

Lamellibranchiate Fauna of the Estuarine and Coastal Areas in Sri Lanka

By

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Introduction

VERY little information is recorded on the lamellibranchiate fauna of Sri Lanka. Standen and Leicester (1960) lists 140 species of bivalves belonging to 28 families found in the dredge samples, collected around the coasts of Ceylon (Sri Lanka) by Professor Herdman in 1902. Mendis and Fernando (1962) lists 10 species of freshwater lamellibranchiates belonging to 2 families collected from various fresh water habitats. Hadle 1974 describes four species of fresh-water bivalves belonging to family Unionidae and Family Corbiculidae.

The present paper deals with 32 species of bivalves belonging to 12 families collected from estuarine and coastal areas. Most of these are edible and therefore of commercial importance, but exploitation is limited. In addition to the description of each species, an attempt is made to describe the habitats in which they are usually found.

Figure I gives a diagrammatic description of the lamellibranch shell. The outer and inner views of each shell of each species dealt with in the paper is shown in Fig. 2A—32A and Figs. 2B—32B respectively. Figs. 2C, 3C and 4C shows the dorsal view of the shells of *Anadara antiquata*, *Anadara clathrata* and *Larkinia rhombea* respectively.

The measurements of the shells drawn is given with each figure. The range of measurements and the average measurements of each species in the collection is given in Table 1.

FAMILY ARCIDAE

Shells with well defined radial ribs, devoid of wings at umbo. Shape and size of shells vary. Characterised by a straight hinge line bearing numerous teeth.

Anadara antiquata (Linnaeus) Fig. 2

A large, inflated, solid squarish shell, bearing 33—35 simple radial ribs. It is covered with a thin brown periostracum which tends to peel off easily. Towards the ventral margin the periostracum tends to become scaly in appearance. The ligamental area is flat and narrow bearing chevron grooves on it. Except at the hinge the entire margin bears regular grooves corresponding to the radial ribs on the surface.

The specimens collected had been washed ashore, alive and was found on the beach.

Locality : Pesalai (Mannar).

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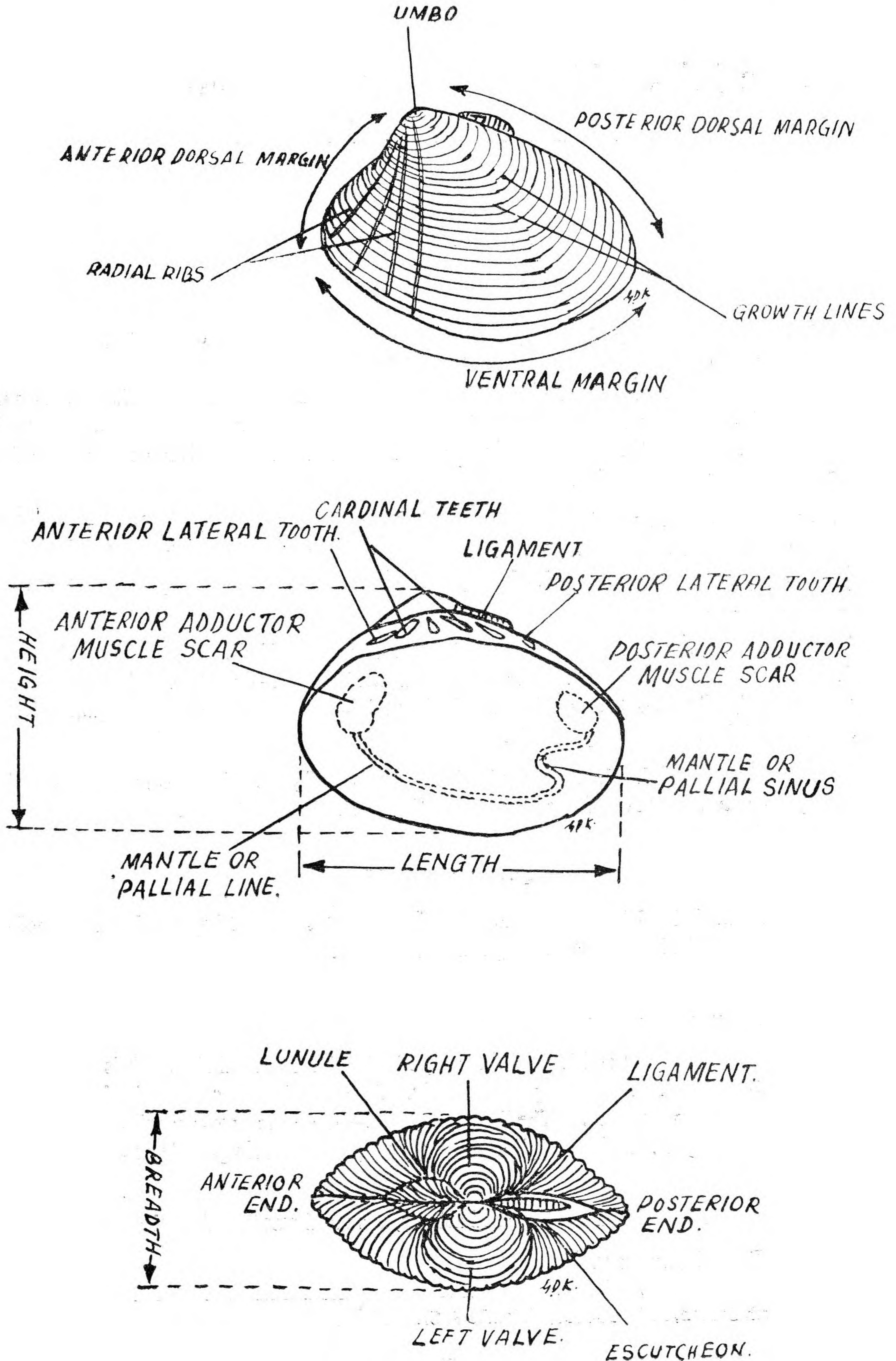


Fig. 1.—Lamellibranch Shell.

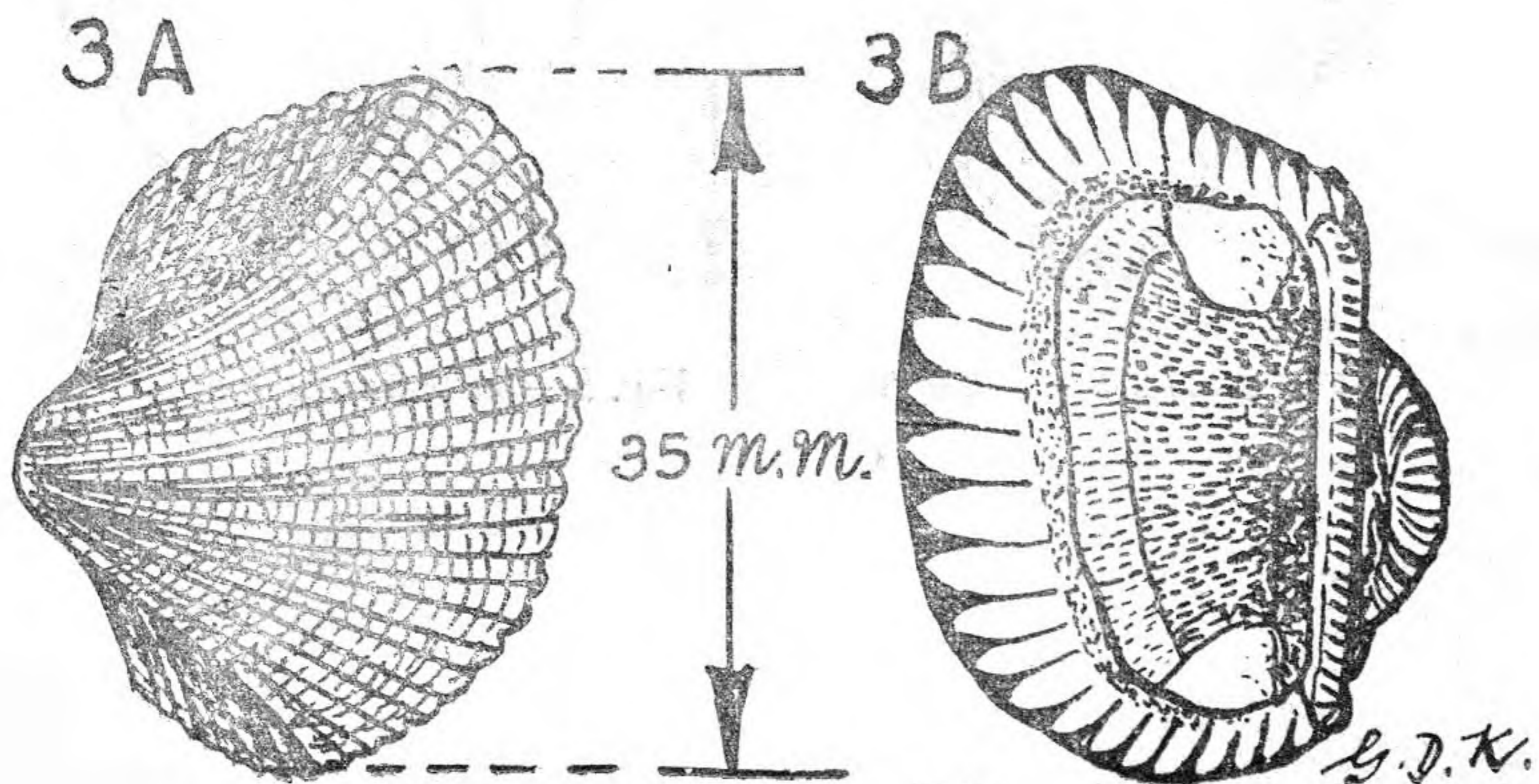
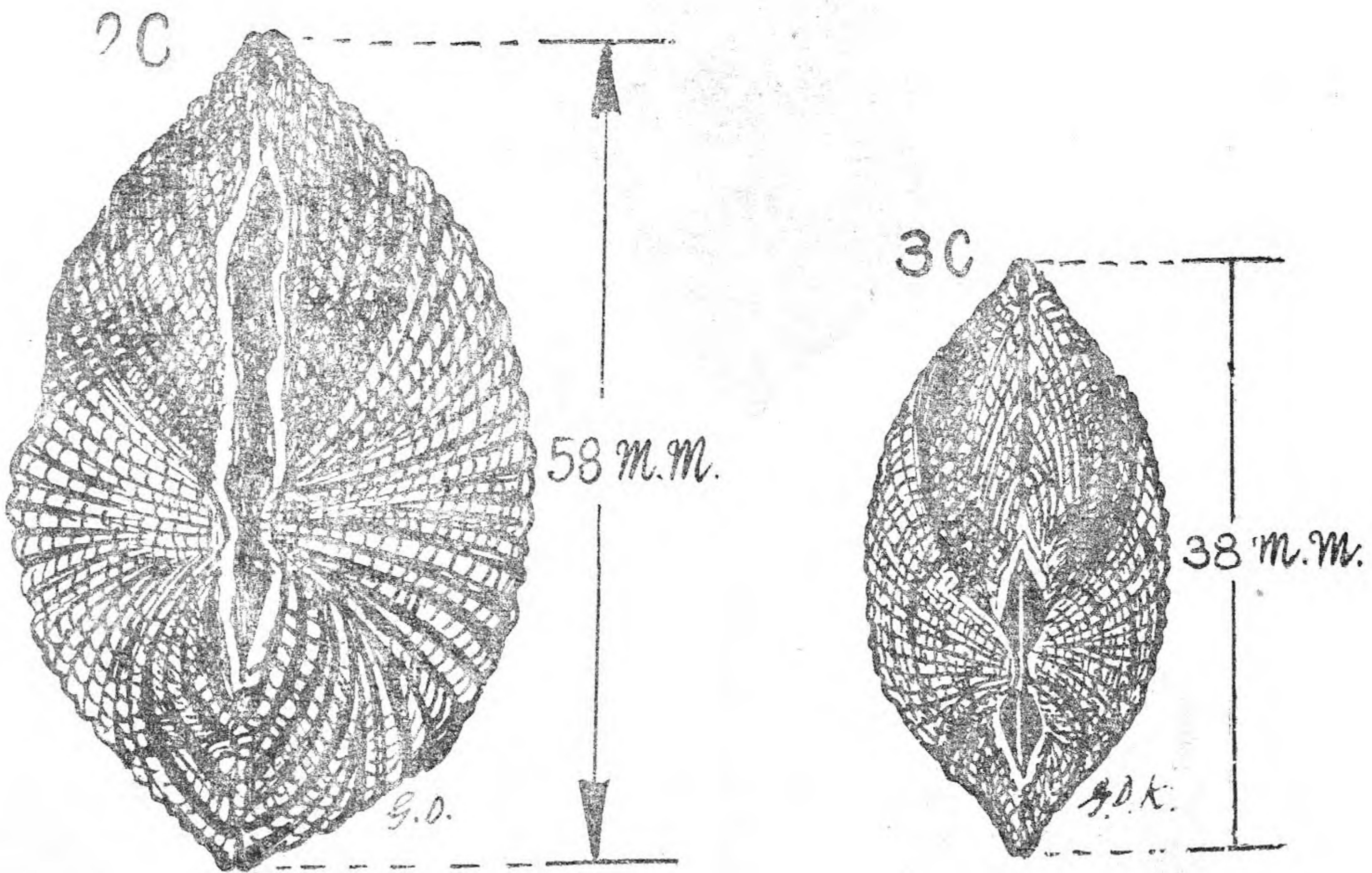
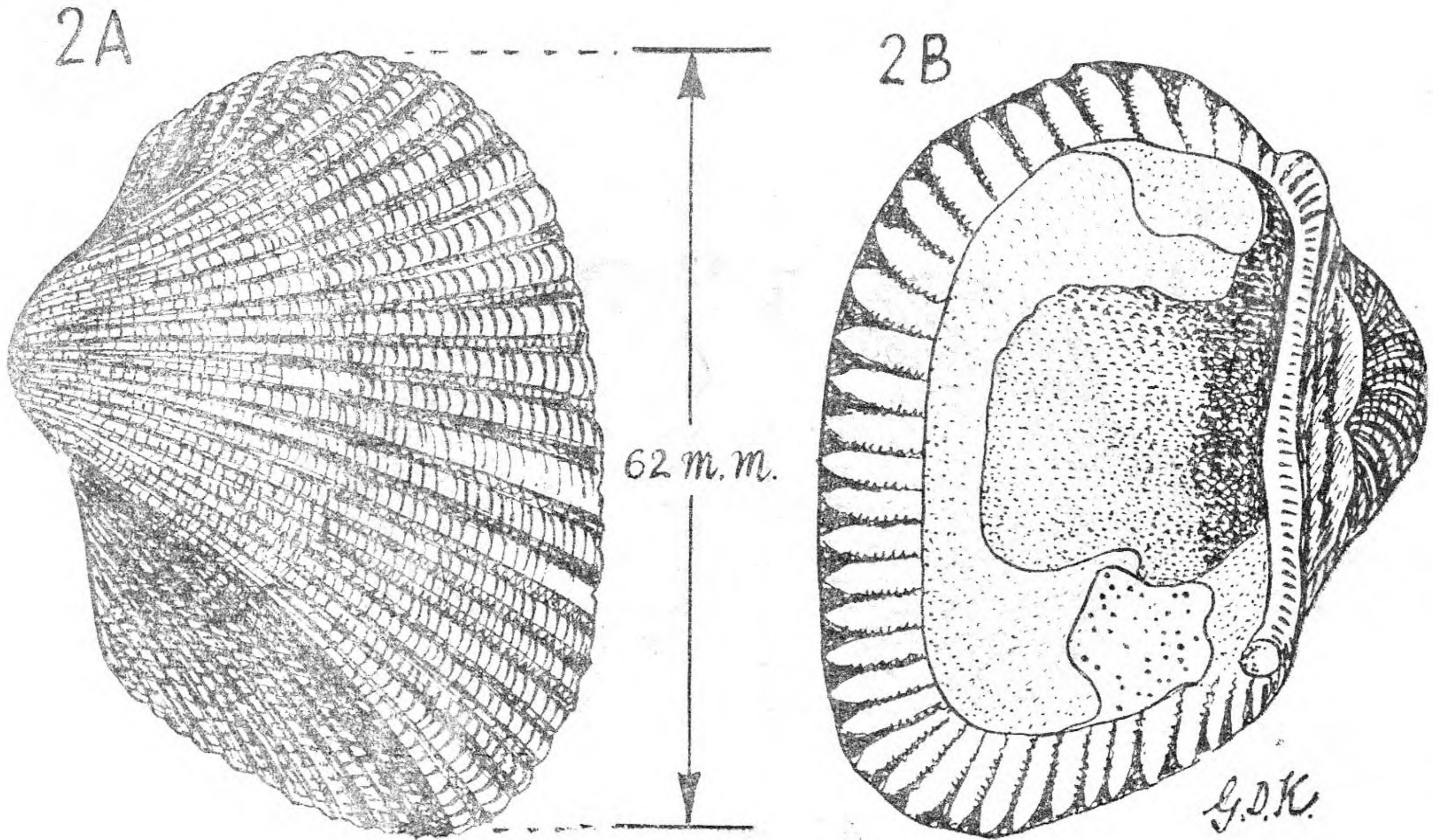


Fig. 2.—*Anadara clathrate*.

Fig. 1.—*Anadara antiquata*.

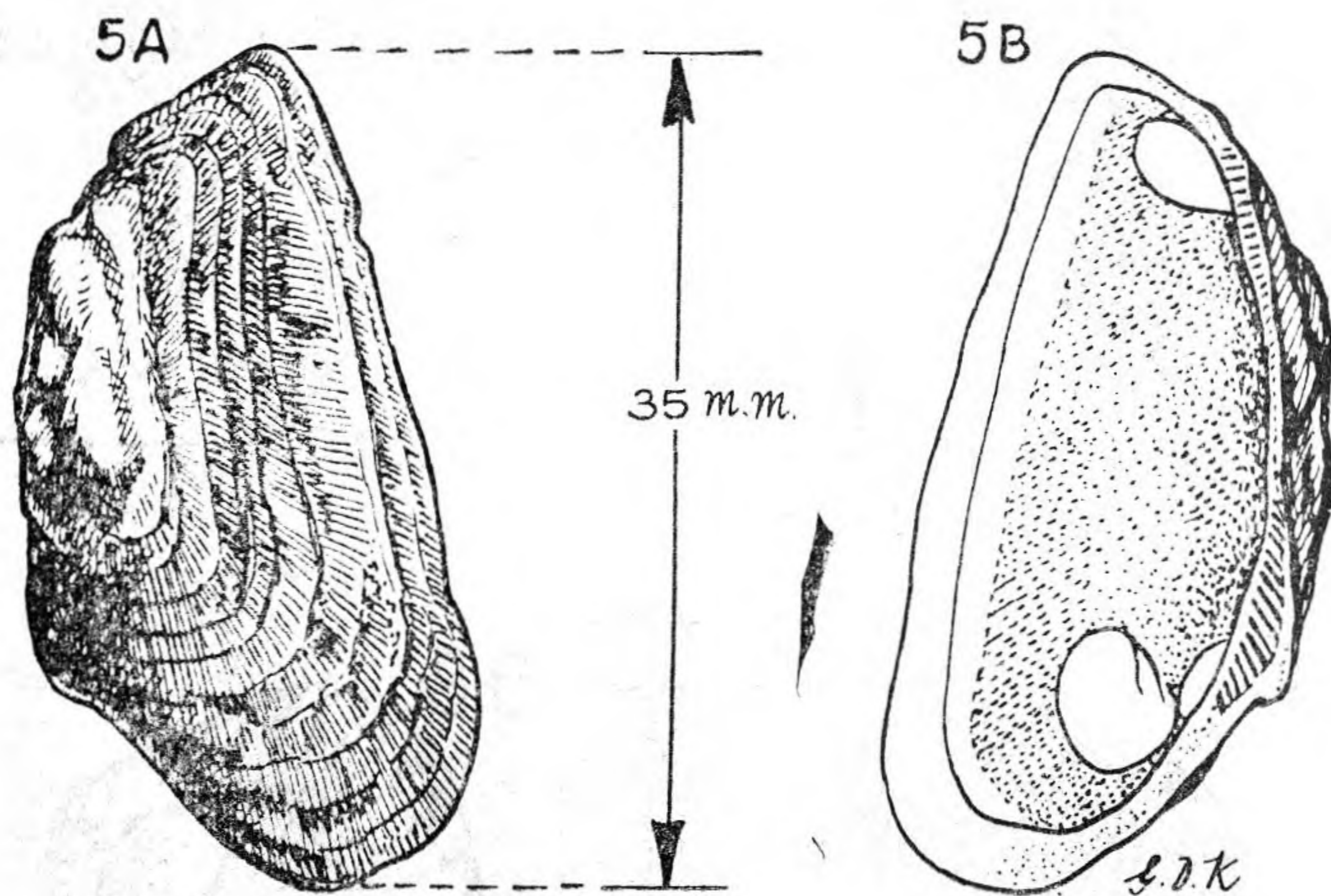
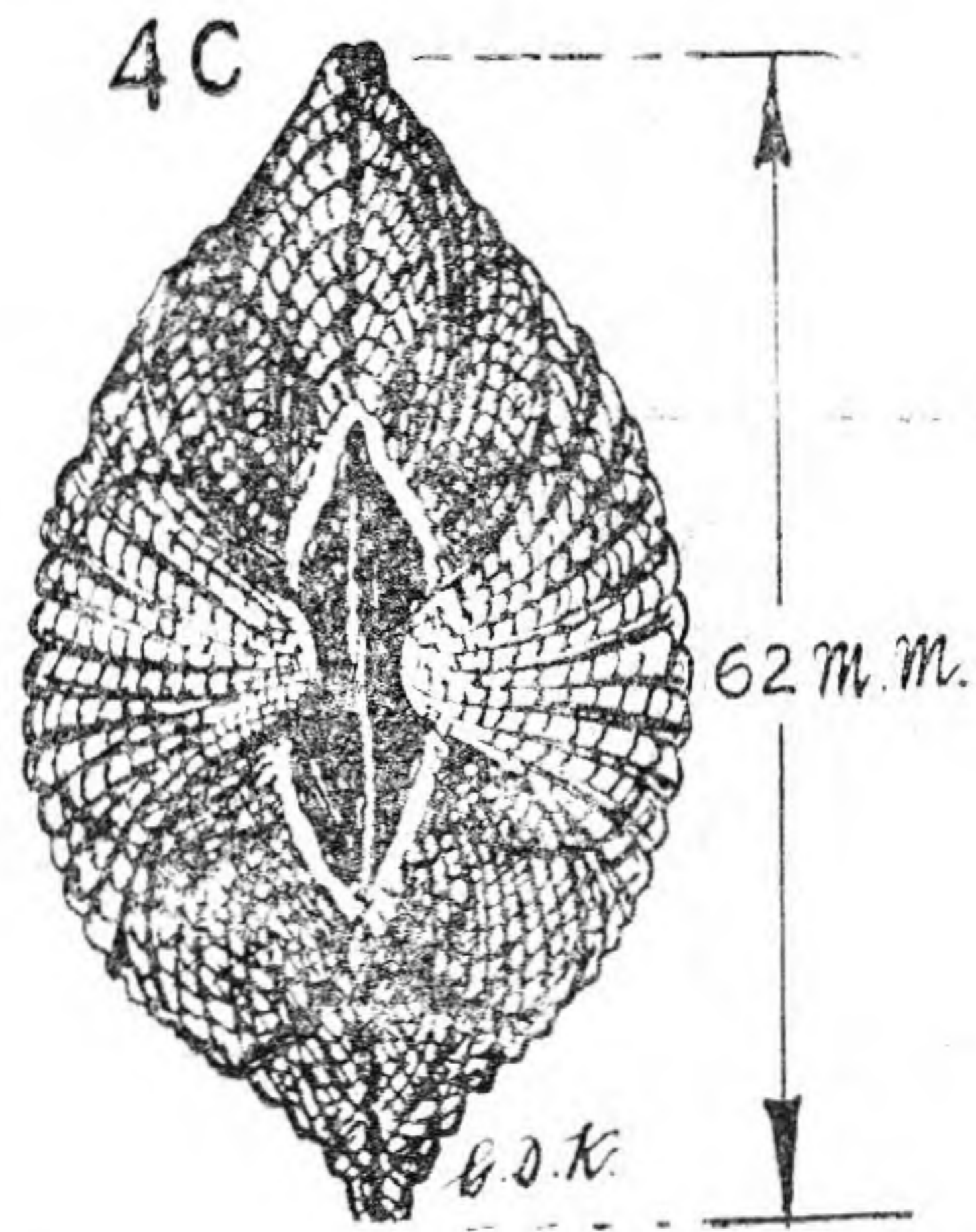
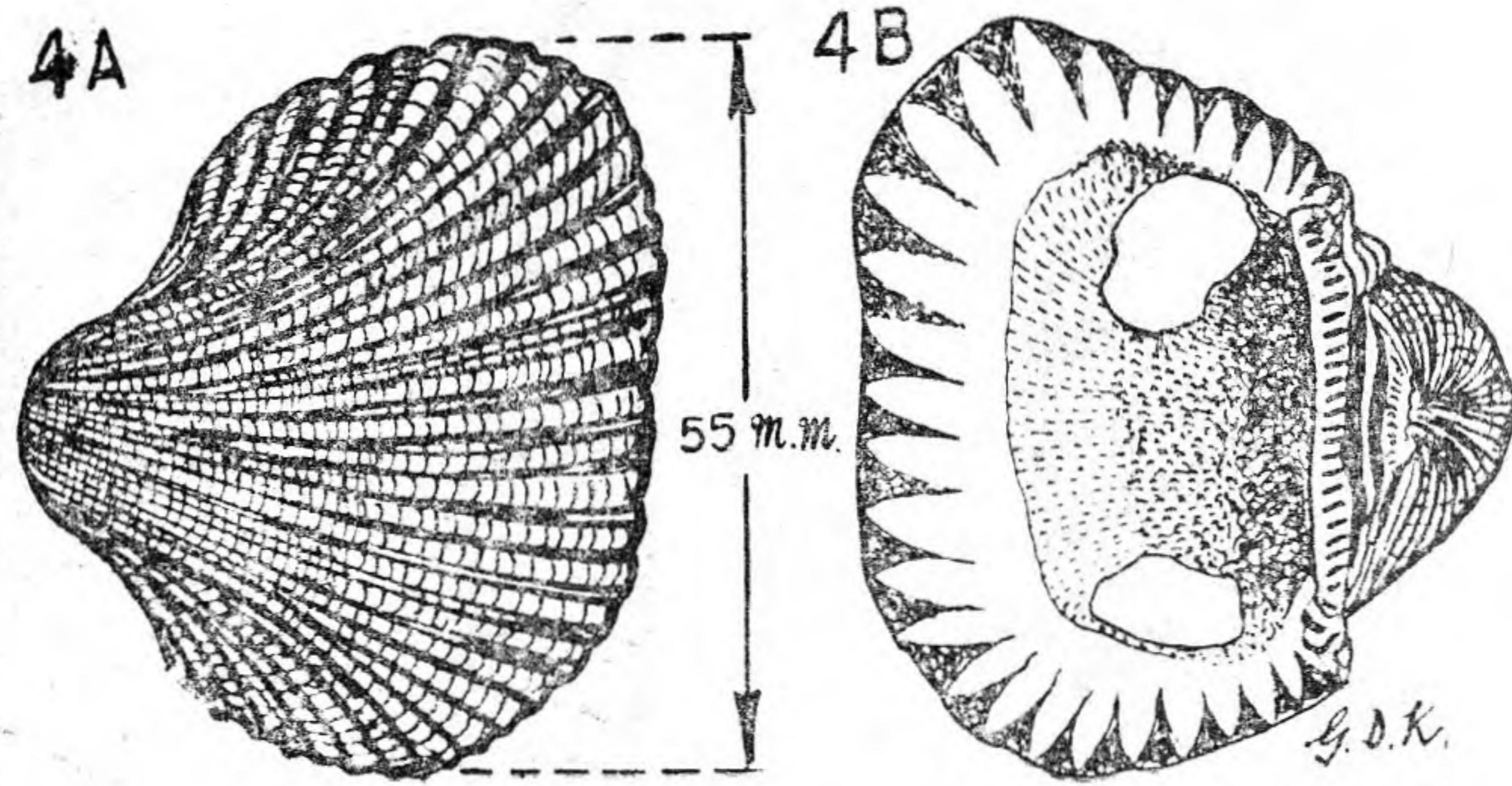


Fig. 4—*Larkinia rhombia*.

Fig. 5—*Barbatia obliquata*.

Anadara clathrate (Reeve) Fig 3.

Inflated, rounded shell thinner than the preceding species. The surface is sculptured with 32—33 simple radial ribs and covered with a thin brown periostracum. Umbo slightly elevated and the ligamental area narrow. Ventral margin similar to *A. antiquata*. Not common.

Locality : Trincomalee harbour.

Larkinia rhombea (Born) Fig. 4

Thick inflated trigonal shell with elevated umbo. Length and height of shell nearly equal. The surface is marked with about 26 very distinct, nodulated radial ribs and is covered by a thin brown periostracum. The ligamental area is flat and broad. The ventral margin is grooved.

Found buried in soft substratum in both shallow and deep water areas of lagoons. Fairly common and the shell attains a large size.

Locality : Kokilai, Koduwakattumalai (Trincomalee).

Barbatia obliquata (Gray) Fig. 5

Shell elongate trapezoidal with the anterior end narrower than the posterior end. The surface is evenly sculptured with fine but prominent radial ribs and a few growth lines. It is covered by a dark brown periostracum. Umbo is prominent and situated in the anterior third of the dorsal margin. The arrangement of the teeth on the straight hinge plate is characteristic. The teeth are arranged obliquely radiating outward from the central dorsoventral axis of the shell. The teeth away from the umbo are more prominent than those near the umbo. Both the adductor impressions are prominent and the ventral margin is finely crenulated.

Very firmly attached to rocks and similar substrata in the inter tidal zone by means of byssus.

Locality : Trincomalee harbour.

FAMILY GLYCIMIERDAE

Equivalved, circular shells covered by a thin periostracum. The surface may be smooth or sculptured by radial ribs and growth lines. This family is characterised by a curved hinge margin bearing numerous teeth. The outer teeth are obliquely set and are more prominent than the median teeth which may even be absent. The mantle line entire, and the adductor muscles are both well developed. Between the closely set umbones is a narrow ligamental area.

Glycimeris oblingus (Reeve) Fig. 6

The shell is rotundate, solid and inflated. The surface is sculptured by shallow but prominent radial ribs. Surface colour is off white with brownish blotches randomly scattered, and covered by a thin periostracum.

Inhabits sandy substratum, in shallow coastal areas.

Locality : Chilaw.

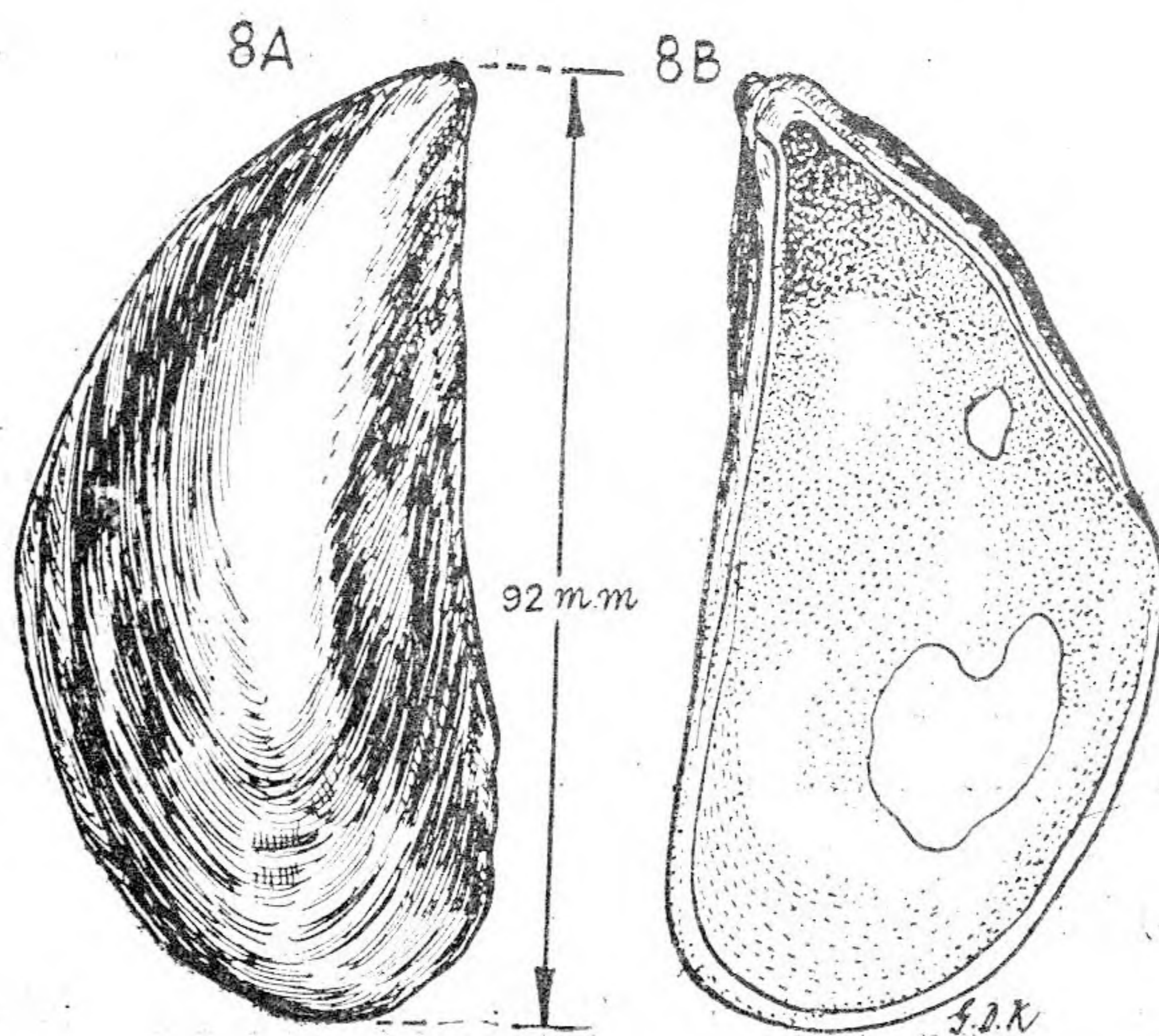
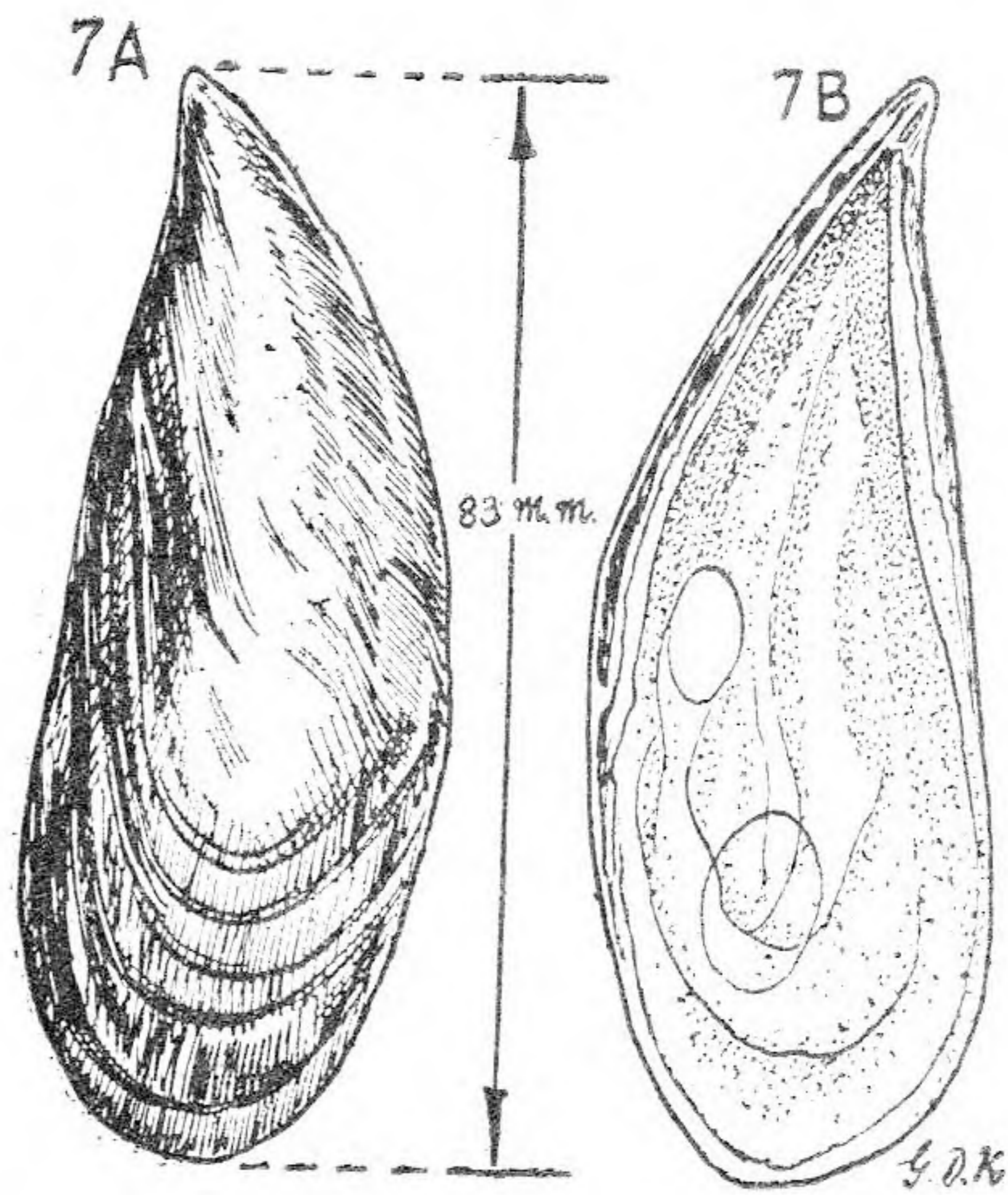
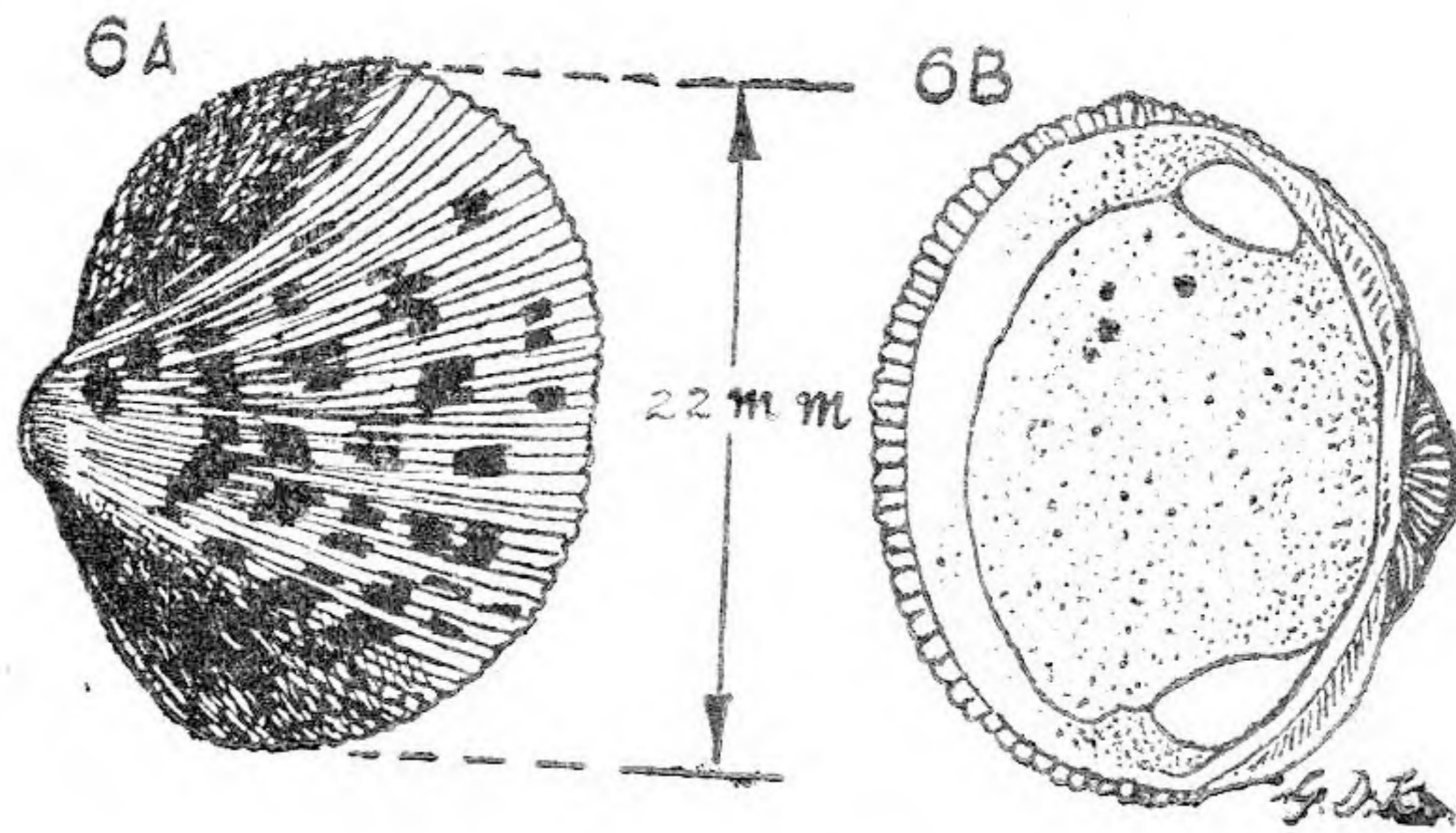


Fig. 6.—*Glycimeris oblingus*. Fig. 7.—*Perna perna*.
Fig. 8.—*Perna viridis*.

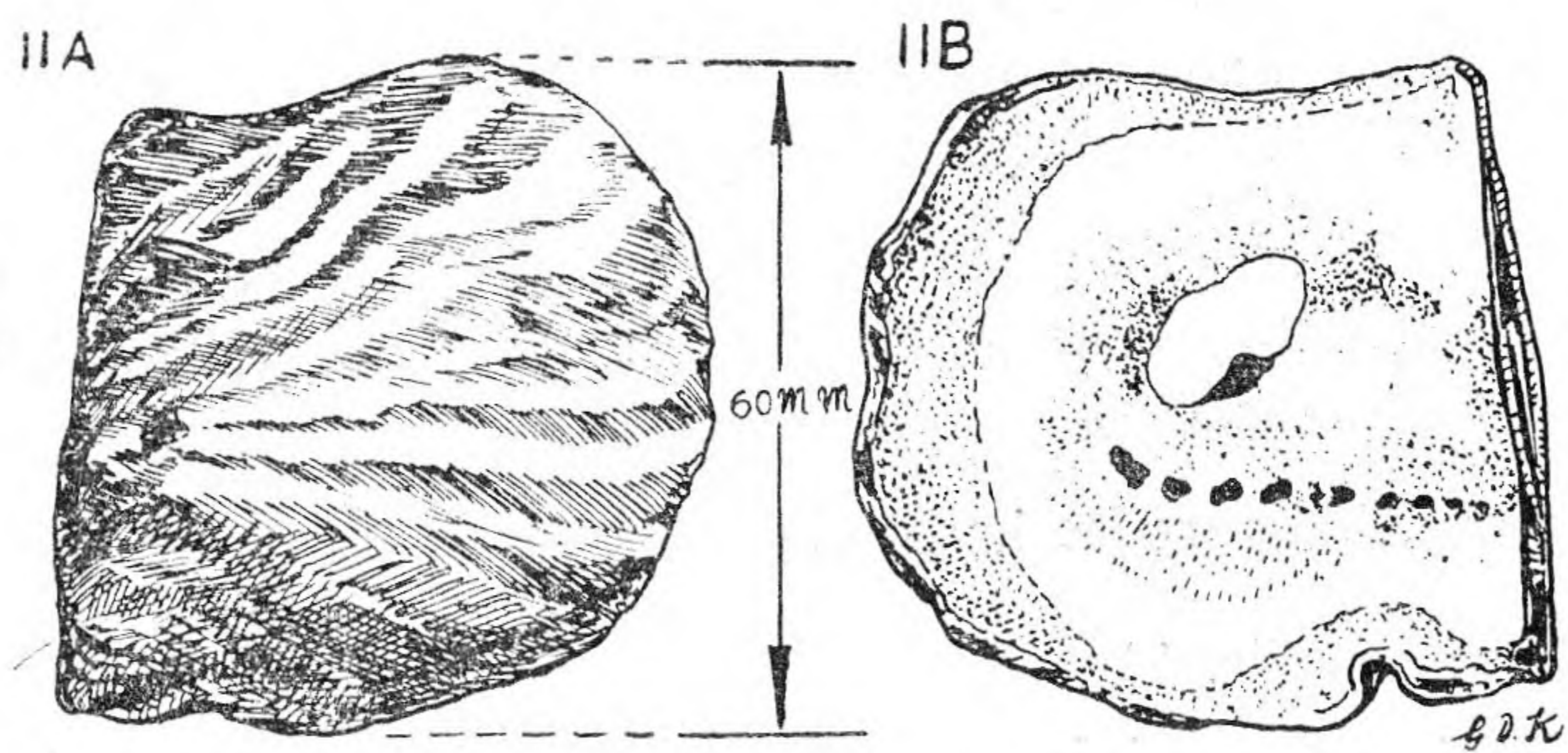
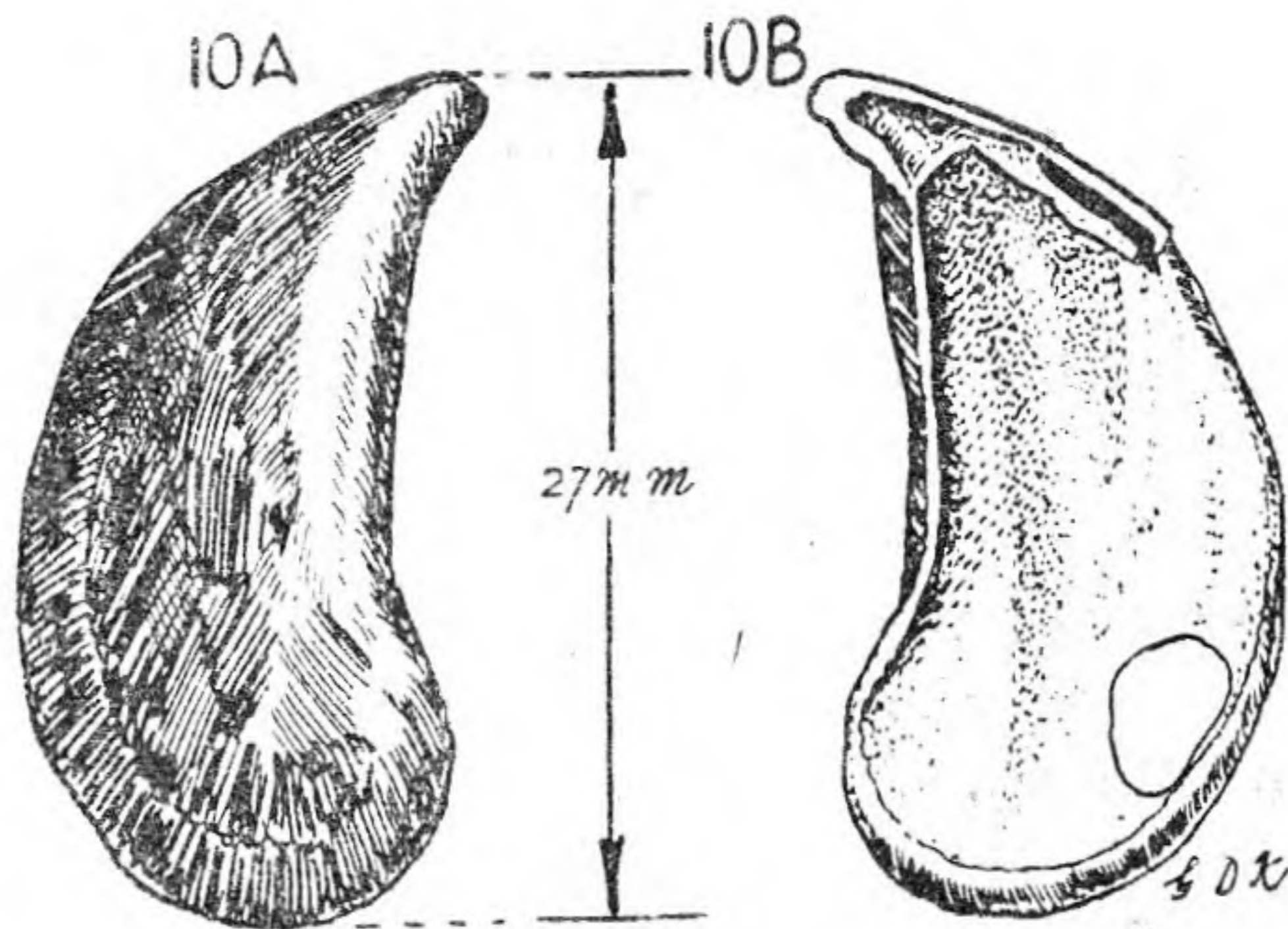
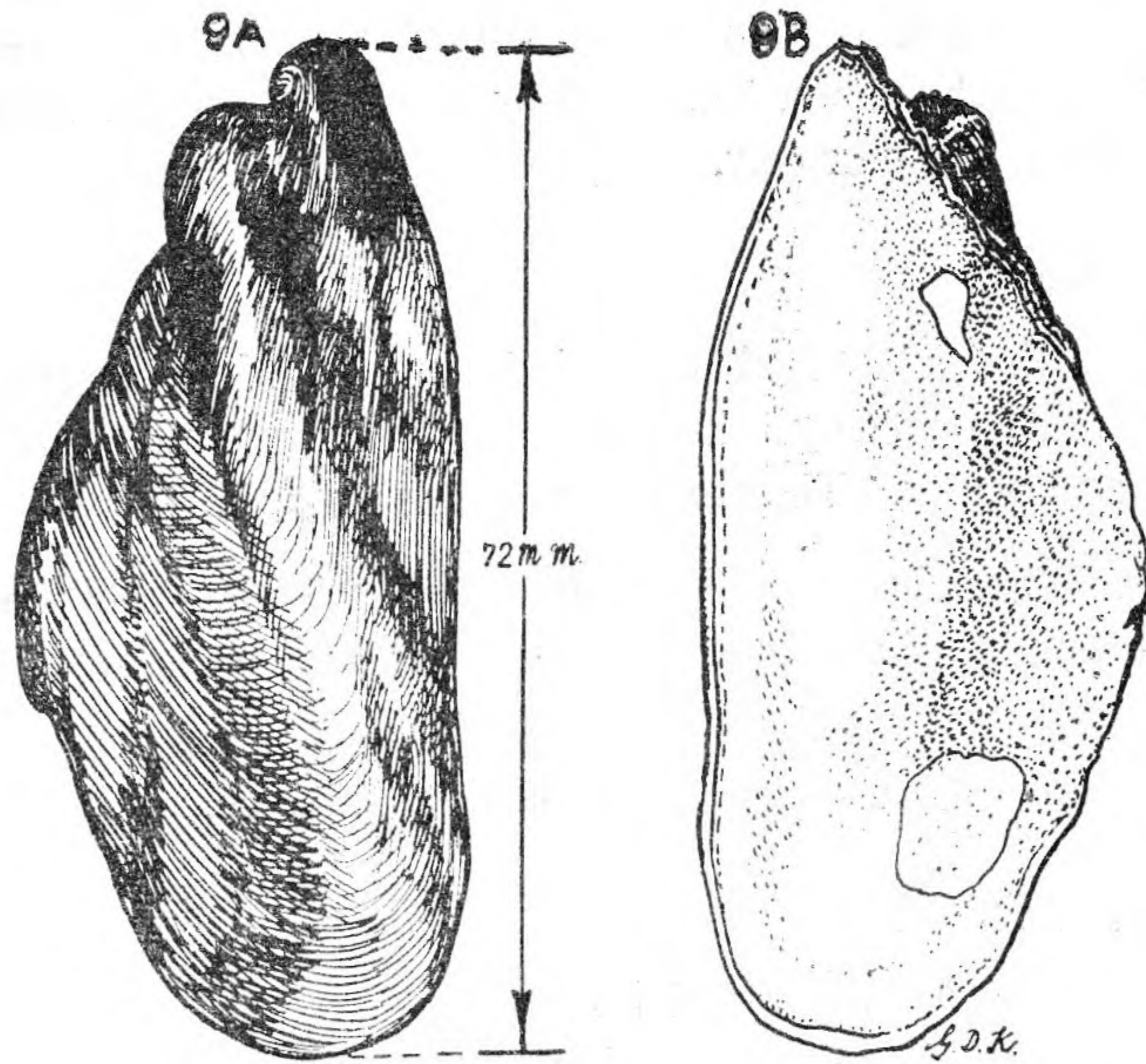


Fig. 9.—*Mediolus aurianlatue*. Fig. 10.—*Setifer bilocularis*.
Fig. 11.—*Pinctada vulgaris*.

FAMILY MYTILIDAE

Shell variable in size, equivalved and extremely inequilateral due to shortening of the anterior side. The surface is sometimes sculptured with radial ribs and covered with smooth or hairy periostracum. Interior is pearly and the mantle line is entire. Anterior adductor muscle is smaller than the posterior muscle or may even be absent *i.e.*, monomyarian type. Majority attached to substratum by byssus, a few burrow in soft wood or clay.

***Perna perna* (Linnaeus) Fig. 7**

This mussel has a thin, elongated trigonal shell. The white surface is marked by indistinct concentric growth lines and covered by a thin periostracum bearing tufts of hair. The periostracum is dark brown in colour and pearly. The ventral margin is smooth.

A marine form found attached to rocks, floating logs, wharves, ships etc., by means of byssus threads. It is usually found in sheltered areas in large numbers in the west, south-west and southern coasts.

Locality : Little Basses, Negombo, Talawila and Tangalle.

***Perna viridis* (Linnaeus) Fig. 8**

Synonyms : *Mytilus viridis* Hornell 1922 b
Mytilus viridis Subramaniam, Karandikar and Murti
Mytilus viridis Rao 1974.

Commonly known as the green mussel, it is elongate trigonal and large in size. The valves are strongly inflated particularly at the anterior region. The shell is covered with a thin brownish green periostracum and the interior is pearly. The greenish colour is more pronounced at the ventral and the postero-ventral margin. The beak is close to the anterior end and the ventral margin is entire.

They are found attached to rocks in the inter-tidal and sub-tidal waters by means of well developed byssus and is commonly used for food. ✓

Locality : Kinniyai (Trincomalee).

***Modiolus auriculatus* (Krauss) Fig. 9**

The shell is thin, trigonal ovate in shape and covered with a smooth chestnut brown periostracum which towards the postero-dorsal area becomes fibrous. There is a keel running from the umbo to the postero-ventral margin. The dorsal margin is straight.

A solitary mussel inhabiting the muddy substratum in lagoons and bays. Burrows vertically into the mud and attaches itself to pebbles around by means of byssus, usually with the posterior tip of shell protruding above the surface.

Locality : Kalpitiya, Trincomalee harbour.

***Septifer bilocularis* (Linnaeus) Fig. 10**

Broad triangular shell, blackish brown in colour. The umbo is terminal and the surface is marked with radial divaricating lines and covered with a greenish brown periostracum. The interior is purplish and has a anterior septa beneath the umbo. Ventral margin is finely crenulated.

Found in gregarious masses on rocks in the inter-tidal ones.

Locality : Arialai (Jaffna), Trincomalee harbour.

FAMILY PTERIDAE

This family includes pearl oysters and wing shells (*Pteria* sp.). The shells are variable in size, generally thin and inequivalved. They are aviculoid *i.e.*, they possess wing like expansions of the hinge. Most have two wings and therefore called bialate. The left valve is larger and more inflated than the right valve. The hinge line is straight and toothless. Interior is nacreous and bears the prominent posterior adductor muscle impression, the anterior muscle being reduced *i.e.*, the monomyarian type. The animals are attached firmly to the substratum by means of strong byssal threads that emerge from a byssal notch in the right valve.

***Pinctada vulgaris* (Schumacher) Fig. 11**

Synonyms : *Margaritifera vulgaris* Hornell 1922 a

Pinctada fucata Hynd 1955

Pinctada fucata Rao 1970

Pinctada fucata Rao and Rao 1974

This genus is characterised by nearly equivalved shells, where the height and length are nearly the same. In *P. vulgaris* the shell is more inflated than in the other species and thick except at the ventral margin. The surface is lamellate with reddish brown radial rays. The anterior wing is well developed and the byssal notch is slit like. The adductor impression is large. There are a number of small scars caused by the insertion of pallial muscles, on either side of the posterior adductor muscle and extending to the hinge. Interior is pearly, but at the ventral margin it is brownish.

They are found attached firmly by byssus to substratum of rocks, or dead corals, shells etc. have been harvested for pearls from ancient times.

They colonise vast areas called "Paars". The paars in the gulf of Mannar region are world famous and have been harvested for pearls from ancient times.

P. vulgaris has a wide range of distribution extending over Red Sea, Persian Gulf, Indian Ocean and Western Pacific Ocean.

***Pinctada radiata* (Leach) Fig. 12**

The shell is thin, fragile and smaller than *P. vulgaris*. The surface bears lamelleted growth lines extending well beyond the margin. The interior is pearly and the margin is very thin and fragile.

Found in the inter tidal region, firmly attached to rocks, pebbles and shells by means of byssus.

Locality : Trincomalee harbour.

FAMILY PINNIDAE

Shell usually large, and trigonal in shape. The surface is radially ribbed and the posterior end is broadly truncated and gaping. The beak is located at the pointed anterior end the dorsal margin is long and straight, bearing the long ligament which is internal. Hinge teeth absent. Internally at the centre is the large posterior adductor muscle scar. Anterior adductor muscle is reduced. They are attached to substratum by large powerful byssus emerging at the anterior end.

***Pinna bicolor* (Gmelin) Fig. 13**

Large, thin elongated trigonal shells. The young shells have a scaly periostracum which is lighter in colour than in the adult specimens. The surface bears characteristic blackish brown radial markings.

They bury themselves vertically keeping the upper edge of the shell a little (usually 4-6 cms) above the surface. Favours sandy or sandy mud areas but are sometimes found in the vicinity of coral reefs.

Locality : Kalpitiya, Mannar, Mount Lavinia, Trincomalee harbour.

FAMILY ANOMIIDAE

The shells belonging to this family are very characteristic. They are flat, rounded and the two valves are unequal.

***Placuna placenta* (Linnaeus) Fig. 14**

Synonyms : *Placenta placenta* Hornell 1949b

Placenta placenta Subrahmanyam Karandikar and Murti

Placenta placenta Rao 1974

Rounded, large shells which are very flat and semi-translucent. The outer surface has a pearly appearance and bears a laminated sculpture. The shell is fragile, especially at the rim where it tends to break off easily. Interior is also nacreous and bears a prominent circular adductor muscle impression. One valve is a little more convex than the other, and on the interior surface of this convex valve are two deep grooves of different lengths, which radiate from the umbo. Corresponding to these two grooves are two teeth on the other valve. Dead shells are like sheets of mica and being flat have been used as window panes.

They are found buried in soft muddy bottom in estuarine areas.

Locality : Kalpitiya, Thambalagam Bay (Trincomalee).

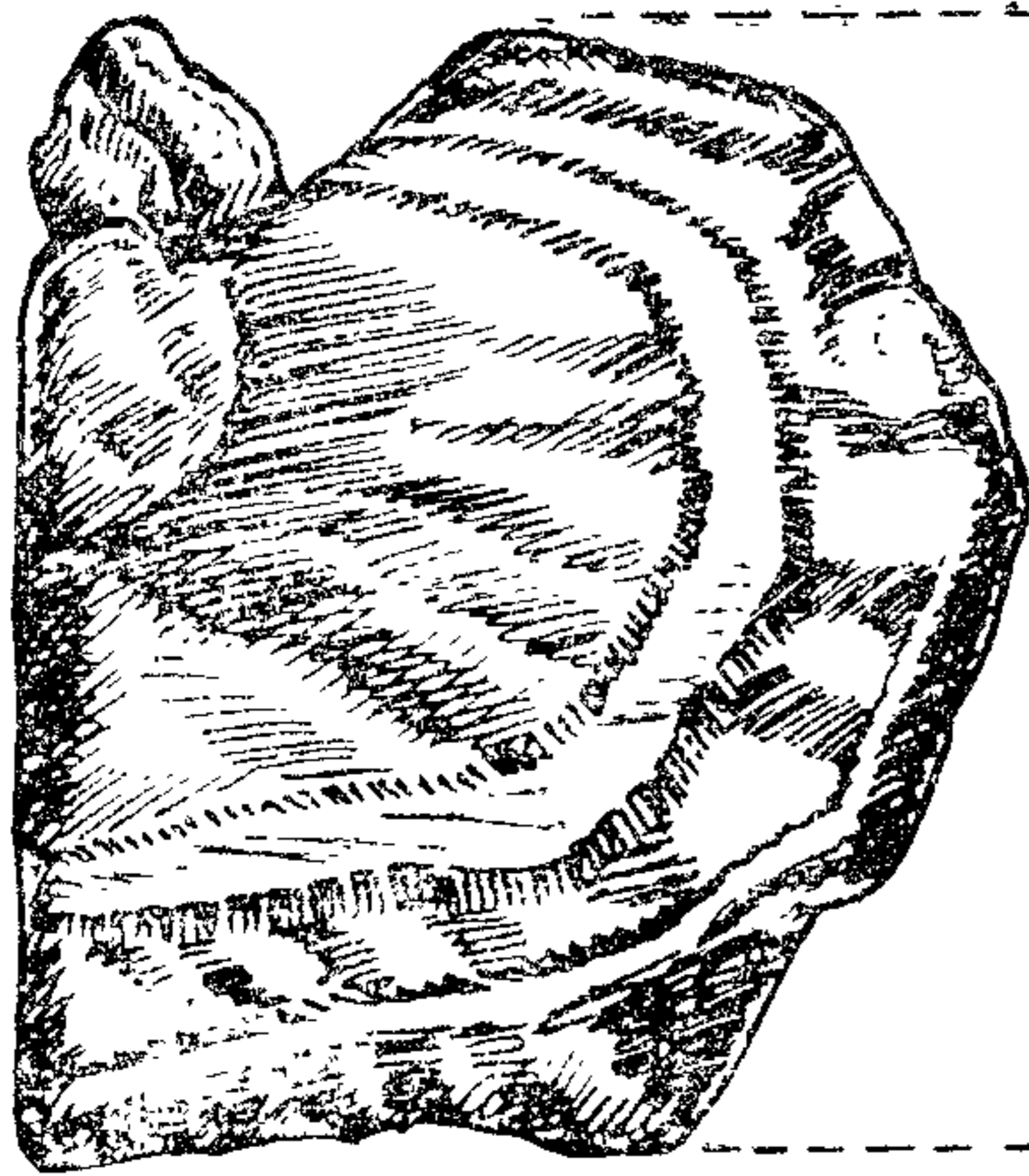
FAMILY OSTREIDAE

The shell is very irregular and inequivalved. It is attached to the substratum by the left valve which is deeper and larger than the free, flattened right valve. The surface texture is variable and the inside is porcellanous. Posterior muscle scar is large and prominent near the centre of the shell, but the anterior muscle is reduced, i.e., the monomyarian type. The hinge is toothless and bears a ligamental impression. Members of this family are all edible and considered a delicacy in most parts of the world.

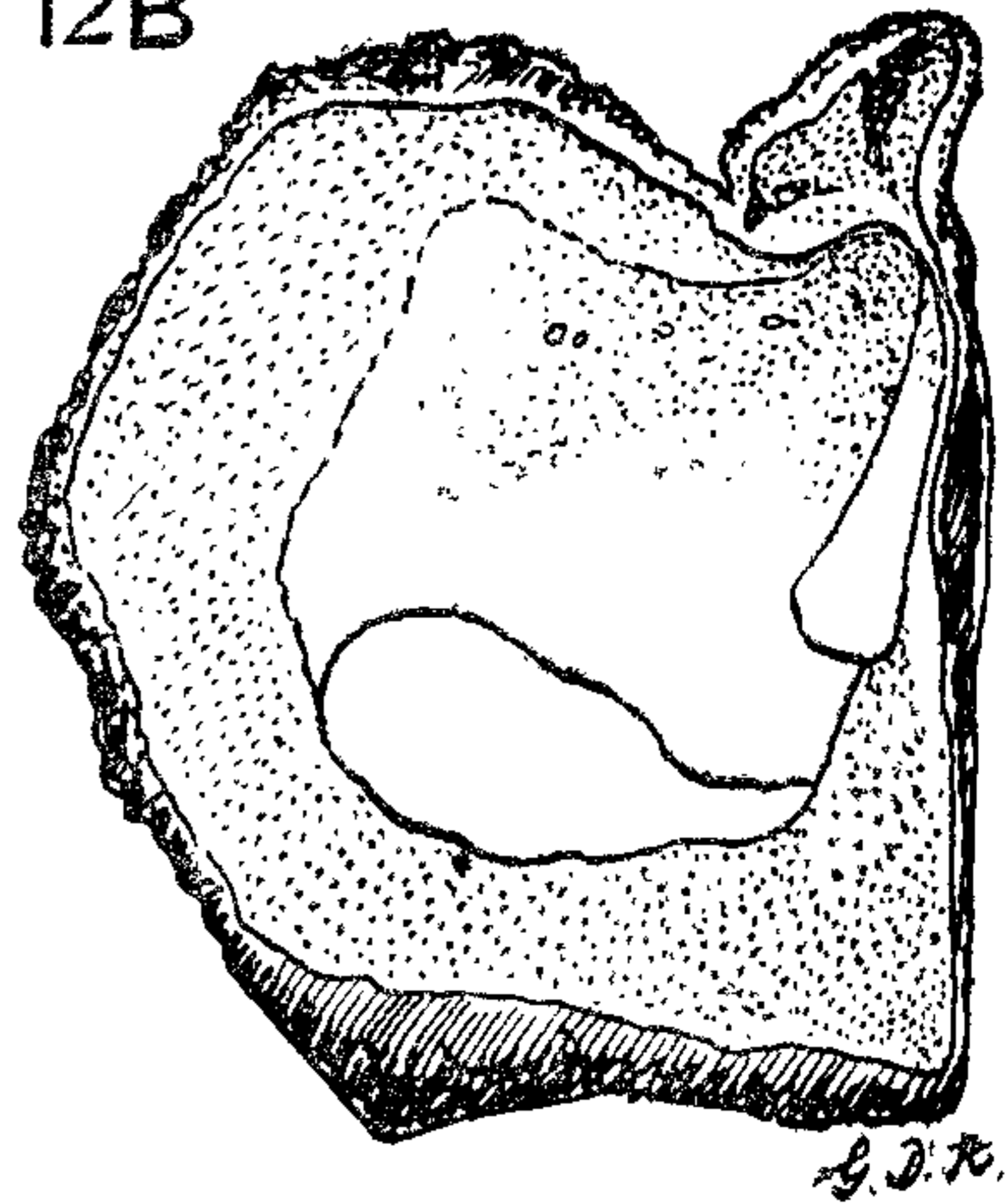
***Crassostrea belcheri* (Sowerby) Fig. 15**

Large, thick spathulate shell, with numerous foliaceous growth lines on the surface. The shape is elongate-trigonal and the ventral margin is expanded and entire. The ligamentary area is triangular, with a median triangular depression and two lateral triangular ridges. Adductor muscle impression nearly at the centre of the shell.

12A

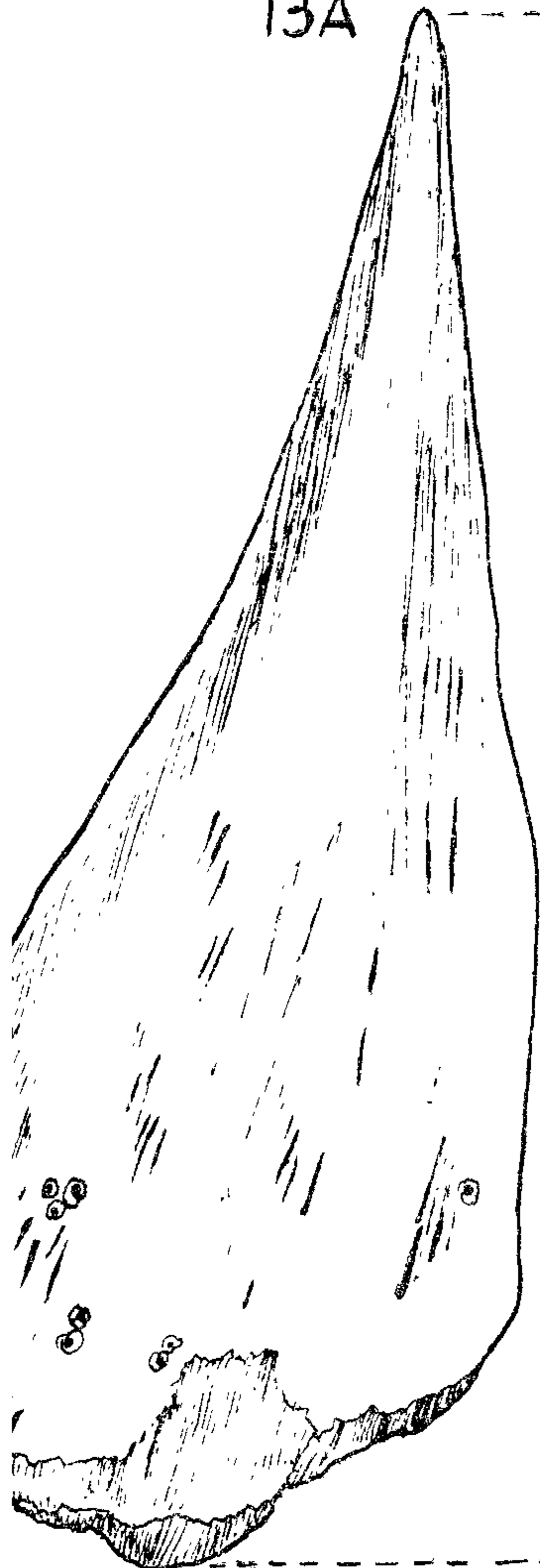


12B

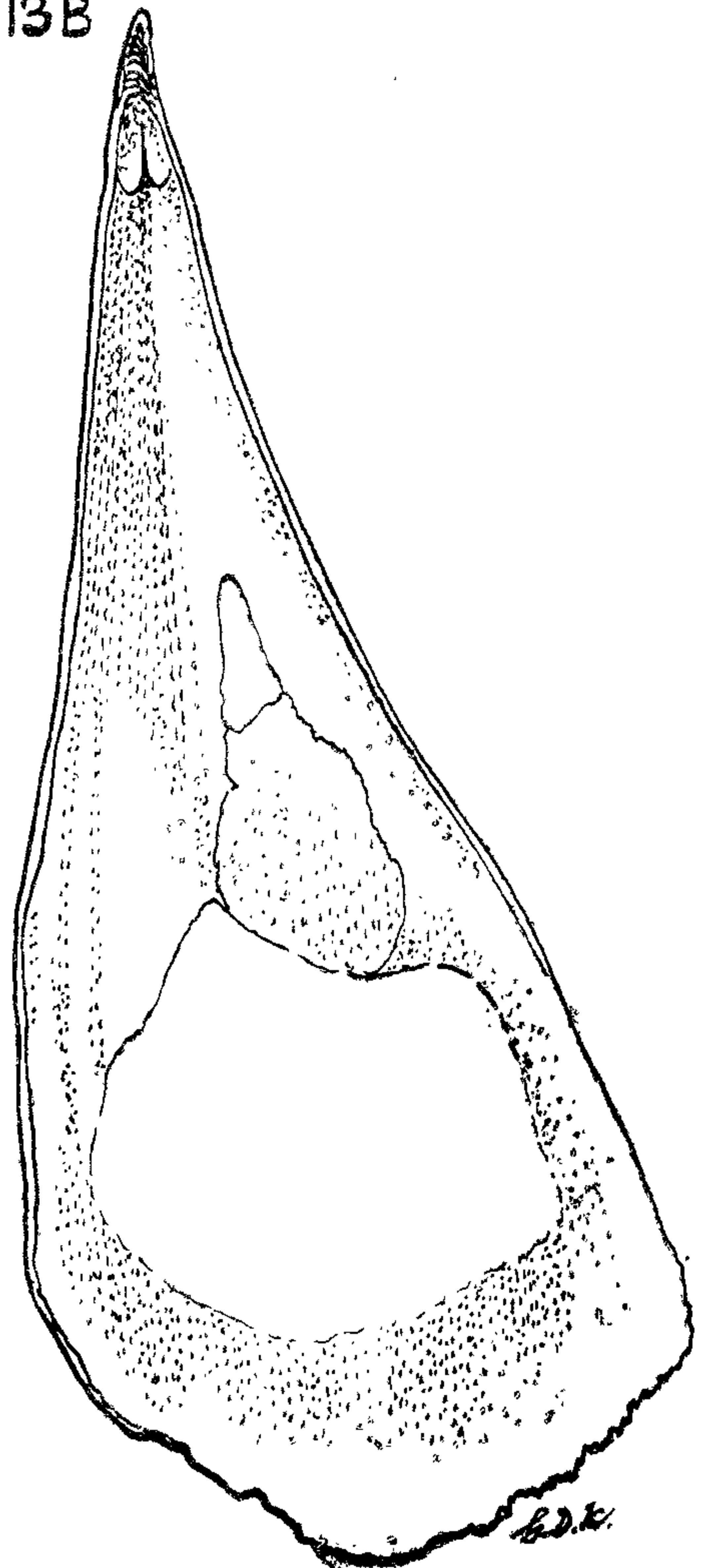


27 m.m.

13A



13B



280 m.m.

Fig. 12—*Pinetada radiata*.

Fig. 13—*Pinna bicolor*.

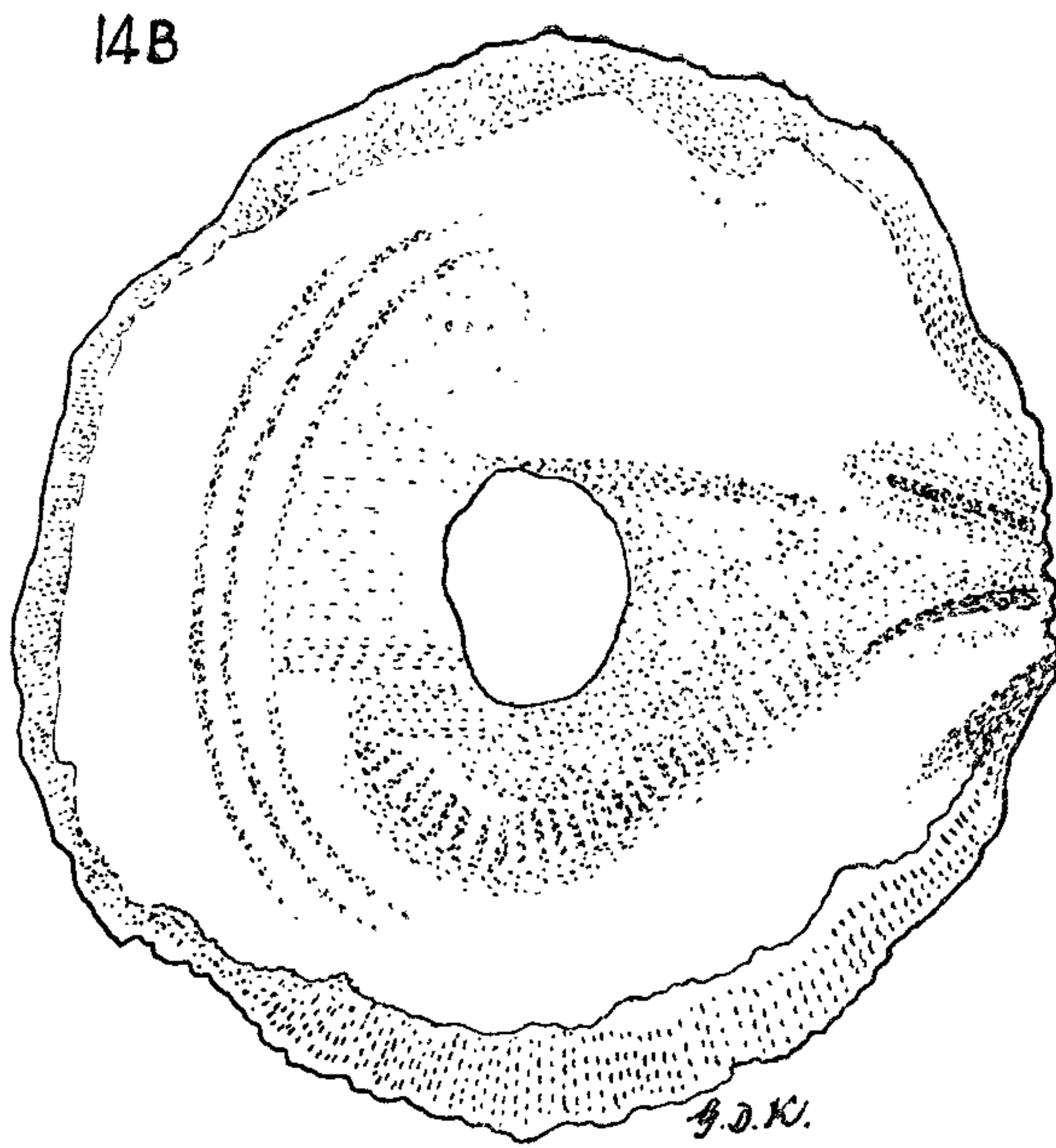
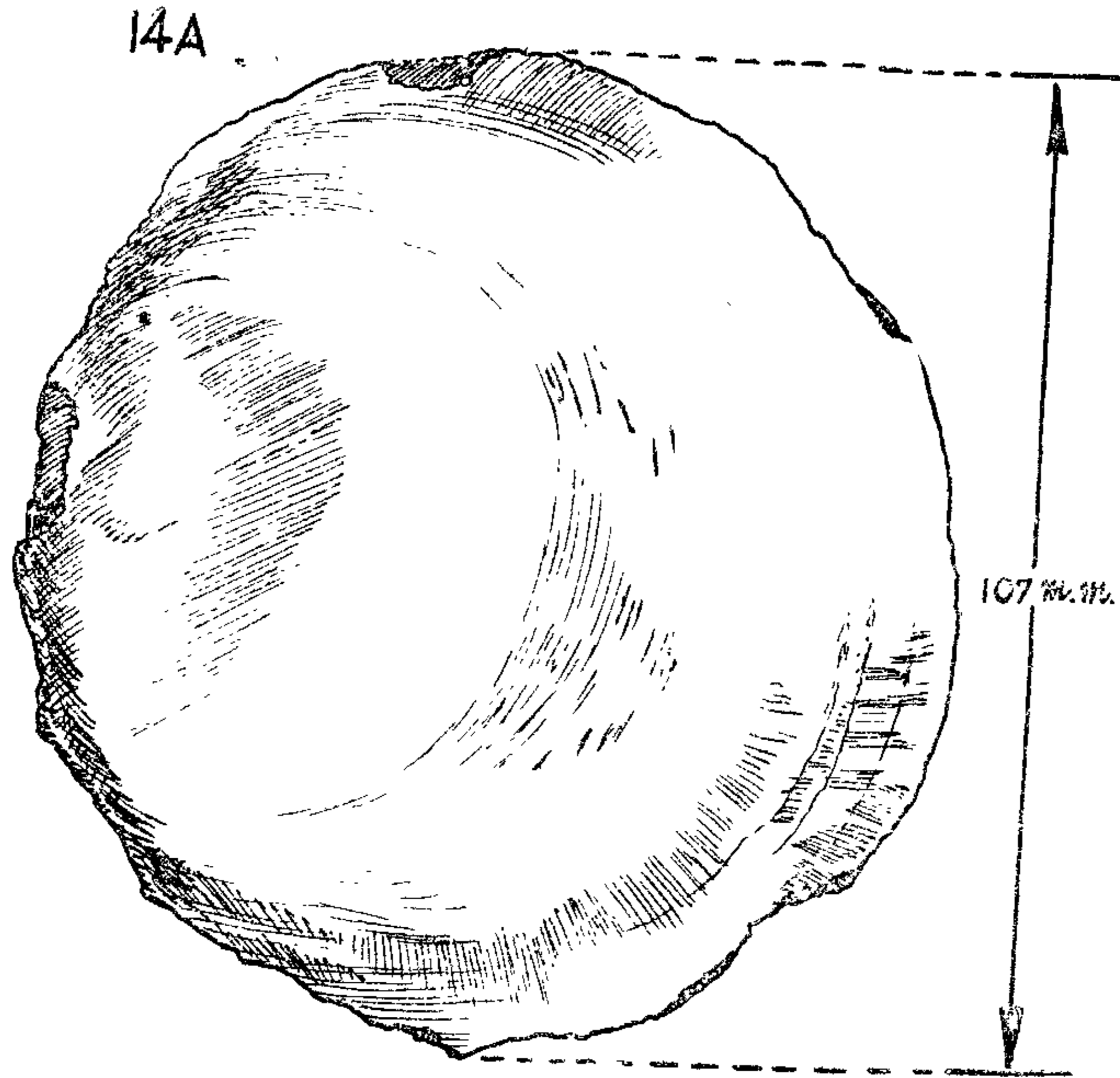


Fig. 14.—*Placuna placenta*.

Found in clusters attached to rocks and concrete surfaces in estuaries, harbours and occasionally open sea. The shape of the shell varies depending on the substratum. They inhabit mostly the inter tidal and sub tidal zones.

Locality : Arippu (Mannar), Nayar, Trincomalee harbour.

Saccostrea cucullata (Born) Fig. 16

Synonyms : *Ostrea cucullata* Hornell 1922b

Ostrea crenulifera Hornell 1949c

Shell smaller than *C. belcheri*. Its outline and texture varies with the habitat of the animal. This species is characterised by strong chomata which circle the entire margin of both valves. The right valve is flat and carries many growth squamae. The left valve has a large attachment area and on the surface a number of nonappressed growth squamae and a series of rough irregular rounded dichotomous radial folds. The umbonal cavity is deeper than in *C. belcheri*.

This species grows preferentially on bare rock surfaces in the inter tidal and sub tidal zones. They are also found in estuaries attached to roots and various other substrata.

Locality : Batticaloa, Koduwakattumalai (Trincomalee), Negombo.

FAMILY CORBICULIDAE

The shells belonging to this family are triangularly ovate and variable in size. The surface sculpture is distinct and consist of concentric growth ridges. The hinge bears three cardinal teeth and two lateral teeth. The ligament is external. Pallial sinus absent.

Geloina coaxans (Gmelin) Fig. 17

Rather large, thick shell, trigonal ovate in shape, with a slight dent at the posterior end. Growth rings prominent on the surface, which is covered by a dark greenish periostracum. The umbonal area eroded in large shells and the interior is white.

Inhabits the muddy bottom of mangrove swamps and lagoons where they bury themselves at different depths. Has considerable amount of flesh and is often dug out to be eaten.

Locality : Chilaw, Negombo, Thambalagam Bay (Trincomalee).

FAMILY VENERIDAE

A large family well represented by many genera. Shell regular, usually trigonal ovate in shape equivalved and tightly closed. Surface may be smooth or marked by radial and concentric lines. Ligament external. The hinge plate bears three cardinal teeth. Lateral teeth may or may not be present. Pallial line sinuate. The ventral margin smooth or partially crenulated.

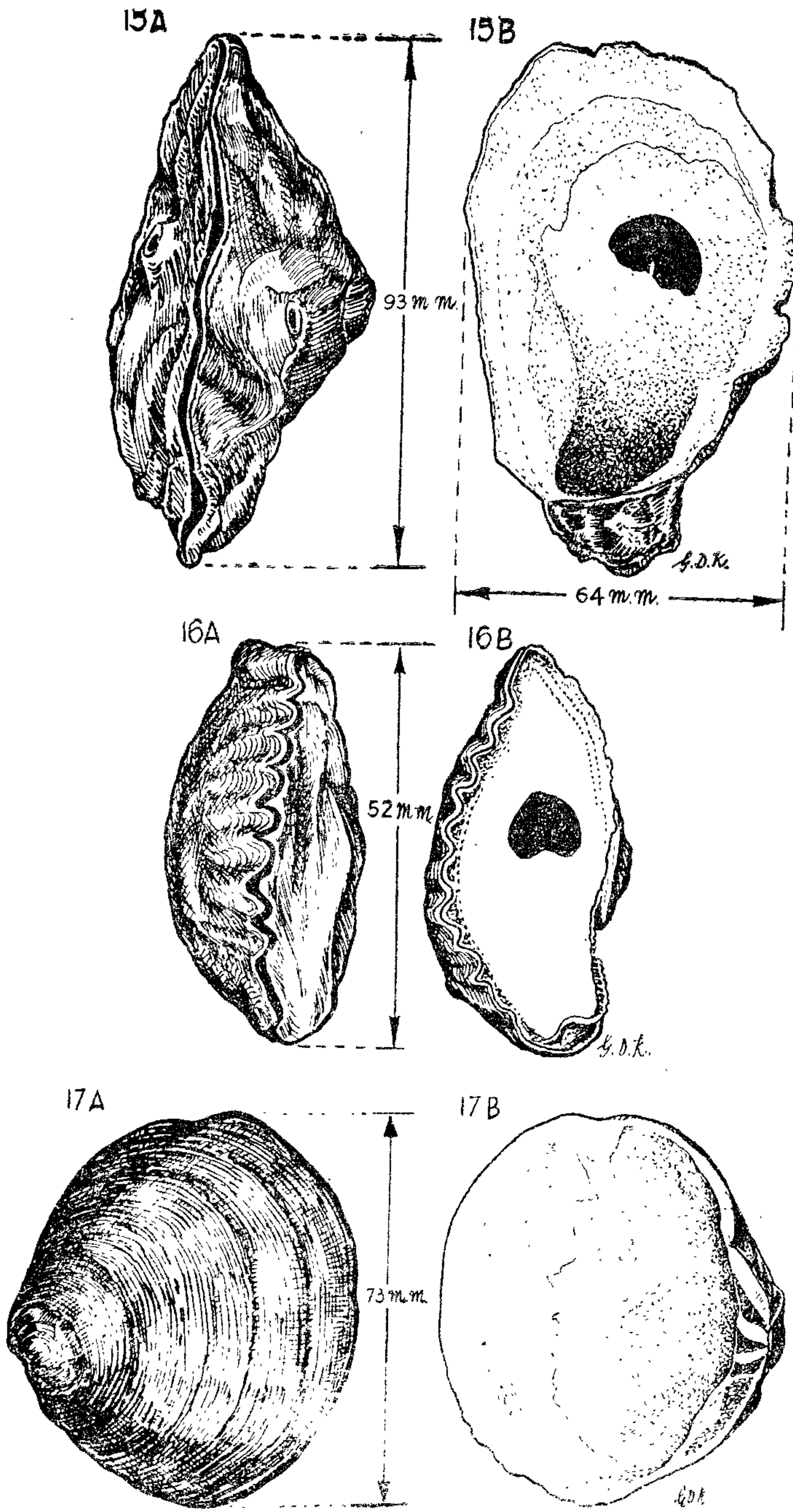


Fig. 15.—*Crassostrea belcheri*.

Fig. 16.—*Saccostrea cucullata*.

Fig. 17.—*Geloina coaxans*.

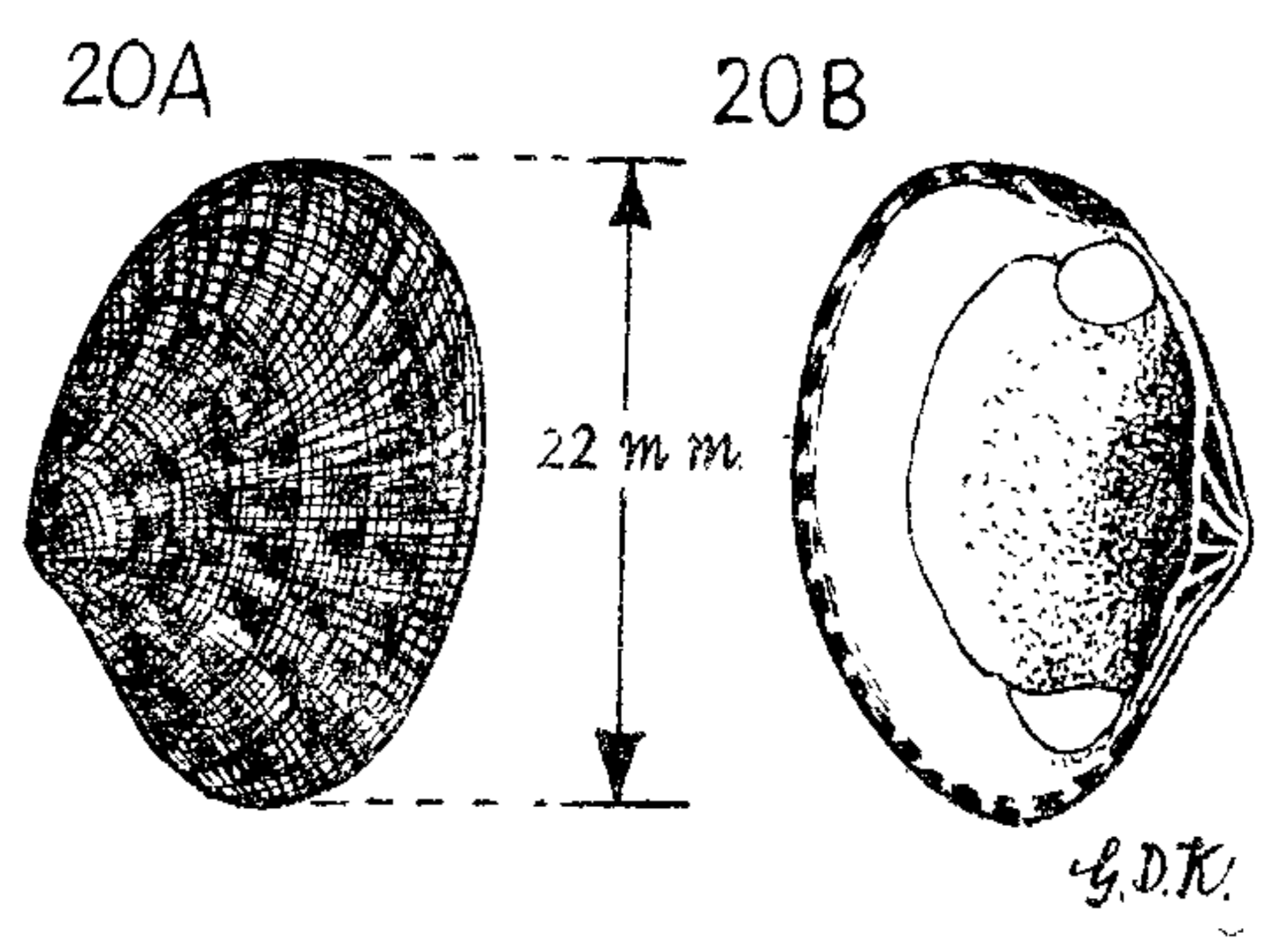
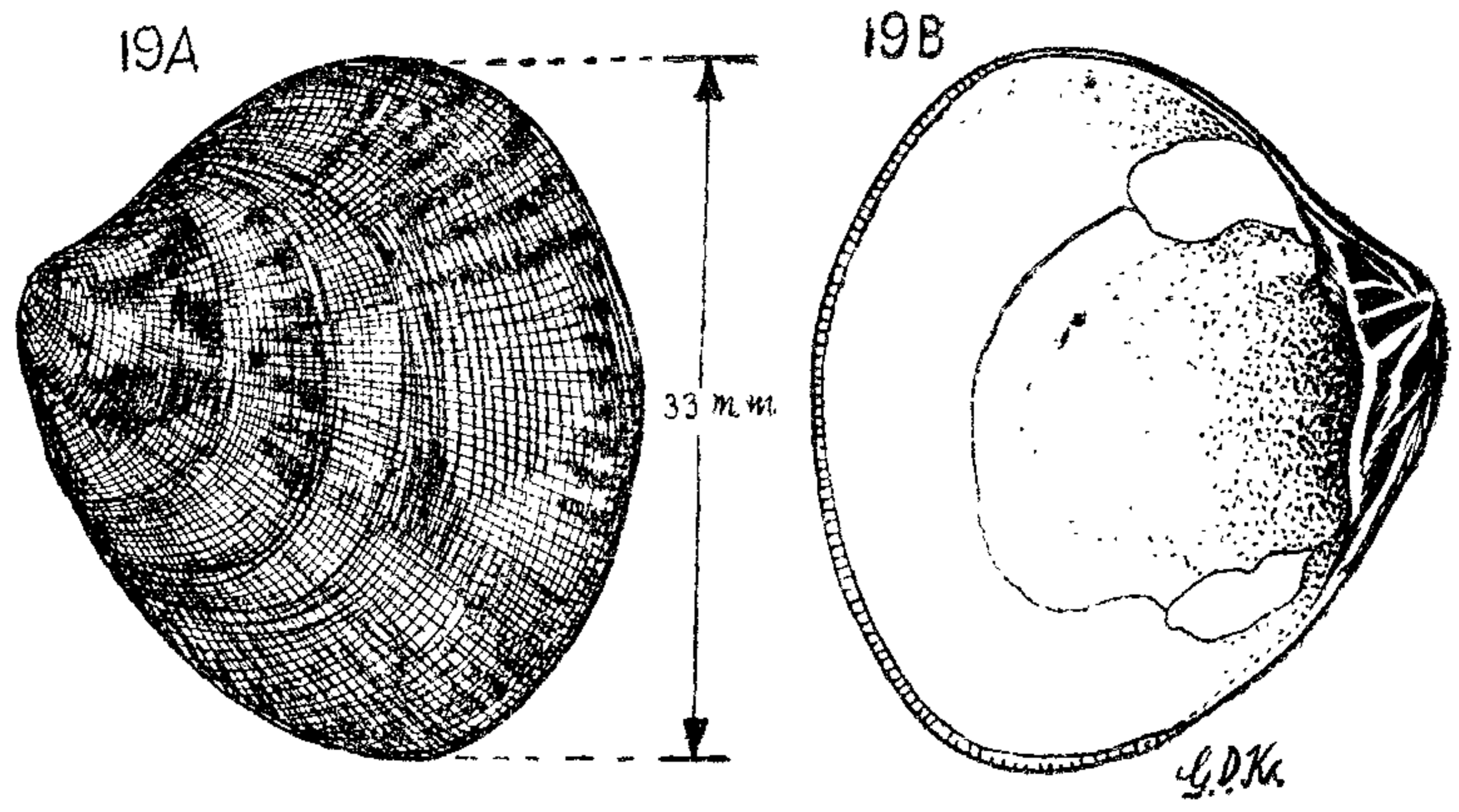
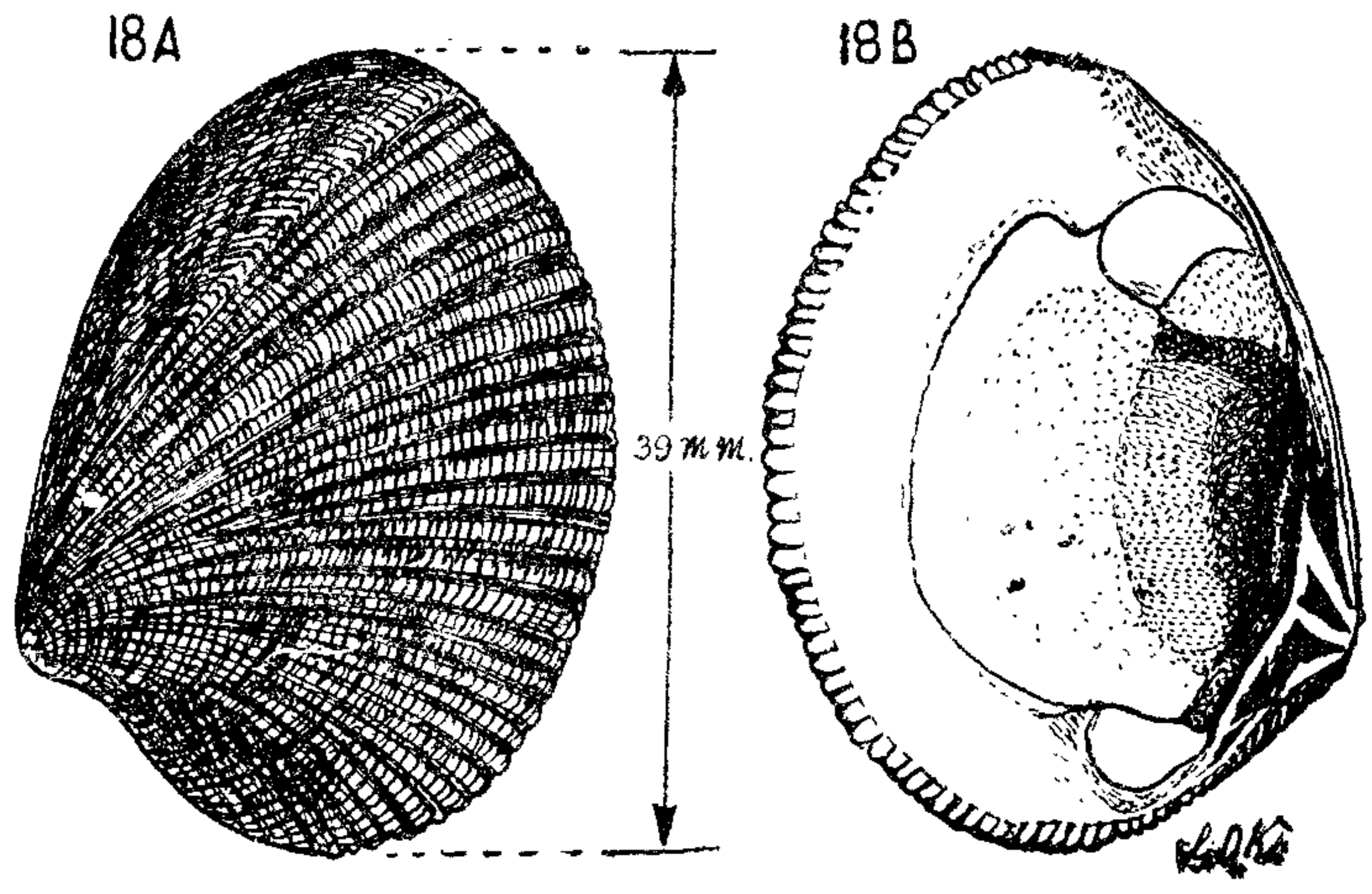


Fig. 18.—*Gaffrarium rumidum*.

Fig. 19.—*Gaffrarium Divaricata*.

Fig. 20.—*Gaffrarium dispar*.

Gaffrarium tumidum (Roding) Fig. 18

Synonym : *Circe gibba* Hornell, 1922 b

The shell is solid, thick and roundly ovate. Umbo located near the anterior one-third of the dorsal margin. The surface is sculptured with nodulous radiating ribs which tend to bifurcate towards the ventral margin. From a single radial rib arises secondary ribs which divaricate towards the posterior dorsal margin to cover the posterior one fourth of the shell. The ligament is external. Except towards the posterior, the margin is denticulated. Shell colouration is white. The adductor muscle scars are prominent and pallial sinus faint. The shell is often used in the manufacture of lime. Very common.

Widely distributed in the coastal (littoral and sub-littoral areas) and estuaries.

Locality : Arippu. Kalpitiya, Karainagar, Kayts, Trincolmalee Harbour, Vidathalativu.

Gaffrarium divaricata (Chemnitz) Fig. 19

Thick, rounded ovate, rather compressed shell. The surface bears numerous divaricating radial ribs and concentric growth lines. In addition there are reddish-brown zig zag lines and blotches on the creamy white surface. Internally the surface is glossy with a faint pallial sinus. Ventral margin is finely grooved.

Locality : Gulf of Mannar.

Gaffrarium dispar (Dillwyn) Fig. 20

The shell is smaller and more flattened than *G. tumidum*. Concentric growth lines cover the most part of the shell, with divaricating lines at the anterior and posterior region. Background colour of shell is yellowish, marked with spots and zig zag lines. Found in shallow rock shores.

Locality : Kankesanturai.

Periglypta reticulata (Linnaeus) Fig. 21

The shell is solid and roundly ovate. The sculpture on shell is characteristic. Distinct, wavy, concentric cord-like circular growth lines cross with radial ribs giving the shell a coarsely reticulated appearance. Background colour of shell is yellowish, with brown spots.

Inhabits shallow sandy bottomed areas. Not very common.

Locality : Weligama

Meretrix meretrix (Linnaeus) Fig. 22

Has a heavy, smooth, trigonal shell, covered with thin, polished pale brown periostracum. The hinge plate is characteristic of the genus, on the posterior lateral tooth of the left valve and the corresponding depression on the right valve are a series of fine transverse groves. The number of these groves increase with the size of the shell (Kundu, 1965).

This species is characterised by a dark oblong patch extending radially from the umbo to the posterior ventral corner where it can also be noticed internally. The shell attains a large size and is an important edible species.

Found in shallow regions of lagoons and also in the coastal areas.

Locality : Errukulampiddy (Mannar).

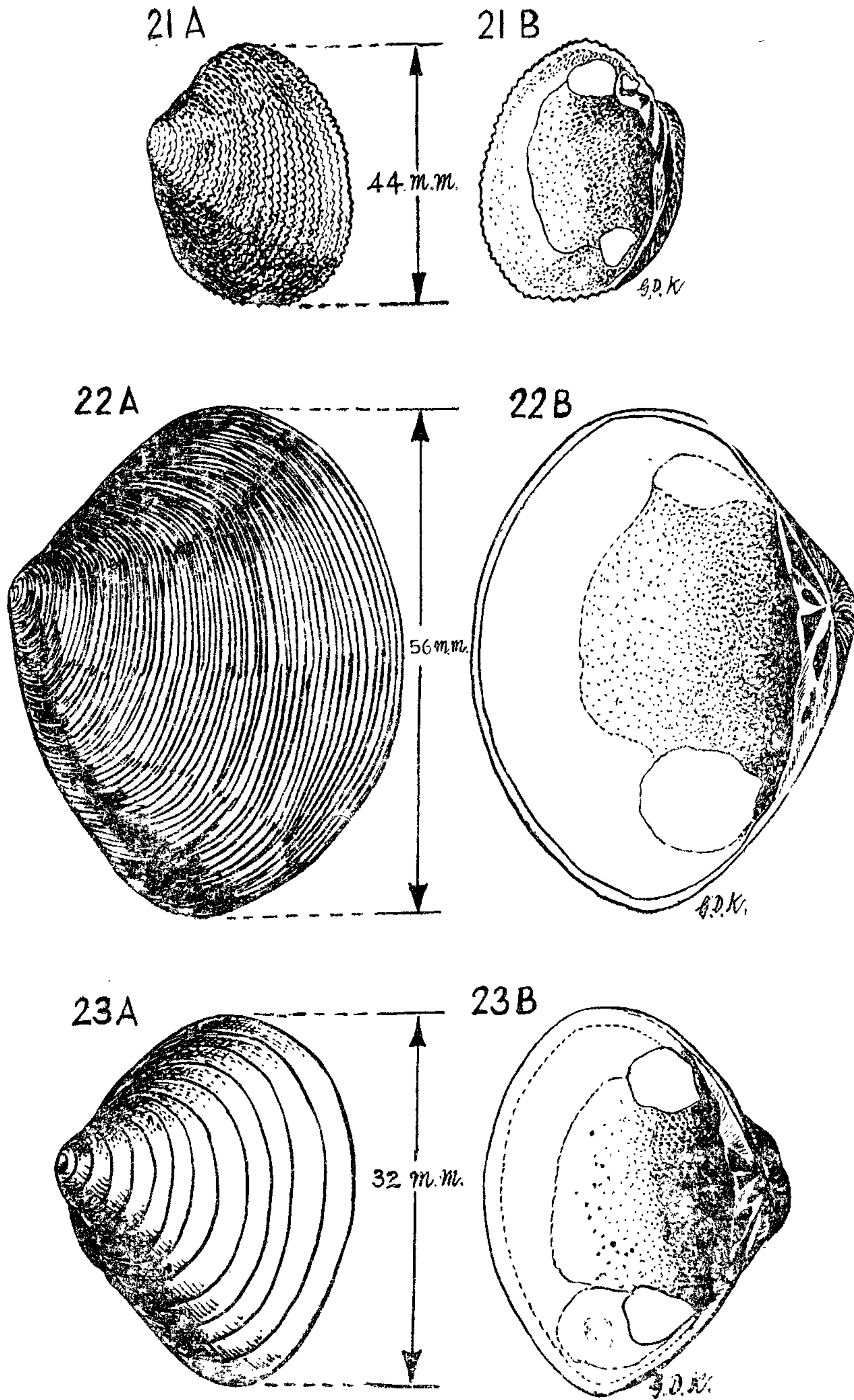


Fig. 21.—*Periglypia reticulata*.

Fig. 22.—*Meretrix meretrix*.

Fig. 23.—*Meretrix casta*.

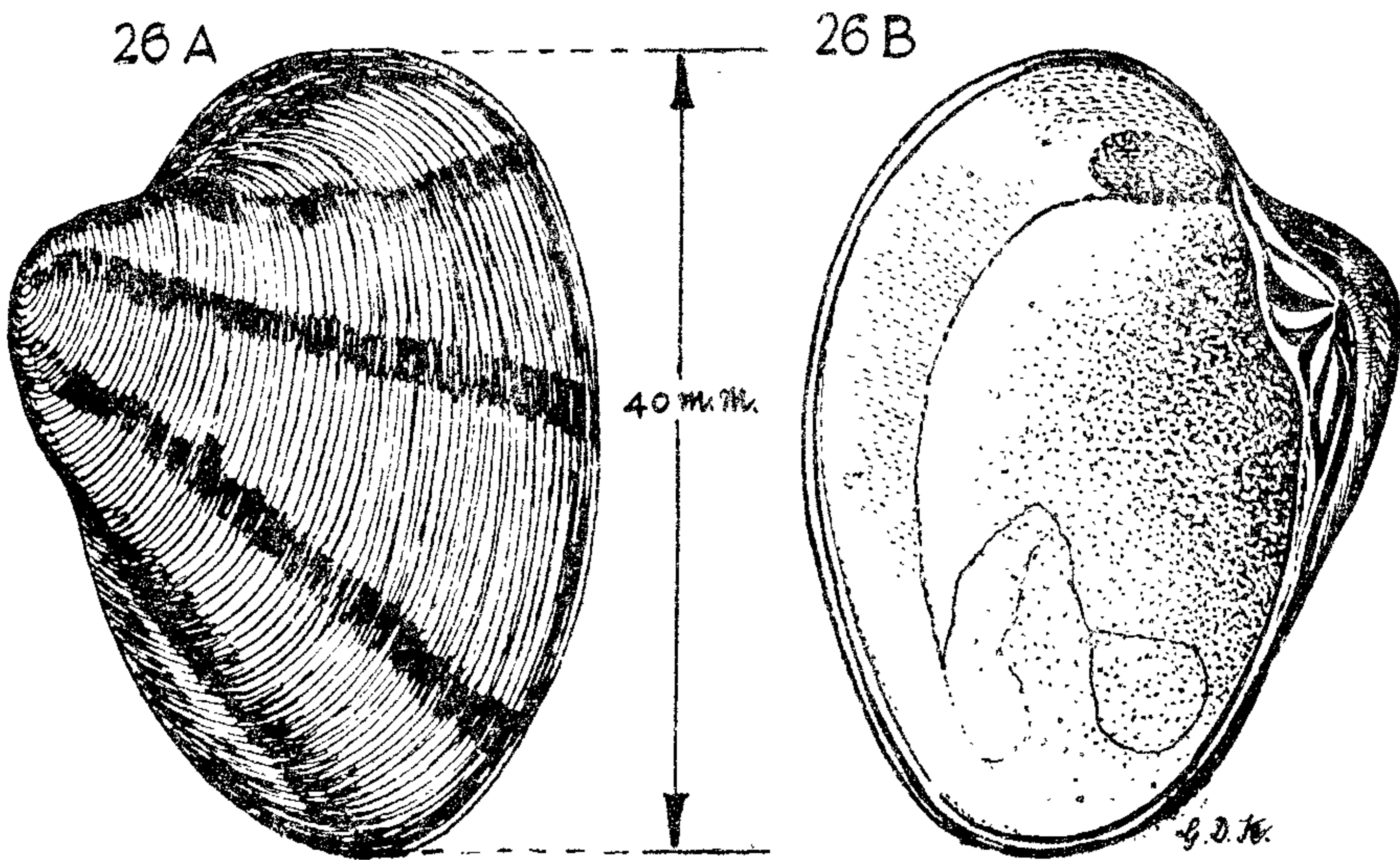
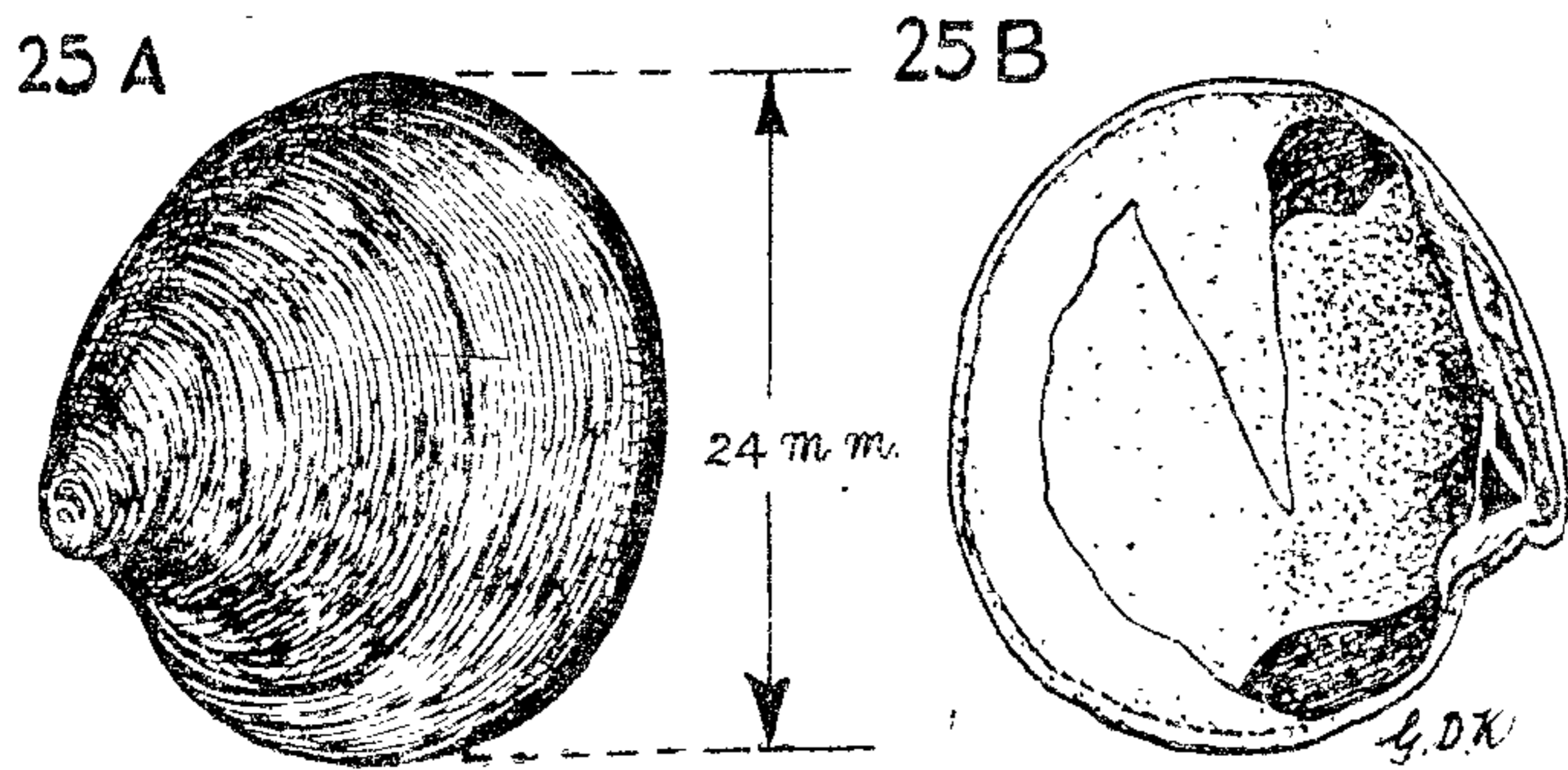
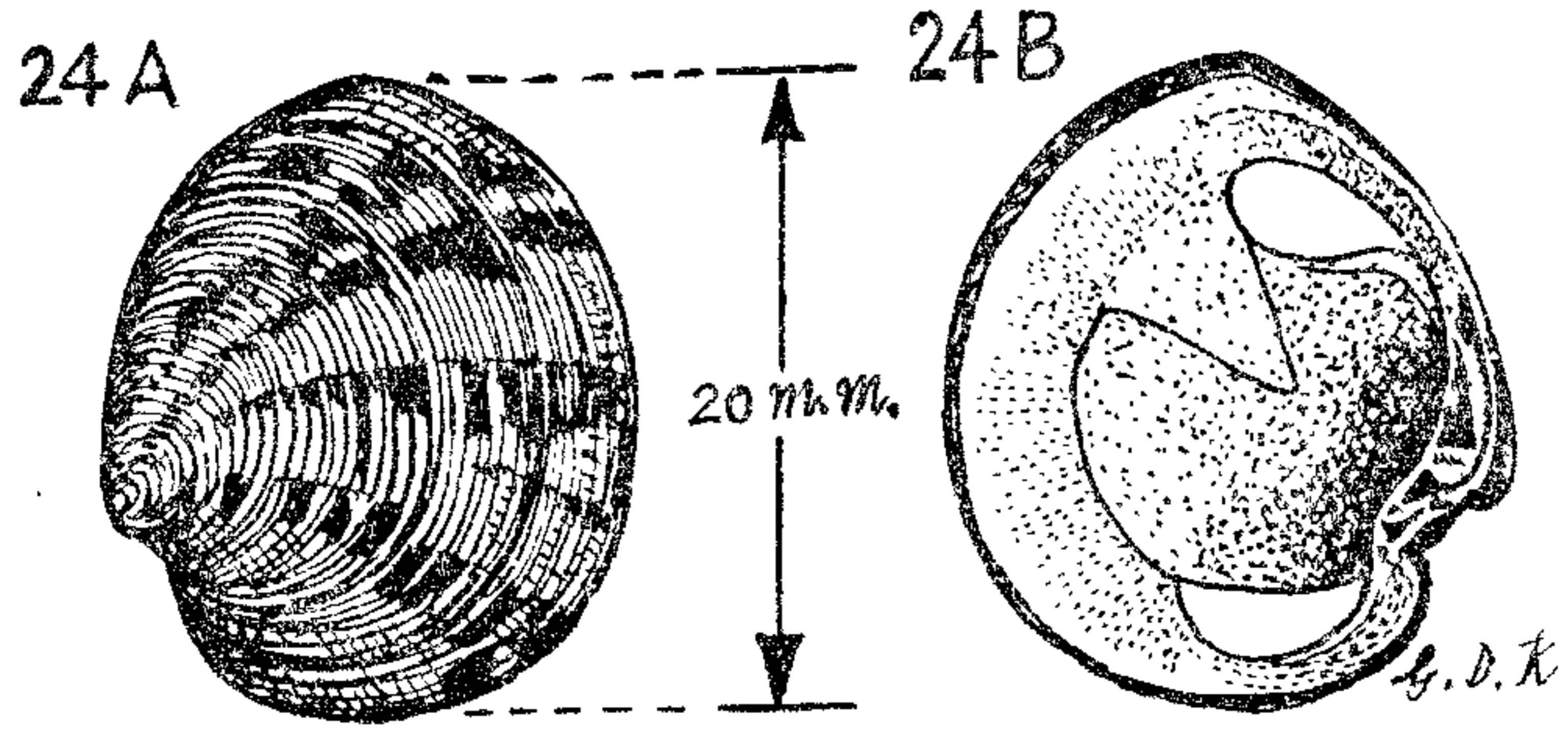


Fig. 24.—*Dosinia variegata*.

Fig. 25.—*Dosinia cretacea*.

Fig. 26.—*Marcia opima*.

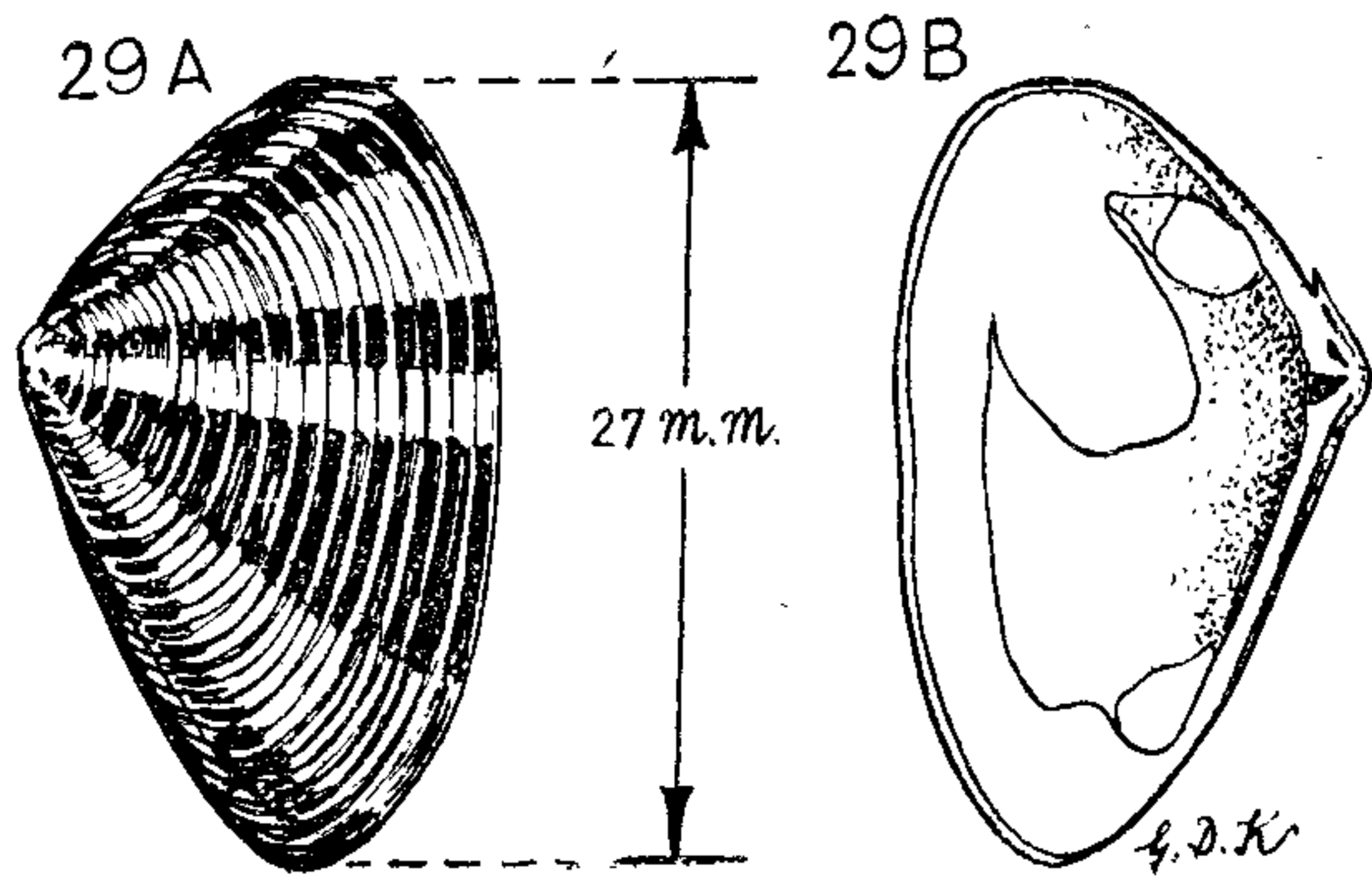
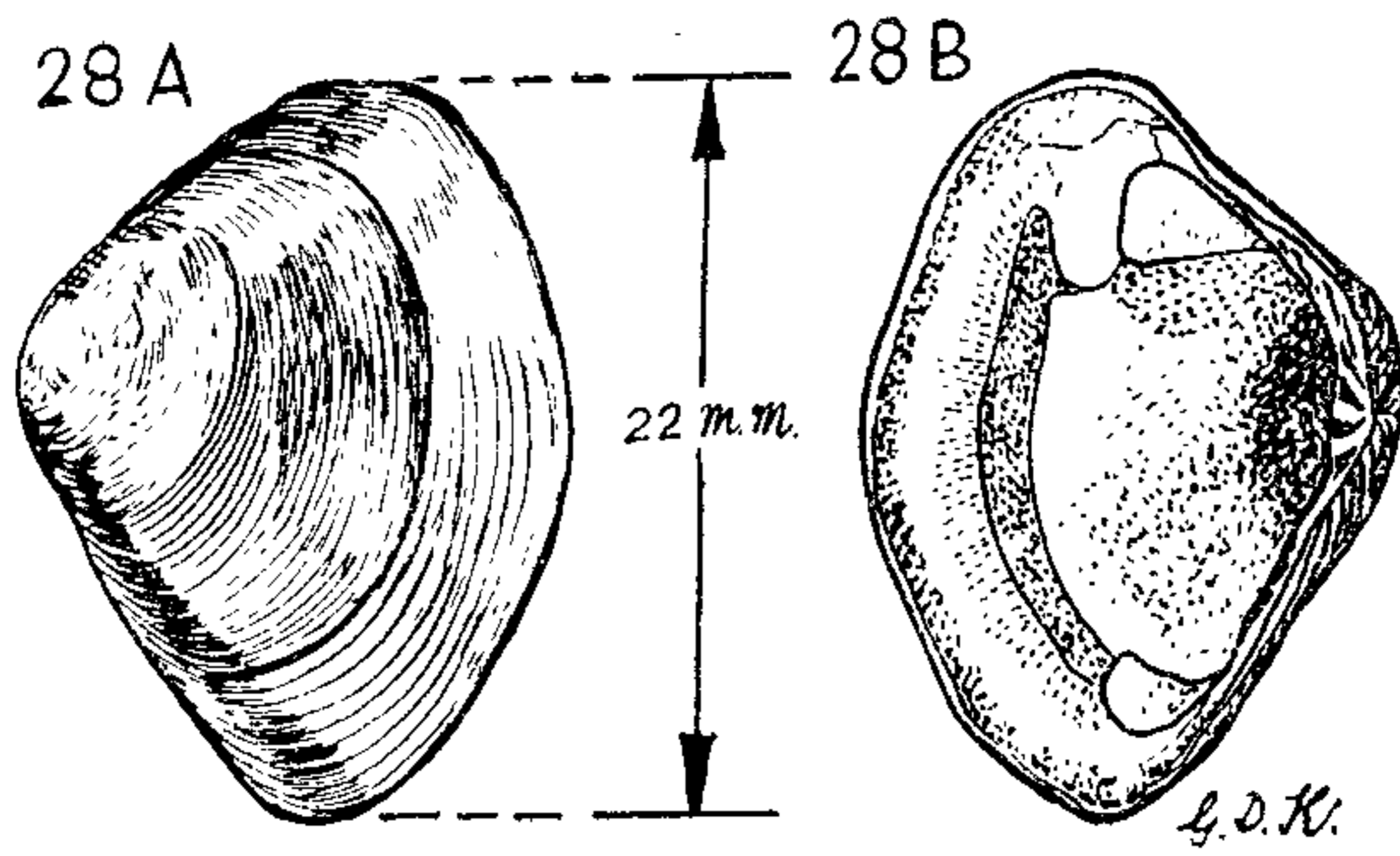
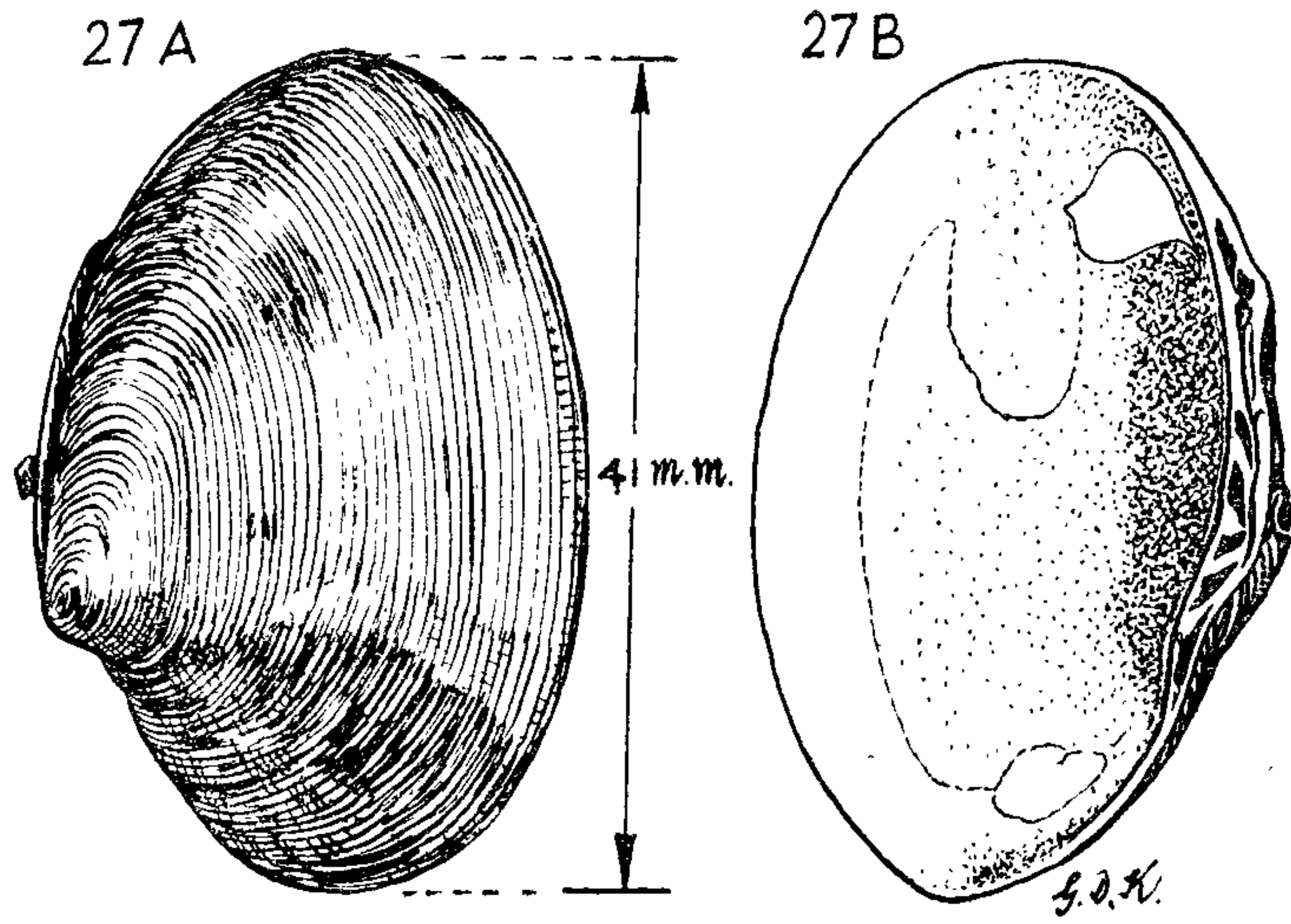


Fig. 27.—*Marcia hianting*.

Fig. 28.—*Mactra lurida*.

Fig. 29.—*Donax bicolor*.

Meretrix casta (Gmelin) Fig. 23

Shell smaller and more rounded than the preceding species. Covered with pale brown periostracum which tends to peel off very easily. Though a distinct dark patch is absent, the posterior region has a bluish-black colouration.

Very common in shallow brackish water areas.

Locality : Arippu, Batticaloa, Nandikadal, Negombo.

Dosinia variegata (Gray) Fig. 24

Circular, flattened shell marked with a thin, but distinct circular ridges. Umbo beak like and the hinge plate is wide. The lunule is deeply impressed and heart-shaped. There is a prominent V-shape pallial sinus. The surface is yellowish with brown rays.

Inhabits rocky and sand bottomed areas.

Locality : Colombo Harbour.

Dosinia cretacea (Reeve) Fig. 25

The shell is circular, solid and rather inflated. The surface colouration is white, devoid of coloured rays and marked with concentric ridges. The lunule is in front of the beak like umbo and is strongly impressed and chordate. The escutcheon is long and narrow. The pallial sinus is narrower and deeper than in *D. variegata*.

Found in shallow inter tidal areas of bays and do not burrow very deep. Not very common.

Locality : Trincomalee Harbour.

Marcia opima (Gmelin) Fig. 26

Synonyms : *Tapes ceylonensis* Hornell, 1922b

Hemitapes ceylonensis Hornell, 1949c

Katelsia opima Subrahmanyam, Karandikar and Murti

Katelsia opima Nayar and Mahadevan, 1974

Katelsia opima Jones, 1970

Inflated, ovate-chordate, thick shell covered with a smooth, polished pale brown periostracum. Three or four dark brown radial patches are often visible specially in the living or freshly preserved specimens. Umbo prominent and located near the anterior one-third of the dorsal margin. Escutcheon depressed but not sharply delimited. Three sharp radiating cardinal teeth are present, of which two are bifid. Interior is porcellanous white and bears the two adductor muscle impressions pallial sinus deep (distinguishes this genus from genus *Meretrix* which has a shallow pallial sinus). Ventral margin entire.

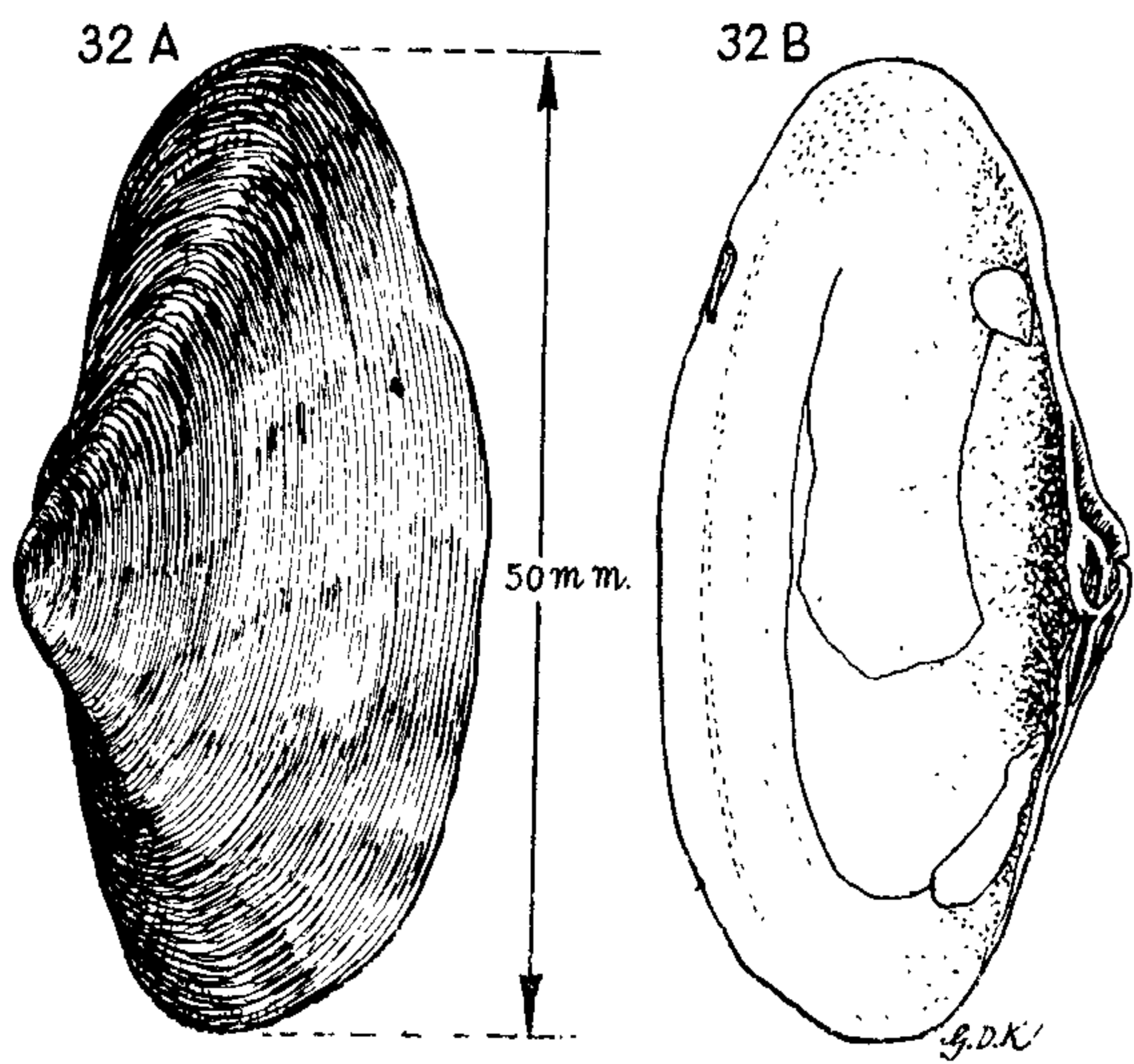
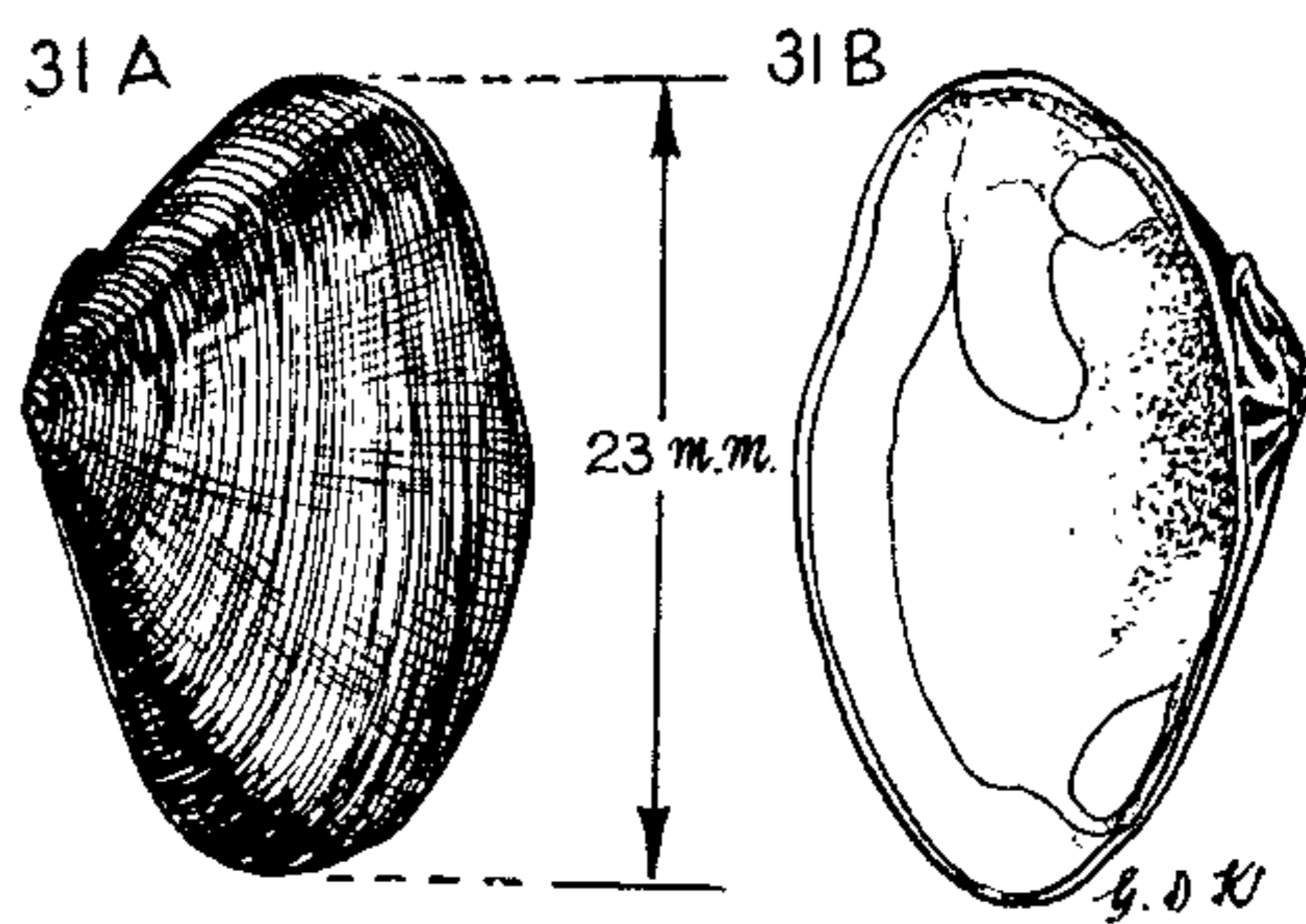
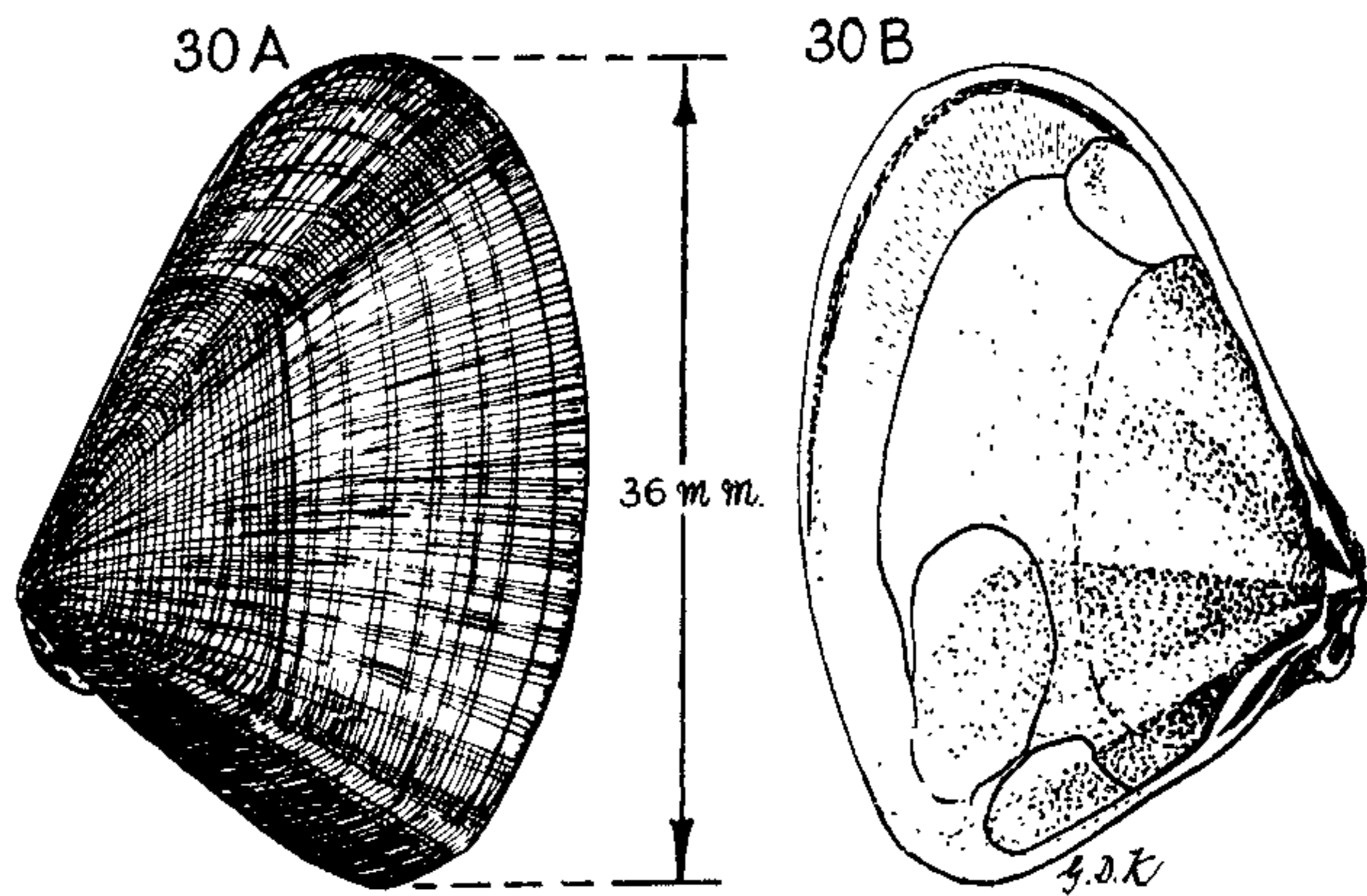


Fig. 30.—*Donax cuneata*. Fig. 31.—*Donax taba*.
Fig. 32.—*Gari variegata*.

Burrows into shallow, undisturbed muddy bottom of estuaries and are found near the mouth of the estuary. Often collected in large quantities for food.

Locality : Kalpitiya, Kinniyai (Trincomalee), Kokilai, Thambalagam Bay (Trincomalee), Trincomalee Harbour.

Marcia hiantina (Lamarck) Fig. 27

Shell elongate-ovate, with the posterior dorsal margin longer than the anterior dorsal margin. Umbo not very prominent. The shell surface is sculptured with regular concentric growth ridges and is smooth towards the umbo. The polished yellowish-brown periostracum is scattered with dark-blackish brown rays. Cardinal teeth and pallial sinus as in the preceding species. Ventral margin entire.

Found in muddy bottom areas of bays and lagoons. Sometimes this species occur together with *M. opima*.

Locality : Kalpitiya, Trincomalee Harbour.

FAMILY MACTRIDAE

Usually thin, inflated or flat shells, ovate to trigonal ovate in shape. The size varies. The umbo is submedian and often prominent. The surface is sculptured with concentric growth lines and covered over by a thin periostracum. The resilium is situated in a prominent chondrophore on the hinge plate between the cardinal teeth. Lateral teeth usually present and fairly well developed. Posterior mantle sinus present and the ventral margin is smooth.

Mactra lurida (Philippi) Fig. 28

Triangular almost equilateral shell, inflated at the umbonal area. Shell is marked by thin concentric growth lines and has a purplish colouration which is more prominent near the umbo and paler towards the ventral margin. The chondrophore is prominent and accommodates the resilium. Pallial sinus distinct.

Dwells in the sandy or sandy mud bottom of shallow water areas. Not common.

Locality : Kalpitiya, Trincomalee.

FAMILY DONACIDAE

Small compressed triangular shells, with the anterior dorsal margin longer than the posterior margin. Surface may be smooth or sculptured with concentric and radial markings. The ligament is external and the hinge plate bears two cardinal teeth and two lateral teeth, on either side. The mantle line has a characteristic situation which is large and rounded.

Donax bicolor (Gmelin) Fig. 29

Similar to *D. cuneata*, but has a less distinct keel. Behind the keel the concentric growth lines have a nodulated appearance because of the vertical ribs. Purple radial bands are seen both on the inner surface and outer surface.

Inhabits sandy beaches.

Locality : Kankesanturai.

Donax cuneata (Linnaeus) Fig. 30

The shell is characterised by a distinct keel, running from the umbo to the postero ventral corner of the shell. The surface of the shell behind the keel is almost perpendicular to the rest of the surface. The concentric rings in this area are wavy and sharp. The rest of the surface is marked by very fine concentric lines and is much smoother than the area behind the keel. The surface is cream coloured with radial bands of purple. Inside of the shell is glossy white with purplish blotches.

Common on the wave beaten areas of sandy shores.

Locality : Weligama.

Donax faba (Gmelin) Fig. 31

Shell smaller than preceding species. No distinct keel but the concentric rings towards the postero-dorsal margin are slightly more coarse than the rest. Outer surface colouration highly variable. Internally the shell is glossy white with a tinge of purple.

Found on sandy beaches, in large numbers, burrows into the sand when the wave recedes. Sometimes found near the water line of estuaries towards the sea mouth.

Locality : Kalpitiya, Mannar, Mullativu.

FAMILY PSAMMOBIIDAE

Shells of moderate size oval or elongate in shape. The surface may be smooth or sculptured and covered by a periostracum. The external ligament is conspicuous. The hinge plate bears two cardinal teeth, lateral teeth being absent. At its posterior part the mantle line has a deep U-shaped sinus which is confluent with the pallial line at the lower end.

Gari variegata (Wood) Fig. 32

Thin elongated compressed purplish-white shell covered with a thin brown periostracum which peels off easily. The surface is sculptured with fine concentric growth lines.

Found vertically buried in sand or sandy mud substratum. It burrows rapidly into the substratum with the aid of well developed foot.

Locality : Trincomalee Harbour,

<i>Species</i>	<i>Number of shells studied</i>	<i>Length (range) mm.</i>	<i>Height (range) mm.</i>	<i>Breadth (range) mm.</i>
Anadara antiquata ..	3 ..	52-63 (58.33)	40-53 (48.00)	34-48 (42.33)
A. clathrata ..	3 ..	30-34 (31.66)	25-30 (27.33)	20-25 (22.33)
Larkinia rhombea ..	21 ..	29-71 (49.33)	25-65 (48.86)	22-57 (37.71)
Barbatia helbingi ..	5 ..	28-32 (29.2)	14-20 (16.4)	10-18 (12.4)
Glycymeris oblingus ..	4 ..	10-21 (14.00)	9.5-19.5 (12.63)	6.5-14 (8.63)
Perna perna ..	30 ..	15-32 (25.46)	28-79 (54.86)	11-35 (20.43)
Perna viridis ..	3 ..	42-54 (47.33)	61-93 (74.00)	27-36 (31.33)
Modiolus auriculatus ..	5 ..	14, 5-39 (28.92)	26.5-66 (54.25)	11.5-35 (25.92)
Septifer bilocularis ..	5 ..	13-15.5 (14.5)	16-27.5 (21.30)	10to15.5 (12.60)
Pinctada vulgaris ..	3 valves	61-74 (69.00)	65.5- 81.00 (75.00)	not measured
P. radiata ..	2 ..	29-37 (33.00)	29-31 (30.00)	9-12.5 (10.75)
Pinna bicolor ..	3 ..	102-120 (110.00)	19.4-31.8 (237.66)	28-33 (30.00)
Placuna placenta ..	6 valves	104-138 (117.25)	102-147	not measured
Crassostrea belcheri ..	10 ..	28 72 (57.00)	41-121 (79.9)	do.
Saccostrea cucullata ..	2 ..	28-32 (30.00)	41-48 (44.50)	do. do.
Geloina coaxans ..	6 ..	65-95 (79.33)	63-71 (72.50)	37-58 (44.17)
Gaffrarium tumidum ..	85 ..	18-54 (33.31)	15-42 (27.59)	07-36 (19.423)
G. divaricata ..	1 ..	34.0	31.0	21.00
G. dispar ..	4 ..	19.5-28.5 (22.63)	16.0-24.0 (18.5)	8-5 (11.0)
Periglypta reticulata ..	1 ..	42.00	35.50	26.00

Table 1.—Range of measurements and the average measurements (given within brackets) of each species in the collection.

<i>Species</i>	<i>No. of Shells Studied</i>	<i>Length (range) mm.</i>	<i>Height (range) mm.</i>	<i>Breadth (range) mm.</i>
<i>Meretrix meretrix</i>	3	35-60 (45.86)	27-51 (39.00)	24-35 (28.66)
<i>M. Casta</i>	12	29-51 (39.58)	25-46 (35.75)	17-34 (26.66)
<i>Dosinia variagata</i>	2	14.5-20.0 (17.25)	13.5-18.0 (15.75)	9.0-10.0 (9.5)
<i>D. cretacea</i>	1	24.5	24.0	13.0
<i>Marcia opima</i>	26	16-51 (37.62)	13-45 (32.69)	9-33 (26.23)
<i>M. hiantina</i>	13	25-48 (41.61)	18-35 (30.08)	17-27 (21.31)
<i>Macra lurida</i>	4	19-24 (22.00)	17-20 (19.25)	12-15 (14.00)
<i>Donax faba</i>	35	17-25 (21.62)	13-18 (14.86)	6-9 (7.94)
<i>D. cuneata</i>	2	33.5-38.0 (35.75)	25-29 (27.00)	12-14 (13.00)
<i>D. bicolor</i>	2	24-27 (25.5)	16-18.5 (17.25)	9.5-11.5 (10.5)
<i>Gari variegata</i>	16	38-62 (49.81)	21-31 (24.69)	9-20 (14.63)

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