

Report of the Biological Survey of Mutsu Bay.\*

5. A Hand-list of the Mollusks of Mutsu Bay.

By

SHUNICHI TAKATSUKI.

In the following list the names of those mollusks belonging to the classes Lamellibranchiata and Gastropoda (order Prosobranchiata only) which were collected during the months of April and September, 1926, in Mutsu Bay are given.

Thus far 36 species of Lamellibranchiata and 38 species of Gastropoda have been collected altogether; the former represents 29 genera covering 18 families while the latter represents 25 genera covering 18 families. Among these four specimens are still unidentified.

As the survey of Mutsu Bay is still progressing actively our collection may further increase. I shall, therefore, publish in the future a more complete list, together with some comments concerning the distribution of the groups of these animals in the bay.

I have followed the system of classification adopted by Iwakawa (1919) in his work, "Catalogue of Japanese Mollusca in the Natural History Department, Tokyo Imperial Museum."

In making the present list I received much valuable assistance from Mr. S. NOMURA of the Geological and Palaeontological Institute, Tohoku Imperial University, for which I wish to acknowledge my deep appreciation.

I may add here that the other groups of mollusks which are not treated by the present writer are in the hands of several other specialists for examination.

Class **LAMELLIBRANCHIATA.**

Order **PROTOBRANCHIATA.**

Family **Nuclidae.**

Genus **YOLDIA MÖLLER 1842.**

\* A contribution from the Marine Biological Station, Asamushi, Aomori-Ken.

1) *Yoldia notabilis* YOKOYAMA.

*Yoldia notabilis*, YOKOYAMA, Journ. Coll. Sci. Tokyo, Vol XLIV, Art. I, p. 196, pl. XVII, fig. 10, 1922.

Loc. Off Yomogida.

## Order FILIBRANCHIATA.

## Suborder Arcacea.

## Family Arcidae.

## Genus ARCA LINNAEUS 1758.

2) *Arca inflata* REEVE.

*Arca inflata*, REEVE, Proc. Zool. Soc. London, p. 41, 1844; Conch. Icon. Arca, fig. 30; LISCHKE, Japanische Meer. Conch., I, p. 146, 1869; PILSBRY, Catal. Mar. Moll. Japan, p. 149, 1895; IWAKAWA, Catal. Japanese Moll., p. 241, 1919.

*Arca broughtonii*, SCHRENCK, Amurl. Moll., p. 578, pl. XXIV, figs. 1-3, 1861.

Japanese Name. Babagai; Akagai.

Loc. Off Aomori; Off Aburakawa; Off Asamushi; Off Namiuchi.

3) *Arca kobeltiana* PILSBRY.

*Arca kobeltiana*, PILSBRY, Proc. Acad. Nat. Sci. Phil., p. 559, pl. XI, figs. 16-19, 1904.

*Arca ocellata*, MARTINI und CHEMNITZ, Conch. Cab., Vol. VII, p. 87, pl. XXIV, figs. 1-4. (non REEVE).

Japanese Name. Kobelt-Funegai.

Loc. Off Futago; Off Asamushi.

## Genus GLYCYMERIS DA COSTA 1778.

4) *Glycymeris yessoensis* (SOWERBY).

*Pectunculus yessoensis*, SOWERBY, Proc. Zool. Soc. London, p. 570, pl. XXVIII, fig. 19, 1886; PILSBRY, Catal. Mar. Moll. Japan, p. 150, 1895; IWAKAWA, Catal. Japanese Moll., p. 243, 1919.

Japanese Name. Benkeigai.

Loc. Off Tsubakiyama.

## Genus LIMOPSIS SASSO 1827.

5) *Limopsis tajimae* SOWERBY.

*Limopsis tajimae*, SOWERBY, Ann. Mag. Nat. Hist., Series 8, Vol. XIII, p. 445, 1914.

Loc. Off Okunai.

## Suborder Anomiacea.

## Family Anomiidae.

## Genus ANOMIA LINNAEUS 1758.

6) *Anomia cytaeum* GRAY.

*Anomia cytaeum*, GRAY, Proc. Zool. Soc. London, p. 115, 1849; REEVE, Conch. Icon. Anomia, pl. II, figs. 10 a, b; LISCHKE, Japanische Meer. Conch., I, p. 180, 1869; SCHRENCK, Amurl. Moll., p. 473, 1861; DUNKER, Ind. Moll., p. 248, 1882; PILSBRY, Catal. Mar. Moll. Japan., p. 142, 1895; IWAKAWA, Catal. Japanese Moll., p. 237, 1919.

Japanese Name. Namimagashiwa.

Loc. Asamushi.

## Suborder Mytilacea.

## Family Mytilidae.

## Genus MYTILUS LINNAEUS 1758.

7) *Mytilus hirsutus* LAMARCK.

*Mytilus hirsutus*, LAMARCK, Amin. Sans. Vert., Vol. VII, p. 38; REEVE, Conch. Icon. Mytilus, pl. III, fig. 8; LISCHKE, Japanische Meer. Conch., I, p. 154, 1868; DUNKER, Ind. Moll., p. 222, 1882; PILSBRY, Catal. Mar. Moll. Japan, p. 139, 1895; IWAKAWA, Catal. Japanese Moll., p. 244, 1919.

Japanese Name. Kegai.

Loc. Tsuchiya.

8) *Mytilus dunkeri* REEVE.

*Mytilus dunkeri*, REEVE, Conch. Icon. Mytilus, fig. 17; LISCHKE, Japanische Meer. Conch., I, p. 153, pl. X, figs. 7, 8, 1869; SCHRENCK, Amurl. Moll., p. 507, 1861; IWAKAWA, Catal. Japanese Moll., p. 245, 1919.

Japanese Name. Karasu-igai.

Loc. Off Yunoshima; Off Yokohama.

## Genus MODIOLUS LAMARCK 1799.

9) *Modiolus hanleyi* (DUNKER).

*Modiolus hanleyi*, DUNKER, Ind. Moll., p. 223, pl. XVI, fig. 34, 1882; PILSBRY, Catal. Mar. Moll. Japan, p. 140, 1895; IWAKAWA, Hand. List. Japanese Biv. No. 95, 1914-1916; MARTINI und CHEMNITZ, Conch. Cab., Vol. VIII, p. 95, pl. XXVI, figs. 4, 5.

Japanese Name. Hanleyi-Hibarigai.

Loc. Off Asamushi.

10) *Modiolus capax* (CONRAD).

*Modiola capax*, CONRAD, Journ. Acad. Nat. Sci. Phila., Vol. VII, p. 242; REEVE, Conch. Icon., *Modiola*, pl. III, fig. II; IWAKAWA, Catal. Japanese Moll., p. 247, 1919.

Japanese Name. Yezohibarigai.

Loc. Off Yunoshima; Off Yokohama.

## Genus MUSCULUS BOLTEN 1798.

11) *Musculus cumingiana* (DUNKER).

*Modiolaria cumingiana*, DUNKER, Ind. Moll., p. 224, 1882; PILSBRY, Catal. Mar. Moll.

Japan, p. 140, 1895; MARTINI und CHEMNITZ, Conch. Cab., Vol. VIII, p. 146, pl. XXXIV, figs. 2, 3; IWAKAWA, Catal. Japanese Moll. p. 248, 1919.

*Modiola cumingiana*, REEVE, Conch. Icon., *Modiola*, pl. IX, fig. 63, a.

*Japanese Name.* Tamaegai.

*Loc.* Morakojima.

Genus LITHOPHAGA BOLTEN 1798.

12) *Lithophaga curta* LISCHKE.

*Lithophaga curta*, LISCHKE, Japanische Meer. Conch., III, p. III, pl. IX, figs. 14-17, 1874; MARTINI und CHEMNITZ, Conch. Cab., Vol. VIII, p. 18, pl. VI, figs. 2, 3; PILSBRY, Catal. Mar. Moll. Japan, p. 140, 1895; DUNKER, Ind. Moll., p. 226, 1882; IWAKAWA, Catal. Japanese Moll., p. 248, 1919.

*Japanese Name.* Ishiwari; Ishimate.

*Loc.* Futagojima.

Order PSEUDOLAMELLIBRANCHIATA.

Family Ostreidae.

Genus OSTREA LINNAEUS 1758.

13) *Ostrea gigas* THUMBERG.

*Ostrea gigas*, THUMBERG, Kongl. Vetou. Akad. Handl., Tom. XIV, p. 140, pl. VI, figs. 1-3, 1793; LISCHKE, Japanische Meer. Conch., I, p. 174, 1869; III, p. 114, 1874; DUNKER, Ind. Moll., p. 249, 1882; PILSBRY, Catal. Mar. Moll. Japan, p. 145, 1895; IWAKAWA, Catal. Japanese Moll., p. 254, 1919.

*Ostrea laperosii*, SCHRENCK, Amurl. Moll., p. 475, pl. XIX, figs. 1-6, 1861.

*Ostrea talienshanensis*, CROSS, Journ. de Conch., Vol. X, p. 149, pl. VI.

*Japanese Name.* Magaki.

*Loc.* Yunoshima; Moura; Futagojima.

Family Pectenidae.

Genus PECTEN MÜLLER 1776.

14) *Pecten yessoensis* JAY.

*Pecten yessoensis*, JAY, Report on shells coll. by Japan Exped. under Comm. PERRY, p. 293, pl. IV, figs. 1, 2, pl. III, figs. 3, 4, 1857; LISCHKE, Japanische Meer. Conch., I, pl. X, fig. 34, 1869; II, p. 13; SCHRENCK, Amurl. Moll., p. 484, pl. XX, figs. 1-3, 1861; IWAKAWA, Catal. Japanese Moll., p. 257, 1919.

*Japanese Name.* Hotategai.

*Loc.* Off Futagojima; Off Kawauchi.

15) *Pecten laetus ruschenbergerii* TRYON.

*Pecten laetus ruschenbergerii*, TRYON, ? MARTINI und CHEMNITZ, Conch. Cab. Vol., VII, p. 275, pl. LXXII, fig. 4.

*Pecten ruschenbergerii*, IWAKAWA, Catal. Japanese Moll., p. 258, 1919.

*Japanese Name.* Akazara.

*Loc.* Yunoshima; Asamushi; Moura; Asadokoro.

Order EULAMELLIBRANCHIATA.

Suborder Tellinacea.

Family Tellinidae.

Genus TELLINA LAMARCK 1799.

16) *Tellina nitidula* DUNKER.

*Tellina nitidula*, DUNKER, Malak. Blät., Vol. VI, p. 236; Ind. Moll., p. 191, 1882; Moll. Japonica, p. 27, pl. III, fig. 14, 1861; LISCHKE, Japanische Meer. Conch., I, p. 129, 1869; II, p. 113, pl. X, figs. 10, 11, 1871; PILSBRY, Catal. Mar. Moll. Japan, p. 124, 1895; IWAKAWA, Catal. Japanese Moll. p. 281, 1919.

*Japanese Name.* Sakuragai.

*Loc.* Off Okunai.

17) *Tellina iridescens* BENSON.

*Tellina iridescens*, BENSON, Ann. Mag. Nat. Hist., Bd. IX, 1842; LISCHKE, Japanische Meer. Conch., III, p. 93, 1874; DUNKER, Ind. Moll., p. 191, 1882; REEVE, Conch. Icon., TELLINA, pl. XXIV, figs. 129, a, b, pl. XXXIV, figs. 189, a, b; SOWERBY, Thes. Conch., I, p. 286, pl. LVIII, fig. 88, 1847; MARTINI und CHEMNITZ, Conch. Cab., 143, pl. XXIX, figs. 15-17; PILSBRY, Catal. Mar. Moll. Japan, p. 125, 1895; IWAKAWA, Catal. Japanese Moll., p. 282, 1919.

*Tellina carnea*, PHILIPPI, Zeitschr. f. Malak., p. 162, 1844.

*Japanese Name.* Terizakura.

*Loc.* Off Yunoshima.

Genus MACOMA LEACH 1819.

18) *Macoma dissimilis* (MARTENS).

*Tellina dissimilis*, MARTENS, Ann. Mag. Nat. Hist., Ser. 3, Vol. XVI, p. 430.

*Macoma nasuta*, SCHRENCK, Amurl. Moll., p. 560, 1861; IWAKAWA, Catal. Japanese Moll., p. 283, 1919.

*Macoma dissimilis*, PILSBRY, Catal. Mar. Moll. Japan, p. 125, 1895.

*Japanese Name.* Shiratorigai.

*Loc.* Off Yunoshima.

Family Mactridae.

Genus RAETA GRAY 1853.

19) *Raeta pulchella* A. ADAMS et REEVE.

*Mactra rostralis*, DESHAYES, Proc. Zool. Soc. London, p. 68, 1854; REEVE, Conch. Icon., *Mactra*, fig. 119.

*Raeta pulchella*, ADAMS and REEVE, Zool. Samarang., pl. XXIII, fig. 1, 1848; PILSBRY, Catal. Mar. Moll. Japan, p. 119, 1895.

*Raeta rostralis*, DUNKER, Ind. Moll., p. 185, 1882.

*Japanese Name.* Chiyonohana.

*Loc.* Off Ōminato.

Genus **MACTRA** LAMARCK, 1799.

20) ***Mactra carneopicta*** PILSBRY.

*Mactra carneopicta*, PILSBRY, Proc. Acad. Nat. Sci. Phila., p. 550. pl. XXXIX, figs. 1-3, 1904; IWAKAWA, Catal. Japanese Moll. p. 288, 1919.

*Japanese Name.* Yezobakagai.

*Loc.* Moura.

Suborder **Veneracea.**

Family **Veneridae.**

Subfamily. DOSININAE.

Genus **DOSINIA** SCOPOLI 1777.

21) ***Dosinia japonica*** (REEVE).

*Artemis japonica*, REEVE, Conch. Icon., *Artemis*, fig. 17; SOWERBY, Thes. Conch. II. p. 669. pl. CXLIII. fig. 60. 1855.

*Dosinia troscheli*, LISCHKE, Japanische Meer. Conch., III. p. 89, pl. VIII, figs. 1-3.

*Dosinia japonica*, PILSBRY, Catal. Mar. Moll. Japan, p. 125, 1895; LISCHKE, Japanische Meer. Conch., I. p. 127; III. p. 88, 1874; SCHRENCK, Amurl. Moll., p. 551, 1861; IWAKAWA, Catal. Japanese Moll., p. 296, 1919.

*Japanese Name.* Kagamigai.

*Loc.* Utōzaki.

Genus **CYCLINA** DESHAYES 1849.

22) ***Cyclina chinensis*** (CHEMNITZ).

*Venus chinensis*, CHEMNITZ, Conch. Cab., Vol. X. p. 356. pl. CLXXI. 1871-1888.

*Artemis chinensis*, REEVE, Conch. Icon., *Artemis*, pl. I, fig. 6; SOWERBY, Thes. Conch. II, p. 661, pl. CXLIV, figs. 23, 24, 1855.

*Cyclina chinensis*, LISCHKE, Japanische Meer. Conch., I, p. 126, 1869; DUNKER, Ind. Moll., p. 205, 1882; PILSBRY, Catal. Mar. Moll. Japan, p. 126, 1895; IWAKAWA, Catal. Japanese Moll., p. 298, 1919.

*Japanese Name.* Okishizimi.

*Loc.* Off Yunoshima.

Subfamily. VENERINAE.

Genus **PAPHIA** BOLTEN 1798.

23) ***Paphia philippinarum*** (ADAMS et REEVE)

*Venus philippinarum*, ADAMS and REEVE, Zool. Samarang., p. 79, pl. XXII, fig. 10, 1848; SCHRENCK, Amurl. Moll., p. 537, 1861.

*Tapes philippinarum*, SOWERBY, Thes. Conch., II, p. 694, pl. CLI, figs. 139, 141, 1855; REEVE, Conch. Icon., *Tapes*, fig. 60; LISCHKE, Japanische Meer. Conch., III. pl. V, figs. 17-20, 1874; DUNKER, Ind. Moll., p. 207, 1882; PILSBRY, Catal. Mar. Moll. Japan, p. 130, 1895; IWAKAWA, Catal. Japanese Moll., p. 300, 1919.

*Japanese Name.* Asari.

*Loc.* Namiuchi; Asaōkoro; Asamushi, Yunoshima.

24) ***Paphia jodoensis*** (LISCHKE).

*Venus jodoensis*, LISCHKE, Jahrb. Malak., Vol. I, p. 57, Japanische Meer. Conch., III. p. 84, pl. VII, figs. 1-9, 1874; DUNKER, Ind. Moll., p. 196, 1882; PILSBRY, Catal. Mar. Moll. Japan, p. 127, 1895.

*Chione jodoensis*, IWAKAWA, Catal. Japanese Moll., p. 291, 1919.

*Japanese Name.* Oniasari.

*Loc.* Namiuchi; Asamushi; Yunoshima.

Subfamily MERETRICINAE.

Genus **SAXIDOMUS** CONRAD 1837.

25) ***Saxidomus purpuratus*** (SOWARBY).

*Tapes purpuratus*, SOWERBY, Thes. Conch., II, p. 692. pl. CI., figs. 124, 125, 1855.

*Saxidomus purpuratus*, LISCHKE, Japanische Meer. Conch., I, p. 127, pl. IX, fig. 45, 1869; DUNKER, Ind. Moll., p. 208, 1882; PILSBRY, Catal. Mar. Moll. Japan, p. 130, 1895; IWAKAWA, Catal. Japanese Moll., p. 302, 1919.

*Saxidomus nuttali*, SCHRENCK, Amurl. Moll., p. 253, 1861.

*Japanese Name.* Uchimurasaki, Hashidategai.

*Loc.* Off Itanozaki; Off Moura; Off Tsubakiyama.

Suborder **Cardiacea.**

Family **Cardiidae.**

Genus **CARDIUM** LINNAEUS 1758.

26) ***Cardium californiense*** DESHAYES.

*Cardium californiense*, DESHAYES, Rev. Zool. Cuvl., p. 260, 1839; MIDDENDORFF, Mal. Ross., p. 40, pl. XV, figs. 23-25, 1847; SCHRENCK, Amurl. Moll., p. 514, 1861; LISCHKE, Japanische Meer. Conch., I, p. 144, 1869; III. p. 125, 1874; DUNKER, Ind. Moll., p. 211, 1882; PILSBRY, Catal. Mar. Moll. Japan, p. 131, 1895; IWAKAWA, Catal. Japanese Moll., p. 303, 1919.

*Cardium pseudo-fossil*, REEVE, Conch. Icon., *Cardium*, fig. 52.

*Japanese Name.* Yezoishikagegai.

*Loc.* Off Yunoshima; Off Moura; Off Namiuchi.

Suborder **Myacea.**

Family **Myacidae.**

Genus **MYA** LAMARCK 1799.

27) *Mya arenaria japonica* JAY.

*Mya japonica*, JAY, Report on shells coll. by Japan Exped. under Comm. PERRY, II, pl. I, figs. 7, 10, 1857.

*Mya arenaria*, LISCHKE, Japanische Meer. Conch., I, p. 139, 1869.

*Mya arenaria* var *japonica*, PILSBRY, Catal. Mar. Moll. Japan, p. 118, 1895; IWAKAWA, Catal. Japanese Moll., p. 307, 1919.

*Japanese Name.* Onogai.

*Loc.* Moura; Tsubakiyama.

## Family Mesodesmatidae.

Genus CAECCELLA GRAY 1853.

28) *Caecella chinensis* DESHAYES.

*Caecella chinensis*, DESHAYES, Proc. Zool. Soc. London, p. 334, 1854; LISCHKE, Japanische Meer. Conch., I, p. 133, pl. X, figs. 5, 6, 1869; DUNKER, Ind. Moll., p. 186, 1882; PILSBRY, Catal. Mar. Moll. Japan, p. 118, 1895; IWAKAWA, Catal. Japanese Moll., p. 309, 1919.

*Japanese Name.* Kuchibagai.

*Loc.* Asamushi.

## Family Psammobiidae.

Genus PSAMMOBIA LAMARCK 1818.

29) *Psammobia kazusensis* YOKOYAMA,

*Psammobia kazusensis*, YOKOYAMA, Journ. Coll. Sci. Tokyo., Vol. XLIV, Art. I, p. 136, pl. IX, fig. 4, 1922.

*Loc.* Off Ominato.

Genus SANGUINOLARIA LAMARCK 1799.

30) *Sanguinolaria nuttalli* CONRAD.

*Sanguinolaria nuttalli*, CONRAD, Journ. Acad. Sci. Phila., Bd. VII, p. 230, pl. XVII, fig. 6, 1837.

*Solentellina nuttalli*, REEVE, Conch. Icon. *Solentellina*, pl. IV, fig. 19; LISCHKE, Japanische Meer. Conch., III, p. 98, 1874; DUNKER, Ind. Moll., p. 188, 1882; PILSBRY, Catal. Mar. Moll. Japan, p. 122, 1895.

*Psammobia nuttalli*, SCHRENCK, Amurl. Moll. p. 568, pl. XXII, fig. 89, 1861.

*Loc.* Moura.

## Family Solenidae.

Genus SOLEN SCOPOLI 1777.

31) *Solen gouldii* CONRAD.

*Solen gouldii*, CONRAD, Amer. Journ. Conch., Bd. III, No. 3, 1867; LISCHKE, Japanische Meer. Conch., II, p. 123, 1871; DUNKER, Ind. Moll., p. 173, pl. XVI, fig. 11, 1882;

PILSBRY, Catal. Mar. Moll. Japan, p. 120, 1895; IWAKAWA, Catal. Japanese Moll., p. 311, 1919.

*Japanese Name.* Mategai.

*Loc.* Moura.

## Family Saxicavidae.

Genus SAXICAVA FLEURIAN 1802.

32) *Saxicava arctica* (LINNAEUS).

*Mya arctica*, LINNAEUS, Syst. Nat. ed. XII, p. 1113, figs. 1, 1767.

*Saxicava arctica*, SAR, Moll. Reg. Art. Noveg., p. 95, pl. XX, figs. 8, a-c; SCHRENCK, Amurl. Moll., p. 553, 1861; LISCHKE, Japanische Meer. Conch., I, p. 134-136, 1869; II, p. 122, 1871; DUNKER, Ind. Moll., p. 175, 1882; SOWERBY, Thes. Conch., V, p. 132, pl. CLXXI, fig. 1, 1887; PILSBRY, Catal. Mar. Moll. Japan, p. 117, 1895; IWAKAWA, Catal. Japanese Moll., p. 314, 1919.

*Japanese Name.* Kinumatoigai.

*Loc.* Jōgasawa.

## Suborder Pholadacea.

## Family Pholadidae.

Subfamily PHOLADINAE.

Genus BARNEA RISSO 1826.

33) *Barnea fragilis* (SOWERBY).

*Pholas fragilis*, SOWERBY, Proc. Zool. Soc. London, p. 161, 1849; Thes. Conch., II, p. 488, pl. CVIII, figs. 92, 93, 1855; LISCHKE, Japanische Meer. Conch., I, p. 143, 1869; PILSBRY, Catal. Mar. Moll. Japan, p. 116, 1895; IWAKAWA, Catal. Japanese Moll., p. 314, 1919.

*Barnea fragilis*, DUNKER, Ind. Moll., p. 170, 1882.

*Japanese Name.* Niōgai.

*Loc.* Asamushi.

## Family Lyonsiidae.

Genus LYONSIA TURTON 1822.

34) *Lyonsia ventricosa* GOULD.

*Lyonsia ventricosa*, GOULD, Proc. Boston Soc. Nat. Hist., Bd. VIII, p. 23; Otia Conch., p. 162, 1862; SCHRENCK, Amurl. Moll., p. 604, 1861; DUNKER, Ind. Moll., p. 179, 1882; IWAKAWA, Catal. Japanese Moll., p. 317, 1919.

*Lyonsia rostrata*, LISCHKE, Japanische Meer. Conch., III, p. 102, pl. IX, fig. 13, 1874; DUNKER, Ind. Moll., p. 179, 1882; PILSBRY, Catal. Mar. Moll. Japan, p. 137, 1895.

*Japanese Name.* Obikui.

*Loc.* Off Yunoshima.

Family **Anatinidae.**Genus **ANATINA** LAMARCK 1809.35) **Anatina japonica** LISCHKE.

*Anatina japonica*, LISCHKE, Malak. Blät., Bd. XIX, p. 107, 1872; Japanische Meer. Conch., p. 101, pl. IX, figs. 7-10, 1874; DUNKER, Ind. Moll., p. 179, 1882; PILSBRY, Catal. Mar. Moll. Japan, p. 138, 1895; IWAKAWA, Catal. Japanese Moll., p. 317, 1919.

*Japanese Name.* Okinagai.*Loc.* Off Yunoshima.36) **Anatina kamakurana** PILSBRY.

*Anatina kamakurana*, PILSBRY, Catal. Mar. Moll. Japan, p. 138, pl. III, figs. 2, 3, 1895; IWAKAWA, Catal. Japanese Moll. p. 317, 1919.

*Japanese Name.* Usukinu.*Loc.* Asadokoro.Class **GASTROPODA.**Order **PROSOBRANCHIATA.**Suborder **Diotocardia.**Section **Docoglossa.**Family **Acmaeidae.**Genus **ACMAEA** ESCHOLTZ 1828.37) **Acmaea striata** QUOY et GAIMARD.

*Acmaea striata*, QUOY and GAIMARD, Voyage l'Astrolabe Moll., pl. CXXI, figs. 8-11, 1832; PILSBRY, in TRYON'S Man. Conch., Vol. XIII, p. 47, pl. XIX, figs. 37, 38, pl. XXXV, figs. 25-29, 1891.

*Patella striata*, REEVE, Conch. Icon., *Patella*, fig. 58.*Loc.* Asamushi.38) **Acmaea heroldi** (DUNKER).*Patella heroldi*, DUNKER, Moll. Japonica, p. 24, pl. III, fig. 13, 1861.

*Acmaea heroldi*, LISCHKE, Japanische Meer. Conch., II, p. 96, 1871; PILSBRY, Catal. Mar. Moll. Japan, p. III, pl. VI, figs. 13-18, 1895; IWAKAWA, Catal. Japanese Moll., p. 3, 1919.

*Japanese Name.* Kogamogai.*Loc.* Asamushi.39) **Acmaea schrenckii** var. **concinna** LISCHKE.

*Acmaea concinna*, LISCHKE, Japanische Meer. Conch., II, p. 98, pl. VI, figs. 1-6, 1871; IWAKAWA, Catal. Japanese Moll., p. 3, 1919.

*Patella concinna*, PILSBRY in TRYON'S Man. Conch., Vol. XIII, p. 44, pl. II, figs. 12-17, 1891.

*Patella granostriata*, SCHRENCK, Amurl. Moll., p. 298, pl. XIV, figs. 1-3, 1861.*Tectura concinna*, DUNKER, Ind. Moll., p. 154, 1882.*Japanese Name.* Kōdaka-awogai.*Loc.* Asamushi.40) **Acmaea pallida** (GOULD).

*Patella pallida*, GOULD, Proc. Boston Soc. Nat. Hist., Vol. VII, p. 162; DUNKER, Ind. Moll., p. 156, 1882.

*Patella lamanoni*, SCHRENCK, Amurl. Moll., p. 303, pl. XIV, figs. 6-9, 1861.

*Heliccioniscus pallidus*, PILSBRY in TRYON'S Man. Conch., Vol. XIII, p. 133, pl. LXVII, figs. 9, 10, 1891; Catal. Mar. Moll. Japan, p. 112, 1895; IWAKAWA, Catal. Japanese Moll., p. 6, 1919.

*Acmaea pallida*, PILSBRY, Proc. Acad. Nat. Sci. Phil., p. 202, 1901.*Japanese Name.* Yukinokasa.*Loc.* Ōshima.41) **Acmaea dorsuosa** GOULD.

*Acmaea dorsuosa*, GOULD, Proc. Boston Soc. Nat. Hist., Vol. VII, p. 162, 1859; PILSBRY, Catal. Mar. Moll. Japan, p. III, 1895; SCHRENCK, Amurl. Moll. p. 599, 1861; IWAKAWA, Catal. Japanese Moll., p. 4, 1919; PILSBRY in TRYON'S Man. Conch., Vol. XIII, p. 45, pl. XXXIII, fig. 88, pl. IX, figs. 15, 16, 1891.

*Tectura dorsuosa*, DUNKER, Ind. Moll., p. 154, 1882.*Japanese Name.* Kamogai.*Loc.* Mourakojima; Kamomejima.Family **Patellidae.**Genus **HELICIONISCUS** DALL 1871.42) **Heliccioniscus eucosmius** PILSBRY.

*Heliccioniscus eucosmius*, PILSBRY in TRYON'S Man. Conch., Vol. XIII, p. 148, pl. LXXI, figs. 61-64, 1891; Catal. Mar. Moll. Japan, p. 112, 1895; IWAKAWA, Catal. Japanese Moll., p. 7, 1919.

*Japanese Name.* Bekkōgasa.*Loc.* Kamomejima.43) **Heliccioniscus toreumus** (REEVE).

*Patella toreuma*, REEVE, Conch. Icon., *Patella*, fig. 69, LISCHKE, Japanische Meer. Conch., I, p. 109, pl. VIII, figs. 12-15, 1869; II, p. 102, pl. VI, fig. 12, 1871; DUNKER, Ind. Moll., p. 156, 1882; PILSBRY, Catal. Mar. Moll. Japan, p. 113, 1895.

*Heliccioniscus toreumus*, PILSBRY in TRYON'S Man. Conch., Vol. XIII, p. 135, pl. XIII, figs. 50-53, 1891; IWAKAWA, Catal. Japanese Moll., p. 8, 1919.

*Japanese Name.* Yomegakasa.*Loc.* Ōshima.Section **Rhipidoglossa.**Family **Fissurellidae.**Subfamily **EMARGINULINAE.**

## Genus SUBEMARGINULA BLAINVILLE 1825.

44) *Subemarginula gigas* MARTENS.

*Subemarginula gigas*, MARTENS, Conch. Mittheil., Vol. II, p. 103, pl. XIX, 1881; PILSBRY in TRYON'S Man. Conch., Vol. XII, p. 286, pl. XLIII, figs. 76, 77, 1890; Catal. Mar. Moll. Japan, p. 110, 1895; IWAKAWA, Catal. Japanese Moll. p. 10, 1919.

*Japanese Name.* Saruawabi.

*Loc.* Futagojima; Bentenjima; Ōshima.

## Genus PUNCTURELLA LOWE 1827.

45) *Puncturella nobilis* (A. ADAMS).

*Cemoria nobilis*, SOWERBY, Thes. Conch., Vol. III, p. 208, figs. 6-9, 1866.  
*Puncturella nobilis*, PILSBRY in TRYON'S Man. Conch. Vol. XII, p. 231, pl. LXIII, figs. 34-37, 1890; Catal. Mar. Moll. Japan, p. 109, 1895; IWAKAWA, Catal. Japanese Moll., p. 10, 1919.

*Japanese Name.* Kōdakasukashigai.

*Loc.* Off Karibazawa; Off Hanaguri; Off Okunai.

## Family HALIOTIDAE.

## Genus HALIOTIS LINNAEUS 1758.

46) *Haliotis gigantea discus* REEVE.

*Haliotis discus*, REEVE, Conch. Icon., *Haliotis*, fig. 31.  
*Haliotis gigantea discus*, PILSBRY, Catal. Mar. Moll. Jap., p. 105, 1895.  
= ? *H. gigantea kantschatkanus*, JONAS.

*Japanese Name.* Awabi.

*Loc.* Kusōdomari; Ōshima; Yunoshima; Futagojima.

## Family Trochidae.

## Subfamily TROCHININAE.

## Genus MONODONTA LAMARCK 1799.

47) *Monodonta labio* (LINNAEUS).

*Trochus labio*, LINNAEUS, Syst. Nat. Hist., Bd. X, p. 759, 1759.  
*Monodonta labio*, LAMARCK, Hist. Nat., Ed. II, Bd. IX, p. 176; LISCHKE, Japanische Meer. Conch., I, p. 95, 1869; PILSBRY in TRYON'S Man. Conch., Vol. XI, p. 86, pl. XIX, figs. 95, 96, 1889; Catal. Mar. Moll. Japan, p. 93, 1895; DUNKER, Ind. Moll., p. 136, 1882; SCHRENCK, Amurl. Moll., p. 360, 1861; IWAKAWA, Catal. Japanese Moll., p. 20, 1919.

*Japanese Name.* Ishidatami.

*Loc.* Ōshima; Asamushi; Futagojima.

## Genus TEGULA LESSON 1834.

48) *Tegula argyrostoma* (GMELIN).

*Trochus argyrostoma*, GMELIN, Syst. Nat., Ed. V, p. 3583; LISCHKE, Japanische Meer.

Conch., I, pl. VII, figs. 3-5, 1869; DUNKER, Ind. Moll., p. 143, 1882.

*Chlorostoma argyrostoma*, PILSBRY in TRYON'S Man. Conch., Vol. XI, p. 165, pl. XXV, figs. II, 12, 1889; Catal. Mar. Moll. Japan, p. 93, 1895; IWAKAWA, Catal. Japanese Moll., p. 22, 1919.

*Japanese Name.* Kubogai.

*Loc.* Ōshima; Asamushi; Moura.

49) *Tegula rustica* (GMELIN).

*Chlorostoma rustica*, PILSBRY in TRYON'S Man. Conch., Vol. XI, p. 166, pl. XXV, figs. 1-4, 1889; Catal. Mar. Moll. Japan, p. 94, 1895; IWAKAWA, Catal. Japanese Moll. p. 23, 1919.

*Japanese Name.* Koshidakagangara.

*Loc.* Ōshima; Asamushi; Moura.

## Subfamily GIBBULINAE.

## Genus GIBBULA RISSO 1826.

50) *Gibbula callichroa jessoensis* (SCHRENCK).

*Trochus jessoensis*, SCHRENCK, Amurl. Moll., p. 353, pl. XV, figs. 11-18, 1861.  
*Gibbula jessoensis*, PILSBRY in TRYON'S Man. Conch., Vol. XI, p. 222, pl. XXXVII, figs. 23, 24, pl. XL, fig. 43, 1889; IWAKAWA, Catal. Japanese Moll., p. 25, 1919.  
*Gibbula (Cantharidella) callichroa*, PILSBRY, Catal. Mar. Moll. Japan, p. 96, 1895.

*Japanese Name.* Yezochigusa.

*Loc.* Yunoshima.

## Family Turbinidae.

## Subfamily LEPTOTHYRINAE.

## Genus LEPTOTHYRA DALL 1871.

51) *Leptothyra amussitata* (GOULD).

*Turbo amussitata*, GOULD, Otia Conch., p. 160, 1862.  
*Leptothyra amussitata*, PILSBRY in TRYON'S Man. Conch., Vol. X, p. 250, pl. LV, figs. 71, 72, 1888; Catal. Mar. Moll. Japan, p. 90, 1895; IWAKAWA, Catal. Japanese Moll., p. 34, 1919.

*Japanese Name.* Yezosanshō.

*Loc.* Off Hanaguri.

## Suborder Monotocardia.

Section *Ptenoglossa*.

## Family EPITONIIDAE.

## Genus EPITONIUM BOLTEN 1798.

52) *Epitonium immaculatum* (SOWERBY).

*Scaloria immaculata*, SOWERBY, Proc. Zool. Soc. London, p. 31, 1844; Thes. Conch.,

Vol. I, p. 93, pl. XXXII, fig. 58, 1847; DUNKER, Ind. Moll., p. 67, 1882; TRYON, Man. Conch., Vol. IX, p. 61, pl. XII, fig. 80, 1888.

Loc. Off Itanozaki.

Section *Taeniogossa*.

Family **Naticidae**.

Genus **NATICA** SCOPOLI 1777.

53) **Natica clausa janthostoma** DESHAYES.

*Natica janthostoma*, DESHAYES, Guer. Mag. de Zool., p. 45, 1841.

*Natica clausa janthostoma*, TRYON, Man. Conch., Vol. VIII, p. 31, pl. XIX, fig. 89, 1886; IWAKAWA, Catal. Japanese Moll., p. 45, 1919.

Japanese Name. Yezotamagai.

Loc. Asamushi; Moura; Off Okunai.

54) **Natica** sp.

Loc. Off Okunai.

Genus **POLINICES** MONTFORT 1810.

55) **Polinices ampla** (PHILIPPI).

*Natica ampla*, PHILIPPI, Zeitschr. f. Malak., 1848, p. 156; IWAKAWA, Catal. Japanese Moll., p. 45, 1919.

*Natica (Neverita) ampla*, TRYON, Man. Conch. Vol. VIII, p. 32.

*Polinices (Neverita) ampla*, PILSBRY, Catal. Mar. Moll. Jap., p. 72, 1895.

Japanese Name. Tsumetagai.

Loc. Moura.

Family **Trichotropidae**.

Genus **TRICHOTROPIS** SOWERBY 1829.

56) **Trichotropis insignis** MIDDENDORFF.

*Trichotropis insignis*, MIDDENDORFF, Mal. Ross., p. 107, pl. X, figs. 7-9, 1847; SCHRENCK, Amurl. Moll., p. 601, 1861; DUNKER, Ind. Moll., p. 105, 1882; TRYON, Man. Conch., Vol. X, p. 45, pl. VIII, fig. 88, pl. VII, fig. 59, 1887; SOWERBY, Thes. Conch., Vol. III, p. 322, pl. CCLXXXV, fig. 5, 1887; PILSBRY, Catal. Mar. Moll. Japan, p. 59, 1895.

Loc. Off Hanaguri; Off Yunoshima.

Family **Littorinidae**.

Genus **LITTORINA** FERUSSAC 1821.

57) **Littorina sitchana** PHILIPPI.

*Littorina sitchana*, PHILIPPI, Proc. Zool. Soc. London, p. 140, 1845; Abbild. Beschr. Conch., III, p. 13, pl. VI, figs. 13, 16, 1851.

*Littorina sitchana*, TRYON, Man. Conch., Vol. IX, p. 240, pl. XLI, figs. 86-91, pl. XLV, fig. 1, 2, 1887; PILSBRY, Catal. Mar. Moll. Japan, p. 53, 1895.

*Littorina manchurica*, SCHRENCK, Amurl. Moll., p. 333, pl. XIV, figs. 14-20, 1861.

Japanese Name. Tamakibi.

Loc. Asamushi, Ōshima.

58) **Littorina** sp.

Loc. Asamushi.

Family **Rissoidae**.

Genus **CINGULA** FLEMING 1828.

59) **Cingula** sp.

Loc. Tsuchiya.

Section *Gymnoglossa*.

Family **Pyramidellidae**.

Genus **TURBONILLA** RISSO 1826.

60) **Turbonilla aulica** DALL et BARTSCH.

*Turbonilla aulica*, DALL and BARTSCH, Proc. U. S. Nat. Mus., Vol. XXX, p. 345, pl. XXII, fig. 7, 1906.

*Turbonilla variosa*, DUNKER, Moll. Japonica, p. 15, pl. II, fig. 9, 1861; Malak. Blät., Vol. VI, 1860; IWAKAWA, Catal. Japanese Moll., p. 109, 1919.

Japanese Name. Chairō-itokakegiri.

Loc. Off Yunoshima.

Section *Bachiglossa*.

Family **Muricidae**.

Subfamily **MURICINAE**.

Genus **TRITONALIA** FLEMING 1828.

61) **Tritonalia falcata** (SOWERBY).

*Murex falcatus*, SOWERBY, Proc. Zool. Soc. London, p. 145, 1840; Thes. Conch., Vol. IV, p. 44, pl. CCCXCIV, fig. 149, 1886; LISCHKE, Japanische Meer. Conch., II, p. 30, 1871; IWAKAWA, Catal. Japanese Moll., p. 114, 1919.

*Ocenebra falcata*, PILSBRY, Catal. Mar. Moll. Japan, p. 42, 1895.

Japanese Name. Yōrakugai.

Loc. Off Asamushi; Off Okunai; Off Itanosaki.

62) **Tritonalia japonica** (DUNKER).

*Murex japonicus*, DUNKER, Malak. Blät., p. 230, 1860; Ind. Moll., p. 8, 1882; Moll. Japonica, p. 4, pl. I, fig. 14, 1861; TRYON, Man. Conch., Vol. XI, p. 162, pl. XXXVII, 1889; LISCHKE, Japanische Meer. Conch., II, p. 31, 1871; IWAKAWA, Catal. Japanese Moll., p. 114, 1919.

*Murex taiwanohanusis*, CROSSE, Journ. de Conch., Vol. X, p. 56, pl. I, fig. 9.



*Ocenebra japonica*, ADAMS, Proc. Zool. Soc. London, p. 373, 1862; PILSBRY, Catal. Mar. Moll. Japan, p. 42, 1895.

*Japanese Name.* Ōyōraku.

*Loc.* Off Asamushi; Off Yunoshima.

63) *Tritonalia* sp.

*Loc.* Bentenjima.

64) *Tritonalia foliata* (MARTYN).

*Murex foliata*, MARTYN, Univ. Conch., pl. 66; PILSBRY in TRYON's Man. Conch., Vol. XI, p. 113, pl. XXXIV, figs. 370, 371, 373, 1889; DUNKER, Ind. Moll., p. 7, pl. IV, figs. 10, 11, 1882; PILSBRY, Catal. Mar. Moll. Japan, p. 43, 1895.

*Loc.* Off Noheji; Off Hanaguri.

Genus TROPHON MONTFORT 1810.

65) *Trophon subclavatus* YOKOYAMA.

*Trophon subclavatus*, YOKOYAMA, Journ. Coll. Sci. Tokyo, Vol. XXXIV, Art. 6, p. 60, pl. IV, fig. 2, pl. VI, figs. 13, 14, 1920.

*Loc.* Off Yunoshima.

Subfamily PURPURINAE.

Genus THAIS BOLTEN 1798.

66) *Thais tumulosa* (LISCHKE).

*Purpura tumulosa*, LISCHKE, Japanische Meer. Conch., I, p. 56, pl. V, figs. 15, 16, 11, p. 39, 1871; IWAKAWA, Catal. Japanese Moll. p. 117, 1919.

*Japanese Name.* Ibonishi.

*Loc.* Asamushi; Yunoshima.

Family COLUMBELLIDAE.

Genus COLUMBELLA LAMARCK 1797.

67) *Columbella burchardi* (DUNKER).

*Ameyla burchardi*, DUNKER, Malak. Blät., Vol. XXIV, p. 67; Ind. Moll., p. 55, pl. IV, figs. 3, 4, 1882; PILSBRY, Catal. Mar. Moll. Japan, p. 40, 1895.

*Columbella burchardi*, IWAKAWA, Catal. Japanese Moll., p. 125, 1919.

*Japanese Name.* Kōdaka-matsumushi.

*Loc.* Asamushi.

Family NASSIDAE.

Genus NASSARIUS DUMERID 1806.

68) *Nassarius livescens* PHILIPPI.

*Nassa livescens*, PHILIPPI, Zeitschr. f. Malak. Blät., p. 135, 1848; LISCHKE, Japanische Meer. Conch., II, p. 52, pl. IV, figs. 1-3, 1871; PILSBRY, Catal. Mar. Moll. Japan, p. 35, 1895; IWAKAWA, Catal. Japanese Moll., p. 129, 1919.

*Japanese Name.* Mushirogai.

*Loc.* Asamushi; Bentenjima.

Family BUCCINIDAE.

Subfamily CHRYSODOMINAE.

Genus CHRYSODOMUS SWAINSON 1840.

69) *Chrysodomus antiqua tornata* (GOULD).

*Neptenea antiqua tornata*, MARTINI und CHEMNITZ, Conch. Cab., III, p. 107, pl. XXXVI, fig. 2, 1876-1869.

*Loc.* Off Hanaguri.

Genus VOLUTHARPA FICHER 1856.

70) *Volutharpa perryi* (JAY).

*Bullia perryi*, JAY, Report on Shells coll. by Japan Exped. under Comm. Perry, 1856, p. 295, pl. V, figs. 13-15, 1857.

*Volutharpa perryi*, DUNKER, Ind. Moll., p. 33, 1882; PILSBRY, Catal. Mar. Moll. Japan, p. 32, 1895; MARTINI und CHEMNITZ, Conch. Cab., III, p. 95, pl. XCIII, fig. 56, 1876-1869.

*Volutharpa ampullacea*, IWAKAWA, Catal. Japanese Moll., p. 133, 1919.

*Japanese Name.* Mosusogai.

*Loc.* Off Futagojima.

Family FASCIOLASIIDAE.

Genus FUSINUS ROFINESQUE 1815.

71) *Fusinus perplexus* (A. ADAMS).

*Fusinus perplexus*, A. ADAMS, Journ. Linn. Soc., Vol. VII, p. 1815; IWAKAWA, Catal. Japanese Moll. p. 139, 1919.

*Fusinus inconstans*, LISCHKE, Malak. Blät., Bd. XV, p. 218, 1868; Japanische Meer. Conch., I, p. 34, pl. II, fig. 16, 1869; II, p. 26, 1871; DUNKER, Ind. Moll., p. II, 1882.

*Japanese Name.* Naganishi.

*Loc.* Off Yunoshima; Off Mourakojima; Off Asamushi.

Section TOXOGLOSSA.

Family TURRITIDAE.

Subfamily TURRITINAE.

Genus TURRIS BOLTEN 1798.

72) *Turris declivis* (MARTENS).

*Pleurotoma declivis*, MARTENS, Conch. Mittheil., Vol. I, p. 39, pl. IX, fig. 2; MARTINI und CHEMNITZ, Conch. Cab., Vol. IV, p. 176, 1887; DUNKER, Ind. Moll., p. 21, 1882; PILSBRY, Catal. Mar. Moll. Japan, p. 15, 1895.

*Loc.* Off Mourakojima.

## Genus DRILLIA GRAY 1828.

73) *Drillia japonica* LISCHKE.

*Drillia japonica*, LISCHKE, Japanische Meer. Conch., I p. 32, 1869; IWAKAWA, Catal. Japanese Moll., p. 161, 1919.

*Japanese Name.* Ohaguroshaziku.

*Loc.* Off Asamushi; Off Yunoshima.

74) *Drillia principalis* PILSBRY.

*Drillia principalis*, PILSBRY, Catal. Mar. Moll. Japan, p. 17, pl. II, figs. 9, 10, 1895; IWAKAWA, Catal. Japanese Moll., p. 161, 1919.

*Japanese Name.* Shaziku.

*Loc.* Off Yunoshima; Off Aburakawa; Off Okunai.

## LIST OF REFERENCES.

- 1) ADAMS, A. and REEVE, L. 1848. The Zoology of the Voyage of H. M. S. Samarang ect., Mollusca, London.
- 2) ADAMS, A. 1862. On the species of Muricinae found in Japan. Proc. Zool. Soc. London, p. 373.
- 3) DALL, W. H. 1921. Summary of the Marine shellbearing Mollusks of the Northwest coast of America, from Sandiogo, California, to the Polar sea, mostly contained in the collection of the United State National Museum, with illustrations of hitherto unfigured species. Smithsonian institution, United State National Museum Bulletin. 112.
- 4) DESHAYES, G. P. 1853. Description of New Species of Shells in the Collection of Mr. CUMING. Proc. Zool. Soc. London, p. 10.
- 5) DESHAYES, G. P. 1854. Description of New Species of Shells from the Collection of HUGH CUMING, Esq. Proc. Zool. Soc. London, p. 68.
- 6) DUNKER, G. 1861. Mollusca Japonica, Descripta et Tabulis Tuibus Iconum Stutgartlae.
- 7) DUNKER, G. 1882. Index Molluscorum maris Japonici. London.
- 8) GOULD, A. A. 1862. Otia Conchologia; Descriptions of Shells and Mollusks, 1829-1862. Boston.
- 9) GAY, J. E. 1849. On the species of Anomiadae. Proc. Zool. Soc. London, p. 115.
- 10) IWAKAWA, T. 1914-1916. A Hand-List of Japanese Bivalves. Zool. Mag., Tokyo.
- 11) IWAKAWA, T. 1919. Catalogue of Japanese Mollusca in the Natural History Department, Tokyo Imperial Museum, Tokyo.
- 12) JAY, J. C. 1857. Report on the shells collected by the Japan Expedition under the Commandor, M. C. PERRY U. S. A., Together with a list of Japan Shells.
- 13) LISCHKE, C. E. 1869-1874. Japanische Meeres-Conchylien. I. II. III.
- 14) MARTINI und CHEMNITZ. 1868-1920. Systematische Conchylien-Cabinet.
- 15) MIDDENDORFF, A. T. 1847. Beitrage zur einer Malacozoologia Rossia, St. Peterrsburg.
- 16) PHILIPPI, R. A. 1845-1851. Abbildung und Beschreibungen neuer oder wenig sekanner Conchylien. I. II. III.
- 17) PHILIPPI, R. A. 1845. Description of a New Species of *Trochus* and eighteen new species of *Littorina* in the collection of H. CUMING, Esq. Proc. Zool. Soc. London, p. 140.
- 18) PILSBRY, H. A. and STEARNS, F. 1895. Catalogue of the Marine Mollusks of Japan.
- 19) QUOY and GAIMARD. 1832. Voyage de Découvertes de l'Astrolabe, exécuté per odere du Roi pendant les années 1826-1829, ect. Zoologie, Paris.
- 20) REEVE, L. and SOWERBY, B. G. 1845-1851. Conchologia Iconica, or illustration of the shells of Molluscous Animals. Vols. I-XX. London.
- 21) REEVE, L. 1844. Description of thirty-three New Species of *Arca*. Proc. Zool. Soc. London, p. 41.
- 22) SCHRENCK, L. 1861. Reisen und Forschungen im Amurl-Lande, in den Jahren 1854-1856. ect. II. Mollusken des Amurl-Land und des Nordjapanischen Meeres. St. Petersburg.
- 23) SOWERBY, G. B. 1847-1878. Thesaurus Conchyliorum. Vols. I-V. London.
- 24) SOWERBY, G. B. 1844. Description of New Species of *Scalaria*, collected by Mr. H. CUMING, to be figured in the fourth part of Thesaurus Conchyliorum. Proc. Zool. Soc. London, p. 31.
- 25) SOWERBY, G. B. 1849. On New Genus of *Pholadidae*, with notices of several New Species and of a remarkable specimen of *Pholas calva* in Mr. CUMING's collection. Proc. Zool. Soc. London, p. 161.
- 26) SOWERBY, G. B. 1888. Description of fourteen New Species of Shells from China Japan and Audaman Islands, chiefly collected by Deputy Surgeon GESS, R. HUNGERFORD. Proc. Zool. Soc. London, p. 570.
- 27) TRYON, G. W. and PILSBRY, H. A. 1878-1895. Manual of Conchology. First series. Vols. I-IX. by TRYON. X-XVI. by PILSBRY.
- 28) YOKOYAMA, M. 1920. Fossils from the Miura Peninsula and its Immediate North. Journ. Coll. Sci. Tokyo, Vol. XXXIX, Art. 6.
- 29) YOKOYAMA, M. 1922. Fossils from the Upper Musashino of Kazusa and Shimosa. Journ. Coll. Sci. Tokyo, Vol. XLIV, Art. I.