ZOOLOGISCHE MEDEDEELINGEN

UITGEGEVEN VANWEGE

'S RIJKS MUSEUM VAN NATUURLIJKE HISTORIE

Deel IV.	te LEIDEN	Aflevering 1.

I. — ON A COLLECTION OF LAND-, FRESHWATER- AND MARINE MOLLUSCA FROM NORTHERN NEW GUINEA.

BY M. M. SCHEPMAN. — (WITH PLATE I).

INTRODUCTION.

The Mollusca, recorded in this paper, have been collected by Dr. P. N. VAN KAMPEN and Mr. K. GJELLERUP, during their abode in New Guinea, in 1910 and 1911. The collection is made near the eastern boundary of the Dutch part of the island. „Hollandia" is the name of a camp on the Kajo-bay, a small bay on the western coast of the Humboldtbay, „Hussin" a camp on the Bewani-river, „Zoutbron" (3° 1′ 13″ s., 140° 57′ 30″ e.) a camp on the Begouxe-river. The Mbai and Faté are small rivers, which flow in the Humboldtbay near Hollandia, the Tjahé is a small branch of the Mosso. The other localities are to be found on the map which belongs to an article of Capt. Sachse in the „Tijdschrift v. h. Kon. Nederl. Aardrijksk. Gen." (2), dl. XXIX, 1912, p. 36.

The collection contains about 60 species, amongst which 9 are new to science; moreover a few new varieties have been described. Perhaps this number of novelties would have been still more considerable, if some of the difficult forms, such as *Helicarion*, had been at hand in larger number of specimens; but I did not like to encumber science with vague descriptions of new species, which could not be recognized by later students.

I have to thank Mr. PH. DAUTZENBERG and Mr. G. K. GUDE, for their assistance in identifying some species, which were doubtful to me, and again Mr. J. J. VERWIJNEN for the loan of books from TEYLER'S Museum at Haarlem.

I. LAND- AND FRESHWATER-MOLLUSCA.

Class Gastropoda.

Pulmonata.

Suborder GEOPHILA.

A. MONOTREMATA.

Fam. Zonitidae.

Xesta Albers.

1. *Xesta citrina* Linné.

Linné. Syst. Nat. Ed. X, p. 771. v. Martens. Ostas. Landschn. p. 193. Reeve. Conch. Ic. Helix, fig. 482, 485. Tapparone Canefri. Fauna Mal. N. Guinea, p. 196. Tryon. Man. of Conch., Ser. II, Vol. II, p. 73.

Kaiserin-Augusta-river, on a tree, Sept. 18, 1910; one specimen without exact locality.

Both specimens are young; it is not to be made out to which variety they belong.

Euplecta Semper.

Euplecta costellifera n. sp., Pl. I, fig. 3.

Shell depressedly conoid, with rounded base, imperforate, dull above, fulvous; sharply carinate at periphery. Whorls 5, slightly convex, separated by a very shallow suture, above which the whorls are depressed, apex blunt, smooth; sculpture of post-nuclear whorls consisting of rather remote riblets, their interstices are finely striated, the base is nearly smooth, but for faint growth-lines, stronger below the threadlike keel of last whorl, which is pinched above and below. Aperture a little oblique, securiform, margins distant, united by a thin callus on parietal wall. Upper margin of peristome thin, basal margin thickened, rounded, running imperceptibly in the short columellar margin, which is reflected above and quite closes the umbilical pit.

Diam. maj. 16, alt. $8^1/_4$; apert. alt. 5, lat. $7^1/_2$ mill.

Bougainville-mounts, June 1—2, 1910.

Though this and the next species are located with some doubt in the genus *Euplecta*, I know no better place; amongst the species of that genus at my disposal, I found some with the perforation closed or nearly so. Amongst species from New Guinea, with about the same shape, I found no one coming near to it as far as concerns the sculpture.

2. *Euplecta imperforata* n. sp. Pl I, fig. 4.

Shell depressedly conoid, with rounded base, imperforate, dull above,

fulvous, with a sharp keel at the periphery. Whorls 5, slightly convex, separated by a very shallow suture, above which the whorls are depressed; apex blunt, smooth; sculpture of post-nuclear whorls consisting of crowded growth-lines, stronger at intervals; the base is much smoother, with faint growth-lines and traces of exceedingly faint spiral lines towards the centre, visible only under a strong lens, periphery of last whorl with a threadlike keel, above and below which, the whorl is slightly pinched. Aperture a little oblique, securiform, margins distant, united by a thin callus on parietal wall; upper margin thin, basal one more thickened, rounded, running imperceptibly into the short columellar margin, which is reflected and expanded above, closing the umbilical pit.

Diam. maj. $19^1/_2$, alt 10; apert. alt. 7, lat. 9 mill.

Zoutbron, June/July 1910.

This species is allied to the preceding one, but is larger and especially characterized by the much fainter sculpture, for though some striae are stronger, they form no ribs; it resembles in many parts *Trochonanina adulta* Bavay (Nova Guinea, Vol. V, p. 286, Pl. 14, fig. 13) but that species is conspicuously perforate.

Macrochlamys Benson.

1. *Macrochlamys imperforata* n. sp., Pl. I, fig. 1.

Shell small, depressed, imperforate, yellowish-brown, in a fresh state probably shining, the base being glossy and smooth; sculpture partly worn, but on the upper surface with rests of moderately coarse growth-lines, those of the base very fine, spire slightly convex. Whorls 5, scarcely convex, separated by a very shallow, appressed suture, which is slightly descending, just behind the aperture; last whorl depressedly rounded, with a slight angle at its origin, quite rounded near the aperture; perforation quite closed by the columella. Aperture slightly oblique, depressedly lunate, peristome straight, with a flat internal ridge, columellar margin thickened, oblique, dilated above and closing the perforation.

Diam. maj. 10, alt. 5; apert. alt. 4, lat. $4^1/_4$ mill.

Near the Tjahé-river, June 13, 1910.

Though I know no *Macrochlamys* with closed perforation, I cannot locate this species in any other genus, it calls in mind some species of *Everettia*, a genus not known from N. Guinea.

2. *Macrochlamys* sp.?

Along the Mosso-river, June 2, 1910.

A doubtful shell; if really a *Macrochlamys* it will be a new species,

but as the peristome, especially the columella has been broken, it cannot sufficiently be described, it is rather large (diam. maj. $23^1/_2$ mill.) and resembles *Everettia subconsul* Smith, a species from Borneo; as mentioned above, I am not aware that this genus lives on N. Guinea. In shape it resembles the preceding species but is much larger, darker, has a deeper suture and is perforate.

Helicarion Férussac.

1. *Helicarion* sp.

Mouth of the Sermorvai-river, March 20, 1911.

This specimen has a very fragile peristome, so it is probably not adult, I cannot identify it with any of the described species; the aperture and base of shell are quite covered by the soft parts, which may not be removed without crushing the shell, so it cannot be named and described.

2. *Helicarion* sp.

Clear rivulets of the upper part of Sermorvai-river, April 4, 1911.

The systematic position of the specimen is rather uncertain, the mucous pore of the tail has a long lobe; as the soft parts quite cover the base of shell and the specimen appears to be young, the peristome being not developed, no good description can be given. Much smaller than the preceding species.

Sitala H. Adams.

1. *Sitala anthropophagorum* Hedley.

Hedley. Proc. Lin. Soc. N. S. Wales, Vol. IX, Ser. 2, 1894, p. 385, Pl. 24, fig. 1, 3. Pl. 26, fig. 21, 24.

Near the Bewani-river, July 4, 1910.

The specimen is still young and has the spirals of the base of shell rather faint, but sufficiently visible under a strong lens.

2. *Sitala crenocarinata* n. sp., Pl. I, fig. 2.

Shell conical, rounded at the base, carinate at the periphery, very thin, shining, smooth, but for faint growth-striae, translucent, light corneous, subperforate. Whorls $5^1/_2$, rather convex; sculpture consisting of faint growth-striae, fainter on the base, apex smooth, base with close, regular, spiral striae; a thin keel runs along the post-nuclear whorls and at the periphery of last whorl, which is angular, especially at its commencement, less so near the aperture; this keel is threadlike and crenulated by short, impressed striae above and below it, running backwards

in opposite direction, united on the keel. Aperture a little oblique, subrhomboidal, angular at the keel, peristome thin (not quite developed), thickened and reflected at the columella, thus nearly covering the perforation.

Diam. maj. $4^1/_2$, alt. nearly 5; apert. alt. $2^1/_2$, lat. nearly $2^1/_2$ mill.

Upper part of Sermorvai-river, April 1, 1911,

This species is allied to *S. anthropophagorum* Hedl., but the new species is considerably higher in proportion to its breadth, the keel is much fainter, the last whorl more rounded near aperture, the keel is crenulate. According to Hedley the altitude of his species is $5^1/_2$, the diameter $6^1/_2$ mill.

Fam. Helicidae.

Planispira Beck.

1. *Planispira kurri* Pfeiffer. jun.?

Pfeiffer. Proc. Zool. Soc. Lond. 1847, p. 228. Pfeiffer. Mon. Hel. Vol. I, p. 386.

Zoutbron, June/July 1910.

The only specimen is very young; according to Gude it may belong to *P. kurri* Pfr.

2. *Planispira (Cristigibba) planissima* n. sp., Pl. I, fig. 5.

Shell much depressed above, less so below, spire sunken at the centre, umbilicate, rather dull, perhaps on account of its slightly worn state, buff-coloured on nucleus and part of last whorl above, lighter on part of base; the upper post-nuclear whorls, about the last third of last whorl, the last part of base behind aperture below, the last part of the interior of aperture and the whole peristome are dark blackish-purple. Whorls about $4^1/_2$, convex, separated by a deep suture, which is accompanied on last whorl by a shallow groove, at a distance of 1 to $1^1/_2$ mill. from the suture, the latter slightly descending near the aperture; sculpture consisting of conspicuous, rather distant growth-lines, with much finer ones between them; moreover the last part of penultimate whorl and the whole last whorl bear irregular, impressed, subspiral grooves, till on the outer part of peristome. Umbilicus moderate, pervious. Aperture very oblique, depressedly lunate, peristome widely and flatly expanded from above till the basal margin, basal and columellar margins reflected, the latter expanded at its upper part and partly covering the umbilicus; a canal just behind the peristome at the base of shell, running into the umbilicus, is bordered by a gibbosity.

Diam. maj. 27, alt. 11; apert. alt. 8, lat. 11 mill.

Hussin, July 1910.

This species is allied to *P. macgregori* Hedley (Proc. Lin. Soc. N. S. Wales, 1891, p. 82, Pl. 10, fig. 17, 19), which, according to Pilsbry, should be the same as *dominula* Tapp. Can., but is still much flatter, the peristome more flatly expanded, the crest in the new species is only visible on the base, the umbilicus is more open, the dark colour of the peristome is expanded on the outer part of shell and in the aperture.

3. *Planispira (Cristigibba) tortilabia* Lesson?

Lesson. Voy. Coquille, Zool. Vol. II, p. 311, Pl. 13, fig. 1.

Hussin, July 1910.

This specimen agrees in nearly every respect with *P. tortilabia*, but the shell is covered with small pits, having the appearance of hair-scars; neither in litterature nor on the numerous specimens of that species I have seen, I can find anything of this kind mentioned or visible; this makes me doubtful as to the identification, but as the specimen is rather worn, I cannot resolve to describe it as new, though, if fresh specimens in larger number could be compared, the necessity of describing and naming might be obvious.

4. *Planispira (Cristigibba) musgravei* Smith, var. *efasciata* n. var.

Smith. Ann. Mag. Nat. Hist. Ser. 6, Vol. XV, p. 233. Ib. Vol. XVI, p. 363, Pl. 20, fig. 13—15.

Upper part of Sermorvai-river, April 1, 1911.

Mr. Gude has had the kindness to compare this species; in the specimen at hand, the hairs are still present, but the blackish band is wanting and the peristome is purplish-brown (white in the type); so the species seems to be variable in these respects, like so many ones in this genus, a. o. *P. tortilabia.*

Chloritis Beck.

1. *Chloritis dinodeomorpha* Tapparone Canefri.

Tapp. Canefri. Fauna Mal. N. Guinea, p. 168, Pl. 4, fig. 4—7.

No special locality mentioned.

The only specimen is a little smaller, its diam. maj. being only $28^1/_2$ mill. (31 in the type), its peristome is a little more curved above, the umbilicus slightly more open, but these differences are most probably only individual.

Papuina v. Martens.

1. *Papuina lintschuana* Kobelt, forma *infraplanata* n. f.

Kobelt. Mart. Chemn. Conch. Cab. Ed. II, Vol. I, Heliceen, p. 700, Pl. 200, fig. 5, 6.

Hollandia, April 1911.

This specimen agrees in nearly every respect with the description and figures of Kobelt, but the aperture is not oviform but more straight in shape, the part of upper peristome near the body-whorl is not reflected, and above all, the base of shell is nearly flat, only slightly more convex behind the aperture; as Kobelt has but seen one specimen, it is not to be made out, if this character is of much value or that intermediate specimens will fill up these differences. I thus prefer to distinguish it as forma *infraplanata*, instead of describing a new variety.

2. *Papuina taumantias* Tapparone Canefri.

Tapp. Canefri. Fauna Mal. N. Guinea, p. 141, Pl. 3, fig. 13, 14.

Hussin, July 1910.

The specimen is not typical; by its elevated spire and rosy peristome it might belong to var. β of Tapp. Canefri (l. c.), its diameter is nearly 31 mill., that of the type 33 mill.; as the author mentions no measurements for the var., I do not know if this slight difference is of any importance. The shell is rather worn and has but one narrow dark band at the periphery. It is a somewhat doubtful specimen.

3. *Papuina brazierae* Brazier.

Brazier. Proc. Linn. Soc. N. S. Wales, Vol. I, 1876, p. 107. Pilsbry. Man. of Conch. Vol. VII, p. 43, Pl. 5, fig. 93—96.

Mouth of the Sermorvai-river, March 3, 1911; Seko, Aug. 8, 1911.

Both specimens are large, that from the first-named locality has only weak wrinkles, the other one has no brown stain on the columella nor on the body-whorl in the aperture, but both agree sufficiently with typical specimens in other respects.

4. *Papuina lacteolota* Smith.

Smith. Ann. Mag. Nat. Hist. 1887, p. 420, Pl. 15, fig. 9. Pilsbry. Man. of Conch. Vol. VII, p. 25, Pl. 1, fig. 11.

Kaiserin Augusta-river, Sept. 18, 1910, on a tree.

This specimen is smaller, (diam. maj. 30 mill.) than the type (diam. maj. 36 mill.), the aperture is smaller, more rounded, the columella less expanded; as however the shell has been broken on the dorsal part of

last whorl, and again near the aperture, these differences are probably the result of the new-building. I think the species is too much different, to be a variety of *P. brazierae*, like Pilsbry suggests in Vol. IX, p. 142, of Tryon's Manual.

5. *Papuina tayloriana* Adams & Reeve.

Adams & Reeve. Voy. Samarang, Zool. p. 59, Pl. 15, fig. 2. Reeve Conch. Ic., Helix. fig. 524a, b. Pilsbry Man. of Conch. Vol. VII, p. 58, Pl. 2, fig. 20, 21, 27, Pl. 17, fig. 40, 41. Smith. Ann. and. Mag. Nat. Hist. 1887, p. 421, Pl. 15, fig. 1, 1a.

Seko, Aug. 2, 1911; Oinaké, May 31, 1910.

Both specimens, though very young, seem to belong to this species.

forma *major* Strubell mscr.

Near S.-Coast of the Humboldtbay, May 18, 1910; Hollandia, March 29, 1911.

These specimens have a diam. maj. of 33 mill. The aperture is very strongly beaked, resembling in this respect the next variety, but much larger, their keel is very acute, especially in the first-mentioned specimen; one specimen is yellowish with small dark markings, the other more purplish, yellow near aperture, with somewhat spiral rows of blackish streaks above, and a few blackish zones at the base.

var. *genulabris* Möllendorff.

Möllendorff. Proc. Mal. Soc. London, Vol. I, p. 236.

Oinaké, May 31, 1910.

This specimen is slightly larger than the type of Möllendorff, being 23 mill. in its largest diameter, against 21 in Möllendorff's specimen.

6. *Papuina kubaryi* Möllendorff.

Möllendorff. Proc. Mal. Soc. London, Vol. I, p. 236, Pl. 15, fig. 4. Ancey. Proc. Linn. Soc. N. S. Wales, Vol. X, 1895, p. 377, Pl. 26, fig. 5.

Mouth of Sermorvai-river, March 20, 1911.

The specimens differ slightly from the type in colour, the full-grown and larger young specimens having the dark markings more developed and mostly arranged in spiral bands, one specimen is purplish on the upped whorls and the base, this specimen has a dark apex, while it is whitish in nearly all the other specimens (one young specimen with a very small black speck), in other characters they fully agree with the type, but the base is light purplish in adult specimens. Young specimens are conspicuously keeled, but in half-grown ones, the keel disappears.

var. *albolabiata* n. var.

An adult specimen from the same locality has a pure white peristome, but as the dark markings are as conspicuous as in the other ones, it cannot belong to var. albina, which is quite white, with hyaline spots.

B. DITREMATA.

Fam. Vaginulidae.

Prisma Simroth.

1. *Prisma prismatica* Tapparone Canefri.

Tapp. Canefri. Fauna Mal. N. Guinea, p. 207, Pl. 11, fig. 6—8. Collinge. Journ. of Malac. Vol. IX, 1902, p. 130, Pl. 9, fig. 4—6.

Upper part of Sermorvai-river, under leaves, May 1, 1911.

The only specimen has no dark spots on the underside, as figured by Collinge, so it is in accordance with the original description of Tapp. Canefri. By its narrow foot-sole, it no doubt belongs to *P. prismatica*.

Suborder GEHYDROPHILA.

Fam. Auriculidae.

Pythia Link.

1. *Pythia pantherina* A. Adams.

A. Adams. Proc. Zool. Soc. London, 1850, p. 152. Pfeiffer. Mon. Auricul. Vol. I, p. 94. Küster. Martini-Chemn. Conch. Cab., Ed. II, Auriculacea, p. 62, Pl. 9, fig. 3, 4 (pyramidata). Mousson. Moll. Java, p. 49, Pl. 5, fig. 10 (pyramidata). v. Martens. Süss- u. Brackw.-Moll. des Ind. Arch. p. 136.

Mouth Sermorvai-river, March 3, 1911; Hollandia, 1910/11; environs of Hollandia.

Though v. Martens (l. c.) suggests that this species may be a form of *P. scarabaeus* L., as the largest specimen, mentioned by Mousson (l. c.), has a length of 34 mill. and he has found a specimen of *P. scarabaeus*, measuring only 20 mill. near Tawalli, all the New Guinean specimens agree in size and shape with *P. pantherina*, so I keep it separate, untill the identity has been doubtless established.

Fam. Limnaeidae.

Isidora Ehrenberg.

1. *Isidora gibbosa* Gould.

Gould. Proc. Boston Soc. Nat. Hist. Vol. II, 1847, p. 42. Smith. Journ. Linn. Soc. N. S. Wales, Vol. XIV, 1881, p. 278, Pl. 6, fig. 3—6. Clessin. Martini-Chemn., Conch. Cab. Ed. II, Vol. I, Abth. 17, p. 253, Pl. 34, fig. 15.

Lake Sentani, muddy shore, Jan. 19, 1911.

The only specimen agrees in shape and especially in length of spire, rather well with the quoted fig. 5 of Smith. The figures of Clessin are poor copies of Smith's figures. The specimen is slightly worn, somewhat broken at the aperture, so the identification is a little doubtful.

Order **Prosobranchia.**

Suborder PECTINIBRANCHIA.

Fam. Melaniidae.

Melania Lamarck.

1. *Melania (Stenomelania) uniformis* Quoy & Gaimard.

Quoy & Gaimard. Voy. Astrolabe, Vol. III, p. 154, Pl. 56, fig. 30—35. Brot. Martini-Chemn, Conch. Cab. Mon. Melania, p. 124, Pl. 15, fig. 3. Pl. 16, fig. 1. v. Martens. Süss- u. Brackw.-Moll. des Ind. Arch. p. 46.

Mbai-river.

The specimen agrees especially with fig. 3a of Pl. 15 of Brot's Monograph, but is smaller, the length of the truncated specimen being 43 mill. As the upper whorls are wanting, their sculpture could not be made out, the uppermost of the remaining whorls are spirally striated all over.

2. *Melania (Stenomelania) hastula* Lea.

Lea. Proc. Zool. Soc. London, 1850, p. 189. Brot. Martini-Chemn. Conch. Cab. Ed. II, Mon. Melania, p. 129, fig. 3, 3a—d. v. Martens. Süss- u. Brackw. Moll. des Ind. Arch. p. 41 (plicaria).

Branch of the Mbai-river near Hollandia, May 6, 1910.

The young specimen is relatively smooth, the sculpture being rather faint, in this respect it agrees with Brot's fig. 3.

3. *Melania (Stenomelania) pantherina* v. d. Busch.

v. d. Busch. Malak. Blätter, 1858, p. 33. Brot. Martini-Chemn. Conch. Cab. Ed. II, Mon. Melania, p. 172, Pl. 20, fig. 8, 8a, b.

Rivulet in the Tanah-Merah-bay, Aug. 18, 1910.

Both specimens are very young, consequently of somewhat doubtful identification, however I find no species which is nearer allied.

4. *Melania (Stenomelania) papuensis* Quoy & Gaimard.

Quoy & Gaimard. Voy. Astrolabe, Zool. Vol. III, p. 157, Pl. 53, fig. 45—47. Brot. Martini-Chemn. Conch. Cab. Ed. II, Mon. Melania, p. 186, Pl. 21, fig. 10, 10*a*. Tapp. Canefri. Fauna Mal. N. Guinea, p. 29.

Brook near Hollandia.

Three specimens, two of which are quite young; the third, though larger, perhaps also not developed, resembles fig. 10a of Brot's Monograph, but is smaller, darker (which may be partly due to the not characteristic colour of Brot's fig., partly to the chemical reaction of the water) the whorls are slightly more convex than in Brot's fig. 10. According to these figures and to the description, the species seems to be variable; Brot says: „base conspicuously and deeply striated," which cannot be said of the specimens under consideration, the striae being rather faint. Though the identification is slightly uncertain, I cannot resolve to describe a new species, the specimens seem to be too nearly allied to *M. papuensis* to justify such an act, considering the great variability in most species of this genus.

5. *Melania (Stenomelania) dominula* Tapparone Canefri.

Tapp. Canefri, Fauna Mal. N. Guinea, p. 31, Pl., fig. 16.

Zoutbron, June/July, 1910.

The smaller specimens very much resemble the figure and rather well the description of Tapp. Canefri (l. c.); the larger ones (the largest has a length op 22 mill., 16 in the type) seem to be the same species, though considerably darker, with less developed sculpture; there are intermediate ones.

6. *Melania (Melanoides) subcostellaris* n. sp., Pl. I, fig. 6.

Shell turreted, rather thin and glossy, rather dark yellowish-olive, with a row of purplish-brown blotches below the suture and more or less interrupted or continuous flammules of the same colour on the whorls. Spire truncated, remaining whorls till 5, rather convex, slightly contracted near the suture, which is deep and slightly tabulate, especially in the lower whorls; sculpture consisting of very fine growth-lines on the whole surface, upper whorls often costate and with regular flat lirae, separated by conspicuous grooves, often less conspicuous on upper part of whorls, on the last whorls partly crispate; moreover these last whorls are irregularly costate, the costae running from suture to suture; on the last whorl the base has a few spiral ridges. Aperture rather narrowly ovate, with sharp upper angle, nearly rounded below, but slightly pinched,

peristome retracted above, nearly straight lower on. Columellar margin slightly curved and reflected, a thin layer of enamel unites the margins on the body-whorl.

Alt. of largest specimen 31, diam. maj. $9^1/_2$; apert. alt. $9^1/_2$, lat, nearly 6 mill.

Sago-marsh, near the Kajo-bay.

This species, of which several specimens have been collected, resembles in many respects to *M. dennisoniensis* Brot, but the whorls are slightly contracted above, the peristome has no sinus, nor are the whorls angular at some distance below the suture; *M. dennisoniensis* has no trace of ribs. It differs from *M. costularis* Lea, which is also costulate, in very many respects, the ribs in that species ending at a distance from the suture, it belongs to another section.

7. *Melania (Melanoides) sentaniensis* n. sp., Pl. I, fig. 7.

Shell turreted, thin, dull, a few specimens with a light brown epidermis, but the majority quite eroded and whitish (one specimen with traces of brown spots on the lirae). Spire slightly eroded, remaining whorls till 6, very convex, rounded, separated by a linear suture. Sculpture consisting of few, coarse, flattened spiral lirae, 5 or 6 on penultimate whorl, about 10 on last one, several specimens with faint radial ribs, extending more or less over the last whorls, but no sculpture is visible on upper whorls (perhaps by erosion). Aperture ovate, acute above, rounded below, only slightly compressed there, peristome thin, slightly curved above, protracted below. Columellar margin nearly straight, flat, a rather thick layer of enamel connects the margins on the body-whorl. Interior of aperture colourless or with brown bands or irregularly mottled.

Alt. of largest specimen 33, lat. 9; apert. alt. 8, lat. 5 mill.

Lake Sentani, on the muddy shore, Jan. 14, 1911.

The numerous specimens of this new species are very variable in sculpture and colour of aperture, but they have all the same character, and belong, no doubt, to the same species. They seem to belong to the group of *M. tuberculata* Müll. but are quite different from the known varieties, by their unusual convex whorls, with consequently deeply situated suture and by the faint, but very coarse sculpture.

8. *Melania (Plotia) scabra* Müller.

Müller. Hist. Verm. Vol. II, 1774. p. 193. Brot. Martini-Chemn. Conch. Cab., Ed. II, Mon. Melania, p. 266, Pl. 27, fig. 14, 15. v. Martens. Süss- u. Brackw.-Moll. d. Ind. Arch. p. 62.

Zoutbron, June/July 1910.

The specimens resemble Brot's fig. 15a (l. c.) with spinous upper

whorls and smooth last one (as far as concerns the spines); the largest one has a length of 25 mill.

9. *Melania (s. str.) villosa* Philippi, var. *elongata* n. var.

Shell much smaller, more elongately-cylindrical.

Branch of the Mbai-river, near Hollandia, May 5, 1910.

This form has much puzzled me, at first I thought it might be a new species, but I should not know how to differentiate it from *M. cybele* Gould and *M. villosa* Phil., which are so very nearly allied. The direction of the spines, which, if complete, is decidedly outwards, induced me to describe it as a new variety of *M. villosa*. The peristome is strong and with an orange layer of enamel interiorly in the largest specimens, which appear to be adult, the length of such a much decollated specimen is 22 mill., its diameter about 12, in many specimens the length is twice the breadth. A considerable number of specimens has been collected.

10. *Melania (Tarebia) kampeni* n. sp., Pl. I, fig. 8.

Shell turreted, moderately strong, yellowish-brown, often with a purplish band, just below the suture, (rarely with a similar zone on last whorl), spire entire or nearly so; full-grown specimens slightly truncated, remaining whorls 8, nearly plane or slightly convex, separated by a shallow suture, in most specimens slightly contracted below the suture. Shell nearly smooth, often sculptured by shallow, spiral grooves, rarely with a few rows of granules, upper whorls nearly quite smooth, but the whole shell covered with hair-like growth-lines, base of shell smooth, the spirals not developed on that part. Aperture ovate, with an acute angle above, base compressedly rounded, more or less pronouncedly canaliculate. Peristome thin, nearly straight; columellar margin concave, slightly rounded, reflected above, margins connected by a thin layer of enamel. Interior of aperture in most specimens colourless, rarely with a purplish band at the base.

Alt. (of largest specimen) nearly 29, lat. $10^1/_2$; apert. alt. $10^1/_2$, lat. $5^1/_2$ mill.

Tjahé-river, June 12, 1910.

Upper part of Sermorvai-river, in rivulets and brooks, April 4, May, 1911.

A rather variable species, as far as concerns colour and sculpture, as described above, allied to *M. mauiensis* Lea, but differing from any *Tarebia*, by the constriction of the uppermost part of last whorls and the (nearly always) absence of granules. (Brot. (l. c.) p. 311, mentions a few smooth species of aberrant form). This species is more slender than *mauiensis*, it is without doubt new. Numerous specimens.

Fam. Viriparidae.

Vivipara Lamarck.

1. *Vivipara decipiens* Tapparone Canefri.

Tapp. Canefri. Fauna Mal. N. Guinea, p. 20, Pl, 1, fig. 1, 2.

Zoutbron, June/July 1910; upper part of Sermorvai-river, small rivulets, April 24, 1911; Lake Sentani, muddy shore, Jan. 19, 1911.

The specimens are smaller (alt. 18 mill., 21 in type) but otherwise agree sufficiently with the description and figures of Tapp. Canefri; they are allied to *V. novoguinensis* Leschke (Mitth. Naturhist. Museum Hamburg, 1912, p. 130), but they are larger, the largest specimen of that species being 15 mill., I see nothing of the conspicuous angle at the periphery of last whorl mentioned by Leschke. The apical whorls are dark, spirally lirate, a character not mentioned by any of the authors. Numerous specimens especially from Zoutbron.

2. *Vivipara tricostata* Lesson, var. *multifuniculata* Bavay.

Bavay. Nova Guinea, Zool. Vol. V, p. 271, Pl. 14, fig. 2.

Lake Sentani, muddy shore, Jan. 19, 1911.

The specimens agree very well with typical ones, which I got for comparison; the median keel on the last whorl is often very faint, scarcely distinguishable from the spiral lirae; I cannot agree with the view that this species should be the same as *V. costata* Q. & G. from Celebes; the type of *tricostata* figured by Bavay (l. c. Pl. 1, fig. 1), appears to be quite different, the var. *multifuniculata* much more resembles *V. costata*, but that variety has a blunt keel around the umbilicus, ending in a small channel at the base of aperture, of which I find no trace in rather numerous specimens of *V. costata* from Celebes, which has an aperture with rounded base.

Fam. Cyclophoridae.

Leptopoma Pfeiffer.

1. *Leptopoma muswarense* Fulton.

Fulton. Ann. Mag. Nat. Hist. Ser. 8, Vol. V, 1910, p. 372,

Near the S.-coast of the Humboldtbay, May 18, 1910.

Slightly differing from co-types received from Fulton, by faint spirals on penultimate whorl, disappearing on last whorl and by the brown lines on that whorl being interrupted; of the two specimens received from Fulton, one has also still fainter spirals, this character being evidently slightly variable.

2. *Leptopome melanostoma* Petit. var. β Tapparone Canefri.

Tapp. Canefri Fauna Mal. N. Guinea, p. 258.

Bougainville-Mounts, June, 1, 2, 1910; Hollandia, March 29, 1911.

Of this variety, with white peristome, one specimen has been collected at each locality, that from the Bougainville-mounts is typical, but the other one is somewhat larger and has faint spirals on upper whorls.

var. *rufolabiata* Schepman.

Schepman. Moll. N. Guinea, Lorentz. Nova Guinea, XIII, Zoologie, p. 177.

Near the S.-coast of the Humboldt-Bay, May 17, 1910.

This specimen is rather doubtful by its larger shape and the spirals on upper whorls, it has been identified, though with some doubt, as belonging to *L. melanostoma*, by Mr. Gude.

Cyclotus Guilding.

1. *Cyclotus distomellus* Sowerby.

Sowerby. Thes. Conch. Mon. Cyclostoma, p. 114, Pl. 25, fig. 94. Pfeiffer. Mon. Pneum. Vol. I, p. 35; II, p. 22; III, p. 29; IV, p. 37, (hebraicus). Tapp. Canefri. Fauna Mal. N. Guinea, p. 251 (hebraicus).

Hussin, July, 1910; Zoutbron, June, July, 1910; along the Mosso-river, June 2, 1910.

The specimens are not characteristic, the dark band below the periphery being absent or if traceable, broken up; the synonymy of this species seems to be very uncertain; according to Kobelt & Möllendorff (Nachrichtsbl. 1897, p. 116), *distomellus* is the same species as *hebraicus* of Pfeiffer, but not of Lesson; under these circumstances I follow the advice of Mr. Gude; the specimens from Hussin agree rather well with specimens formerly named by Smith, but have only traces of a dark band or are quite without them; the specimen from Zoutbron is somewhat intermediate between *distomellus* Sow. and *hebraicus* Less., but differs from the former by lacking flames and subperipheral band, from the latter by more descending last whorl; the peristome being broken, the identification is rather doubtful, but it is not advisable to describe a new species on one mutilated specimen; the same is the case with the specimens from Mosso, one being quite worn, the other fresh but without band; from the near *C. guttatus* Pfr. they may be distinguished by the campanulate outer peristome.

2. *Cyclotus guttatus* Pfeiffer.

Pfeiffer. Proc. Zool. Soc. London, 1851, p. 251. Pfeiffer. Mon. Pneum. Vol. I. p. 91. Pfeiffer. Martini-Chemn. Conch. Cab., Ed. II, Mon. Cyclostomacea, p. 333, Pl. 43, fig. 15, 16. Tapp. Canefri. Fauna Mal. N. Guinea, p. 249.

Oinaké, May 31, 1910.

One specimen is fresh, but of a light, unspotted colour, however in shape and especially by the flat peristome, it agrees with my specimens from Ternate, the other specimen is quite worn, but otherwise alike. They resemble in colour the subsp. *codonostomus* Mlldff., but that form has a slightly campanulate outer peristome.

3. *Cyclotus subcanaliculatus* n. sp., Pl. I, fig. 9.

Shell depressedly-conoid, strong, largely umbilicated, yellowish, with chestnut flames, which are regularly fulgurate on the upper whorls, less so on the last one, which is moreover covered by a brown epidermis, the apex is unicoloured; sculpture consisting of crowded growth-lines; whorls 5, of which about $1^1/_2$ form a smooth, rather elevated nucleus, the whorls are depressedly-rounded, separated by a deep, slightly canaliculate suture, descending towards the aperture. Aperture slightly oblique, nearly circular, with a slight angle above, subduplicate, the inner peristome being rather inconspicuous; outer peristome a little campanulate, broader at its upper part, much narrower at the rounded base and columellar margin. Umbilicus pervious, showing all the whorls.

Operculum plurispiral, the inner whorls with a ridge near the suture, outer whorls rugosely-striated, with an irregular, brownish, elevated, sutural rim.

Diam. maj. 28 alt. 16; apert. alt. and lat. (with peristome) 12 mill.

Near the S.-coast of the Humboldtbay, May 16, 1910.

This species is larger than any of the allied ones, is seems to be nearest allied to *C. canaliculatus* Mlldff. (Proc. Mal. Soc. Lond., Vol. I, p. 238, Pl. 15, fig. 8), but that species has a diam. of only $15^1/_2$ mill. and its suture is deeply channelled.

Suborder SCUTIBRANCHIA.

Rhipidoglossa.

Fam. Neritidae.

Neritina Lamarck.

1. *Neritina (Auriculatae) dilatata* Broderip.

Broderip. Proc. Zool. Soc. London, 1832, p. 201. v. Martens. Martini-Chemn. Conch. Cab. Ed. II, Mon. Neritina, p. 29, Pl. 6, fig. 16—19.

Faté-river, near the mouth.

The specimens are too young for identification without doubt, they agree in most respects with the description, but the auricles are not sufficiently developed, probably on account of youth.

2. *Neritina (Hemisphaericae) canalis* Sowerby.

Sowerby. Cat. Tankerv., App. 9. v. Martens. Martini-Chemn. Conch. Cab. Ed. II, Mon. Neritina, p. 47, Pl. 1, fig. 10—13.

Mbai-river, near the mouth, May 3, 1910.

The soft parts and operculum, were in a tube with those parts of *N. communis*, while the only shell of *canalis* was in a box of shells of *N. communis*; as these soft parts belong, without doubt, to a species of the group under consideration, I have united them in one and the same tube.

3. *Neritina (Pictae) variegata* Lesson.

Lesson. Voy. Coquille, Zool. Vol. II, p. 378. v. Martens. Martini-Chemn. Conch. Cab. Ed. II, Mon. Neritina, p. 98, Pl. 10, fig. 11—17. v. Martens, Süss. u. Brackw.-Moll. des Ind. Arch. p. 78. Tapp. Canefri. Fauna Mal. N. Guinea, p. 64.

Region of the Mbai-river, branch of the Mbai-river near Hollandia, May 6, 1910.

The specimen collected near Hollandia is very small, but has already the orange-red spot on the columellar plane, so characteristic for this species, on the other specimens it is very well developed.

4. *Neritina (Pictae) communis* Quoy & Gaimard.

Quoy & Gaimard. Voy. Astrolabe, Zool. Vol. III, p. 195, Pl. 65, fig. 12—14. v. Martens. Martini-Chemn. Conch. Cab. Ed. II, Mon. Neritina, p. 113, Pl. 11, fig. 1—9. v. Martens. Süss- u. Brackw.-Moll. d. Ind. Arch. p. 79. Tapp. Canefri. Fauna Mal. N. Guinea, p. 68.

Mbai-river, near the mouth, May 3, 1910; Faté-river, near the mouth.

The numerous specimens from the Mbai-river have broad, black streaks, often much crowded, that from the Faté-river is still young and has the same markings.

5. *Neritina (Neritodryas) cornea* Linné.

Linné. Syst. Nat. Ed. X, p. 777. v. Martens. Martini-Chemn. Conch. Cab. Ed. II, Mon. Neritina, p. 140, Pl. 12, fig. 14—18. Tapp. Canefri. Fauna Mal. N. Guinea, p. 70.

Sēko, Aug. 2, 1911.

One very characteristic specimen has been collected.

6. *Neritina (Neritodryas) subsulcata* Sowerby.

Sowerby. Conch. Ill. N. 50, fig. 50. v. Martens. Martini-Chemn. Conch. Cab. Ed. II, Mon. Neritina, p. 142, Pl. 12, fig. 11, 12. Tapp. Canefri. Fauna Mal. N. Guinea, p. 72.

Region of the Mbai-river; Mbai-river, April, 1911.
Some characteristic specimens have been collected at both stations.

7. *Neritina (Clithon) brevispina* Lamarck.

Lamarck. An. s. vert. Ed. II, Vol. VIII, p. 572. v. Martens. Martini-Chemn. Conch. Cab., Ed. II, Mon. Neritina, p. 156, Pl. 17, fig. 1—4, 9. v. Martens Süss- u. Brackw. Moll. d. Ind. Arch., p. 89. Tapp. Canefri, Fauna Mal. N. Guinea, p. 73.

Brook flowing in the Kajo-bay, May 28, 1910; rivulet near Oinaké, May 31, 1911.

Some of the specimens from the first-named locality belong to var. *mutica* Sow., without spines, those from Oinaké have beautiful colour-markings, consisting of elongated flammules.

8. *Neritina (Clithon) subocellata* Schepman.

Schepman. Notes Leyden Museum, Vol. VII, p. 49, Pl. 4, fig. 3.

Brook flowing in the Kajo-bay, May 28, 1910.

The specimens are spined, the spines in most cases are well developed, one of them is a remarkable colour-variety, having on a yellowish ground, red spots instead of the usual black ones and two black bands, one reaching from the suture to the spines, the other below the periphery. I wish to call this, var. ex col. *bifasciata.*

Septaria Férussac.

1. *Septaria suborbicularis* Sowerby.

Sowerby. Cat. Tankerv. App. p. 10. v. Martens. Martini-Chemn. Conch. Cab. Ed. II, Navicella, p. 31, Pl. 6, fig. 5—14. v. Martens. Süss- u. Brackw.-Moll. d. Ind. Arch. p. 84. Tapp. Canefri. Fauna Mal. N. Guinea, p. 84.

Brook flowing in the Kajo-bay, May 28, 1910; Mbai-river, near the mouth; rivulet in the Tanah-Merah-bay, Aug. 18, 1910.

Amongst the specimens from the last-named locality, one belongs to the var. *furcato-radiata* v. Mart. (l. c.) with spiral, furcate, black streaks, instead of the usual net-work.

Fam. Neritilidae.

Neritilia v. Martens.

1. *Neritilia rubida* Pease.

Pease. Proc. Zool. Soc. London, 1865. p. 514. Pease. American Journ. of Conch. Vol. III, p. 285, Pl. 24, fig. 5. v. Martens. Martini-Chemn. Conch. Cab. Ed. II, Mon. Neritina, p. 244, Pl. 23, fig. 19, 20. Schepman. Siboga-Expeditie, Prosobranchia, Rhipidoglossa, p. 14, Pl. 8, fig. 5 (Radula).

Branch of the Mbai-river near Hollandia.

This genus, for which I have erected (l. c.) a new family, on account of its quite different radula and operculum, has not yet been reported from N. Guinea. Unfortunately, I have left (l. c.) by error the genus *Septaria* under this head, it belongs to the true *Neritidae*. Several specimens have been collected, fully agreeing with specimens from other localities.

II. MARINE MOLLUSCA.

A few marine mollusca have been collected, but as the majority belongs to well-known species, and I was unable to identify three of them, whilst it is impossible to get them named by comparison, (war prevented me from having them compared in the British Museum), the lot has but little interest.

Prosobranchia.

RHACHIGLOSSA.

Fam. Mitridae.

Turricula Klein.

1. *Turricula* sp.

Kajo-bay, under stones between high- and low-watermark.

This species I could not identify, the more so as it appears to be young; it is smooth, greyish-black, with two dark spiral lines, one at the periphery, the other below it. Length 9 mill.

TAENIOGLOSSA.

Fam. Cypraeidae.

Cypraea Linné.

1. *Cypraea annulus* Linné.

Linné. Syst. Nat. Ed. X, p. 723. Reeve. Conch. Ic., Cypraea, fig. 71.

Kajo-bay, under stones between high- and low-watermark.

Littorina Férussac.

1. *Littorina undulata* Gray.

Gray. Zool. Beech. Voy., p. 140. Philippi. Abb. Vol. II, p. 225, Pl. 5, fig. 17, 18.

Hollandia.

Several small specimens, variable in colour-markings.

2. *Littorina scabra* Linné.

Linné. Syst. Nat. Ed. X, p. 770. Philippi. Abb., Vol. II, p. 37, Pl. 5, fig. 3—7.

Hollandia.

One young specimen, slightly keeled, with more spirals, seems to differ from the next species, and to belong to *L. scabra*.

3. *Littorina intermedia* Philippi.

Philippi. Abb. Vol. II, p. 223, Pl. 5, fig. 8—11.

Hollandia.

It is somewhat doubtful whether some of the specimens belong to the preceding species, the last whorl being less rounded than in typical ones.

Scutibranchia.

RHIPIDOGLOSSA.

Fam. Turbinidae.

Turbo Linné.

1. *Turbo porphyrites* Martyn.

Martyn. Univ. Conch. Pl. 70. Kiener. Coq. Viv. Vol. X, p. 71, Pl. 7, fig. 2; Pl. 36, fig. 6; Pl. 38, fig. 3.

Kajo-bay, under stones between high- and low-watermark.

Two young specimens.

Fam. Fissurellidae.

Emarginula Lamarck.

1. *Emarginula* sp.

Kajo-bay, under stones between high- and low-watermark.

Allied to *E. variegata* Ads. (Proc. Zool. Soc. Lond. 1851, p. 84), but the figure of Tryon (Man. of Conch., Ser. I, Vol. XII, Pl. 28, fig. 12) being a copy of Sowerby's Thes. Conch. is purplish, though the description says: „white"; it cannot be identified from litterature. The specimens are whitish with more or less interrupted rays of brown (grey in description).

DOCOGLOSSA.

Fam. Acmaeidae.

Acmaea Eschscholtz.

1. *Acmaea* sp.

Kajo-bay, under stones between high- and low-watermark.

Many young specimens seem to belong to the same species as a larger one, which is however not quite adult; it much resembles *A. striata* Q. & G., but differs slightly in colour-markings.

Pelecypoda.

Fam. Aviculidae.

Meleagrina Lamarck.

1. *Meleagrina margaritifera* Linné.

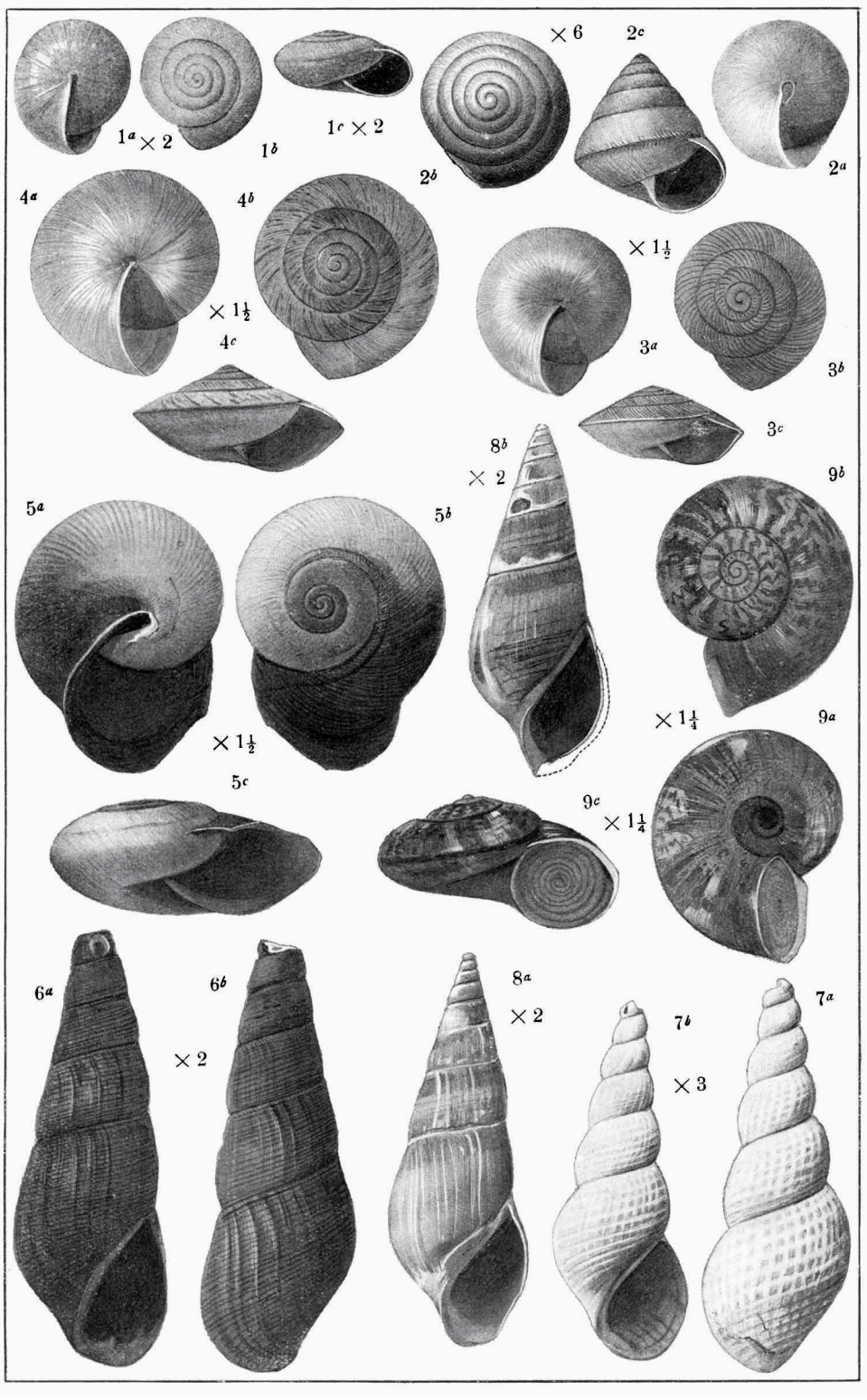
Linné. Syst. Nat. Ed. X, p. 704.

Faté-river, near the mouth.

The specimens are very young.

EXPLANATION OF PLATE I.

Fig. 1. Macrochlamys imperforata n. sp.
» 2. Sitala crenocarinata n. sp.
» 3. Euplecta costellifera n. sp.; the ribs of figures *b* and *c* slightly too close.
» 4. » imperforata n. sp.
» 5. Planispira planissima n. sp.
» 6. Melania subcostellaris n. sp.
» 7. » sentaniensis n. sp.; *a*, largest specimen; *b*, specimen of average size.
» 8. » kampeni n. sp.; two specimens to show slight differences.
» 9. Cyclotus subcanaliculatus n. sp.


1a × 2
1b
1c × 2
× 6
2c
2b
2a
4a
4b
× 1½
4c
× 1½
3a
3b
3c
8b
× 2
9b
5a
5b
× 1½
5c
× 1¼
9a
9c
× 1¼
6a
6b
× 2
8a
× 2
7b
× 3
7a

J. F. Obbes del.