr., stffd. | — ? | Sir A. Smith [P.]. |
| <i>t, u.</i> Yg., shells. | — ? | |
| <i>v.</i> Ad., carapace and front lobe of plastron. | — ? | |

3. *Cyclemys mouhotii*.

Cyclemys mouhotii, Gray, *Ann. & Mag. N. H.* (3) x. p. 157 (1862).
Pyxidea mouhotii, Gray, *Proc. Zool. Soc.* 1863, p. 175; *Günth. Rept. Brit. Ind.* p. 16, pl. iv. fig. D (1864); Gray, *Suppl. Cat. Sh. Rept.* i. p. 20 (1870); Jerdon, *Proc. As. Soc. Beng.* 1870, p. 68; *Theob. Cat. Rept. Brit. Ind.* p. 9 (1876).
Emys mouhotii, Strauch, *Verth. Schildkr.* p. 57 (1865).

Carapace depressed, angular, the vertebral region flat, with three strong parallel keels; posterior margin serrated; vertebral shields much broader than long and as broad as the costals; first vertebral as long as broad or broader than long, narrower than second. Plastron a little narrower than the opening of the shell, hind lobe angularly emarginate; bridge broad and very short, its width about one third the length of the plastron; the hypoplastral bone and the abdominal shield have a much greater share in the formation of the bridge than the hyoplastral and pectoral; the longest median suture is that between the abdominals. Hook of the upper jaw strong, entire. Digits nearly free; limbs covered with large scales. Carapace yellowish or reddish brown; plastron yellowish, with or without a few large dark brown spots; neck of young brown, spotted with yellow.

Length of shell 16 centim.

Siam, Cochin China, Cachar.

- a, b, c, d, e, f, g.* Ad., hgr., & Lao Mountains. M. Mouhot [C.]. (Types.)
 yg., stffd.
h. Ad., shell. Cachar? T. C. Jerdon, Esq. [P.].

4. *Cyclemys trifasciata*.

Sternotherus trifasciatus, *Bell, Zool. Journ.* ii. p. 305, pl. xiii. (1825).

Cistudo trifasciata, *Gray, Syn. Rept.* p. 19 (1831), and *Ill. Ind. Zool.* ii. pl. lxi. (1834); *Dum. & Bibr.* ii. p. 219 (1835); *Gray, Cat. Tort.* p. 31 (1844).

Cuora trifasciata, *Gray, Cat. Sh. Rept.* i. p. 42 (1855); *Günth. Rept. Brit. Ind.* p. 14 (1864).

Terrapene trifasciata, *Strauch, Chelon. Stud.* p. 27 (1862).

Carapace depressed, with three obtuse keels, the lateral of which may become indistinct in the adult; vertebral shields as long as broad or a little broader than long, much narrower than the costals, first a little broader than second. Plastron as large as the opening of the shell, without distinct bridge, posterior lobe angularly notched; the line of junction between the hyoplastron and the carapace shorter than that between the hypoplastron and the carapace; pectoral shields as long as or a little longer than the abdominals, as long as or longer than the humerals; inguinal small or absent. Head small; upper jaw feebly hooked. Digits moderately webbed, with sharp curved claws. Front part of arm with large scales. Carapace brown, with three black streaks along the keels; plastron blackish, with a yellow border, sometimes with traces of radiating yellow lines; head yellowish, with two black streaks on each side, passing through the eye and joining above the ear; neck brown.

Length of shell 17 centim.

S. China.

- | | | |
|---------------------------------|--------|-----------------------|
| <i>a.</i> ♀, stffd. | China. | J. Reeves, Esq. [P.]. |
| <i>b.</i> Ad. shell, malformed. | China. | J. Reeves, Esq. [P.]. |
| <i>c.</i> ♂, stffd. | China. | R. Inglis, Esq. [C.]. |
| <i>d.</i> Hgr., spir. | China. | |
| <i>e.</i> Ad., carapace. | China. | |

5. *Cyclemys amboinensis*.

Testudo amboinensis, *Daud. Rept.* ii. p. 309 (1802).

? *Testudo melanocephala*, *Daud. l. c.* p. 128.

Emys amboinensis, *Schweigg. Prodr.* p. 45 (1814).

— couro, *Schweigg. l. c.* p. 46; *Schleg. Faun. Japon., Rept.* p. 63 (1833).

Terrapene amboinensis, *Merr. Tent.* p. 28 (1820); *Strauch, Chelon. Stud.* p. 99 (1862), and *Verth. Schildkr.* p. 47 (1865); *Sowerby & Lear, Tort.* pl. xxiii. (1872).

Kinosternon amboinense, *Bell, Zool. Journ.* ii. p. 305 (1825).

Terrapene bicolor, *Bell, l. c.* p. 484, pl. xvi.

— couro, *Fitzing. N. Class. Rept.* p. 45 (1826).

Cistudo amboinensis, *Gray, Syn. Rept.* p. 19 (1831), and *Ill. Ind. Zool.* i. pl. lxxvii. fig. 2 (1832); *Dum. & Bibr.* ii. p. 215, pl. xv.

fig. 2 (1835); *Gray, Cat. Tort.* p. 30 (1844); *Giebel, Zeitschr. f. ges. Naturw.* xxvii. p. 11 (1866).

Cuora amboinensis, *Gray, Cat. Sh. Rept.* i. p. 41 (1855); *Günth. Rept. Brit. Ind.* p. 12, pl. iv. figs. A, B (1864); *Gray, Suppl. Cat. Sh. Rept.* i. p. 21 (1870), and *Append.* p. 10 (1872); *Theob. Cat. Rept. Brit. Ind.* p. 7 (1876).

Carapace depressed and tricarinate in the young, usually very convex and without or with a single keel in adult females; vertebral shields as long as broad or a little longer than broad in the adult, broader in the young, much narrower than the costals. Plastron as large as the opening of the shell in the adult, without distinct bridge; no anal notch; the line of junction between the hyoplastron and the carapace shorter than that between the hypoplastron and the carapace; pectoral shields as long as or shorter than the abdominals, as long as or slightly longer than the humerals; axillary and inguinal small or absent. Head rather small; upper jaw scarcely hooked, without any emargination. Front part of arm with large transverse scales. Digits moderately webbed, with sharp claws. Carapace brown or blackish; plastron yellow with large black spots, or dark brown with the suture between the shields yellow; in the very young the black spots of the plastron are confluent into a broad longitudinal zone, the borders of the plastron being yellowish; head and neck brown above, yellow inferiorly; a yellow band borders the head and neck superiorly, meeting its fellow above the nostrils; a second yellow band passes through the eye and is separated from the upper jaw by a dark brown band; ear yellow.

Length of shell 20 centim.

Burma, Siam, Malay Peninsula and Archipelago eastwards to the Moluccas.

| | | |
|--|-----------------|---------------------------|
| a. ♀, stffd. | Siam. | |
| b. ♀, stffd. | Malacca. | Capt. Ince [P.]. |
| c. Hgr., stffd. | Singapore. | |
| d, e, f, g. ♀, hgr., & yg., spir. | Borneo. | Dr. Bleeker. |
| h. Yg., spir. | Borneo. | A. R. Wallace, Esq. [C.]. |
| i, k. Hgr. & yg., spir. | Philippines. | H. Cuming, Esq. [C.]. |
| l-m. Hgr., spir. | Laguna del Bey. | Dr. A. B. Meyer [C.]. |
| n. Several specs., ♀, hgr., & yg., spir. | Dinagat Id. | A. Everett, Esq. [C.]. |
| o. Yg., spir. | N. Celebes. | Dr. A. B. Meyer [C.]. |
| p. ♂, skel. | Manado. | |
| q. ♂, stffd. | Gilolo. | |
| r. ♀, spir. | Amboyna. | Leyden Museum. |
| s. ♀, skel. | Amboyna. | Leyden Museum. |
| t. ♂, stffd. | — ? | T. Bell, Esq. [P.]. |
| u. Yg., shell. | — ? | J. E. Gray, Esq. [P.]. |
| v. Hgr., stffd. | — ? | |
| w, x. ♂, skels. | — ? | |
| y. ♀, shell. | — ? | |

1. *Geoemyda spinosa*.

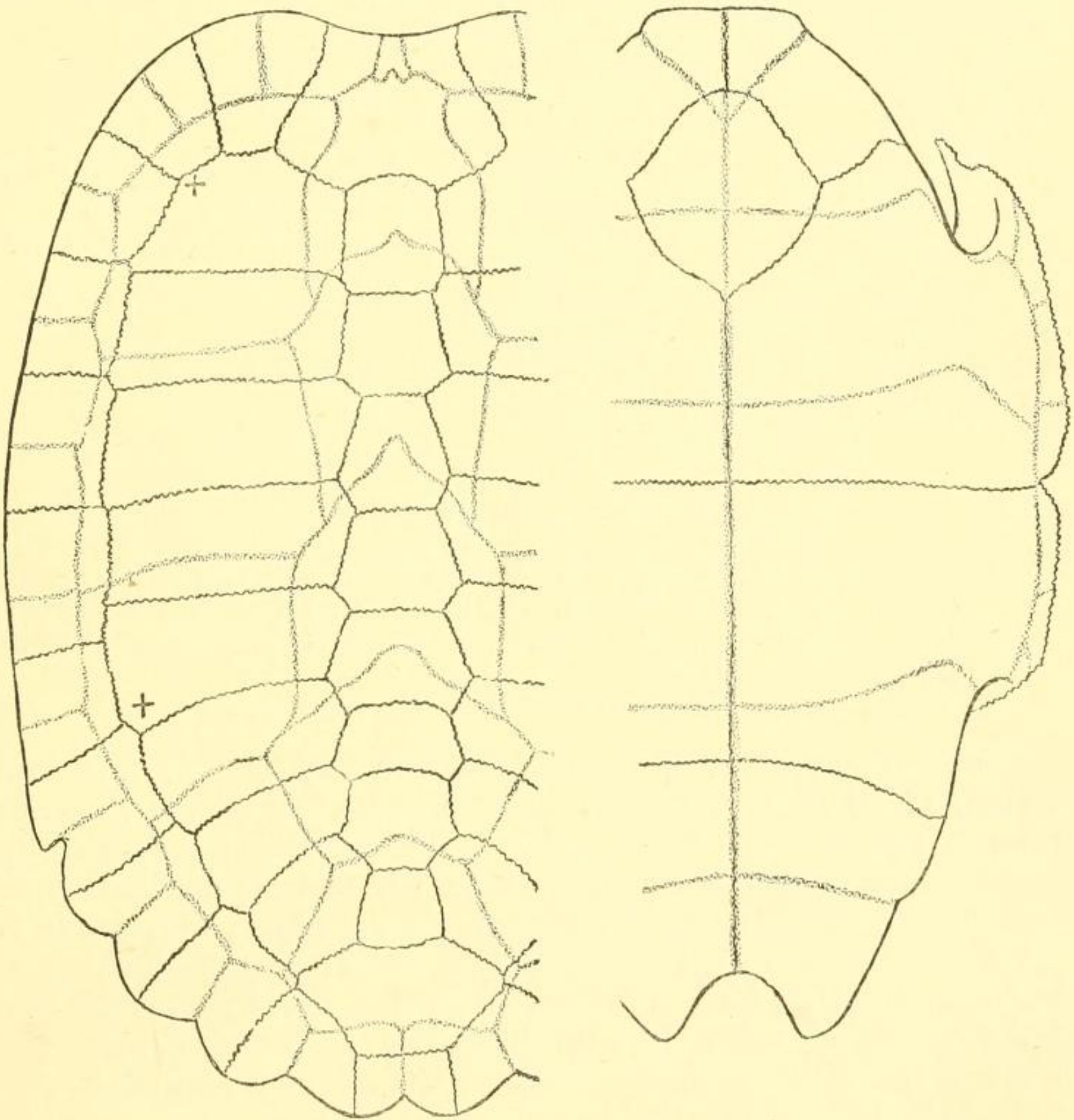
Emys spinosa, Gray, *Syn. Rept.* p. 20 (1831), and *Ill. Ind. Zool.* i. pl. lxxvii. figs. 1, 2 (1832); *Bell, Mon. Test.* p. —, pls. xxvi. & xxvii. (1834); *Dum. & Bibr.* ii. p. 327 (1834).

Geoemyda spinosa, Gray, *Proc. Zool. Soc.* 1834, p. 100, and *Ill. Ind. Zool.* ii. pl. lvii. fig. 2 (1834), and *Cat. Tort.* p. 14 (1844), and *Sh. Rept.* i. p. 16 (1855); *Günth. Rept. Brit. Ind.* p. 18 (1864); *Theob. Cat. Rept. Brit. Ind.* p. 5 (1876).

Clemmys spinosa, *Strauch, Chelon. Stud.* p. 32 (1862), and *Verth. Schildkr.* p. 63 (1865).

Carapace of adult much depressed, with broad flat vertebral

Fig. 39.

Shell of *Geoemyda grandis*.

region and an uninterrupted obtuse keel; anterior and posterior margin serrated; of young more regularly arched, with a short keel or spinose tubercle on each costal shield, and the border strongly serrated all round, each marginal being produced in a spine, with or without smaller denticulation on each side; the vertebral keel stronger than in the adult. Vertebral shields (2-4)

much broader than long, at least as broad as the costals; nuchal shield longer than broad. Plastron large; the width of the bridge about equals the length of the posterior lobe, which is angularly emarginate; as regards size, the plastral shields take the following order, commencing with the largest:—abdominals, pectorals, femorals, humerals, anals, gulars; the suture between the abdominals not or but slightly longer than that between the pectorals; axillary and inguinal shields present. Upper jaw bicuspid. Carapace brown above, reddish in the young, the vertebral keel lighter; each plastral shield with yellow and dark brown radiating streaks; soft parts dark brown, with a yellowish spot on each side of the neck, near the ear.

Length of carapace 20 centim.

Burma, Malay Peninsula, Sumatra, Borneo.

| | | |
|-----------------------|-------------|---------------------------|
| a. Yg., shell. | Tenasserim. | W. Theobald, Esq. [E.]. |
| b. ♂, stffd. | Pinang. | Dr. Cantor. |
| c. Yg., stffd. | Pinang. | |
| d, e. ♂ & yg., stffd. | Singapore. | A. R. Wallace, Esq. [C.]. |
| f. ♀, stffd. | Sumatra. | A. R. Wallace, Esq. [C.]. |
| g. Hgr., shell. | Sumatra. | A. R. Wallace, Esq. [C.]. |
| h. ♂, spir. | Sumatra. | Hr. C. Bock [C.]. |
| i. Yg., spir. | Sumatra. | Leyden Museum. |
| k. ♂, stffd. | Sumatra. | |
| l. Hgr., spir. | Sarawak. | A. Everett, Esq. [C.]. |
| m. Yg., spir. | Borneo. | |

2. *Geoemyda grandis*.

Geoemyda grandis, Gray, *Ann. & Mag. N. H.* (3) vi. p. 218 (1860);
Günth. Rept. Brit. Ind. p. 19, pls. i. & ii. figs. A & B (1864);
 Gray, *Suppl. Cat. Sh. Rept.* i. p. 25 (1870); *Theob. Cat. Rept. Brit. Ind.* p. 5 (1876).

Clemmys grandis, Strauch, *Chelon. Stud.* p. 32 (1862).

Carapace arched or tectiform, not flattened on the vertebral region, which bears a strong but obtuse keel; only the posterior margin serrated. Vertebral shields (1-3) not or but slightly broader than long and narrower than the costals; nuchal longer than broad. Plastron similar to that of *G. spinosa*; the length of the suture between the pectoral shields at least two thirds that of the abdominals. Dark brown or blackish above; plastron and lower surface of marginals with black and yellow rays, either the black or the yellow predominating.

Length of carapace 40 centim.

Burma, Siam.

| | | | |
|-----------------------|------------|-------------------------|------------|
| a, b. ♂ & yg., stffd. | Camboja. | M. Mouhot [C.]. | } (Types.) |
| c. Hgr., stffd. | Pachebone. | M. Mouhot [C.]. | |
| d, e. ♂ ♀, shells. | Pegu. | W. Theobald, Esq. [C.]. | |
| f. Egg. | Burma. | W. Theobald, Esq. [C.]. | |
| g. ♀, skel. | Burma. | | |
| h. Carapace. | — ? | | |

- nuchal border of dorsal disk without conical tubercles; a light black-edged streak on each side of the head, uniting with its fellow into a large triangular marking extending from between the eyes to the end of the proboscis 12. *emoryi*, p. 258.
- Snout a little longer than the diameter of the orbit; nuchal border of dorsal disk with conical spine-like tubercles; light head-streaks uniting on the snout, in front of the orbits 13. *ferox*, p. 259.
- Snout a little longer than the diameter of the orbit; nuchal border of dorsal disk with conical spine-like tubercles; light head-streaks uniting on the end of the snout, at the base of the proboscis . . 14. *spinifer*, p. 259.
- Snout very narrow and pointed; nuchal border of dorsal disk without conical tubercles 15. *muticus*, p. 260.

1. *Trionyx subplanus*.

- Trionyx subplanus*, *Geoffr. Ann. Mus.* xiv. p. 11, pl. v. fig. 2 (1809); *Gray, Ill. Ind. Zool.* i. pl. lxxix. (1832); *Günth. Rept. Brit. Ind.* p. 49 (1864); *Strauch, Verth. Schildkr.* p. 130 (1865).
- Gymnopus subplanus*, *Dum. & Bibr.* ii. p. 496 (1835).
- Dogania subplana*, *Gray, Cat. Tort.* p. 49 (1844), and *Sh. Rept.* i. p. 69, pl. xxxiii. (1855), and *Proc. Zool. Soc.* 1862, p. 265, and *Suppl. Cat. Sh. Rept.* i. p. 106 (1870), and *Proc. Zool. Soc.* 1873, p. 57, fig.
- Trionyx frenatus*, *Gray, Cat. Sh. Rept.* i. p. 67.
- Dogania güntneri*, *Gray, Proc. Zool. Soc.* 1862, p. 265, and *Suppl. Cat. Sh. Rept.* i. p. 107, and *Proc. Zool. Soc.* 1873, p. 58.
- Trionyx güntneri*, *Günth. Rept. Brit. Ind.* p. 49, pl. vi. fig. A.
- Potamochelys? frenatus*, *Gray, Proc. Zool. Soc.* 1864, p. 87.
- Sarbieiria frenata*, *Gray, Proc. Zool. Soc.* 1869, p. 220, and *Suppl. Cat. Sh. Rept.* i. p. 100.
- Platypeltis ferox*, part., *Gray, Proc. Zool. Soc.* 1873, p. 58.
- Trionyx? dillwynii*, *Gray, Ann. & Mag. N. H.* (4) xi. p. 306 (1873).

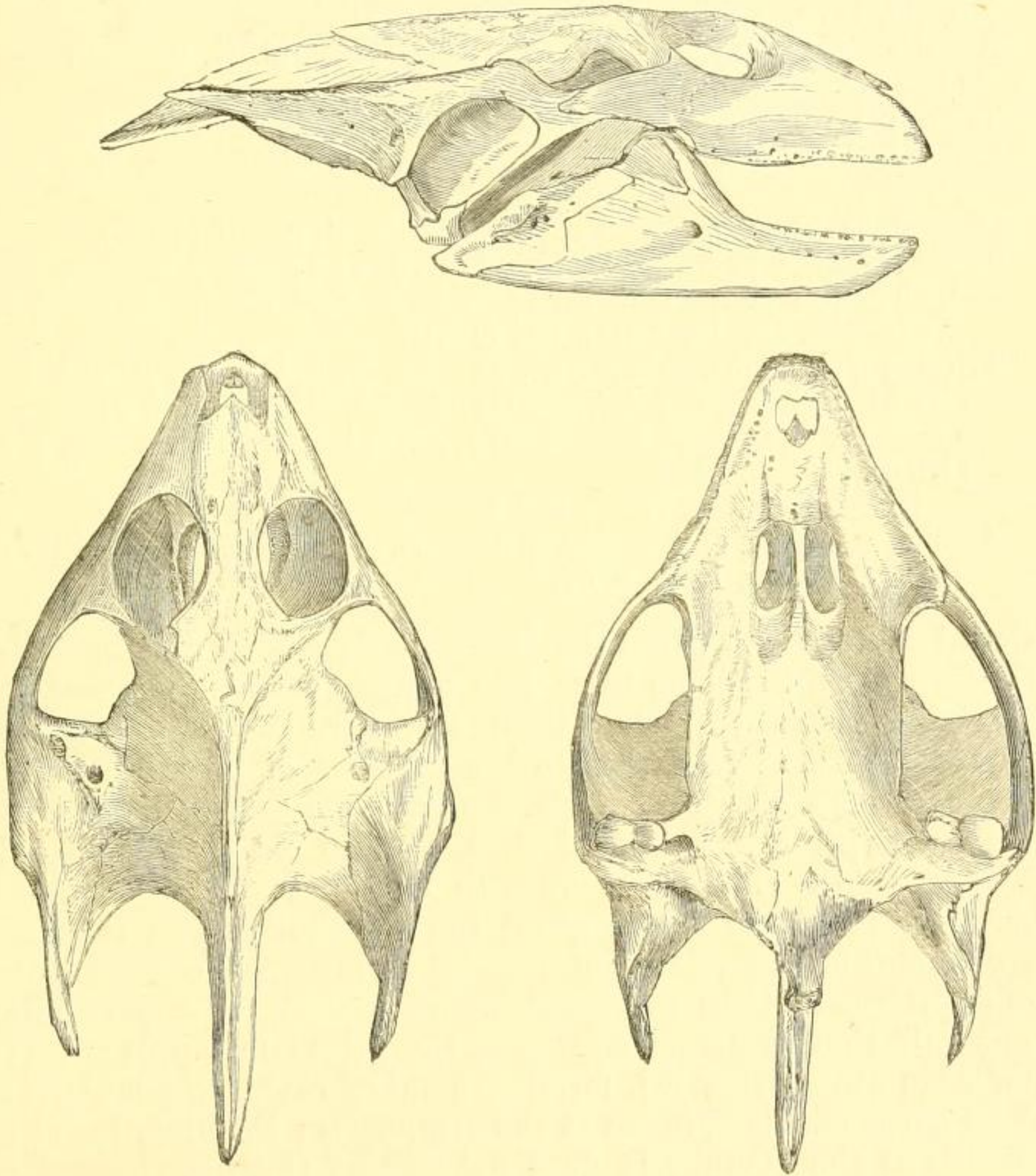
Carapace very flat; costal plates eight pairs, the last well developed and separated by the last neural plate; a single neural between the first pair of costals; these plates very finely granulate and vermiculate; a large fontanelle, till late in life, between the nuchal and dorsal plates. Epiplastra narrowly separated from each other in front of the entoplastron, which forms an obtuse or a right angle; plastral rugosities scarcely developed, on the hyo- and hypoplastra and on the xiphiplastra. Dorsal skin of young with interrupted longitudinal ridges. Head very large; snout (on the skull) about as long as the diameter of the orbit, which is more than double the interorbital width; postorbital arch extremely narrow, forming a

keel on its outer surface ; mandibular symphysis narrower than the diameter of the orbit, without median ridge. Brown above, yellowish beneath and on the sides of the neck ; head and neck with yellowish dots ; some young with an oblique dark streak behind each eye.

Length of dorsal disk 25 centim.

Malay Peninsula, Sumatra, Borneo, Java.

Fig. 65.



Skull of *Trionyx subplanus*. (From Gray, P. Z. S. 1864.)

| | | |
|--|------------|---|
| <i>a.</i> Hgr., stffd. | Singapore. | Gen. Hardwicke [P.]. |
| <i>b.</i> Hgr., stffd. | Singapore. | A. R. Wallace, Esq. [C.]. (Type of <i>T. frenatus</i> .) |
| <i>c.</i> Hgr., skull. | Singapore. | |
| <i>d.</i> Yg., spir., skull separate. | Pinang. | Dr. Cantor. |
| <i>e.</i> Yg., spir., skull separate. | Java. | Leyden Museum. |

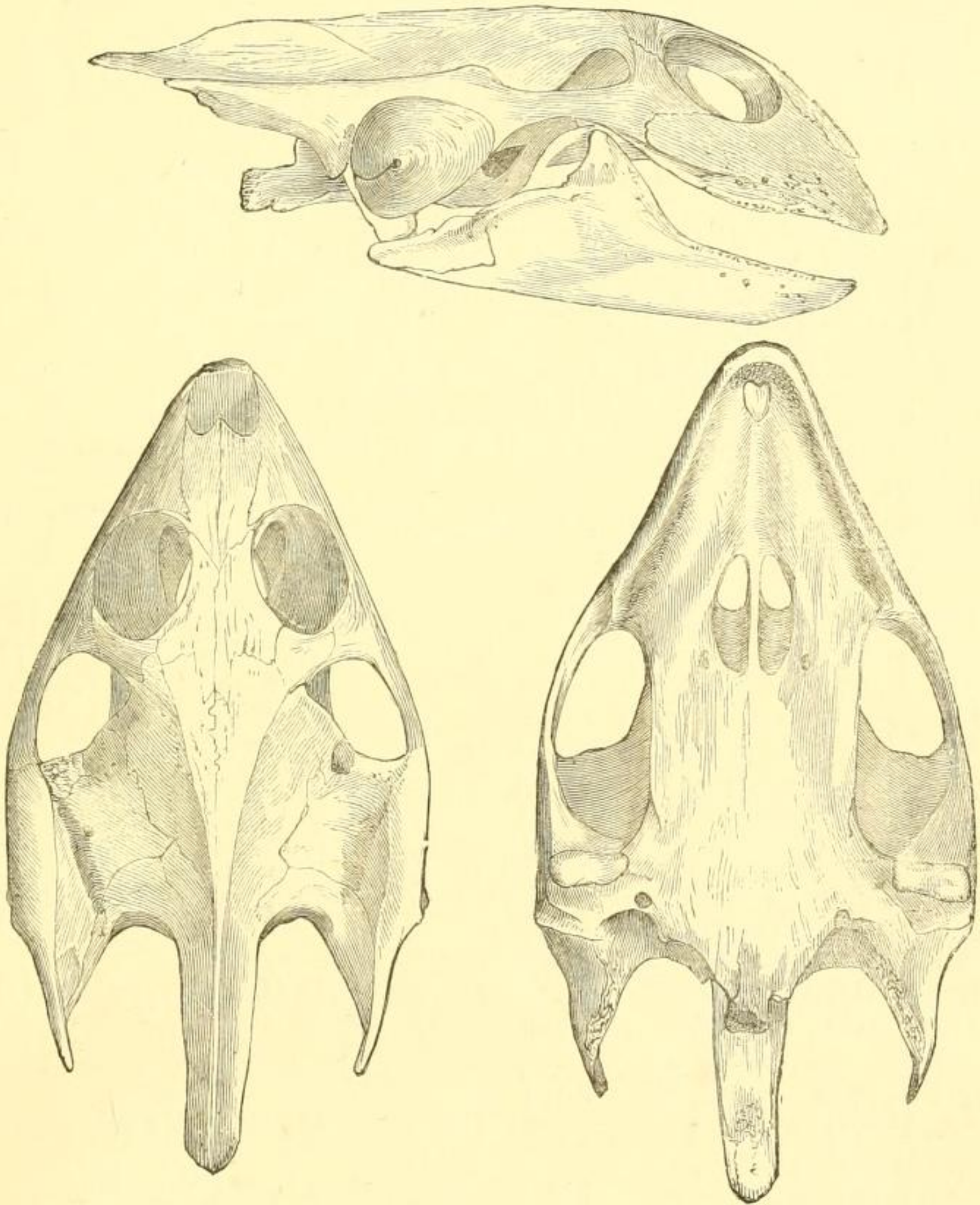
7. *Trionyx cartilagineus*.

Testudo cartilaginea, *Boddaert, Epistola ad W. Roëll*, cum tab. (1770).
 — *rostrata*, *Thunberg, Vetensk. Ac. Handl.* viii. p. 179, pl. vii.
 figs. 2 & 3 (1787); *Schoepff, Test.* p. 93, pl. xx. (1792).

Trionyx stellatus, *Geoffr. Ann. Mus.* xiv. p. 13 (1809); *Theob. Proc. As. Soc. Beng.* 1874, p. 79, pl. iii., and *Cat. Rept. Brit. Ind.* p. 30 (1876).

— *javanicus*, *Geoffr. l. c.* p. 15, pl. iii.; *Dum. & Bibr.* ii. p. 493 (1835); *Strauch, Chelon. Stud.* p. 177 (1862), and *Verth. Schildkr.* p. 127 (1865); *Theob. Proc. As. Soc. Beng.* 1875, p. 176, pl. v. fig. D; *Boettger, Ber. Senck. Ges.* 1887, p. 39.

Fig. 67.

Skull of *Trionyx cartilagineus*. (From Gray, P. Z. S. 1864.)

Aspidonectes javanicus, *Wagl. Syst. Amph.* pl. ii. figs. i.–xx. (1830).

Trionyx stellatus, var. *javanica*, *Schleg. Faun. Japon., Rept.* pl. v. f. 6 (1838).

Gymnopus cartilaginea, *Cantor, Cat. Mal. Rept.* p. 9 (1847).

Trionyx cariniferus, *Gray, Cat. Sh. Rept.* i. p. 67, pl. xxxii. (1855).

— *ornatus*, *Gray, Proc. Zool. Soc.* 1861, p. 41, pl. v.; *Günth. Rept. Brit. Ind.* p. 48, pl. vi. fig. B (1864).

Aspilus cariniferus, Gray, *Proc. Zool. Soc.* 1864, p. 83, figs., and *Suppl. Cat. Sh. Rept.* i. p. 101 (1870).

— ? *punctulatus*, Gray, *ll. cc.* pp. 84, 102.

— ? *ornatus*, Gray, *ll. cc.* pp. 85, 103.

Ida ornata, Gray, *Proc. Zool. Soc.* 1873, p. 55, figs.

Aspilus javanicus, Gray, *l. c.* p. 67, fig.

Trionyx ephippium, *Theob. Proc. As. Soc. Beng.* 1875, p. 177, pl. v.

Costal plates eight pairs, the last well developed and forming a median suture behind the last neural; a single neural between the first pair of costals; dorsal plates coarsely pitted and vermiculate. Dorsal skin of young with longitudinal ridges of small tubercles. Epiplastra in contact, or narrowly separated, in front of the entoplastron, which forms an obtuse or a right angle; plastral callosities well developed in the adult, hyo-hypoplastral and xiphiplastral, and coarsely sculptured like the carapace. Head moderate; snout (on the skull) considerably longer than the diameter of the orbit; interorbital region, in the adult, as broad as or a little narrower than the nasal fossa; postorbital arch very narrow, one third or one fourth the diameter of the orbit; mandible with a strong ridge along the symphysis, the diameter of which equals or exceeds the diameter of the orbit. Olive-brown above and on the chin; head and chin with numerous yellow spots, the largest of which are below the temple; dorsal disk of young light-dotted, and usually with a few large blackish spots; lower parts white.

Size of *T. hurum*.

Pegu, Tenasserim, Siam, Camboja, Malay Peninsula, Sumatra, Borneo, Java.

| | | |
|-------------------------------------|-------------------------|--|
| a. Hgr., skull & shell. | Pegu. | W. Theobald, Esq. [P.]. |
| b. Yg., head & shell, spir. | Mergui. | W. Theobald, Esq. [P.]. (Type of <i>T. ephippium</i> .) |
| c. Hgr., stffd. | Siam. | M. Mouhot [C.]. |
| d. Yg., stffd. | Camboja. | M. Mouhot [C.]. |
| e-f. Yg., spir., skull separate. | Camboja. | M. Mouhot. (Types of <i>T. ornatus</i> .) |
| g. Yg., dry. | Pinang. | Dr. Cantor. |
| h. Hgr., stffd. | Sarawak. | A. R. Wallace, Esq. [C.]. |
| i. Ad., skull. | Sarawak. | |
| k. Ad., skull. | Borneo. | |
| l-m. Yg., spir. | Borneo. | L. D. Dillwyn, Esq. [P.]. |
| n. Hgr., stffd., skull separ. | Java. | |
| o-p. Yg., spir. | Java. | |
| q, r-s. Yg., spir. | [Amboina or Ceram??] | Madame Ida Pfeiffer [C.]. |
| t. Yg., spir. | [Moluccas??] | Leyden Museum. (Type of <i>T. cariniferus</i> .) |

8. *Trionyx triunguis*.

Testudo triunguis, *Forskal, Descr. Anim.* p. ix (1775).

Trionyx ægyptiacus, *Geoffr. Ann. Mus.* xiv. p. 12, pls. i. & ii. (1809), and *Descr. Egypte*, i. p. 115, pl. i. (1809); *Strauch, Chelon.*

- Gymnopus spiniferus, part., *Dum. & Bibr.* ii. p. 477, pl. xxii. fig. 1 (1835).
 Trionyx ferox, *Dekay, N. Y. Faun.* iii. p. 6, pl. vi. fig. 11 (1842).
 Tyrse argus, *Gray, Cat. Tort.* p. 48 (1844), and *Knowsley Menag.* pl. — (1846).
 Trionyx argus, *Gray, Cat. Sh. Rept.* i. p. 68 (1855).
 Aspidonectes spinifer, *Agassiz, Contr. N. H. U. S.* i. p. 403, pl. vi. figs. 1 & 2 (1857).
 Gymnopus olivaceus, *Wied, N. Act. Ac. Leop.-Carol.* xxxii. i. p. 55, pl. v. (1865).
 Callinia spinifera, *Gray, Proc. Zool. Soc.* 1869, p. 222, and *Suppl. Cat. Sh. Rept.* i. p. 109 (1870), and *Proc. Zool. Soc.* 1873, p. 60, figs.

Very closely allied to the preceding, but carapace flatter*, snout and interorbital region narrower, and markings different. Dorsal disk with small black spots and ring-like markings, which may become indistinct with age; young with a pale, black-edged border to the dorsal disk; a light, black-edged streak on each side of the head, passing through the eye, uniting with its fellow at the base of the proboscis; limbs spotted and marbled with black.

Length of dorsal disk 30 centim.

Middle and Northern tributaries of the Mississippi; Ohio; Saint Lawrence River.

| | | |
|--|------------------------|--|
| <i>a.</i> Hgr., spir. | Foxbury, Pennsylvania. | Smithsonian Institution. |
| <i>b.</i> Hgr., spir., skull separate. | Wabash River. | |
| <i>c, d, e.</i> Hgr. & yg., spir. | N. America. | |
| <i>f.</i> Hgr., stffd. | — ? | Lord Derby [P.]. (Type of <i>T. argus.</i>) |

15. *Trionyx muticus* †.

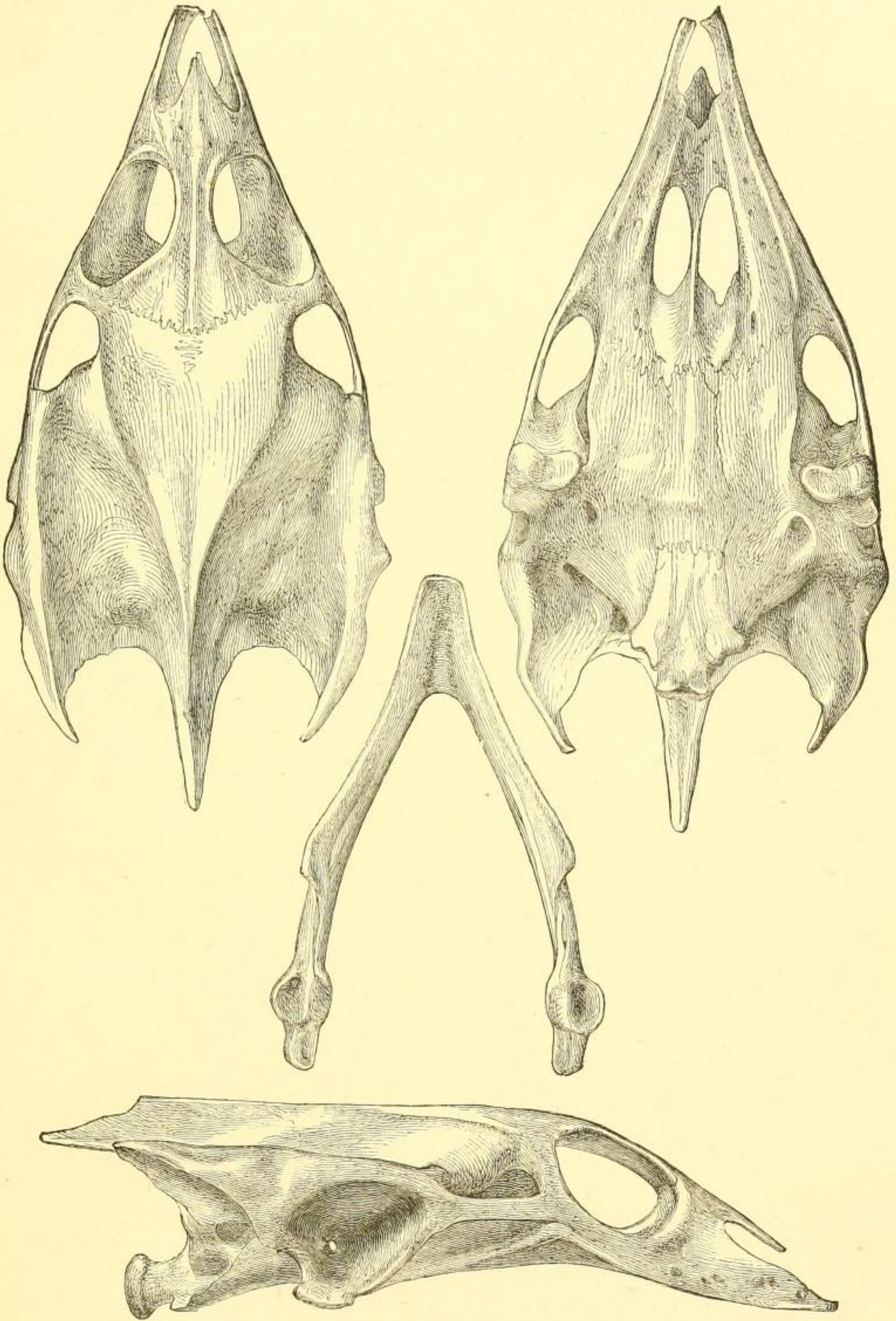
- Trionyx muticus*, *Lesueur, Mém. Mus.* xv. p. 263, pl. vii. (1827); *Leconte, Ann. Lyc. N. Y.* iii. p. 95 (1830); *Holbr. N. Am. Herp.* ii. p. 19, pl. ii. (1842); *Gray, Cat. Tort.* p. 50 (1844), and *Sh. Rept.* i. p. 69 (1855); *Strauch, Chelon. Stud.* p. 174 (1862), and *Verth. Schildkr.* p. 125 (1865).
Gymnopus muticus, *Dum. & Bibr.* ii. p. 482 (1835).
Amyda mutica, *Agassiz, Contr. N. H. U. S.* i. p. 399, pl. vi. figs. 6 & 7 (1857); *Gray, Suppl. Cat. Sh. Rept.* i. p. 95 (1870); *Baur, Zool. Anz.* 1887, p. 99.
Potamochelys? *microcephala*, *Gray, Proc. Zool. Soc.* 1864, p. 87.
Callinia microcephala, *Gray, Proc. Zool. Soc.* 1869, p. 222, and *Suppl. Cat. Sh. Rept.* i. p. 108, and *Proc. Zool. Soc.* 1873, p. 62, figs.

Differs from the preceding in the much narrower, sharply pointed snout, the absence of conical tubercles on the anterior border of the dorsal disk and on the posterior cartilaginous margin, and in the absence of a papilla on each side of the nasal septum, which is considerably wider than in other Trionychoids. Entoplastron, in the

* A small eighth pair of costal plates is present in one of our specimens.

† In addition to the single specimen in the Museum, I have recently examined a fully adult living specimen, from which the following notes are taken.

Fig. 68.



Skull of *Trionyx muticus*, enlarged. (From Gray, P. Z. S. 1873.)

adult, with a callosity; each epiplastron likewise with a callosity, which is, however, very minute. Brown above, whitish inferiorly; head without markings; back blotched with darker brown.

The length of the dorsal disk does not exceed 25 centim.

Mississippi, Ohio, and Saint Lawrence.

a. Hgr., stffd., skull separate. — ? * (Type of *Callinia microcephala*.)

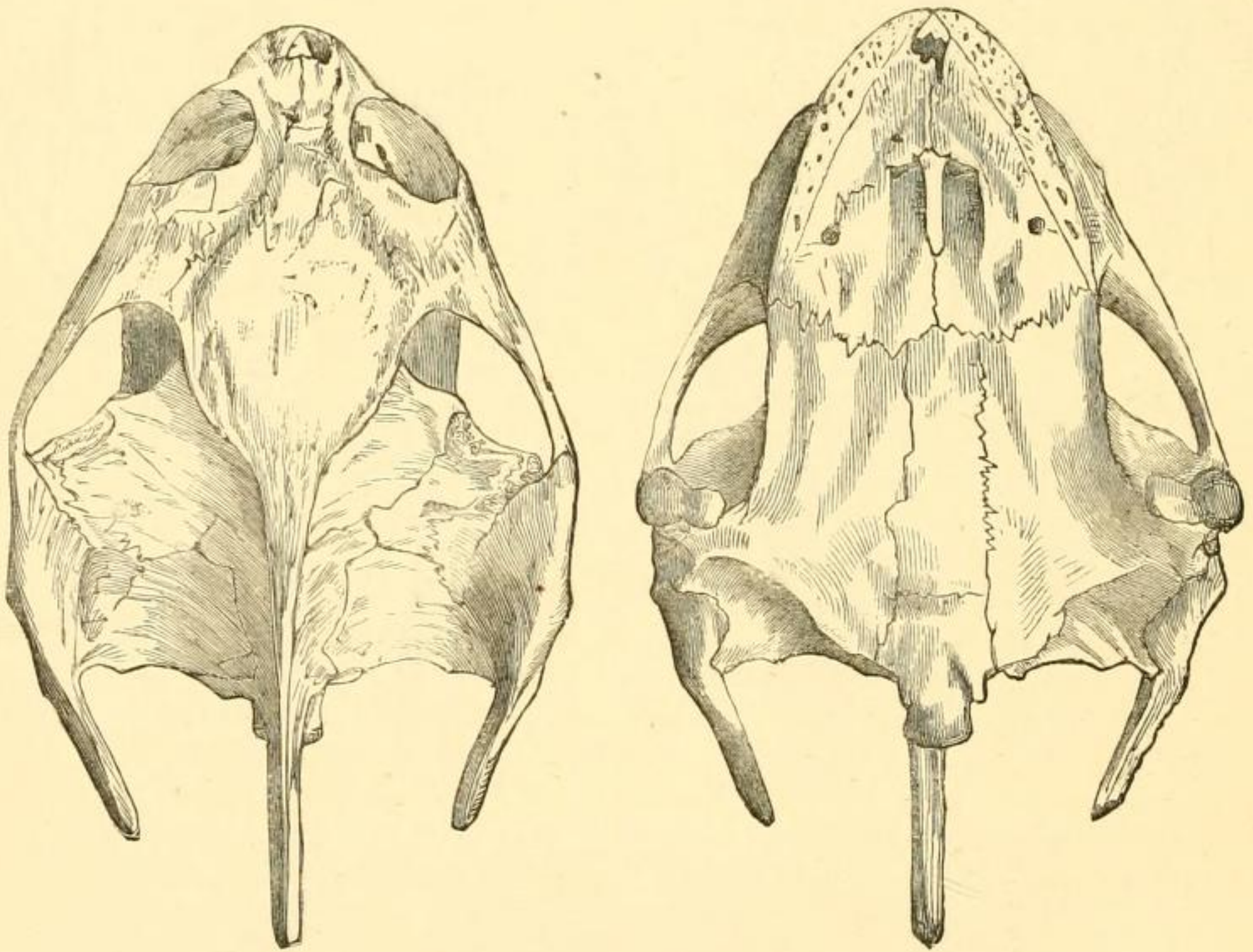
2. PELOCHELYS.

Chitra, part., *Gray, Cat. Sh. Rept. i. p. 70 (1855); Günth. Rept. Brit. Ind. p. 50 (1864).*

Pelochelys, *Gray, Proc. Zool. Soc. 1864, p. 89, and Suppl. Cat. Sh. Rept. i. p. 90 (1870), and Proc. Zool. Soc. 1873, p. 40.*

Outer extremities of the nuchal plate overlying the second dorsal rib; neural plates well developed. Limbs completely exposed. Hyoplastron distinct from hypoplastron; not more than five plastral

Fig. 69.



Skull of *Pelochelys cantoris*. (From Gray, P. Z. S 1864.)

callosities. Bony choanæ between the orbits; jaws weak; post-orbital arch as broad as the diameter of the orbit; pterygoids posterior border free, without ascending process.

East Indies.

* The specimen, stated to have been obtained by Mr. Wallace at Sarawak, was purchased at Stevens's sales.