

List of Recent Benthic Foraminifera Reported from the Seas around the Japanese Islands, 1982-1997

RITSUO NOMURA

Foraminiferal Laboratory, Faculty of Education,
Shimane University
Matsue, 690

Abstract

In the last 15 years from 1982 to 1997, Japanese foraminiferologists have made a significant contribution to the ecological researches of recent benthic foraminifera around the Japanese Islands. Nine genera and 36 species have been proposed within this period of time.

This is an alphabetic list of benthic foraminiferal taxa reported after the publication of Nomura (1982, 1983).

Key Words: benthic foraminifera, Recent, bibliography

1. Introduction

Nomura (1982, 1983) published a check list and bibliography of the Japanese recent benthic foraminifera around the Japanese Islands. A total of 1426 taxa reported by Japanese researchers of the first and second generations (e. g., Asano, Uchio, Ishiwada, Takayanagi) were listed alphabetically in the publication, including synonyms.

After the publication of Nomura (1982, 1983), Japanese foraminiferologists have studied the ecology of recent benthic foraminifera. Their fields are mainly distributed in the followings: description of foraminiferal species (e.g., Ujiié, 1990; Hatta and Ujiié, 1992a, b); microhabitats analyses of foraminifera and their living modes; foraminiferal assemblages related to particular environmental characters and their geographic and depth distribution (e.g., Inoue, 1989a; Oki, 1989a; Akimoto, 1990). Foraminifera living near hydrothermal vents were reported in relation to the water chemistry of sediments (e.g., Akimoto et al., 1992). These basic studies contribute to paleoenvironmental analyses and more data base should be needed to better understand foraminifera in future works. Most recently, changes of foraminiferal assemblage within the recent several decades have been reported in shallow water region, used with comparative analysis of past and present data (e.g., Kamemaru, 1996). Such a study is important to evaluate shallow water environment in relation to human activities.

Foraminiferal systematics have revised by Loeblich and Tappan (1987) within this period of time. Some confusion of generic systematics may appear in foraminiferal identification. However, no changes of generic

allocation were made for the taxa identified by original authors. Because of limited pages, reported taxa without figures were omitted in this list.

2. Benthic foraminiferal taxa reported in 1982–1997

- Abditodentrix pseudothalmanni* (Boltovskoy and Guissani de Khan). Ujiié, 1990, p. 29, pl. 12, figs. 2a, b; Xu and Ujiié, 1994, p. 516, figs. 6–6–8; Ujiié, 1995, p. 60, pl. 4, figs. 7a, b, 8a, b.
- Acervulina inhaerens* Schultze. Hatta and Ujiié, 1992b, p. 192, pl. 41, figs. 5a–c.
- Adercotryma glomerata* (Brady). Hasegawa, 1988, pl. 1, figs. 1a–c; Inoue, 1989b, pl. 2, fig. 9; Inoue, 1989a, pl. 24, fig. 12; Akimoto, 1990, p. 190, pl. 11, fig. 1; Hatta and Ujiié, 1992a, p. 56, pl. 1, figs. 5a, b, pl. 19, fig. 3: *A. glomerata* (Brady) var. Matoba and Honma, 1989, p. 61, pl. 2, figs. 4a–c Matoba and Fukasawa, 1992, p. 221, figs. 7–5a–c: *A. sp.* Ujiié, 1995, p. 57, pl. 2, figs. 3, 4a, b.
- Alabamina tubulifera* (Heron–Allen and Earland). Akimoto, 1990, p. 190, pl. 15, fig. 17; pl. 24, fig. 2: *A. ? rugosa* (Phleger and Parker). Ujiié, 1990, p. 49, pl. 29, figs. 1a–c, 2a–c; Xu and Ujiié, 1994, p. 518, fig. 10–3.
- Allomorphina pacifica* Cushman and Todd. Inoue, 1989a, pl. 32, figs. 17a, b; Ujiié, 1990, p. 41, pl. 22, figs. 7–11.
- Alveolinella quoyi* (d’Orbigny). Hatta and Ujiié, 1992a, p. 77, pl. 14, figs. 11, 12.
- Alveolophragmium orbiculatum* Stschedrina. Matoba and Honma, 1986, p. 61, pl. 2, figs. 8a, b; Matoba and Fukasawa, 1992, p. 221, figs. 7–8a, b: *A. ringens* (Brady). Akimoto, 1990, p. 190, pl. 11, fig. 9: *A. scitulum* (Brady). Matoba and Honma, 1986, p. 61, pl. 2, figs. 9a, b: *A. subglobosa* (G.O.Sars). Akimoto, 1990, p. 190, pl. 11, fig. 3; pl. 13, fig. 10; pl. 14, fig. 2; Akimoto et al., 1990, p. 107, p. 112, figs. 1a, b: “*A. crassimargo* (Norman)”. Matoba and Honma, 1986, p. 62, pl. 2, figs. 7a, b: *A. aff. subglobosa* (G.O.Sars). Akimoto et al., 1990, p. 107, p. 112, figs. 2a–c: *A. wiesneri* (Parr). Inoue, 1989a, pl. 25, figs. 16a, b.
- Ammobaculites agglutinans* (d’Orbigny). Akimoto, 1990, p. 190, pl. 12, fig. 4: *A. agglutinans filiformis* Earland. Akimoto, 1990, p. 191, pl. 12, fig. 3: *A. exiguus* Cushman and Bronnimann. Nomura and Yoshikawa, 1995, p. 43, pl. 1, fig. 1; Scott et al., 1995, p. 292, fig. 6–1: *A. filiformis* Earland. Inoue, 1989a, pl. 15, fig. 3: *A. sp.* Inoue, 1989a, pl. 25, fig. 12: *A. ? sp.* Ujiié, 1990, p. 12, pl. 1, figs. 3a, b: *A. sp. A.* Matoba and Fukasawa, 1992, p. 221, figs. 7–2a, b: *A. sp. B.* Matoba and Fukasawa, 1992, p. 221, figs. 7–3a, b.
- Ammodiscoides catinus* (Höglund). Matoba and Honma, 1986, p. 61, pl. 1, figs. 9a, b.
- Ammodiscus gullmarensis* Höglund. Matoba and Honma, 1986, p. 61, pl. 1, figs. 8a, b: *A. incertus* (d’Orbigny). Oki, 1989a, p. 68, pl. 1, fig. 4: *A. minimus* Höglund. Oki, 1989a, p. 68, pl. 1, fig. 5: *A. pacifica* Cushman and Valentine. Akimoto, 1990, p. 191, pl. 13, fig. 4
- Ammomarginulina catenulata* (Cushman and McCulloch). Oki, 1989a, p. 74, pl. 2, fig. 6.
- Ammomassilina alveoliniformis* (Millett). Hatta and Ujiié, 1992a, p. 65, pl. 6, figs. 1, b.
- Ammonia beccarii* (Linné). Inoue, 1989a, pl. 30, figs. 1a–c; Nomura and Seto, 1992, p. 239, fig. 14, nos. 6a–c; Hatta and Ujiié, 1992b, p. 199, pl. 44, figs. 1a–2c: *A. beccarii* (Linné) forma 1. Matsushita and Kitazato, 1989, pl. 1, figs. 10a–c; Matoba and Fukasawa, 1992, p. 221, figs. 11–1a–c; Kosugi et al., 1991, figs. 5–1–5; Kamemaru, 1996, p. 7, fig. 19, nos. 7–9: *A. beccarii* (Linné) forma 2. Matsushita and Kitazato, 1989, pl. 1, figs. 9a–c; Matoba and Fukasawa, 1992, p. 221, figs. 11–2a–c; Kamemaru, 1996, p. 7, fig. 19, nos. 11–13: *A. beccarii* (Linné) “forma A”. Konda, 1987, pl. 1, figs. 1a–c, 2a–c, 3a–c: *A. beccarii* (Linné) forma A. Oki, 1989a, p. 131, pl. 15, figs. 5a, b: *A. beccarii* (Linné) forma B. Oki, 1989a, p. 132, pl. 15, fig. 6: *A. beccarii* (Linné) type 1. Nomura and Yoshikawa, 1995, p. 43, pl. 1, figs. 5a, b, 9: *A. beccarii* (Linné) type 2. Nomura and Yoshikawa, 1995, p. 43, pl. 1, figs. 4a, b, 8: *A. beccarii tepida* (Cushman). Oki and Yamamoto, 1992, p. 199, figs. 5–4a, b: *A. inflata* (Seguenza). Ujiié and Rifardi, 1993, p. 126, pl. 5, figs. 3a–c: *A. cf. japonica* (Hada). Nomura and Seto, 1992, p. 239, fig. 14, nos. 7a–c: *A. japonica* (Hada). Takayanagi and Hasegawa, 1986, pl. 2, figs. 1a–c; Konda, 1987, pl. 1, figs. 14a, b; ; Oki, 1989a, p. 132, pl. 15, figs. 7a–c; Matoba and Fukasawa, 1992, p. 221, figs. 11–3a–c; Kosugi et al., 1991, figs. 6–1–3: *A. ketienziensis*

angulata (Kuwano). Inoue, 1989a, pl. 20, figs. 4a-c, pl. 23, figs. 3a-c, pl. 30, figs. 7a-c; Oki, 1989a, p. 132, pl. 15, figs. 8a-c; Akimoto, 1990, p. 191, pl. 21, fig. 1; Matoba and Fukasawa, 1992, p. 221, figs. 11-4a-c: *A. takanabensis* (Ishizaki). Takayanagi and Hasegawa, 1986, pl. 2, figs. 2a-c; Inoue, 1989a, pl. 30, figs. 3a-c; Akimoto, 1990, p. 191, pl. 15, fig. 15: *A. tepida* (Cushman). Nomura and Seto, 1992, p. 239, fig. 14, nos. 8a-c.

Ammoscalaria tenuimargo (Brady). Matoba and Fukasawa, 1992, p. 219, figs. 6-15a, b, 16a, b: *A. cf. tenuimargo* (Brady). Matoba and Fukasawa, 1992, p. 219, figs. 6-17a, b.

Ammotium aff. *catenulata* (Cushman and McCulloch). Matoba and Fukasawa, 1992, p. 221, figs. 7-4a, b.

Amphicoryna sagamiensis (Asano). Inoue, 1989a, pl. 22, figs. 8a, b: *A. scalaris* (Batsch). Takayanagi and Hasegawa, 1986, pl. 1, fig. 2; Oki, 1989a, p. 92, pl. 6, figs. 3a, b; Inoue, 1989a, pl. 22, figs. 7a, b; Akimoto, 1990, p. 191, pl. 17, fig. 7; Hatta and Ujiié, 1992b, p. 166, pl. 21, figs. 8a, b: *A. scalaris sagamiensis* (Asano). Takayanagi and Hasegawa, 1986, pl. 1, fig. 1; Akimoto, 1990, p. 191: *A. spicata* (Cushman and McCulloch). Oki, 1989a, p. 93, pl. 6, figs. 4a, b.

Amphisorus hemprichii Ehrenberg. Hatta and Ujiié, 1992a, p. 80, pl. 17, figs. 3a-4b, pl. 18, figs. 3, 4.

Amphistegina cf. *gibbosa* d'Orbigny. Oki, 1989a, p. 138, pl. 17, figs. 4a-c: *A. lessonii* d'Orbigny. Hatta and Ujiié, 1992b, p. 195, pl. 42, figs. 4a, b, text-fig. 1, nos. 1a, b; Ujiié, 1995, p. 68, pl. 11, figs. 3a-c: *A. papillosa* Said. Hatta and Ujiié, 1992b, p. 196, pl. 42, figs. 3a, b: *A. radiata* (Fichtel and Moll). Hatta and Ujiié, 1992b, p. 196, pl. 42, figs. 5a, b, text-figs 1, nos. 2a, b.

Angulodiscorbis corrugata (Millett). Hatta and Ujiié, 1992b, p. 184, pl. 33, figs. 5a, b.

Angulogerina angulosa (Williamson). Ujiié, 1995, p. 63, pl. 6, figs. 9a, b: *A. cf. lepida* (Brady). Hatta and Ujiié, 1992b, p. 176, pl. 27, fig. 8: *A. kokozuraensis* Asano. Kato, 1992, p. 390, pl. 2, figs. 12a, b, 13a, b.

Anomalina glabrata Cushman. Oki, 1989a, p. 151, pl. 21, figs. 4a-c.

Anomalinella rostrata (Brady). Hatta and Ujiié, 1992b, p. 197, pl. 43, figs. 3a, b.

Anomalinoidea globulosus (Chapman and Parr). Inoue, 1989a, pl. 27, figs. 8a, b; Akimoto, 1990, p. 192, pl. 20, fig. 6; Hatta and Ujiié, 1992b, p. 197, pl. 43, figs. 4a-c.

Articulina alticostata Cushman. Hatta and Ujiié, 1992a, p. 76, pl. 14, fig. 2: *A. pacifica* Cushman. Hatta and Ujiié, 1992a, p. 76, pl. 14, figs. 3a-4b; *A. sp.* Hatta and Ujiié, 1992a, p. 77, pl. 14, fig. 5.

Asanonella tubulifera (Heron-Allen and Earland). Hatta and Ujiié, 1992b, p. 193, pl. 42, figs. 1a-c.

Ashbrookia tuberculata Ujiié, in Hatta and Ujiié, 1992b, p. 177, pl. 29, figs. 1a-c, 2, 3a-c. (n. sp.)

Astacolus insolitus (Schwager). Hatta and Ujiié, 1992b, p. 166, pl. 21, figs. 9a-c, 10: *A. sublegmen* (Parr). Hatta and Ujiié, 1992b, p. 166, pl. 22, figs. 1, 2a, b; *A. ? sp.* Ujiié, 1990, p. 20, pl. 5, figs. 15a, b.

Astrononion hamadaensis Asano. Inoue, 1989b, pl. 1, figs. 8a, b: *A. hanyudaense* Matsunaga. Oki, 1989a, p. 145, pl. 19, figs. 6a, b: *A. novozealandicum* Cushman and Edwards. Ujiié, 1990, p. 42, text-figs. 3a, b; Xu and Ujiié, 1994, p. 518, fig. 9-3: *A. stellatum* Cushman and Edwards. Akimoto, 1990, p. 192, pl. 15, fig. 9: *A. stelligerum* (d'Orbigny). Oki, 1989a, p. 145, pl. 19, figs. 7a-d; Akimoto, 1990, p. 192, pl. 15, fig. 1: *A. umbilicatum* Uchio. Inoue, 1989a, pl. 32, figs. 18a, b.

Baculogypsina sphaerulata (Parker and Jones). Hatta and Ujiié, 1992b, p. 199, pl. 44, figs. 3, 4a-5b.

Baculogypsinoides spinosus Yabe and Hanzawa. Hatta and Ujiié, 1992b, p. 199, pl. 44, figs. 6a, b, 7, 8.

Bathysiphon macilentus Zheng. Ujiié, 1995, p. 54, pl. 1, figs. 2a, b: *B. (?) sp.* A. Matoba and Honma, 1986, pl. 1, fig. 1: *B. sp.* Akimoto et al., 1990, p. 107, p. 112, fig. 9.

Biarritzina proteiformis (Goës). Hatta and Ujiié, 1992b, p. 191, pl. 41, figs. 1a, b.

Bigenerina sinensis (Zheng). Hatta and Ujiié, 1992a, p. 57, pl. 2, figs. 1, b, pl. 19, figs. 5a, b.

Bolivina abbreviata Heron-Allen and Earland. Oki, 1989a, p. 106, pl. 8, figs. 12a, b: *B. alata* (Seguenza). Inoue, 1989a, pl. 33, figs. 5a, b: *B. albatrossi* Cushman. Oki, 1989a, p. 106, pl. 8, figs. 13a-c: *B. decussata* Brady. Hasegawa, 1988, pl. 2, figs. 2a, b; Inoue, 1989b, pl. 1, fig. 5; Kato, 1992, p. 389, pl. 1, fig. 14; Xu and Ujiié, 1994, p. 516, figs. 6-2, 3; Ujiié, 1995, p. 60, pl. 4, figs. 1a, b: *B. durrandii* Millett. Oki, 1989a, p. 107, pl. 8, figs. 14a-c; Oki and

Yamamoto, 1992, p. 195, fig. 4-7a, b: *B. ? fimbriata* Collins. Hatta and Ujiié, 1992b, p. 171, pl. 25, figs. 5a-c, 6, 7a, b: *B. hadai* Uchio. Oki, 1989a, p. 107, pl. 9, fig. 1; Matoba and Fukasawa, 1992, p. 221, figs. 9-2a, b: *B. humilis* Cushman and McCulloch. Oki, 1989a, p. 107, pl. 9, figs. 2a-f: *B. hantkeniana* Brady. Ujiié and Hatta, 1994, p. 13, pl. 2, figs. 4a, b: *B. karreriana* Brady. Oki, 1989a, p. 108, pl. 9, figs. 3a, b: *B. kiiensis* Asano. Oki, 1989a, p. 108, pl. 9, figs. 4a-d; Inoue, 1989a, pl. 32, fig. 11: *B. lowmani* Phleger and Parker. Oki and Yamamoto, 1992, p. 195, fig. 4-8: *B. ordinaria* Phleger and Parker. Oki, 1989a, p. 108, pl. 9, figs. 5a-d: *B. pacifica* Cushman and McCulloch. Matoba and Honma, 1986, p. 62; Oki, 1989a, p. 109, pl. 9, figs. 6a-c; Inoue, 1989a, pl. 32, fig. 4; pl. 33, fig. 16; Inoue, 1989b, pl. 1, fig. 4; Kato, 1992, p. 389, pl. 1, fig. 15: *B. pusilla* Schwager. Ujiié, 1990, p. 29, pl. 12, fig. 1.; Xu and Ujiié, 1994, p. 516, fig. 6-4; Ujiié, 1995, p. 60, pl. 4, figs. 4a, b: *B. retia* Oki, 1989a, p. 109, pl. 9, figs. 7a-f; Ujiié, 1995, p. 60, pl. 4, figs. 2a, b, 3a, b: *B. robusta* Brady. Hasegawa, 1988, pl. 2, figs. 1a, b; Oki, 1989a, p. 110, pl. 10, figs. 1a-c; Inoue, 1989a, pl. 20, fig. 6, pl. 23, fig. 1, pl. 31, fig. 5; Ujiié and Rifardi, 1993, p. 123, pl. 2, figs. 7a, b; Matoba and Fukasawa, 1992, p. 221, figs. 9-1a, b: *B. seminuda humilis* Cushman and McCulloch. Inoue, 1989a, pl. 33, figs. 4a, b: *B. sp. A.* Ujiié, 1995, p. 60, pl. 4, figs. 6a, b: *B. spinea* Cushman. Oki, 1989a, p. 110, pl. 10, figs. 2a, b: *B. spissa* Cushman. Inoue, 1989a, pl. 33, figs. 2a, b; Kato, 1992, p. 389, pl. 1, figs. 16a, b: *B. striatula* Cushman. Oki, 1989a, p. 111, pl. 10, figs. 3a, b; Oki and Yamamoto, 1992, p. 195, fig. 4-9; Matoba and Fukasawa, 1992, p. 221, figs. 9-3a, b: *B. subangularis ogasaensis* Asano. Inoue, 1989a, pl. 31, figs. 9a, b: *B. subexcavata* Cushman and Wickenden. Hatta and Ujiié, 1992b, p. 171, pl. 25, figs. 2, 3a, b: *B. subreticulata* Parr. Inoue, 1989a, pl. 20, figs. 11a, b; Oki, 1989a, p. 111, pl. 10, figs. 4a-c; Hatta and Ujiié, 1992b, p. 171, pl. 25, figs. 4a, b: *B. subspinescens* Cushman. Inoue, 1989a, pl. 32, figs. 15a, b; Oki, 1989a, p. 111, pl. 10, figs. 5a, b: *B. tokiokai* Uchio. Matoba and Fukasawa, 1992, p. 221, figs. 9-4a, b; Kosugi et al., 1991, figs. 7-2: *B. variabilis* (Williamson). Oki, 1989a, p. 112, pl. 10, figs. 6a-f; Ujiié, 1995, p. 60, pl. 4, figs. 5a, b.

Bolivinita quadrilatera (Schwager). Takayanagi and Hasegawa, 1986, pl. 1, fig. 5; Inoue, 1989a, pl. 28, fig. 8; Akimoto, 1990, p. 193, pl. 16, fig. 3; Kato, 1992, p. 389, pl. 1, figs. 17a, b.

Borelis pulchra (d'Orbigny). Hatta and Ujiié, 1992a, p. 77, pl. 15, fig. 1.

Brizalina abbreviata (Heron-Allen and Earland). Hatta and Ujiié, 1992b, p. 172, pl. 25, figs. 8a, b: *B. bradyi* (Asano). Akimoto, 1990, p. 193, pl. 15, fig. 11: *B. capitata* (Cushman). Hatta and Ujiié, 1992b, p. 172, pl. 25, figs. 9a, b, 10, 11: *B. karreriana* (Brady). Akimoto, 1990, p. 193, pl. 16, fig. 2: *B. aff. ligularia* (Schwager). Ujiié, 1990, p. 30, pl. 12, figs. 3, 4: *B. pacifica* (Cushman and McCulloch). Hasegawa, 1988, pl. 2, figs. 3a, b; Akimoto, 1990, p. 193, pl. 16, fig. 16: *B. ? rhomboidalis* (Millett). Hatta and Ujiié, 1992b, p. 172, pl. 26, figs. 2a, b: *B. spinea* (Cushman). Hatta and Ujiié, 1992b, p. 172, pl. 26, figs. 1a, b: *B. viscistriata* Belford. Akimoto et al., 1990, p. 108, p. 114, figs. 2a, b.

Buccella frigida (Cushman). Konda, 1987, pl. 1, figs. 4a, b; Nomura and Seto, 1992, p. 239, fig. 16, nos. 7a-c; Kosugi et al., 1991, figs. 6-10, 11: *B. frigida* (Cushman) forma A. Matoba and Fukasawa, 1992, p. 221, figs. 10-12a-c: *B. inusitata* Takayanagi and Hasegawa, 1986; Inoue, 1989a, pl. 23, fig. 7: *B. makiyamae* Chiji. Matoba and Fukasawa, 1992, p. 221, figs. 10-11a-c: *B. sp. A.* Takayanagi and Hasegawa, 1986, pl. 2, fig. 12.

Buchnerina okinawaensis Ujiié, in Hatta and Ujiié, 1992b, p. 167, pl. 23, figs. 1a, b. (n. sp.): *B. wrightana* (Brady). Hatta and Ujiié, 1992b, p. 167, pl. 23, figs. 7-10, 11a, b.

Bulimina aculeata d'Orbigny. Inoue, 1989a, pl. 22, figs. 5a, b, pl. 28, fig. 2, pl. 32, figs. 2a, b; Ujiié, 1990, p. 30, pl. 12, figs. 5, 6; Akimoto, 1990, p. 193, pl. 16, fig. 5; pl. 22, fig. 9; Xu and Ujiié, 1994, p. 516, fig. 6-9: *B. denudata* Cushman and Parker. Oki, 1989a, p. 114, pl. 11, fig. 1; Oki and Yamamoto, 1992, p. 196, fig. 4-11: *B. exilis enuata* (Cushman). Ujiié, 1990, p. 30, pl. 12, fig. 7: *B. cf. gibba* Fornasini. Oki and Yamamoto, 1992, p. 196, fig. 4-12: *B. kochiensis* Takayanagi. Oki, 1989a, p. 114, pl. 11, figs. 2a-c: *B. marginata* d'Orbigny. Hasegawa, 1988, pl. 2, figs. 5a, b; Inoue, 1989a, pl. 20, figs. 12a, b, pl. 23, fig. 2, pl. 28, figs. 4a, b; Oki, 1989a, p. 114, pl. 11, figs. 3a-e; Akimoto, 1990, p. 194, pl. 16, fig. 6; Ujiié, 1995, p. 62, pl. 6, figs. 3a, b; Oki and Yamamoto, 1992, p. 196, fig. 4-13a, b; Matoba and Fukasawa, 1992, p. 221, figs. 9-7: *B. rostrata* Brady. Inoue, 1989a, pl. 32, figs. 9a, b; Akimoto, 1990, p. 194, pl.

16, fig. 7: *B. spinosa* (Heron-Allen and Earland). Oki, 1989a, p. 115, pl. 11, figs. 4a, b; *B. striata* d'Orbigny. Inoue, 1989a, pl. 22, figs. 6a, b, pl. 28, fig. 1, pl. 32, figs. 1a, b; Ujiié, 1990, p. 31, pl. 16, figs. 9, 10; Akimoto, 1990, p. 194, pl. 16, fig. 8; pl. 22, fig. 11; Kato, 1992, p. 390, pl. 2, fig. 7; Ujiié, 1995, p. 62, pl. 6, figs. 4a, b; *B. subornata* Brady. Inoue, 1989a, pl. 32, figs. 10a, b; *B. subulata* Cushman. Takayanagi and Hasegawa, 1986, pl. 1, fig. 4; *B. truncana* Gumbel. Ujiié, 1990, p. 30, pl. 12, fig. 8; Ujiié, 1995, p. 62, pl. 6, figs. 5a, b.

Buliminella elegantissima (d'Orbigny). Takayanagi and Hasegawa, 1986, pl. 1, fig. 3; Oki, 1989a, p. 105, pl. 8, figs. 8a-c; Kosugi et al., 1991, figs. 7-3; *B. milletti* Cushman. Oki, 1989a, p. 105, pl. 8, fig. 9; *B. tenuata* Cushman. Kato, 1992, p. 390, pl. 2, fig. 8.

Buliminoides milletti (Cushman). Hatta and Ujiié, 1992b, p. 186, pl. 34, figs. 4a, b, 5; *B. williamsonianus* (Brady). Hatta and Ujiié, 1992b, p. 186, pl. 34, figs. 6a, b, 7.

Burseolina pacifica (Cushman). Ujiié, 1990, p. 40, pl. 22, fig. 2.

Calcarina calcar d'Orbigny. Hatta and Ujiié, 1992b, p. 200, pl. 45, figs. 1a-4c, 5; *C. defrancii* d'Orbigny. Hatta and Ujiié, 1992b, p. 200, pl. 45, fig. 6, pl. 46, figs. 1a-2c, 4-6; *C. gaudichaudii* d'Orbigny. Hatta and Ujiié, 1992b, p. 201, pl. 47, figs. 1-4, 5a-6c; *C. hispida* Brady. Hatta and Ujiié, 1992b, p. 201, pl. 47, figs. 7a-c; *C. "spengleri"* (Gmelin). Hatta and Ujiié, 1992b, p. 202, pl. 48, figs. 1a-3c, 4, 5.

Cancriis auriculus (Fichtel and Moll). Oki, 1989a, p. 128, pl. 14, figs. 8a-c; Inoue, 1989a, pl. 30, figs. 6a-c; Hatta and Ujiié, 1992b, p. 179, pl. 29, figs. 4a-c; Matoba and Fukasawa, 1992, p. 221, figs. 9-12a-c.

Caribeanelia ogiensis (Matsunaga). Inoue, 1989a, pl. 22, figs. 12a-c; *C. cf. polystoma* Bermudez. Oki, 1989a, p. 140, pl. 18, figs. 3a-d.

Carinomelonis helenae Ujiié, 1995, p. 70, pl. 12, figs. 3a, b, 4, 5. (n. gen. et n. sp.)

Carterina spiculotesta (Carter). Ujiié and Hatta, 1994, p. 12, pl. 2, figs. 1a-c.

Carpenteria monticularis Carter. Akimoto, 1990, p. 194, pl. 23, fig. 1.

Cassidulina carinata Silvestri. Takayanagi and Hasegawa, 1986, pl. 1, fig. 8; Inoue, 1989a, pl. 22, figs. 3a, b, pl. 28, fig. 11; Akimoto, 1990, p. 194, pl. 17, fig. 3; *C. cf. neocarinata* Thalmann. Ujiié, 1990, p. 38, pl. 18, figs. 6a, b; Xu and Ujiié, 1994, p. 518, figs. 8-2, 3; *C. delicata* Cushman. Inoue, 1989a, pl. 33, figs. 12a, b; *C. japonica* Asano and Nakamura. Kato, 1992, p. 389, pl. 1, figs. 18a, b; *C. norcrossi* Cushman. Inoue, 1989b, pl. 1, figs. 6a, b; Kato, 1992, p. 390, pl. 2, figs. 1a, b; Xu and Ujiié, 1994, p. 518, fig. 8-4; *C. norvangi* Thalmann. Takayanagi and Hasegawa, 1986, pl. 1, fig. 9; Oki, 1989a, p. 143, pl. 19, figs. 1a-f; Ujiié, 1990, p. 38, pl. 18, figs. 4a, b, 5a, b; Kato, 1992, p. 390, pl. 2, figs. 2a, b; Xu and Ujiié, 1994, p. 518, fig. 8-5; Ujiié, 1995, p. 60, pl. 4, figs. 10a, b; *C. sp. A*. Kato, 1992, p. 390, pl. 2, figs. 3a, b; *C. teretis* Tappan. Ujiié, 1995, p. 61, pl. 5, figs. 8a, b, 9a, b; *C. yabei* Asano and Nakamura. Inoue, 1989a, pl. 23, figs. 11a, b.

Cassidulinoides tenuis Phleger and Parker. Kato, 1992, p. 390, pl. 2, fig. 4.

Cellanthus craticulatus (Fichtel and Moll). Hatta and Ujiié, 1992b, p. 203, pl. 49, figs. 7a, b.

Centropyxis aculeata (Ehrenberg). Scott et al., 1995, p. 292, fig. 6-9.

Ceratobulimina pacifica Cushman and Harris. Akimoto, 1990, p. 194, pl. 15, fig. 3.

Chilostomella cushmani Chapman. Ujiié, 1990, p. 41, pl. 22, figs. 3a, b, 4; *C. oolina* Schwager. Inoue, 1989a, pl. 32, fig. 12; Ujiié, 1990, p. 41, pl. 22, figs. 5, 6; Akimoto, 1990, p. 194, pl. 16, fig. 17; Kato, 1992, p. 392, pl. 4, fig. 7; Ujiié, 1995, p. 71, pl. 12, fig. 10; *C. ovoidea* Reuss. Kato, 1992, p. 392, pl. 4, fig. 8; *C. cf. fimbriata* Cushman. Inoue, 1989a, pl. 33, figs. 13a, b; *C. fimbriata* Cushman. Inoue, 1989a, pl. 33, figs. 15a, b; Kato, 1992, p. 392, pl. 4, fig. 6.

Chrysalidinella dimorpha (Brady). Inoue, 1989a, pl. 31, fig. 7.

Cibicides aknerianus (d'Orbigny). Takayanagi and Hasegawa, 1986, pl. 2, figs. 7a, b; Akimoto, 1990, p. 194, pl. 20, fig. 1; *C. aknerianus subdepressa* (Asano). Takayanagi and Hasegawa, 1986, pl. 2, figs. 8, 9; *C. asanoi* Matsunaga. Inoue, 1989a, pl. 24, figs. 9a, b; Inoue, 1989b, pl. 1, figs. 10a-c; *C. cf. refulgens* Montfort. Inoue, 1989a, pl. 31, figs. 4a-c; *C. ? aff. io* Cushman. Ujiié, 1990, p. 36, pl. 31, figs. 2a-c, 3a-c, 4a, c; *C. inagawaensis* Matsunaga. Inoue, 1989a, pl. 20, figs. 8a-c, pl. 23, figs. 6a-c; Oki, 1989a, p. 140, pl. 18, figs. 2a-c; *C. lobatulus* (Walker and

- Jacob). Kitazato, 1986, pl. 1, figs. 7-9; Kitazato, 1988a, p. 824, pl. 2, figs. 13-15, 24; Hatta and Ujiié, 1992b, p. 188, pl. 37, figs. 4a-5c; Matoba and Fukasawa, 1992, p. 221, figs. 10-1a-c: *C. praecinctus* (Karrer). Akimoto, 1990, p. 195, pl. 23, fig. 4: *C. pseudoungerianus* (Cushman). Konda, 1987, pl. 2, figs. 5a-c; Hasegawa, 1988, pl. 2, figs. 10a-c: *C. refulgens* de Montfort. Akimoto, 1990, p. 195, pl. 23, fig. 5; Kosugi et al., 1991, figs. 7-12-14; Ujiié and Rifardi, 1993, p. 126, pl. 4, figs. 2a-c; Ujiié, 1995, p. 68, pl. 11, figs. 1a-c: *C. robertsonianus* (Brady). Inoue, 1989a, pl. 18, fig. 14a, b; C. sp. A. Ujiié, 1995, p. 68, pl. 11, figs. 2a-c: *C. subhaidingerii* Parr. Konda, 1987, pl. 2, figs. 4a-c; Inoue, 1989a, pl. 21, figs. 1a-c, pl. 31, figs. 1a-c: *C. tenuimargo* (Brady). Akimoto, 1990, p. 195, pl. 23, fig. 6: *C. wuellerstorfi* (Schwager). Akimoto, 1990, p. 195, pl. 23, fig. 7: *C. ? subhaidingerii* (Parr). Oki, 1989a, p. 152, pl. 22, figs. 1a-c: *C. cf. subhaidingerii* (Parr). Hatta and Ujiié, 1992b, p. 187, pl. 35, figs. 6a-c, pl. 36, figs. 1a-c.
- Cibicidoides*** *cicariocosus* (Schwager). Ujiié, 1990, p. 51, pl. 29, figs. 3a-c: *C. mediocris* (Finlay). Akimoto, 1990, p. 195, pl. 20, fig. 3; pl. 23, fig. 2: *C. mundulus* (Brady, Parker and Jones). Ujiié, 1990, p. 51, pl. 30, figs. 1a-c, 2a-c, 3a, c; Ujiié, 1995, p. 66, pl. 9, figs. 2a-c, 3a-c: *C. pachyderma* (Rzehak). Hatta and Ujiié, 1992b, p. 187, pl. 35, figs. 5a-c; Ujiié, 1995, p. 67, pl. 9, figs. 5a-c: *C. pseudoungerianus* (Cushman). Oki, 1989a, p. 151, pl. 21, figs. 5a-f; Ujiié and Rifardi, 1993, p. 125, pl. 4, figs. 1a-c: *C. robertsonianus* (Brady). Ujiié, 1990, p. 52, pl. 30, figs. 4a-c, 5a-c, pl. 31, figs. 1a-c: *C. sp.* Oki, 1989a, p. 152, pl. 22, figs. 2a, b.
- Clavulina*** *difformis* Brady. Hatta and Ujiié, 1992a, p. 60, pl. 3, figs. 6a, b: *C. pacifica* Cushman. Hatta and Ujiié, 1992a, p. 61, pl. 3, figs. 7a, b: *C. cf. parisiensis* d'Orbigny. Oki, 1989a, p. 84, pl. 4, figs. 8a, b: *C. yabei akiensis* Asano. Inoue, 1989a, pl. 19, fig. 8.
- Clavulinoides*** aff. *indiscreta* (Bady). Hatta and Ujiié, 1992a, p. 60, pl. 3, figs. 3a, b.
- Conicospirillinooides*** *semidecoratus* (Heron-Allen and Earland). Hatta and Ujiié, 1992b, p. 163, pl. 51, figs. 6a-c.
- Conorbella*** *pulvinata* (Brady). Hatta and Ujiié, 1992b, p. 184, pl. 34, figs. 1a-c.
- Cornuspira*** *involvens* (Reuss). Hatta and Ujiié, 1992a, p. 61, pl. 4, figs. 1a-c.
- Coronatoplanulina*** *okinawaensis* Ujiié, 1990, p. 36, pl. 17, figs. 6a-c, text-figs. 2a, c. (n. gen. et n. sp.)
- Criobaggina*** *reniformis* (Heron-Allen and Earland). Hatta and Ujiié, 1992b, p. 179, pl. 29, figs. 5a-c.
- Criboelphidium*** aff. *articulatum* (d'Orbigny). Hatta and Ujiié, 1992b, p. 202, pl. 49, figs. 1a, b: *C. okinawaense* Ujiié and Rifardi, 1993, p. 126, pl. 6, figs. 1-7. (n. sp.): *C. ? reticulosum* (Cushman). Hatta and Ujiié, 1992b, p. 202, pl. 49, figs. 2a, b.
- Cribromiliolinella*** *milletti* (Cushman). Hatta and Ujiié, 1992a, p. 69, pl. 9, figs. 4a-5c.
- Cribrorobulina*** *serpens* (Seguenza). Akimoto, 1990, p. 195, pl. 22, fig. 2; Akimoto et al., 1990, p. 108, p. 114, fig. 5.
- Crirostomoides*** *canariensis* (d'Orbigny). Nomura and Seto, 1992, p. 229, fig. 14, nos. 1a-c: *C. columbiense* (Cushman). Inoue, 1989a, pl. 29, figs. 1a, b: *C. crassimargo* (Norman). Nomura, 1988, p. 867, pl. 2, fig. 2; Inoue, 1989b, pl. 2, figs. 11a, b: *C. evoluta* (Natland). Inoue, 1989a, pl. 29, figs. 9a, b; Matoba and Fukasawa, 1992, p. 219, figs. 6-14a, b: *C. jeffreysii* (Williamson). Matoba and Honma, 1986, p. 62, pl. 2, figs. 1a, b; Inoue, 1989b, pl. 2, figs. 12a, b; Oki, 1989a, p. 72, pl. 1, figs. 14a, b: *C. kosterensis* (Höglund). Oki, 1989a, p. 73, pl. 2, figs. 1a, b: *C. satsumaensis* Oki, 1989a, p. 73, pl. 2, figs. 2a, b (n. sp.): *C. scitulum* (Brady). Inoue, 1989b, pl. 2, fig. 3a: *C. cf. subglobosum* (G.O.Sars). Inoue, 1989a, pl. 25, figs. 7a-c: *C. sp. 1.* Oki, 1989a, p. 73, pl. 2, figs. 3a, b: *C. sp. 2.* Oki, 1989a, p. 73, pl. 2, fig. 4: *C. sp. 3.* Oki, 1989a, p. 74, pl. 2, fig. 5: *C. subglobosum* (G.O.Sars). Inoue, 1989a, pl. 29, figs. 3a, b.
- Cushmanina*** ? sp. A. Hatta and Ujiié, 1992b, p. 168, pl. 23, figs. 2, 3.
- Cyclammina*** *bradyi* Cushman. Akimoto, 1990, p. 195, pl. 13, fig. 7: *C. cancellata* Brady. Kato, 1992, p. 389, pl. 1, figs. 3a, b.
- Cycloclypeus*** *carpenteri* Brady. Hatta and Ujiié, 1992b, p. 204, pl. 50, figs. 2, 3a, b.
- Cyclogyra*** *planorbis* (Schultze). Kitazato et al., 1982; Oki, 1989a, p. 85, pl. 4, fig. 9.
- Cylindroclavulina*** *bradyi* (Cushman). Hatta and Ujiié, 1992a, p. 61, pl. 3, figs. 8a, b, pl. 19, fig. 8.

- Cymbaloporella tabellaeformis* (Brady). Hatta and Ujiié, 1992b, p. 190, pl. 39, figs. 2a-3c.
- Cymbaloporella bradyi* (Cushman). Hatta and Ujiié, 1992b, p. 190, pl. 39, figs. 4a-c, pl. 40, figs. 1a-c; Nomura and Seto, 1992, p. 239, fig. 16, nos. 8a-c; *C. hemisphaerica* Accordi and Selmi. Oki, 1989a, p. 141, pl. 18, figs. 4a-f; *C. plana* (Cushman). Hatta and Ujiié, 1992b, p. 190, pl. 40, figs. 2a-c, 5, 6; *C. squamosa* (d'Orbigny). Hatta and Ujiié, 1992b, p. 190, pl. 40, figs. 3a-c.
- Cystamina galeata* (Brady). Akimoto, 1990, p. 196, pl. 11, fig. 10; *C. pauciloculata* (Brady). Ujiié, 1990, p. 13, pl. 2, figs. 1, b.
- Dendritina striata* Hofker. Hatta and Ujiié, 1992a, p. 78, pl. 15, figs. 4a-6b; *D. zhengae* Ujiié, in Hatta and Ujiié, 1992a, p. 78, pl. 15, figs. 2a-3b (new name).
- Dendrophyra arborescens* (Norman). Ujiié, 1995, p. 54, pl. 1, figs. 11, 12.
- Dentalina communis* d'Orbigny. Ujiié, 1990, p. 17, pl. 4, figs. 8a, b, 9; *D. curta* Ujiié, 1990, p. 17, pl. 4, figs. 10, 11a, b. (n. sp.): *D. emaciata* Reuss. Oki, 1989a, p. 93, pl. 6, fig. 5; *D. vertebralis* (Batsch). Oki, 1989a, p. 94, pl. 6, fig. 6.
- Discamina compressa* (Goës). Matoba and Honma, 1986, p. 61, pl. 2, figs. 3a, b; Inoue, 1989a, pl. 29, figs. 2a, b; Matoba and Fukasawa, 1992, p. 221, figs. 7-1a, b; *D. sp.* Inoue, 1989a, pl. 18, fig. 11a, b.
- Discanomalina semipunctata* (Bailey). Inoue, 1989a, pl. 21, figs. 6a-c.
- Discorbinella bertheloti* (d'Orbigny). Oki, 1989a, p. 123, pl. 13, figs. 2a-c; *D. convexa* (Takayanagi). Oki, 1989a, p. 124, pl. 13, figs. 3a-h; Akimoto, 1990, p. 196, pl. 18, fig. 4.
- Discorbinoides minogasaformis* Ujiié, in Hatta and Ujiié, 1992b, p. 185, pl. 34, figs. 2a-3c. (n. sp.): *D. minogasaformis* Ujiié, var. Ujiié and Rifardi, 1993, p. 125, pl. 3, figs. 7a-c
- Discorbis candeiana* (d'Orbigny). Oki, 1989a, p. 122, pl. 12, figs. 12a-d; *D. mira* Cushman. Oki, 1989a, p. 122, pl. 13, figs. 1a-h.
- Dorothia scabra* (Brady). Matoba and Honma, 1986, p. 61, pl. 3, figs. 7a, b; Hasegawa, 1988, pl. 1, figs. 7a, b; Inoue, 1989, pl. 29, fig. 11; Matoba and Fukasawa, 1992, p. 221, figs. 8-6a, b; *D. sp.* Inoue, 1989a, pl. 25, figs. 15a, b; Ujiié, 1990, p. 13, pl. 2, figs. 2a-c, 9; "*D. exilis* Cushman". Matoba and Honma, 1986, p. 61, pl. 3, figs. 8a, b; *D. cf. exilis* Cushman. Matoba and Fukasawa, 1992, p. 221, figs. 8-5a, b.
- Dyocibicides biserialis* Cushman and Valentine. Inoue, 1989a, pl. 20, fig. 3.
- Echigoina hataii* Matsunaga. Kato, 1992, p. 392, pl. 4, figs. 11a, b.
- Edentostomina cultrata* (Brady). Hatta and Ujiié, 1992a, p. 63, pl. 5, figs. 2a-c.
- Eggerella advena* (Cushman). Matoba and Honma, 1986, p. 60, pl. 3, figs. 10a, b; Inoue, 1989a, pl. 23, fig. 5; Oki, 1989a, p. 83, pl. 4, fig. 5; Inoue, 1989b, pl. 2, fig. 5; Matoba and Fukasawa, 1992, p. 221, figs. 8-10; *E. bradyi* (Cushman). Inoue, 1989a, pl. 26, figs. 8a, b; Ujiié, 1990, p. 13, pl. 2, figs. 3a, b, 4a, b, 5a, b; Ujiié, 1995, p. 58, pl. 3, figs. 4a, b; *E. media* (Höglund). Matoba and Honma, 1986, p. 61, pl. 3, figs. 9a, b; Matoba and Fukasawa, 1992, p. 221, figs. 8-9; *E. minuta* Oki, 1989a, p. 84, pl. 4, fig. 6. (n. sp.): *E. propinqua* (Brady). Matoba and Fukasawa, 1992, p. 221, figs. 8-11; *E. scabra* (Williamson). Konda, 1987, pl. 1, figs. 11, 12; Oki, 1989a, p. 84, pl. 4, figs. 7a, b; Inoue, 1989a, pl. 29, figs. 12a, b; Kamemaru, 1996, p. 6, fig. 19, nos. 11, 14; *E. sp.* B. Matoba and Fukasawa, 1992, p. 221, figs. 8-7a, b, 8a, b.
- Ehrenbergina carinata* Eade. Ujiié, 1990, p. 40, pl. 20, figs. 1a-c, 2a-c; *E. cf. decorata* Takayanagi. Ujiié, 1990, p. 41, pl. 20, figs. 6a-c; *E. hystrix* Brady. Akimoto, 1990, p. 197, pl. 15, fig. 7; pl. 19, fig. 4; *E. notoensis* Asano. Ujiié, 1990, p. 40, pl. 20, figs. 3a-c, 4a-c, 5a-c; *E. pacifica* Cushman. Inoue, 1989a, pl. 22, figs. 11a, b; Akimoto, 1990, p. 197, pl. 19, fig. 7.
- Eilohedra levicula* (Resig). Oki, 1989a, p. 126, pl. 14, figs. 2a-e; Ujiié, 1995, p. 67, pl. 10, figs. 2a-c; *E. nipponica* (Kuwano). Hasegawa, 1988, pl. 2, figs. 7a-c; Inoue, 1989b, pl. 1, figs. 11a-c; Nomura and Seto, 1992, p. 239, fig. 16, nos. 6a, b; *E. rotunda* (Husezima and Maruhasi). Kato, 1992, p. 391, pl. 3, figs. 1a-c; *E. weddellensis* (Earland). Inoue, 1989a, pl. 27, figs. 10a-c.
- Elphidium advenum* (Cushman). Inoue, 1989a, pl. 20, figs. 5a, b; Oki, 1989a, p. 133, pl. 16, figs. 2a, b; Akimoto, 1990,

p. 197, pl. 17, fig. 1; Hatta and Ujiié, 1992b, p. 203, pl. 49, figs. 3a-4b; Oki and Yamamoto, 1992, p. 200, fig. 5-5; Matoba and Fukasawa, 1992, p. 221, figs. 11-10a, b: *E. articulatum* (d'Orbigny). Oki, 1989a, p. 134, pl. 16, figs. 3a, b: *E. batialis* Saidova. Inoue, 1989a, pl. 33, figs. 6a, b: *E. cf. selseyensis* (Heron-Allen and Earland). Oki, 1989a, p. 136, pl. 16, figs. 9a-c: *E. cf. subarcticum* Cushman. Nomura and Yoshikawa, 1995, p. 43, pl. 1, fig. 6: *E. clavatum* Cushman. Kato, 1992, p. 392, pl. 4, figs. 12a, b; Oki and Yamamoto, 1992, p. 200, figs. 5-6a, b; Matoba and Fukasawa, 1992, p. 221, figs. 11-7a, b: *E. crispum* (Linné). Matoba and Honma, 1986; Kitazato, 1986, pl. 1, figs. 5, 6; Kitazato, 1988a, p. 824, pl. 2, figs. 8, 9; Inoue, 1989a, pl. 30, figs. 5a, b; Oki, 1989a, p. 134, pl. 16, figs. 4a, b; Ujiié, 1990, p. 34, pl. 32, figs. 5a, b; Kosugi et al., 1991, figs. 7-15, 16; Nomura and Seto, 1992, p. 239, fig. 16, no. 1; Hatta and Ujiié, 1992b, p. 203, pl. 49, figs. 5a, b; Kamemaru, 1996, p. 7, fig. 20, nos. 11, 12; Matoba and Fukasawa, 1992, p. 221, figs. 11-9a, b: *E. depressulum* Cushman. Oki, 1989a, p. 135, pl. 16, fig. 5: *E. excavatum* (Terquem). Nomura and Seto, 1992, p. 239, fig. 15, nos. 11a, b: *E. excavatum excavata* (Terquem). Kosugi et al., 1991, figs. 6-6, 7: *E. excavatum selseyensis* (Heron-Allen and Earland). Takayanagi and Hasegawa, 1986, pl. 1, fig. 12: *E. hispidulum* Cushman. Oki and Yamamoto, 1992, p. 200, fig. 5-7: *E. incertum* (Williamson). Oki and Yamamoto, 1992, p. 200, fig. 5-8: *E. jenseni* (Cushman). Inoue, 1989a, pl. 30, figs. 2a, b; Oki, 1989a, p. 135, pl. 16, figs. 6a-c; Nomura and Seto, 1992, p. 239, fig. 16, nos. 5a, b; Hatta and Ujiié, 1992b, p. 203, pl. 49, figs. 6a, b: *E. kaneharai*. Ishiwada. Kosugi et al., 1991, figs. 5-12, 13: *E. kusiroense* Asano. Nomura and Seto, 1992, p. 239, fig. 16, nos. 4a, b: *E. matsukawauraense* Takayanagi. Nomura and Seto, 1992, p. 239, fig. 16, no. 3: *E. oceanicum* Cushman. Oki, 1989a, p. 135, pl. 16, figs. 7a, b; Oki and Yamamoto, 1992, p. 201, figs. 5-9a, b: *E. pacificum* (Ujiié). Ujiié and Rifardi, 1993, p. 127, pl. 6, figs. 1a, b: *E. poeyanum* (d'Orbigny). Oki, 1989a, p. 136, pl. 16, fig. 8: *E. somaense* (Takayanagi). Nomura and Seto, 1992, p. 237, fig. 16, nos. 2a, b; Kamemaru, 1996, p. 7, fig. 20, nos. 5, 6; Oki and Yamamoto, 1992, p. 201, figs. 5-10a, b: *E. sp. 1*. Oki, 1989a, p. 136, pl. 16, figs. 11a, b: *E. sp. 2*. Oki, 1989a, p. 137, pl. 16, figs. 12a, b: *E. striatopunctatum* (Fichtel and Moll). Ujiié and Rifardi, 1993, p. 127, pl. 5, figs. 4a, b: *E. subarcticum* Cushman. Kato, 1992, p. 392, pl. 4, figs. 13a, b; Kamemaru, 1996, p. 7, fig. 20, nos. 7, 8; Oki and Yamamoto, 1992, p. 201, figs. 5-11a, b: *E. subgranulosum* Asano. Kamemaru, 1996, p. 7, fig. 20, nos. 9, 10; Matoba and Fukasawa, 1992, p. 221, figs. 11-8a, b: *E. subgranulosum aureum* Aoki. Oki and Yamamoto, 1992, p. 201, fig. 5-12: *E. subincertum* Asano. Konda, 1987; Oki, 1989a, p. 136, pl. 16, fig. 10.

Entomorphinoides ? aff. *separata* McCulloch. Ujiié, 1990, p. 21, pl. 7, figs. 1a, b, 2.

Eoepionidella sp. 1. Oki, 1989a, p. 124, pl. 13, figs. 4a-c; *E. sp. 3*. Oki, 1989a, p. 124, pl. 13, figs. 5a-f.

Epistomaroides polystomelloides (Parker and Jones). Hatta and Ujiié, 1992b, p. 194, pl. 42, figs. 2a-c.

Epistominella exigua (Brady). Inoue, 1989a, pl. 18, fig. 12a, b, pl. 26, figs. 2a-c; Ujiié, 1990, p. 32, pl. 14, figs. 1a-c; Xu and Ujiié, 1994, p. 518, figs. 7-1, 2; Ujiié, 1995, p. 67, pl. 10, figs. 3a-c: *E. kuwanoi* Oki, 1989a, p. 125, pl. 14, figs. 1a-g. (n. sp.): *E. levicula* Resig. Xu and Ujiié, 1994, p. 518, fig. 7-3: *E. naraensis* (Kuwano). Inoue, 1989b, pl. 1, figs. 7a-c: *E. pulchella* Husezima and Maruhasi. Inoue, 1989a, pl. 33, figs. 14a, b; Kato, 1992, p. 391, pl. 3, figs. 2a-c, 3a-c, 4a-c: *E. pulchra* (Cushman). Hatta and Ujiié, 1992b, p. 187, pl. 36, figs. 2a-c: *E. sp.* Ujiié, 1990, p. 32, pl. 14, figs. 2a-c.

Eponides lamarckianus (d'Orbigny). Ujiié, 1990, p. 35, pl. 16, figs. 7a-c, 8a-c, Xu and Ujiié, 1994, p. 518, fig. 7-5; Ujiié, 1995, p. 65, pl. 7, figs. 7a-c: *E. polius* Phleger and Parker. Ujiié, 1990, p. 34, pl. 16, figs. 1a, c, 2a-c: *E. pusillus* Parr. Ujiié, 1990, p. 34, pl. 16, figs. 3a, b: *E. repandus* (Fichtel and Moll). Inoue, 1989a, pl. 21, figs. 2a, b; Hatta and Ujiié, 1992b, p. 179, pl. 30, figs. 1a-c, 2: *E. tenerus* (Brady). Ujiié, 1990, p. 34, pl. 16, figs. 5a, c, 6, text-fig. 1; Xu and Ujiié, 1994, p. 518, fig. 7-4: *E. ? tenerus* (Brady). Ujiié, 1995, p. 65, pl. 8, figs. 1a-c, 2: *E. tumidulus* (Brady). Inoue, 1989a, pl. 26, figs. 3a-c; Ujiié, 1990, p. 34, pl. 16, figs. 4a-c; Xu and Ujiié, 1994, p. 518, fig. 10-7: *E. porocera* (Brady). Oki, 1989a, p. 138, pl. 17, fig. 3.

Euloxostomum bradyi (Asano). Ujiié and Rifardi, 1993, p. 123, pl. 2, figs. 6a, b.

Eupatellinella bullata Hatta, in Hatta and Ujiié, 1992b, p. 178, pl. 28, figs. 4a, b, 5a-c, 6a, b, 7, 8. (n. gen. et n. sp.)

Eusphaeroidina inflata Ujiié, 1990, p. 29, pl. 11, figs. 6, 7a, b, 8a, b, 9a, b, 10, 11a, b, 12 (n. gen. et n. sp.); Ujiié,

1995, p. 66, pl. 9, fig. 1.

Euuvigerina cf. *yabei* Asano. Takayanagi and Hasegawa, 1986, pl. 1, fig. 6.

Evolvocassidulina bradyi (Norman). Ujiié, 1990, p. 38, pl. 18, figs. 7a, b, 8a, b, 9a, b; *E. brevis* (Aoki). Akimoto, 1990, p. 197, pl. 17, fig. 5; Xu and Ujiié, 1994, p. 518, figs. 9-1, 2; Ujiié, 1995, p. 61, pl. 5, fig. 3; *E. sp. A*. Ujiié, 1990, p. 38, pl. 19, figs. 1a, b; *E. tenuis* (Phleger and Parker). Ujiié, 1990, p. 38, pl. 18, figs. 10a, b, 11a, b, 12b, c, 13, 14.

Favocassidulina favus (Brady). Nomura, 1984, pts. 1, 2; Ujiié, 1990, p. 39, pl. 21, figs. 6a, b, 7a, b, 8a, b; Xu and Ujiié, 1994, p. 518, fig. 8-10.

Favulina hexagona (Williamson). Hatta and Ujiié, 1992b, p. 168, pl. 23, figs. 4a, b.

Fijiella simplex (Cushman). Hatta and Ujiié, 1992b, p. 176, pl. 28, figs. 1a-c; Ujiié, 1995, p. 64, pl. 7, figs. 1a, b.

Fischerina pellucida Millett. Hatta and Ujiié, 1992a, p. 61, pl. 4, figs. 2a-c, pl. 18, fig. 9.

Fissurina agassizi Todd and Bronnimann. Oki, 1989a, p. 102, pl. 8, fig. 1: *F. alveolata* (Brady) var. *A*. Ujiié, 1990, p. 23, pl. 7, figs. 11a, b; *F. alveolata* (Brady). Ujiié, 1990, p. 23, pl. 7, figs. 10a, b; *F. alveolata semisculpta* Parr. Ujiié, 1990, p. 23, pl. 8, figs. 1a, b; *F. annectens* (Burrows and Holland). Oki and Yamamoto, 1992, p. 193, fig. 4-5; *F. barkeri* Ujiié, 1990, p. 23, pl. 7, figs. 12a, b. (n. sp.): *F. biconica* Silvestri. Kato, 1992, p. 389, pl. 1, figs. 12a, b; *F. cf. collifera* Buchner. Ujiié, 1990, p. 25, pl. 9, figs. 2a, b; *F. crebra* (Matthes). Ujiié, 1990, p. 26, pl. 9, figs. 5a, b; *F. cucullata* (Silvestri). Ujiié, 1995, p. 59, pl. 3, figs. 9a, b; *F. cucurbitasema* Loeblich and Tappan. Ujiié, 1990, p. 24, pl. 8, figs. 4a, b; Kosugi et al., 1991, figs. 7-5, 6; Oki and Yamamoto, 1992, p. 193, fig. 4-6a, b; *F. echigoensis* (Asano and Inomata). Kato, 1992, p. 389, pl. 1, figs. 13a, b; *F. exsculpta* (Brady). Ujiié, 1990, p. 24, pl. 8, figs. 5a, b; *F. fimbriata* (Brady). Ujiié, 1990, p. 24, pl. 8, figs. 6a, b; *F. flintiana* (Cushman). Ujiié, 1990, p. 25, pl. 9, figs. 1a, b; *F. lacunata* Burrows and Holland. Hatta and Ujiié, 1992b, p. 168, pl. 23, figs. 5a, b, 6; *F. laevigata* Reuss. Oki, 1989a, p. 103, pl. 8, figs. 2a, b; Ujiié, 1990, p. 25, pl. 8, figs. 9a, b; *F. longifimbriata* Ujiié, 1997, p. 126, pl. 1, figs. 7-10. (n. sp.): *F. marginata* (Montagu). Ujiié, 1995, p. 59, pl. 3, figs. 8a, b; *F. marginato-perforata* (Seguenza). Hatta and Ujiié, 1992b, p. 169, pl. 23, figs. 7a, b; *F. orbignyana* Seguenza. Oki, 1989a, p. 103, pl. 8, figs. 3a, b; *F. palliolata* (Earland). Ujiié, 1990, p. 24, pl. 8, figs. 2a, b, 3a, b; *F. periperforata* Ujiié, 1990, p. 25, pl. 8, figs. 10a, b. (n. sp.): *F. quadricarinata* (Sidebottom). Ujiié, 1990, p. 26, pl. 9, figs. 7a, b; *F. radiata* Seguenza. Ujiié, 1990, p. 25, pl. 8, figs. 7, 8; *F. semimarginata* (Reuss). Oki, 1989a, p. 104, pl. 8, fig. 4; *F. sp. A*. Ujiié, 1990, p. 26, pl. 9, figs. 6a, b; *F. sp. B*. Ujiié, 1990, p. 27, pl. 9, figs. 8a, b; *F. sp.* Oki, 1989a, p. 104, pl. 8, fig. 5; *F. sp.* Matsushita and Kitazato, 1989, pl. 1, figs. 6a, b; *F. sp.* Ujiié, 1990, p. 23, pl. 7, figs. 13a, b; *F. wiesneri* Barker. Oki, 1989a, p. 104, pl. 8, figs. 6a-d; Ujiié, 1990, p. 26, pl. 9, figs. 3a, b, 4a, b; *F. yoshikoeae* Ujiié, 1997, p. 126, pl. 2, figs. 1a, b, 2. (n. sp.)

Flintinoides labiosa (d'Orbigny). Hatta and Ujiié, 1992a, p. 70, pl. 9, figs. 6a, b.

Florilus japonicus (Asano). Konda, 1987; Oki, 1989a, p. 146, pl. 20, figs. 1a-c; *F. manpukuziense* (Otuka). Oki, 1989a, p. 146, pl. 20, figs. 2a, b; *F. ? pauperatus* (Balkwill and Wright). Oki, 1989a, p. 147, pl. 20, figs. 3a-d.

Fontbotia wuellerstorfi (Schwager). Ujiié, 1990, p. 35, pl. 17, figs. 1a-c, 2a-c, 3a-c, 4a-c, 5a-c.

Francesita advena (Cushman). Ujiié, 1990, p. 37, pl. 18, figs. 1a, b, 2a, b, 3a, b.

Fursenkoina cedrosensis (McCulloch). Xu and Ujiié, 1994, p. 518, fig. 8-1; Ujiié, 1995, p. 64, pl. 7, figs. 2a, b; *F. mexicana* (Cushman). Inoue, 1989a, pl. 28, fig. 5; *F. cf. rorundata* (Parr). Matoba and Fukasawa, 1992, p. 221, figs. 9-11a, b; *F. schreibersiana* (Czjzek). Oki, 1989a, p. 142, pl. 18, fig. 5; Ujiié, 1995, p. 64, pl. 7, figs. 3a, b; Oki and Yamamoto, 1992, p. 196, fig. 4-10; *F. sp.* Inoue, 1989a, pl. 33, figs. 11a, b.

Gaudryina exilis Cushman and Bronnimann. Oki, 1989a, p. 82, pl. 4, figs. 3a-c; *G. nitida* Haque. Oki, 1989a, p. 83, pl. 4, figs. 4a, b; *G. pauperata* Earland. Ujiié, 1995, p. 58, pl. 3, figs. 3a, b; *G. sp.* Hatta and Ujiié, 1992a, p. 57, pl. 1, figs. 9a-10b.

Gavelinopsis praegeri (Heron-Allen and Earland). Konda, 1987, pl. 1, figs. 13a, b; Ujiié, 1990, p. 33, pl. 14, figs. 6a-c; Ujiié and Rifardi, 1993, p. 125, pl. 3, figs. 6a-c.

Geminospira bradyi Bermúdez. Hatta and Ujiié, 1992b, p. 170, pl. 24, figs. 6a-c, 7.

Glabratella milletti (Wright). Kitazato, 1986, pl. 2, figs. 7, 8; *G. opercularis*. Kosugi et al., 1991, figs. 7-7-9; *G.*

patelliniformis (Brady). Oki, 1989a, p. 129, pl. 15, figs. 2a-d: *G. sp. 1*. Oki, 1989a, p. 130, pl. 15, figs. 3a-f: *G. sp. 2*. Oki, 1989a, p. 130, pl. 15, figs. 4a-c: *G. subopercularis* (Asano). Kitazato, 1986, pl. 2, figs. 9-13; Kitazato, 1988a, p. 824, pl. 2, figs. 10-12, 23.

Glandulonodosaria calomorpha (Reuss). Ujiié, 1995, p. 58, pl. 3, figs. 6a, b.

Globobulimina auriculata (Bailey). Inoue, 1989a, pl. 32, figs. 8a, b; Kato, 1992, p. 390, pl. 2, figs. 9a, b: *G. hanzawai* Asano. Matoba and Fukasawa, 1992, p. 221, figs. 9-9: *G. pacifica* Cushman. Ujiié, 1990, p. 31, pl. 16, fig. 11; Akimoto, 1990, p. 199, pl. 16, fig. 9; Kato, 1992, p. 390, pl. 2, fig. 10: *G. subaffinis* (Cushman). Kato, 1992, p. 390, pl. 2, figs. 11a, b: *G. turgida* (Bailey). Oki, 1989a, p. 116, pl. 11, figs. 5a-c; Matoba and Fukasawa, 1992, p. 221, figs. 9-8: *G. ? sp.* Hatta and Ujiié, 1992b, p. 173, pl. 26, fig. 5.

Globocassidulina bisecta Nomura. Takayanagi and Hasegawa, 1986, pl. 1, figs. 7a, b; Xu and Ujiié, 1994, p. 518, fig. 8-9; Ujiié, 1995, p. 61, pl. 5, figs. 4a, b: *G. brocha* (Poag). Akimoto, 1990, p. 199, pl. 18, fig. 7: *G. elegans* (Sidebottom). Akimoto, 1990, p. 200, pl. 18, fig. 5; Ujiié, 1995, p. 61, pl. 5, figs. 5a, b: *G. gemma* (Todd). Akimoto, 1990, p. 200, pl. 18, fig. 3: *G. mucronata* Nomura. Akimoto et al., 1990, p. 109, p. 114, figs. 3a, b: *G. murrhyna* (Schwager). Ujiié, 1995, p. 61, pl. 5, fig. 6: *G. oriangulata* Belford. Oki, 1989a, p. 143, pl. 18, figs. 7a-d; Akimoto, 1990, p. 200, pl. 18, fig. 2: *G. paratortuosa* (Kuwano). Akimoto, 1990, p. 200, pl. 18, fig. 8: *G. parva* (Asano and Nakamura). Akimoto, 1990, p. 200, pl. 18, fig. 4: *G. parviapertura* Nomura. Akimoto, 1990, p. 200, pl. 18, fig. 1: *G. sp. A*. Ujiié, 1990, p. 40, pl. 21, figs. 8a, b: *G. sp. B*. Ujiié, 1990, p. 40, pl. 21, figs. 9a, b, 10a, b: *G. subglobosa* (Brady). Ujiié, 1990, p. 39, pl. 21, figs. 4, 5a, b, 6a, b, 7a, b, pl. 22, figs. 1a, b; Inoue, 1989a, pl. 22, figs. 9a, b; Xu and Ujiié, 1994, p. 518, fig. 8-6; Ujiié, 1995, p. 62, pl. 5, fig. 7; Ujiié and Hatta, 1994, p. 13, pl. 2, fig. 5: *G. venustas* Nomura. Oki, 1989a, p. 143, pl. 18, figs. 8a-b.

Glomospira charoides (Jones and Parker). Matoba and Honma, 1986, p. 62, pl. 1, fig. 10; Inoue, 1989a, p. 146, pl. 25, fig. 8; Akimoto, 1990, p. 201, pl. 11, fig. 7; pl. 13, fig. 6; Akimoto et al., 1990, p. 107, p. 112, fig. 8: *G. cf. charoides* (Jones and Parker). Ujiié, 1990, p. 12, pl. 1, figs. 1a-c: *G. gordialis* (Jones and Parker). Inoue, 1989a, pl. 25, figs. 4a, b; Oki, 1989a, p. 68, pl. 1, figs. 6a, b; Akimoto, 1990, p. 201, pl. 11, fig. 8; pl. 13, fig. 5; Akimoto et al., 1990, p. 107, p. 112, fig. 7.

Goesella iizukae Takayanagi. Matsushita and Kitazato, 1989, pl. 1, figs. 4a, b.

Guttulina communis (d'Orbigny). Oki, 1989a, p. 99, pl. 7, figs. 7a, b: *G. regina* (Brady, Parker and Jones). Oki, 1989a, p. 100, pl. 7, fig. 8.

Gypsina galapagosensis McCulloch. Hatta and Ujiié, 1992b, p. 192, pl. 41, figs. 6a-c.

Gyroidina altiformis R.E. and K.C. Stewart. Inoue, 1989a, pl. 22, figs. 1a-c: *G. cushmani* Boomgaart. Akimoto, 1990, p. 201, pl. 21, fig. 3: *G. orbicularis* d'Orbigny. Inoue, 1989a, pl. 22, figs. 2a-c, pl. 28, figs. 14a, b; Akimoto et al., 1990, p. 109, p. 114, figs. 4a-c: *G. soldanii* d'Orbigny. Akimoto, 1990, p. 201, pl. 24, fig. 5: *G. cf. subtenera* (Galloway and Wissler). Inoue, 1989a, pl. 28, figs. 15a, b: *G. sp. A*. Ujiié, 1990, p. 47, pl. 27, figs. 3, 4b, c, 5, 6b, c, 7a-c: *G. sp. A*. Xu and Ujiié, 1994, p. 518, fig. 9-9.

Gyroidinoides acuta Boomgaart. Oki, 1989a, p. 149, pl. 21, figs. 1a-c: *G. altispira* (Cushman and Stainforth). Inoue, 1989a, pl. 18, fig. 13a, b: *G. kawagatai* Ujiié, 1995, p. 73, pl. 14, figs. 3a-c, 4. (n. sp.): *G. kuwanoi* Oki, 1989a, p. 150, pl. 21, figs. 2a-c. (n. sp.): *G. neosoldanii* (Brotzen). Inoue, 1989a, pl. 26, figs. 4a-c; Ujiié, 1990, p. 46, pl. 25, figs. 6a, c, pl. 26, figs. 1b, c, 2: *G. nipponicus* (Ishizaki). Oki, 1989a, p. 150, pl. 21, figs. 3a-c; Inoue, 1989a, pl. 31, figs. 11a, b; Ujiié, 1990, p. 47, pl. 27, figs. 1a-c; Akimoto, 1990, p. 201, pl. 21, fig. 4; Matoba and Fukasawa, 1992, p. 221, figs. 10-9a-c: *G. orbicularis* (d'Orbigny). Ujiié, 1990, p. 46, pl. 26, figs. 3, 4a-c, 5a-c, 6, 7a-c: *G. soldanii* (d'Orbigny). Ujiié, 1990, p. 45, pl. 25, figs. 1a-c, 2, 3a, c, 4a-c, 5a-c: *G. sp. A*. Ujiié, 1990, p. 47, pl. 27, figs. 2a-c: *G. sp. B*. Ujiié, 1990, p. 47, pl. 27, figs. 8a-c.

Hansenisca soldanii (d'Orbigny). Ujiié, 1995, p. 73, pl. 14, figs. 5a-c.

Hanzawaia nipponica Asano. Konda, 1987, pl. 2, figs. 8a, b; Inoue, 1989a, pl. 20, figs. 10a-c; Oki, 1989a, p. 152, pl. 22, figs. 3a-d; Akimoto, 1990, p. 201, pl. 20, fig. 4; Matoba and Fukasawa, 1992, p. 221, figs. 10-10a-c.

- Haplophragmoides bradyi*** (Robertson). Inoue, 1989a, pl. 23, figs. 8a, b, pl. 29, figs. 10a, b; *H. bradyi niigataensis* Uchio. Matoba and Fukasawa, 1992, p. 219, figs. 6-13a, b; *H. canariensis* (d'Orbigny). Nomura and Yoshikawa, 1995, pl. 1, figs. 3a, b, 7; *H. columbiensis* Cushman. Akimoto, 1990, p. 201, pl. 11, fig. 2; pl. 13, fig. 8; *H. manilaensis* Andersen. Scott et al., 1995, p. 292, figs. 6-3, 4; *H. rotulatum* (Brady). Inoue, 1989a, pl. 25, figs. 5a, b; *H. sphaeriloculum* Cushman. Matoba and Honma, 1986, p. 62, pl. 2, figs. 2a, b; Akimoto et al., 1990, p. 107, p. 112, figs. 3a-c; Ujiié, 1995, p. 56, pl. 2, figs. 1a, b; *H. sp. D.* Matoba and Fukasawa, 1992, p. 219, fig. 6-12a, b.
- Hauerina diversa*** Cushman. Hatta and Ujiié, 1992a, p. 65, pl. 6, figs. 3a, b; *H. pacifica* Cushman. Hatta and Ujiié, 1992a, p. 65, pl. 6, figs. 4a, b.
- Haynesina germanica*** (Ehrenberg) Takayanagi and Hasegawa, 1986, pl. 1, figs. 11a, b; *H. sp. A.* Hasegawa, 1988, pl. 2, figs. 11a, b; *H. sp.* Kosugi et al., 1991, figs. 5-10, 11.
- Heronallenia*** ? sp. Ujiié, 1990, p. 34, pl. 16, figs. 9a-c.
- Heterillina guespellensis*** Schlumberger. Nomura and Seto, 1992, p. 239, fig. 15, nos. 7a, b.
- Heterolepa margaritifera*** (Brady). Oki, 1989a, p. 153, pl. 22, figs. 4a-c; *H. subhaidingeri* (Parr). Akimoto, 1990, p. 201, pl. 23, fig. 3.
- Heterostegina depressa*** d'Orbigny. Hatta and Ujiié, 1992b, p. 204, pl. 50, figs. 4a, b; *H. longisepta* Zheng. Hatta and Ujiié, 1992b, p. 204, pl. 50, figs. 5a, b, 6.
- Hoeglundina elegans*** (d'Orbigny). Takayanagi and Hasegawa, 1986, pl. 2, fig. 11; Inoue, 1989a, pl. 21, figs. 5a, b, pl. 31, figs. 13a, b; Oki, 1989a, p. 153, pl. 22, figs. 7a-c; Ujiié, 1990, p. 53, pl. 32, figs. 3a-c, 4a-c; Akimoto, 1990, p. 202, pl. 21, fig. 7; pl. 24, fig. 6; Hatta and Ujiié, 1992b, p. 170, pl. 24, figs. 3a-c.
- Homalohedra costata*** (Williamson). Ujiié, 1995, p. 59, pl. 3, figs. 7a, b.
- Hopkinsina glabra*** (Millett). Oki, 1989a, p. 120, pl. 12, fig. 6; Oki and Yamamoto, 1992, p. 197, figs. 5-3a, b; *H. kuwanoi* Oki, 1989a, p. 120, pl. 12, figs. 7a-c. (n. sp.)
- Hormosinella guttifera*** (Brady). Ujiié, 1995, p. 55, pl. 1, figs. 19a, b.
- Hyalinea balthica*** (Schroeter). Inoue, 1989a, pl. 28, fig. 9, pl. 31, fig. 12; Oki, 1989a, p. 139, pl. 17, figs. 6a-d; Akimoto, 1990, p. 202, pl. 20, fig. 5; Ujiié, 1995, p. 68, pl. 10, figs. 4a, b, 6a, b; *H. inflata* Ujiié and Kusukawa. Oki, 1989a, p. 139, pl. 18, figs. 1a-d.
- Hyperammia elongata*** Brady. Matoba and Honma, 1986, pl. 1, figs. 5, 6; *H. friabilis* Brady. Matoba and Honma, 1986, p. 62, pl. 1, fig. 4; *H. laevigata* Wright. Matoba and Honma, 1986, pl. 1, fig. 7; *H. rugosa* Verdenius and van Hinte. Ujiié, 1995, p. 55, pl. 1, figs. 13a, b; *H. squamosa* Ujiié, 1995, p. 55, pl. 1, figs. 9, 10a, b. (n. sp.).
- Ioanella tumidula*** (Brady). Ujiié, 1995, p. 66, pl. 8, figs. 5a-c.
- Islandiella elegans*** (Sidebottom). Ujiié, 1990, p. 37, pl. 19, figs. 9a, b, 10a, b; *I. norvangi* Thalmann. Inoue, 1989a, pl. 23, figs. 10a, b, pl. 32, figs. 14a, b, pl. 33, figs. 10a, b; Inoue, 1989b, pl. 1, figs. 9a, b; *I. sp. A.* Ujiié, 1995, p. 62, pl. 5, figs. 1a, b, 2a, b?; *I. sp.* Inoue, 1989a, pl. 22, figs. 10a, b.
- Karrieriella apicularis*** (Cushman). Ujiié, 1990, p. 14, pl. 1, figs. 2a, b; Akimoto, 1990, p. 202, pl. 12, fig. 2; *K. baccata* (Schwager). Inoue, 1989a, pl. 24, figs. 8a, b; *K. baccata japonica* Asano. Inoue, 1989b, pl. 2, figs. 2a, b; Kato, 1992, p. 389, pl. 1, figs. 4a, b; *K. hanzawai* (Takayanagi). Ujiié, 1990, p. 13, pl. 2, figs. 6a, b, 7a, b, 8a, b; Xu and Ujiié, 1994, p. 516, fig. 6-1.
- Labrospira jeffreysi*** (Williamson). Ujiié, 1995, p. 56, pl. 2, figs. 2a, b; *L. kosterense* Höglund. Hatta and Ujiié, 1992a, p. 55, pl. 1, figs. 4a, b.
- Lagena alticostata*** Cushman. Ujiié, 1990, p. 19, pl. 5, figs. 12a, b; *L. amphora* Reuss. Oki, 1989a, p. 94, pl. 6, fig. 7; *L. apiopleura* Loeblich and Tappan. Ujiié, 1990, p. 20, pl. 7, fig. 3; *L. distoma* Parker and Jones. Oki, 1989a, p. 95, pl. 6, fig. 8; *L. elongata* (Ehrenberg). Oki, 1989a, p. 95, pl. 6, fig. 9; *L. gibbera* Buchner. Ujiié, 1990, p. 18, pl. 5, fig. 1; *L. gracilis* Williamson var. Ujiié, 1990, p. 17, pl. 4, fig. 13; *L. gracilis* Williamson. Inoue, 1989a, pl. 33, figs. 9a, b; *L. gracillima* (Seguenza). Ujiié, 1990, p. 17, pl. 4, fig. 14; *L. hispida* Reuss. Ujiié, 1990, p. 18, pl. 5, fig. 2; *L. hispidula* Cushman. Oki, 1989a, p. 95, pl. 6, fig. 10; Ujiié, 1990, p. 18, pl. 5, fig. 3; *L. laevis* (Montagu). Akimoto, 1990,

- p. 202, pl. 19, fig. 17; Kato, 1992, p. 389, pl. 1, fig. 10: *L. nebulosa* Cushman. Ujiié, 1990, p. 18, pl. 5, fig. 5: *L. ornata* Reuss. Oki and Yamamoto, 1992, p. 193, fig. 4-1: *L. paradoxa* Sidebottom. Ujiié, 1990, p. 18, pl. 5, fig. 6: *L. quadricostata* Ujiié, 1990, p. 17, pl. 4, fig. 12. (n. sp.): *L. semilineata satsumaensis* Oki and Yamamoto, 1992, p. 193, fig. 4-3a, b (n. subsp.): *L. setigera* Millett. Oki, 1989a, p. 95, pl. 6, fig. 11; Oki and Yamamoto, 1992, p. 193, fig. 4-4: *L. sp. 1.* Oki, 1989a, p. 96, pl. 7, fig. 2: *L. sp. A.* Hatta and Ujiié, 1992b, p. 167, pl. 22, figs. 4a, b: *L. sp.* Ujiié, 1990, p. 18, pl. 5, fig. 4: *L. cf. spinigera* (Earland). Ujiié, 1990, p. 19, pl. 5, fig. 13: *L. stelligera* Brady. Ujiié, 1990, p. 19, pl. 5, fig. 11: *L. strumosa* Reuss. Hatta and Ujiié, 1992b, p. 167, pl. 22, figs. 5a, b: *L. substriata* Williamson var. Ujiié, 1990, p. 19, pl. 5, fig. 8: *L. substriata* Williamson. Ujiié, 1990, p. 19, pl. 5, fig. 7: *L. cf. substriata* Williamson. Oki, 1989a, p. 96, pl. 7, fig. 1: *L. sulcata spicata* Cushman and McCulloch. Kosugi et al., 1991, figs. 7-4: *L. tricaritortuosa* Ujiié, Ichikura and Kurihara. Kato, 1992, p. 389, pl. 1, figs. 11a, b: *L. ? sp.* Ujiié, 1990, p. 20, pl. 5, fig. 14.
- Lagenammia atlantica* (Cushman). Ujiié, 1995, p. 55, pl. 1, figs. 16a, b: *L. kagoshimaensis* Oki, 1989a, p. 66, pl. 1, figs. 2a-c. (n. sp.): *L. tubulata* (Rhumbler). Matoba and Honma, 1986, p. 62, pl. 1, fig. 3: *L. sp. A.* Matoba and Fukasawa, 1992, p. 219, fig. 6-1.
- Lamarekina ventricosa* (Brady). Inoue, 1989a, pl. 21, figs. 7a, b; Hatta and Ujiié, 1992b, p. 169, pl. 24, figs. 4a-c: *L. sp.* Oki, 1989a, p. 153, pl. 22, fig. 6.
- Laticarinina pauperata* (Parker and Jones). Ujiié, 1990, p. 33, pl. 14, figs. 3a-c, 4a, c: *L. calcar* (Linné.) Oki, 1989a, p. 97, pl. 7, figs. 3a, b.
- Lenticulina limbosa* (Reuss). Ujiié, 1990, p. 20, pl. 6, figs. 1a, b; Hatta and Ujiié, 1992b, p. 165, pl. 21, figs. 2a-c: *L. sp. 1.* Oki, 1989a, p. 98, pl. 7, fig. 4: *L. sp. 2.* Oki, 1989a, p. 98, pl. 7, figs. 5a, b.
- Lernella inflata* (LeRoy). Oki, 1989a, p. 144, pl. 19, figs. 2a-c: *L. ogasawarai* Nomura. Oki, 1989a, p. 144, pl. 19, figs. 3a-c: *L. sp. A.* Ujiié, 1990, p. 39, pl. 19, figs. 2a, b, 3a, b, 4a, b: *L. sp. B.* Ujiié, 1990, p. 39, pl. 19, figs. 5a, b.
- Linaresia semicribrata* (Beckmann). Ujiié, 1990, p. 50, pl. 29, figs. 5a-c, 6a-c.
- Lingulina carinata* d'Orbigny. Hatta and Ujiié, 1992b, p. 165, pl. 21, figs. 1a, b.
- Loxostomina durrandii* (Millett). Hatta and Ujiié, 1992b, p. 174, pl. 26, figs. 10a, b: *L. limbatum costulatum* (Cushman). Hatta and Ujiié, 1992b, p. 174, pl. 26, figs. 8, 9.
- Loxostomum karreianum* (Brady). Inoue, 1989a, pl. 28, fig. 3, pl. 31, figs. 10a, b.
- Marginopora vertebralis* Quoy and Gaimard. Hatta and Ujiié, 1992a, p. 80, pl. 17, figs. 7a, b, pl. 18, fig. 7.
- Marginulina cf. obesa* Cushman. Ujiié, 1990, p. 20, pl. 6, figs. 2a, b, 3: *M. ? sp.* Ujiié, 1990, p. 21, pl. 6, figs. 8, 9a, b.
- Marsipella cylindrica* Brady. Matoba and Honma, 1986, p. 61, pl. 1, fig. 2; Inoue, 1989a, pl. 18, fig. 6; Akimoto et al., 1990, p. 107, p. 112, fig. 11: *M. dextrospiralis* Chapman and Parr. Ujiié, 1995, p. 54, pl. 1, fig. 3: *M. elongata* Norman. Inoue, 1989a, pl. 18, fig. 2; Akimoto et al., 1990, p. 107, p. 112, fig. 13; Akimoto, 1990, p. 203, pl. 12, fig. 9; Ujiié, 1995, p. 54, pl. 1, fig. 4: *M. sp.* Inoue, 1989a, pl. 18, fig. 5.
- Martinottiella communis* (d'Orbigny). Inoue, 1989a, pl. 28, fig. 7, pl. 29, fig. 7; Kato, 1992, p. 389, pl. 1, fig. 5: *M. milletti* (Cushman). Ujiié, 1990, p. 14, pl. 1, fig. 9: *M. nodulosa* (Cushman). Kato, 1992, p. 389, pl. 1, fig. 6.
- Massilina sp.* Hatta and Ujiié, 1992a, p. 65, pl. 6, figs. 5a, b.
- Melonis barleeianum* (Williamson). Kitazato, 1985; Ujiié, 1990, p. 52, pl. 29, figs. 4a-c; Xu and Ujiié, 1994, p. 519, fig. 10-6: *M. nicobarense* (Cushman). Hatta and Ujiié, 1992b, p. 197, pl. 43, figs. 2a-c; Kato, 1992, p. 392, pl. 4, figs. 2a, b: *M. parkerae* (Uchio). Inoue, 1989a, pl. 27, figs. 2a, b, pl. 32, figs. 19a, b; Akimoto, 1990, p. 204, pl. 17, fig. 2, pl. 18, fig. 9: *M. pompilioides* (Fichtel and Moll). Inoue, 1989a, pl. 27, fig. 1; Kato, 1992, p. 392, pl. 4, figs. 3a, b: *M. sphaeroides* Voloshinova. Ujiié, 1990, p. 52, pl. 31, figs. 5a, b, 6a, b, 7a, b; Xu and Ujiié, 1994, p. 519, figs. 10-4, 5: *M. sp.* Oki, 1989a, p. 153, pl. 22, figs. 5a, b: *M. ? sp.* Ujiié, 1990, p. 53, pl. 32, figs. 1a, b, 2a, b.
- Mesosigmoilina minuta* (Zheng). Hatta and Ujiié, 1992a, p. 75, pl. 13, figs. 3a-5b.
- Milesina differens* (McCulloch). Hatta and Ujiié, 1992b, p. 188, pl. 36, fig. 6, pl. 37, figs. 1a-2c, 3.

- Miliammina echigoensis* Asano and Inomata. Kato, 1992, p. 389, pl. 1, figs. 1a, b; *M. fusca* (Brady). Kosugi et al., 1991, figs. 5-7-9; Nomura and Yoshikawa, 1995, p. 43, pl. 1, fig. 2.
- Miliolinella australis* (Parr). Akimoto, 1990, p. 204, pl. 15, fig. 14 ; pl. 22, fig. 5; Hatta and Ujiié, 1992a, p. 70, pl. 9, figs. 7a-8, pl. 19, figs. 9a, b; *M. californica* Rhumbler. Oki, 1989a, p. 91, pl. 5, figs. 11a, b; *M. circularis* (Bornemann). Kitazato, 1986, pl. 1, figs. 12, 13; Kitazato, 1988a, p. 824, pl. 2, figs. 19, 20; Inoue, 1989a, pl. 20, figs. 9a, b; Oki, 1989a, p. 91, pl. 5, figs. 12a-c; Hatta and Ujiié, 1992a, p. 71, pl. 10, figs. 1a-2b; *M. inflata* LeRoy. Akimoto, 1990, p. 204, pl. 15, fig. 13 ; pl. 22, fig. 4; *M. oblonga* (Montagu). Nomura and Seto, 1992, p. 239, fig. 15, nos. 6a, b; *M. oceanica* (Cushman). Hatta and Ujiié, 1992a, p. 71, pl. 10, figs. 3a-4b; *M. sublineata* (Brady). Oki, 1989a, p. 91, pl. 6, figs. 1a-c; *M. webbiana* (d'Orbigny). Hatta and Ujiié, 1992a, p. 71, pl. 10, figs. 5a, b; *M. sp.* Hatta and Ujiié, 1992a, p. 72, pl. 10, fig. 6.
- Millettia tessellata* (Brady). Ujiié and Hatta, 1994, p. 14, pl. 3, figs. 1-3a, b.
- Millettiana milletti* (Heron-Allen and Earland). Hatta and Ujiié, 1992b, p. 191, pl. 40, figs. 4a, b, 5, 6, 7a-c.
- Mississippina concentrica* (Parker and Jones). Inoue, 1989a, pl. 21, figs. 3a, b; Akimoto, 1990, p. 204, pl. 24, fig. 9.
- Monalysidium politum* Chapman. Hatta and Ujiié, 1992a, p. 78, pl. 15, figs. 7a, b.
- Morulaepecta bulbosa* Höglund. Matoba and Fukasawa, 1992, p. 221, figs. 7-11a, b; *M. cf. bulbosa* Höglund. Matoba and Honma, 1986, p. 62, pl. 2, figs. 11a, b.
- Murrayinella globosa* (Millett). Matoba and Fukasawa, 1992, p. 221, figs. 9-16a-c; *M. minuta* (Takayanagi). Kamemaru, 1996, p. 7, fig. 20, nos. 3, 4; Matoba and Fukasawa, 1992, p. 221, figs. 9-17a-c; *M. takayanagii* (Matoba). Takayanagi and Hasegawa, 1986, pl. 2, figs. 3a-c.
- Mychostomina revertens* (Rhumbler). Hatta and Ujiié, 1992b, p. 164, pl. 20, figs. 2a-c.
- Nebela collaris* (Ehrenberg). Scott et al., 1995, p. 292, fig. 6-5.
- Neoconorbina communis* Ujiié, in Hatta and Ujiié, 1992b, p. 182, pl. 32, figs. 1a-c, 2. (n. sp.): *N. stachi* (Asano). Oki, 1989a, p. 126, pl. 14, figs. 3a-c; *N. tuberocapitata* (Chapman). Hatta and Ujiié, 1992b, p. 183, pl. 32, figs. 3a-c; *N. aff. tuberocapitata* (Chapman). Ujiié and Rifardi, 1993, p. 125, pl. 3, figs. 8a-c.
- Neouvigerina ampullacea* (Brady). Ujiié, 1990, p. 32, pl. 16, fig. 12; Hatta and Ujiié, 1992b, p. 175, pl. 27, figs. 5a, b.
- Nodellum membranaceum* (Brady). Akimoto, 1990, p. 204, pl. 12, fig. 8; pl. 13, fig. 1; Akimoto et al., 1990; Ujiié, 1995, p. 51, pl. 1, figs. 1a, b.
- Nodobaculariella insignis* (Brady). Hatta and Ujiié, 1992a, p. 62, pl. 4, figs. 4a-5b; *N. sp.* Oki, 1989a, p. 86, pl. 4, fig. 12.
- Nodophthalmidium tibia* (Jones and Parker). Oki, 1989a, p. 86, pl. 4, fig. 13.
- Nodosaria radícula glanduliniformis* Dervieux. Inoue, 1989a, pl. 32, fig. 16.
- Nonion japonicum* Asano. Akimoto, 1990, p. 205, pl. 14, fig. 6; Oki and Yamamoto, 1992, p. 201, figs. 5-14; Matoba and Fukasawa, 1992, p. 221, figs. 10-2a, b; *N. cf. japonicum* Asano. Hatta and Ujiié, 1992b, p. 196, pl. 42, figs. 6a-c; *N. manpukuziensis* Otuka. Konda, 1987, pl. 2, figs. 7a, b; Inoue, 1989a, pl. 31, figs. 8a, b; Kosugi et al., 1991, figs. 6-8, 9.
- Nonionella globosa* Ishiwada. Kato, 1992, p. 391, pl. 3, figs. 7a-c; Matoba and Fukasawa, 1992, p. 221, figs. 10-5a, b; *N. pulchella* Hada. Nomura and Seto, 1992, p. 240, fig. 16, nos. 9a-c; Matoba and Fukasawa, 1992, p. 221, figs. 10-3a-c; *N. stella* Cushman and Moyer. Takayanagi and Hasegawa, 1986, pl. 1, fig. 10; Hasegawa, 1988, pl. 2, figs. 9a-c; Oki, 1989a, p. 148; Kosugi et al., 1991, figs. 6-4, 5; Kato, 1992, p. 391, pl. 3, figs. 8a-c; Matoba and Fukasawa, 1992, p. 221, figs. 10-4a-c; *N. turgida* (Williamson). Oki, 1989a, p. 148, pl. 20, figs. 6a-c.
- Nonionellina labradorica* (Dawson). Inoue, 1989a, pl. 24, figs. 3a, b, pl. 32, figs. 13a, b, pl. 33, figs. 3a, b; Akimoto, 1990, p. 205, pl. 14, fig. 13; Kato, 1992, p. 391, pl. 3, figs. 9a-c; *N. "scapha"* (Fichtel and Moll)". Matoba and Fukasawa, 1992, p. 221, figs. 10-6a, b.

Nonionoides grateloupi (d'Orbigny). Hatta and Ujiié, 1992b, p. 196, pl. 43, figs. 1a-c.

Normanina sp. Inoue, 1989a, pl. 25, fig. 10.

Nouria tenuis Hada. Matoba and Fukasawa, 1992, p. 221, figs. 7-12a, b; *N. textulariformis* Hada. Oki, 1989a, p. 71, pl. 1, fig. 11; *N. ?* sp. Oki, 1989a, p. 71, pl. 1, figs. 12a, b.

Nummoloculina sp. Oki, 1989a, p. 92, pl. 6, figs. 2a-f.

Nummulites ammonoides (Gronovius). Oki, 1989a, p. 137, pl. 17, figs. 2a-c.

Nuttallides umboniferus (Cushman). Inoue, 1989a, pl. 26, figs. 1a-c; Akimoto, 1990, p. 205, pl. 14, fig. 8.

Oolina desmophora (Rymer-Jones). Ujiié, 1990, p. 21, pl. 5, fig. 10; *O. globosa* (Montagu) var. A. Ujiié, 1990, p. 22, pl. 7, fig. 7; *O. globosa* (Montagu) var. B. Ujiié, 1990, p. 22, pl. 7, fig. 8; *O. globosa* (Montagu). Ujiié, 1990, p. 22, pl. 7, fig. 6; *O. gracilis* Ujiié, 1997, p. 125, pl. 1, figs. 1a, b. (n. sp.); *O. hexagona* (Williamson). Oki, 1989a, p. 101, pl. 7, fig. 10; Ujiié, 1990, p. 2, pl. 7, fig. 4; *O. cf. lineata* (Williamson). Ujiié, 1990, p. 22, pl. 7, figs. 5a, b; *O. sp. A.* Ujiié, 1990, p. 22, pl. 7, fig. 9; *O. squamosa* (Montagu). Oki, 1989a, p. 102, pl. 7, fig. 12.

Operculina ammonoides (Gronovius). Akimoto, 1990, p. 205, pl. 15, fig. 11; Hatta and Ujiié, 1992b, p. 205, pl. 50, figs. 7a, b.

Oridorsalis tener (Brady). Oki, 1989a, p. 149, pl. 20, figs. 8a-d; Inoue, 1989a, pl. 26, figs. 5a-c; Akimoto, 1990, p. 206, pl. 21, fig. 5; Kato, 1992, p. 392, pl. 4, figs. 9a-c; *O. umbonatus* (Reuss). Inoue, 1989a, pl. 24, figs. 13a-c; Ujiié, 1990, p. 48, pl. 28, figs. 1a-c, 2a-c, 3, 5a-c, 6, text-fig. 4; Akimoto, 1990, p. 206, pl. 24, fig. 4; Kato, 1992, p. 392, pl. 4, figs. 10a-c; Xu and Ujiié, 1994, p. 518, figs. 10-1, 2; *O. sp.* Inoue, 1989a, pl. 27, figs. 5a-c; pl. 28, figs. 12a, b.

Osangularia bengalensis (Schwager). Ujiié, 1990, pl. 28, figs. 7a-c; Ujiié and Rifardi, 1993, p. 126, pl. 4, figs. 4a-c; Ujiié, 1995, p. 71, pl. 13, figs. 1a-c; *O. culter* (Parker and Jones). Akimoto et al., 1990, p. 109, p. 114, figs. 1a-c.

Osangularielloides rugosus (Phleger and Parker). Ujiié, 1995, p. 72, pl. 13, figs. 2a-c, 3, 4, pl. 14, figs. 1, 2.

Pacinionion minutus Ujiié, 1995, p. 69, pl. 11, figs. 5a, b. (n. sp.); *P. novozealandicum* (Cushman and Edwards). Ujiié, 1995, p. 69, pl. 12, figs. 2a, b.

Palliolatella sp. A. Hatta and Ujiié, 1992b, p. 169, pl. 23, figs. 8a, b, 9.

Palmula robusta (Brady). Hatta and Ujiié, 1992b, p. 165, pl. 21, figs. 3a, b, 4-7.

Pandaglandulina torrida (Cushman). Ujiié, 1990, p. 21, pl. 6, figs. 4a, b, 5, 6.

Pannellina earlandi (Collins). Ujiié and Hatta, 1994, p. 14, pl. 3, figs. 5a-c, 6a-c; *P. sp. A.* Ujiié and Hatta, 1994, p. 14, pl. 4, figs. 1a-c.

Paracassidulina minuta (Cushman). Oki, 1989a, p. 144, pl. 19, figs. 4a-c; *P. miuraensis* (Higuchi). Akimoto, 1990, p. 206, pl. 15, fig. 4; *P. neocarinata* (Thalman). Akimoto, 1990, p. 206, pl. 17, fig. 4; Ujiié, 1995, p. 62, pl. 6, figs. 1a, b; *P. nipponensis* (Eade). Akimoto, 1990, p. 206, pl. 19, fig. 2; *P. quasicarinata* Nomura. Oki, 1989a, p. 145, pl. 19, figs. 5a-f; Akimoto, 1990, p. 206, pl. 19, fig. 5; *P. sulcata* (Belford). Akimoto, 1990, p. 206, pl. 19, fig. 1; *P. tomiyensis* (Uchio). Akimoto, 1990, p. 206, pl. 19, fig. 3.

Parafissurina acuticosta, Ujiié, 1990, p. 28, pl. 11, figs. 1a, b, 2. (n. sp.); *P. buchneri* Ujiié, 1990, p. 28, pl. 10, figs. 8a, b, 9a, b. (n. sp.); *P. curta* Parr. Ujiié, 1990, p. 27, pl. 10, figs. 2a, b, 3; *P. fornasini* Buchner. Ujiié, 1990, p. 27, pl. 9, figs. 9a, b; *P. lata* (Wiesner). Ujiié, 1990, p. 27, pl. 10, figs. 5a, b, 6a, b, 7a, b; Ujiié, 1995, p. 59, pl. 3, fig. 10; *P. lateralis* (Cushman). Ujiié, 1990, p. 27, pl. 10, figs. 1a, b; *P. obsoleta* McCulloch. Ujiié, 1990, p. 28, pl. 10, figs. 10a, b; *P. subcarinata* Parr. Ujiié, 1990, p. 27, pl. 10, figs. 4a, b; *P. sp.* Oki, 1989a, p. 105, pl. 8, figs. 7a, b.

Pararotalia calcar (d'Orbigny). Akimoto, 1990, p. 206, pl. 15, fig. 16; *P. globosa* (Millett). Hatta and Ujiié, 1992b, p. 198, pl. 43, figs. 5a-c; *P. aff. globosa* (Millett). Oki, 1989a, p. 133, pl. 15, figs. 9a-d; *P. nipponica* (Arano). Kitazato, 1986, pl. 1, figs. 1-4; Konda, 1987, pl. 2, figs. 6a, b; Kitazato, 1988a, p. 824, pl. 2, figs. 1-4; Inoue, 1989a, pl. 30, figs. 4a-c; Nomura and Seto, 1992, p. 240, fig. 14, nos. 9a, b; Ujiié and Rifardi, 1993, p. 126, pl. 5, figs. 1a-c, 2a-c; Kamemaru, 1996, p. 7, fig. 20, nos. 1, 2; Matoba and Fukasawa, 1992, p. 221, figs. 11-5a-c.

Parasorites orbitolitooides (Hofker). Hatta and Ujiié, 1992a, p. 80, pl. 17, figs. 1a-2b, pl. 18, figs. 1, 2.

- Paratrochammina* cf. *antarctica wiesneri* (Parr). Ujiié, 1995, p. 57, pl. 2, figs. 6a-c; *P. challengerii* Bronnimann and Whittaker. Ujiié, 1995, p. 57, pl. 2, figs. 5a, b; *P. simplissima* (Cushman and McCulloch). Ujiié, 1995, p. 57, pl. 2, figs. 7a-c.
- Parrellina pacifica* (Collins). Hatta and Ujiié, 1992b, p. 204, pl. 49, figs. 8a, b, pl. 50, figs. 1a-c.
- Parrelloides bradyi* (Trauth). Akimoto, 1990, p. 206, pl. 20, fig. 2; pl. 23, fig. 8.
- Parvicarinina altocamerata* (Heron-Allen and Earland). Ujiié, 1990, p. 33, pl. 14, figs. 5a, b.
- Patellina corrugata* Williamson. Hatta and Ujiié, 1992b, p. 164, pl. 20, figs. 5a-c.
- Patellinella carinata* Collins. Oki, 1989a, p. 127, pl. 14, figs. 4a, b; *P. inconspicua* (Brady). Oki, 1989a, p. 127, pl. 14, figs. 5a-c.
- Paumotua* cf. *terebra* (Cushman). Hatta and Ujiié, 1992b, p. 180, pl. 31, figs. 5a-6c.
- Pegidia dubia* (d'Orbigny). Hatta and Ujiié, 1992b, p. 181, pl. 31, figs. 2a-c, 3.
- Pelosina fusiformis* (Williamson). Oki, 1989a, p. 67, pl. 1, fig. 3; *P. sp.* Nomura and Seto, 1992, p. 239, fig. 14, no. 2.
- Peneroplis pertusus* (Forskål). Hatta and Ujiié, 1992a, p. 78, pl. 16, figs. 1, b; *P. planatus* (Fichtel and Moll). Hatta and Ujiié, 1992a, p. 79, pl. 16, figs. 2a, b.
- Planispirillina tuberculatolimbata* (Chapman). Hatta and Ujiié, 1992b, p. 163, pl. 20, figs. 1a-c.
- Planispirinella exigua* (Brady). Hatta and Ujiié, 1992a, p. 62, pl. 4, figs. 3a, b, pl. 18, fig. 8.
- Planodiscorbis rarescens* (Brady). Ujiié, 1990, p. 33, pl. 13, figs. 12a-c; Hatta and Ujiié, 1992b, p. 183, pl. 32, figs. 4a-c; Ujiié, 1995, p. 66, pl. 8, figs. 6a-c.
- Planoglabratella opercularis* (d'Orbigny). Ujiié and Hatta, 1994, p. 15, pl. 4, figs. 2a-c, 3a, b.
- Planorbulina acervalis* Brady. Hatta and Ujiié, 1992b, p. 189, pl. 38, figs. 1a-c; *P. mediterraneanensis* d'Orbigny. Hatta and Ujiié, 1992b, p. 189, pl. 38, figs. 2a-c.
- Planorbulinella larvata* (Parker and Jones). Hatta and Ujiié, 1992b, p. 189, pl. 38, 3a-c; *P. ? sublarvata* Hatta, in Hatta and Ujiié, 1992b, p. 189, pl. 38, figs. 4a-c, 5, 6, pl. 39, figs. 1a-c. (n. sp.)
- Planularia asanoi* Ujiié, Ichikura and Kurihara. Kato, 1992, p. 389, pl. 1, figs. 9a, b; *P. perculata* McCulloch, emended, Hatta and Ujiié, 1992b, p. 166, pl. 22, figs. 3a-c.
- Planulina bradii* Tolmachoff. Xu and Ujiié, 1994, p. 518, figs. 7-7, 8; *P. aff. subinflata* Brady. Ujiié, 1990, p. 35, pl. 15, figs. 4a-c, 5a-c, 6a-c; *P. cf. wuellerstorfi* (Schwager). Inoue, 1989a, pl. 22, figs. 4a-c; *P. wuellerstorfi* (Schwager). Inoue, 1989a, pl. 27, fig. 4; pl. 28, figs. 13a, b; Xu and Ujiié, 1994, p. 518, figs. 7-9, 10; *P. ? sp.* Oki, 1989a, p. 138, pl. 17, figs. 5a-c.
- Planulinoides biconcava* (Jones and Parker). Oki, 1989a, p. 127, pl. 14, fig. 6; *P. planoconcaus* (Chapman, Parr and Collins). Hatta and Ujiié, 1992b, p. 188, pl. 36, figs. 3a-4c, 5.
- Pleurostomella* sp. A. Kato, 1992, p. 390, pl. 2, figs. 18a, b.
- Plotnikovina compressa* (Cushman). Ujiié and Hatta, 1994, p. 11, pl. 1, figs. 1a, b, 2a, b, 3.
- Poroeponides cribrorepandus* Asano and Uchio. Konda, 1987, pl. 2, figs., 11a-c; Akimoto, 1990, p. 207, pl. 24, fig. 1; *P. lateralis* (Terquem). Hatta and Ujiié, 1992b, p. 180, pl. 30, figs. 3a-c, 4.
- Porosorotalia makiyamai* (Chiji). Takayanagi and Hasegawa, 1986, pl. 2, figs. 10a, b.
- Protelphidium schmitti* (Cushman and Wickenden). Oki, 1989a, p. 137, pl. 17, figs. 1a, b; *P. sp.* Oki and Yamamoto, 1992, p. 201, fig. 5-13.
- Psammospaera parva* Flint. Akimoto, 1990, p. 207, pl. 12, fig. 5.
- Pseudobolivina torquata* (Parker). Matoba and Honma, 1986, p. 62, pl. 3, figs. 6a, b; *P. ? brevis* Zheng. Hatta and Ujiié, 1992a, p. 57, pl. 1, figs. 8a, b; *P. sp.* Inoue, 1989b, pl. 2, fig. 6.
- Pseudoclavulina serventyi* (Chapman and Parr). Hatta and Ujiié, 1992a, p. 60, pl. 3, figs. 4a, b.
- Pseudofissurina* cf. *pulviniformis* Buchner. Hatta and Ujiié, 1992b, p. 169, pl. 24, figs. 1a, b.
- Pseudohauerina involuta* (Cushman). Hatta and Ujiié, 1992a, p. 77, pl. 14, figs. 8a-9b; *P. orientalis* (Cushman).

Hatta and Ujiie, 1992a, p. 77, pl. 14, figs. 10a, b.

Pseudomassilina australis (Cushman). Ujiie and Rifardi, 1993, p. 123, pl. 2, figs. 2a-c: *P. reticulata* (Heron-Allen and Earland). Hatta and Ujiie, 1992a, p. 72, pl. 11, figs. 7a, b: *P. robusta* Lacroix. Ujiie and Rifardi, 1993, p. 123, pl. 2, figs. 3a-c; Ujiie and Hatta, 1994, p. 12, pl. 1, figs. 4a-c, 5a, b.

Pseudonodosaria sp. Ujiie, 1990, p. 21, pl. 6, figs. 7a, b.

Pseudononion grateloupi (d'Orbigny). Oki, 1989a, p. 147, pl. 20, figs. 4a, b; Kato, 1992, p. 392, pl. 4, figs. 1a-c: *P. japonicum* Asano. Takayanagi and Hasegawa, 1986, pl. 1, figs. 13, 14; Oki, 1989a, p. 148, pl. 20, fig. 5; Nomura and Seto, 1992, p. 240, fig. 16, nos. 10a-c; Ujiie and Rifardi, 1993, p. 126, pl. 4, figs. 3a, b; Matoba and Fukasawa, 1992, p. 221, figs. 10-7a-c: *P. japonicum* Asano var. Matoba and Fukasawa, 1992, p. 221, figs. 10-8a-c.

Pseudoparrella exigua (Brady). Akimoto, 1990, p. 208, pl. 20, fig. 7; pl. 24, fig. 3: *P. naraensis* Kuwano. Takayanagi and Hasegawa, 1986, pl. 2, fig. 5; Kato, 1992, p. 391, pl. 3, figs. 5a-c; Matoba and Fukasawa, 1992, p. 221, figs. 9-14a-c: *P. takayanagii* (Iwasa). Hasegawa, 1988, pl. 2, figs. 8a-c; Kato, 1992, p. 391, pl. 3, figs. 6a-c: *P. tamana* Kuwano. Takayanagi and Hasegawa, 1986, pl. 2, fig. 4; Kosugi et al., 1991, figs. 6-12-14; Matoba and Fukasawa, 1992, p. 221, figs. 9-15a-c.

Pseudorotalia gaimardii (d'Orbigny). Inoue, 1989a, pl. 20, figs. 1a-c; Takayanagi and Hasegawa, 1986, pl. 2, fig. 6; Konda, 1987, pl. 2, figs. 10a, b; Oki, 1989a, p. 133, pl. 16, figs. 1a, b; Akimoto, 1990, p. 208, pl. 21, fig. 2; Matoba and Fukasawa, 1992, p. 221, figs. 11-6a-c: *P. papillosa* (Brady). Ujiie and Hatta, 1994, p. 15, pl. 4, figs. 4a-c.

Pseudothurammina limnetis (Scott and Mediolli). Scott et al., 1995, p. 292, fig. 6-2.

Pullenia apertura Cushman. Inoue, 1989a, pl. 24, figs. 4a, b; Kato, 1992, p. 392, pl. 4, figs. 4a, b: *P. asymmetrica* Ujiie. Xu and Ujiie, 1994, p. 518, figs. 9-6-8: *P. bulloides* (d'Orbigny). Ujiie, 1990, p. 42, pl. 23, figs. 1a, b, 2a, b; Akimoto, 1990, p. 208, pl. 17, figs. 11, 12; pl. 22, fig. 15; Akimoto et al., 1990, p. 110, p. 114, figs. 7a, b; Ujiie, 1995, p. 70, pl. 12, figs. 6a, b: *P. cf. miocenica* Kleinpell. Ujiie, 1990, p. 43, pl. 24, figs. 6a, b, 7a, b: *P. okinawaensis* Ujiie, 1995, p. 70, pl. 12, figs. 7a, b, 8. (n. sp.): *P. osloensis* Feyling-Hanssen. Inoue, 1989a, pl. 26, figs. 7a, b; pl. 27, figs. 6a, b: *P. quadriloba* Reuss. Ujiie, 1990, p. 43, pl. 23, figs. 5a, b, 6a, b, 7a, b: *P. quinqueloba* (Reuss). Oki, 1989a, p. 149, pl. 20, figs. 7a-c; Ujiie, 1990, p. 43, pl. 24, figs. 1a, b, 2, 3a, b, 4, 5; Akimoto, 1990, p. 208, pl. 17, fig. 13: *P. salisburyi* R.E. and K.C. Stewart. Akimoto, 1990, p. 208, pl. 17, fig. 14; Akimoto et al., 1990, p. 110, p. 114, figs. 9a, b; Kato, 1992, p. 392, pl. 4, figs. 5a, b: *P. aff. salisburyi* R.E. and K.C. Stewart. Ujiie, 1990, p. 44, pl. 24, figs. 8a, b, 9a, b: *P. sp. A*. Ujiie, 1990, p. 44, pl. 23, figs. 9a, b, 10: *P. sp. A*. Ujiie, 1990, p. 44, pl. 23, figs. 8a, b: *P. sp. B*. Ujiie, 1990, p. 44, pl. 22, figs. 12a, b, 13a, b, pl. 24, figs. 10a, b; Xu and Ujiie, 1994, p. 518, figs. 9-4, 5.

Pulleniella asymmetrica Ujiie, 1990, p. 45, pl. 23, figs. 3a, b, 4a, b (n. gen. et n. sp.); Ujiie, 1995, p. 70, pl. 12, figs. 9a, b.

Punctobolivina unca Hayward. Hatta and Ujiie, 1992b, p. 172, pl. 26, figs. 3a, b.

Pyramidulina raphana (Linné). Ujiie and Hatta, 1994, p. 13, pl. 2, figs. 2, 3a, b.

Pyrgo denticulata (Brady). Hatta and Ujiie, 1992a, p. 72, pl. 11, figs. 1a-2b: *P. depressa* (d'Orbigny). Ujiie, 1990, p. 16, pl. 4, figs. 1a, b, 2a, b: *P. lucernuloides* Ujiie, 1990, p. 15, pl. 3, figs. 7a, b, 8a, b. (n. sp.): *P. murrhina* (Schwager). Inoue, 1989a, pl. 27, figs. 7a, b; Ujiie, 1990, p. 16, pl. 4, figs. 3a, b, 4a, b, 5a, b; Kato, 1992, p. 389, pl. 1, figs. 7a, b: *P. oblonga* (d'Orbigny). Ujiie, 1990, p. 16, pl. 3, figs. 9a, b: *P. rasheedii* Hatta, 1996, p. 22, pl. 1, figs. 1a-c, 2a-c, 3a, b. (n. sp.): *P. serrata* (Bailey). Ujiie, 1990, p. 16, pl. 4, figs. 6a, b, 7a, b: *P. cf. vespertilio* (Schlumberger). Hatta and Ujiie, 1992a, p. 72, pl. 11, figs. 3a, b.

Pyrulina angusta (Egger). Ujiie, 1990, p. 21, pl. 6, figs. 10, 11: *P. fusiformis* (Roemer). Ujiie, 1990, p. 21, pl. 6, figs. 12a, b.

Quadriformina laevigata (Phleger and Parker). Ujiie, 1990, p. 41, pl. 15, figs. 1a-c; Akimoto, 1990, p. 208, pl. 24, fig. 7.

Quinqueloculina agglutinata Cushman. Oki, 1989a, p. 87, pl. 5, fig. 1: *Q. cf. agglutinata* Cushman. Ujiie and Rifardi, 1993, p. 122, pl. 1, figs. 4a-c: *Q. akneriana* d'Orbigny. Kosugi et al., 1991, figs. 5-14, 15: *Q. arenata* Said. Hatta and

Ujiié, 1992a, p. 66, pl. 6, figs. 6a-7c: *Q. bicarinata* d'Orbigny. Hatta and Ujiié, 1992a, p. 66, pl. 7, figs. 1a-2b: *Q. bidentata* d'Orbigny. Hatta and Ujiié, 1992a, p. 66, pl. 7, figs. 3a, b: *Q. bradyana* Cushman. Hatta and Ujiié, 1992a, p. 66, pl. 7, figs. 4a, b: *Q. cf. costata* d'Orbigny. Oki, 1989a, p. 87, pl. 5, figs. 2a, b: *Q. fusiformis* Zheng. Ujiié and Rifardi, 1993, p. 122, pl. 1, figs. 5a-c: *Q. funafutiensis* (Chapman). Hatta and Ujiié, 1992a, p. 66, pl. 7, figs. 5a, b: *Q. granulocostata* Germeraad. Ujiié and Rifardi, 1993, p. 122, pl. 1, figs. 6a-c: *Q. gualtieriana* d'Orbigny. Hatta and Ujiié, 1992a, p. 67, pl. 7, figs. 6a, b: *Q. laevigata* d'Orbigny. Oki, 1989a, p. 88, pl. 5, fig. 3; Ujiié and Rifardi, 1993, p. 123, pl. 2, figs. 1a, b: *Q. lamarckiana* d'Orbigny. Oki, 1989a, p. 88, pl. 5, figs. 4a, b; Hatta and Ujiié, 1992a, p. 67, pl. 7, figs. 7a, b (= *Q. cuvieriana* d'Orbigny. Hatta and Ujiié, 1992b): *Q. mundula* Ujiié, in Hatta and Ujiié, 1992a, p. 67, pl. 8, figs. 1a, b. (n. sp.): *Q. neostriatula* Thalmann. Hatta and Ujiié, 1992a, p. 68, pl. 8, figs. 2a, b: *Q. parkeri* (Brady) var. Hatta and Ujiié, 1992a, p. 68, pl. 8, figs. 4a, b: *Q. parkeri* (Brady). Hatta and Ujiié, 1992a, p. 68, pl. 8, figs. 3a, b: *Q. polygona* d'Orbigny. Inoue, 1989a, pl. 30, figs. 8a, b; Hatta and Ujiié, 1992a, p. 68, pl. 8, figs. 5a, b: *Q. rugosa* d'Orbigny. Hatta and Ujiié, 1992a, p. 68, pl. 8, figs. 6a, b: *Q. samoensis* Cushman. Hatta and Ujiié, 1992a, p. 69, pl. 8, figs. 7a, b: *Q. seminulum* (Linné). Konda, 1987, pl. 2, figs. 2a-c; Inoue, 1989a, pl. 20, figs. 7a, b, pl. 30, figs. 9a, b; Nomura and Seto, 1992, p. 239, fig. 15, nos. 3a, b; Hatta and Ujiié, 1992a, p. 69, pl. 9, figs. 1a-2b: *Q. sp. 1.* Matsushita and Kitazato, 1989, pl. 1, figs. 7a, b: *Q. sp. 2.* Matsushita and Kitazato, 1989, pl. 1, figs. 8a, b: *Q. sp. A.* Ujiié, 1990, p. 15, pl. 3, figs. 5a, b: *Q. sp.* Hatta and Ujiié, 1992a, p. 69, pl. 9, figs. 3a, b: *Q. stalkeri* Loeblich and Tappan. Oki, 1989a, p. 88, pl. 5, figs. 5a-c; Ujiié, 1995, p. 58, pl. 3, figs. 5a, b: *Q. venusta* Karrer. Ujiié, 1990, p. 15, pl. 3, figs. 3a, b, 4a, b: *Q. vulgaris* d'Orbigny. Konda, 1987, pl. 2, figs. 3a-c: Takayanagi and Hasegawa, 1986, pl. 1, figs. 15, 16; Oki, 1989a, p. 89, pl. 5, figs. 6a-c; Nomura and Seto, 1992, p. 239, fig. 15, nos. 4a, b: *Q. weaveri* Rau. Ujiié, 1990, p. 14, pl. 3, figs. 1a, b, 2a, b: *Q. yabei* Asano. Kitazato, 1986, pl. 1, figs. 10, 11; Kitazato, 1988a, p. 824, pl. 2, figs. 21, 22.

Radiatobolivina okinawaensis Hatta, in Hatta and Ujiié, 1992b, p. 205, pl. 51, figs. 1a-2c, 3-5. (n. gen. et n. sp.)

Ramulina globulifera Brady. Hatta and Ujiié, 1992b, p. 167, pl. 22, figs. 6a, b.

Rectobolivina bifrons (Brady). Inoue, 1989a, pl. 28, fig. 6: *R. columellaris* (Brady). Hasegawa, 1988, pl. 1, figs. 10a, b: *R. hancocki* (Cushman and McCulloch). Oki, 1989a, p. 112, pl. 10, figs. 7a, b: *R. raphana* (Parker and Jones). Hasegawa, 1988, pl. 1, fig. 11a; Oki, 1989a, p. 113, pl. 10, figs. 8a-d; Akimoto, 1990, p. 209, pl. 15, fig. 6, pl. 16, fig. 4; Hatta and Ujiié, 1992b, p. 174, pl. 26, figs. 11a, b, 12a, b; Matoba and Fukasawa, 1992, p. 221, figs. 9-6: *R. tonohamaensis* (Takayanagi). Oki, 1989a, p. 113, pl. 10, fig. 9.

Recurvoides contortus Earland. Matoba and Honma, 1986, p. 61, pl. 2, figs. 5a, b; Inoue, 1989b, pl. 1, figs. 1a, b; Akimoto et al., 1990, p. 107, p. 112, figs. 6a-c; Matoba and Fukasawa, 1992, p. 221, figs. 7-7a, b: *R. turbinatus* (Brady). Inoue, 1989a, pl. 29, figs. 8a, b; *R. sp.* Inoue, 1989a, pl. 25, figs. 9a-c.

Reophax aduncus Brady. Inoue, 1989a, pl. 25, fig. 6: *R. agglutinatus* Cushman. Inoue, 1989a, p. 146, pl. 19, fig. 12: *R. bacillaris* Brady. Inoue, 1989a, pl. 25, fig. 13: *R. cf. communis* Lacroix. Hasegawa, 1988, pl. 1, figs. 6a, b: *R. curtus* Cushman. Inoue, 1989a, pl. 29, fig. 5: *R. diffflugiformis* Brady. Akimoto, 1990, p. 209, pl. 12, fig. 6: *R. cf. dentaliniformis* Brady. Matoba and Honma, 1986, pl. 1, fig. 12: *R. cf. diffflugiformis* Brady. Inoue, 1989a, pl. 25, fig. 14: *R. distans* Brady. Akimoto, 1990, p. 209, pl. 12, fig. 7, pl. 13, fig. 2: *R. excentricus* Cushman. Matoba and Honma, 1986, p. 61, pl. 1, fig. 13; Matoba and Fukasawa, 1992, p. 219, fig. 6-3: *R. gracilis* (Kiaer). Oki, 1989a, p. 69, pl. 1, fig. 7: *R. guttifer* Brady. Inoue, 1989a, pl. 18, fig. 3: *R. cf. guttifer* Brady. Matoba and Honma, 1986, pl. 1, fig. 14; Matoba and Fukasawa, 1992, p. 219, figs. 6-8, 9: *R. minimus* Zheng. Ujiié, 1995, p. 56, pl. 1, figs. 20a, b: *R. nanus* Rhumbler. Oki, 1989a, p. 70, pl. 1, fig. 8; Matoba and Fukasawa, 1992, p. 219, figs. 6-10, 11: *R. aff. nodulosus* Brady. Hatta and Ujiié, 1992a, p. 55, pl. 1, figs. 1a, b, pl. 19, fig. 2: *R. pilulifer* Brady. Matoba and Honma, 1986, p. 62, pl. 1, fig. 15; Inoue, 1989a, pl. 24, fig. 11; Matoba and Fukasawa, 1992, p. 219, fig. 6-2: *R. rostratus* Höglund. Matoba and Fukasawa, 1992, p. 219, fig. 6-5: *R. scorpiurus* Montfort. Matoba and Honma, 1986, p. 61, pl. 1, figs. 16, 17; Inoue, 1989a, pl. 19, fig. 2, pl. 29, figs. 6a, b; Oki, 1989a, p. 70, pl. 1, fig. 9; Hatta and Ujiié, 1992a, p. 55, pl. 1, figs. 2a-3b, pl. 19, fig. 1; Ujiié, 1995, p. 56, pl. 1, figs. 17a, b, 18; Matoba and Fukasawa, 1992, p. 219, fig. 6-4: *R. cf.*

- scorpiurus* Montfort. Matoba and Honma, 1986, pl. 1, fig. 18: *R. scottii* Chaster. Oki, 1989a, p. 70, pl. 1, fig. 10; *R.* sp. B. Matoba and Honma, 1986, pl. 1, fig. 19; *R.* sp. Inoue, 1989a, pl. 18, fig. 8, pl. 19, fig. 7, pl. 25, fig. 11: *R.* sp. Nomura, 1988, p. 867, pl. 2, fig. 1: *R. spiculifer* Brady. Inoue, 1989a, pl. 18, figs. 9a, b: *R. spiculifera* Brady. Akimoto, 1990, p. 210, pl. 13, fig. 3: *R.* sp. B. Matoba and Fukasawa, 1992, p. 219, fig. 6-6: *R.* sp. H. Matoba and Fukasawa, 1992, p. 219, fig. 6-7.
- Reussella aculeata* Cushman. Oki, 1989a, p. 117, pl. 11, figs. 6a-d; Nomura and Seto, 1992, p. 240, fig. 15, no. 9; Hatta and Ujiié, 1992b, p. 177, pl. 27, figs. 9a, b; Oki and Yamamoto, 1992, p. 197, figs. 4-15, 5-1: *R. aequa* Cushman and McCulloch. Oki, 1989a, p. 117, pl. 11, fig. 7; Ujiié and Rifardi, 1993, p. 124, pl. 2, figs. 5a, b: *R. hayasakai* Oki, 1989a, p. 117, pl. 11, figs. 8a-d. (n. sp.): *R. pacifica* Cushman and McCulloch. Hasegawa, 1988, pl. 2, figs. 4a, b; Hatta and Ujiié, 1992b, p. 177, pl. 27, fig. 10: *R. simplex* (Cushman). Oki, 1989a, p. 118, pl. 11, fig. 9: *R. spinulosa* (Reuss). Oki, 1989a, p. 118, pl. 11, figs. 10a, b; Akimoto, 1990, p. 210, pl. 15, fig. 1: *R.* sp. Oki, 1989a, p. 118, pl. 12, figs. 1a, b.
- Rhabdammina abyssorum* M.Sars. Inoue, 1989a, pl. 25, figs. 1, 2, pl. 18, fig. 4; Akimoto, 1990, p. 210, pl. 12, fig. 10, pl. 14, fig. 4; Ujiié, 1995, p. 54, pl. 1, figs. 5, 6: *R.* sp. Inoue, 1989a, pl. 19, fig. 11.
- Rhizammina algaeformis* Brady. Akimoto et al., 1990, p. 112, fig. 12; Ujiié, 1995, p. 54, pl. 1, fig. 7.
- Robertinoides charlottensis* (Cushman). Hatta and Ujiié, 1992b, p. 170, pl. 25, fig. 1.
- Robulus calcar* (Linné). Akimoto, 1990, p. 210, pl. 15, fig. 10, pl. 17, fig. 6: *R. orbicularis* d'Orbigny. Akimoto, 1990, p. 210, pl. 22, fig. 1.
- Rosalina (Tretomphalus) bulloides* d'Orbigny. Kitazato, 1986, pl. 2, figs. 1-3; Kitazato, 1988a, p. 824, pl. 2, figs. 16-18: *R. bradyi* (Cushman). Inoue, 1989a, pl. 31, figs. 2a-c; Ujiié and Hatta, 1994, p. 14, pl. 3, figs. 4a-c; Matoba and Fukasawa, 1992, p. 221, figs. 9-13a-c: *R. globularis* d'Orbigny. Kitazato, 1986, pl. 2, figs. 4-6; Kitazato, 1988a, p. 824, pl. 2, figs. 5-7; Kosugi et al., 1991, figs. 7-17-19; Nomura and Seto, 1992, fig. 15, nos. 10a-c: *R. orientalis* (Cushman). Hatta and Ujiié, 1992b, p. 183, pl. 32, figs. 5a-c: *R. petasiformis* Cheng and Zheng. Hatta and Ujiié, 1992b, p. 183, pl. 33, figs. 1a-2c: *R. vilardeboana* d'Orbigny. Inoue, 1989a, pl. 31, figs. 3a-c; Oki, 1989a, p. 128, pl. 14, figs. 7a-c; Akimoto, 1990, p. 211, pl. 22, fig. 16.
- Rotaliammina chitinosa* (Collins). Ujiié, 1995, p. 57, pl. 3, figs. 1, 2a, b.
- Rotamorphina minuta* (Schubert). Ujiié, 1990, p. 42, pl. 15, figs. 2a-c, 3a-c.
- Rugobolivinella elegans* (Parr). Hatta and Ujiié, 1992b, p. 173, pl. 26, figs. 4a, b.
- Rupertina pustulosa* Hatta, in Hatta and Ujiié, 1992b, p. 192, pl. 41, figs. 2a-c, 3, 4. (n. sp.)
- Rutherfordoides mexicanus* (Cushman). Akimoto, 1990, p. 211, pl. 19, fig. 9: *R. rotundiformis* (McCulloch). Ujiié, 1995, p. 64, pl. 7, figs. 4a, b: *R.* sp. Akimoto et al., 1990, p. 110, p. 114, figs. 6a-c.
- Saccamina atlantica* (Cushman). Oki, 1989a, p. 65, pl. 1, figs. 1a, b: *S. sphaerica* M.Sars. Akimoto, 1990, p. 211, pl. 12, fig. 1: *S.* sp. Nomura, 1988, p. 865, pl. 1, fig. 1.
- Saccorhiza ramosa* Brady. Inoue, 1989a, pl. 18, fig. 1; Akimoto et al., 1990, p. 108, p. 112, fig. 10; Akimoto, 1990, p. 211, pl. 12, fig. 11, pl. 14, fig. 1; Ujiié, 1995, p. 55, pl. 1, figs. 14, 15.
- Sagrinella strigosa* (Brady). Hatta and Ujiié, 1992b, p. 175, pl. 27, figs. 1a, b, 2.
- Sagrinopsis fimbriata* (Millett). Hatta and Ujiié, 1992b, p. 175, pl. 27, figs. 3a, b, 4.
- Sahulina barkeri* (Hofker). Hatta and Ujiié, 1992, p. 57, pl. 2, figs. 2a-c, pl. 19, fig. 6.
- Saracenaria latifrons* (Brady). Oki, 1989a, p. 99, pl. 7, fig. 6.
- Schlumbergerina alveoliniformis* (Brady). Hatta and Ujiié, 1992a, p. 65, pl. 6, figs. 2a, b.
- Scurciatoforamen lageniformis* Ujiié, 1997, p. 126, pl. 1, figs. 2a, b, 3-5. (n. gen. et n. sp.)
- Seabrookia pellucida* Brady. Oki, 1989a, p. 101, pl. 7, figs. 9a, b; Hatta and Ujiié, 1992b, p. 169, pl. 24, figs. 2a, b; Ujiié, 1995, p. 59, pl. 3, figs. 11a, b.
- Sigmavirgulina tortuosa* (Brady). Oki, 1989a, p. 142, pl. 18, figs. 6a-c; Hatta and Ujiié, 1992b, p. 177, pl. 28, figs. 3a, b.

Sigmothauerina bradyi (Cushman). Hattata and Ujiié, 1992a, p. 75, pl. 13, figs. 6a, b; *S. fragilissima* (Brady). Hattata and Ujiié, 1992a, p. 75, pl. 13, figs. 7a-8b.

Sigmothauerina tortuosa Zheng. Hattata and Ujiié, 1992a, p. 75, pl. 13, figs. 9a-10b.

Sigmothopsis schlumbergeri (Silvestr). Nomura, 1988, p. 865, pl. 1, fig. 4; Okí, 1989a, p. 89, pl. 5, figs. 7a, b; Akimoto, 1990, p. 212, pl. 17, fig. 8; pl. 22, fig. 8; Ujiié, 1990, p. 16, pl. 3, figs. 10a, b; *S. sp.* Okí, 1989a, p. 89, pl. 5, fig. 8.

Silicosigmollina abyssalica Inoue. Matoba and Homma, 1986, p. 62, pl. 1, figs. 11a, b; Inoue, 1989a, pl. 24, figs. 7a, b; Inoue, 1989b, pl. 2, figs. 4a, b; *S. groenlandica* (Cushman). Nomura, 1988, p. 867, pl. 2, fig. 4.

Siphogenerina coluellaris (Brady). Okí, 1989a, p. 121, pl. 12, figs. 8a, b; *S. raphana* (Parker and Jones). Inoue, 1989a, pl. 23, fig. 4, pl. 31, figs. 6a, b.

Siphoniferoides siphonifera (Brady). Hattata and Ujiié, 1992a, p. 60, pl. 3, figs. 5a, b.

Siphonina tubulosa Cushman. Inoue, 1989a, pl. 21, figs. 4a, b; Hattata and Ujiié, 1992b, p. 186, pl. 35, figs. 1a-2b.

Siphoninoides echinatus (Brady). Hattata and Ujiié, 1992b, p. 186, pl. 35, figs. 4a, b; *S. laevigata* (Howchin). Hattata and Ujiié, 1992b, p. 186, pl. 35, figs. 4a, b.

Siphotextularia catenata (Cushman). Inoue, 1989a, pl. 26, fig. 6; Ujiié, 1990, p. 12, pl. 1, figs. 4a, b, 5a, b; *S. concava* (Karrer). Hattata and Ujiié, 1992a, p. 59, pl. 3, figs. 1a, b; *S. finii* (Cushman). Ujiié, 1990, p. 12, pl. 1, figs. 6a, b, 7a, b; *S. rohsauseni osukai* Okí, 1989a, p. 78, pl. 3, figs. 6a-c. (n. subsp.)

Siphovigerina fimbriata (Sibdebottom). Okí, 1989a, p. 121, pl. 12, fig. 9; *S. porrecta* (Brady). Ujiié, 1990, p. 32, pl. 12, fig. 13; Hattata and Ujiié, 1992b, p. 176, pl. 27, figs. 6a, b; Xu and Ujiié, 1994, p. 516, fig. 6-11; Ujiié, 1995, p. 63, pl. 6, figs. 6a, b.

Sortes orbiculus (Forskål). Hattata and Ujiié, 1992a, p. 80, pl. 17, figs. 5a, b, 6a, b, pl. 18, figs. 5, 6.

Sphaerogypsina globulus (Reuss). Hattata and Ujiié, 1992b, p. 192, pl. 41, figs. 7, 8.

Sphaeroidina bulloides d'Orbigny. Inoue, 1989a, pl. 27, figs. 9a, b; Akimoto et al., 1990, p. 110, p. 114, fig. 8; Ujiié, 1990, p. 28, pl. 11, figs. 3a, b, 4, 5a, b; Hattata and Ujiié, 1992b, p. 184, pl. 33, figs. 4a-c; Kato, 1992, p. 390, pl. 2, figs. 21a, b; *S. cf. bulloides* d'Orbigny. Okí, 1989a, p. 106, pl. 8, figs. 10a, b; *S. sp.* Okí, 1989a, p. 106, pl. 8, figd. 11a, b.

Spirulina limbata Brady. Akimoto, 1990, p. 212, pl. 23, fig. 9; *S. planococconava* Zheng. Hattata and Ujiié, 1992b, p. 164, pl. 20, figs. 4a-c; *S. vivipara* Ehrenberg. Hattata and Ujiié, 1992b, p. 164, pl. 20, figs. 3a-c.

Spirulina acicularis (Batsch). Hattata and Ujiié, 1992a, p. 79, pl. 16, figs. 3a-c; *S. arctica* (Batsch). Hattata and Ujiié, 1992a, p. 79, pl. 16, figs. 4a, b; *S. okinawaensis* Ujiié and Hattata, 1994, p. 12, pl. 1, figs. 7a, b, 8a, b. (n. sp.): *S. sp.* Hattata and Ujiié, 1992a, p. 79, pl. 16, figs. 5a-c.

Spiroloculina aescata Cushman. Nomura and Seto, 1992, p. 239, fig. 15, nos. 2a-c; *S. clara* Cushman. Hattata and Ujiié, 1992a, p. 63, pl. 5, figs. 3a, b; *S. communis* Cushman and Seto, 1992, p. 239, fig. 15, nos. 1a-c; Hattata and Ujiié, 1992a, p. 63, pl. 5, figs. 4a-c; *S. corrugata* Cushman and Todd. Hattata and Ujiié, 1992a, p. 64, pl. 5, figs. 5a, b; *S. depressa* d'Orbigny. Okí, 1989a, p. 86, pl. 4, figs. 11a, b; *S. hadai* Thalmann. Nomura and Seto, 1992, p. 239, fig. 15, no. 5; Hattata and Ujiié, 1992a, p. 64, pl. 5, figs. 15, no. 5; Hattata and Ujiié, 1992a, p. 64, pl. 5, figs. 6a-c; *S. laevigata* Cushman and Todd. Ujiié and Riffardi, 1993, p. 122, pl. 1, figs. 2a, b; *S. manifestata* Cushman and Todd. Hattata and Ujiié, 1992a, p. 64, pl. 5, figs. 7a, b; *S. rugosa* Ujiié and Riffardi, 1993, p. 122, pl. 1, figs. 3a, b; *S. cf. venusta* Cushman and Todd. Hattata and Ujiié, 1992a, p. 65, pl. 5, figs. 8a, b.

Spiroplectammina arenasuturata LeRoy. Inoue, 1989a, pl. 19, figs. 5a, b; *S. bifurmis* (Parker and Jones). Matoba and Homma, 1986, p. 61, pl. 2, fig. 10; Inoue, 1989b, pl. 2, fig. 10; *S. bulbosa* (Cushman). Hattata and Ujiié, 1992a, p. 56, pl. 1, figs. 6a-c; *S. henmi* Okí, 1989a, p. 74, pl. 2, figs. 7a, b. (n. sp.): *S. niguchi* Takayanagi. Nomura, 1988, p. 865, pl. 1, fig. 2; Okí, 1989a, p. 75, pl. 2, figs. 8a-d; Akimoto, 1990, p. 213, pl. 14, fig. 4; *S. sp.* 1. Matoba and Fukasawa, 1992, p. 221, figs. 7-9a, b, 10a, b.

Spirosgmollina speciosa (Karrer). Hattata and Ujiié, 1992a, p. 76, pl. 14, figs. 1a, b.

Spirosgmollinella compressa Matsunaga. Kato, 1992, p. 389, pl. 1, figs. 2a, b; *S. sp.* Okí, 1989a, p. 72, pl. 1, figs.

13a-c.

- Spirotextularia fistulosa* (Brady). Hatta and Ujiié, 1992a, p. 56, pl. 1, figs. 7a, b, pl. 19, fig. 4.
- Stainforthia complanata* (Egger). Matoba and Honma, 1986; Kato, 1992, p. 390, pl. 2, fig. 5: *S. exilis* (Bray). Inoue, 1989b, pl. 1, fig. 3: *S. exilis tenuata* (Cushman). Inoue, 1989a, pl. 32, figs. 3a, b, pl. 33, figs. 7a, b: *S. fusiformis* (Williamson). Kato, 1992, p. 390, pl. 2, figs. 6a, b: *S. spinosa* (Heron-Allen and Earland). Matoba and Fukasawa, 1992, p. 221, figs. 9-5: *S. sp.* Inoue, 1989a, pl. 33, figs. 8a, b.
- Stilostomella lepidula* (Schwager). Kato, 1992, p. 390, pl. 2, fig. 19.
- Stilostomelloides virgulus* (Brady). Ujiié and Rifardi, 1993, p. 124, pl. 3, figs. 1-5. (n. gen.)
- Stomatorbina concentrica* (Parkr and Jones). Hatta and Ujiié, 1992b, p. 180, pl. 30, figs. 5a-c: *S. sp. A.* Hatta and Ujiié, 1992b, p. 181, pl. 30, figs. 6a-c.
- Strebloides pseudotepidus* Ujiié, in Hatta and Ujiié, 1992b, p. 181, pl. 31, figs. 4a-c. (n. sp.)
- Takayanagia delicata* (Cushman). Xu and Ujiié, 1994, p. 518, figs. 8-7, 8; Ujiié and Hatta, 1994, p. 13, pl. 2, figs. 6a, b, 7a, b; Ujiié, 1995, p. 62, pl. 6, figs. 2a, b: *T. quasisulcata* (Belford). Hatta and Ujiié, 1992b, p. 173, pl. 26, figs. 7a-c.
- Testulosiphon indivisus* (Brady). Ujiié, 1995, p. 54, pl. 1, fig. 8.
- Textularia agglutinans* d'Orbigny. Hatta and Ujiié, 1992a, p. 58, pl. 2, figs. 3a, b: *T. bigenerinoides* Lacroix. Oki, 1989a, p. 75, pl. 2, figs. 9a, b: *T. candeiana* d'Orbigny. Hatta and Ujiié, 1992a, p. 58, pl. 2, figs. 4a, b; Ujiié and Rifardi, 1993, p. 121, pl. 1, figs. 1a, b: *T. conica* d'Orbigny. Konda, 1987, pl. 2, figs. 9a, b; Hatta and Ujiié, 1992a, p. 58, pl. 2, figs. 5a, b: *T. crenata* Cheng and Zheng. Hatta and Ujiié, 1992a, p. 59, pl. 3, figs. 2a, b, pl. 19, fig. 7: *T. dupla* Todd. Hatta and Ujiié, 1992a, p. 59, pl. 2, figs. 6a, b: *T. earlandi* Parker. Matoba and Honma, 1986, p. 60, pl. 3, figs. 11a, b; Hasegawa, 1988, pl. 1, figs. 8a, b; Inoue, 1989a, pl. 19, fig. 4; Matsushita and Kitazato, 1989, pl. 1, figs. 3a, b; Matoba and Fukasawa, 1992, p. 221, figs. 8-12a, b: *T. cf. earlandi* Parker. Matoba and Fukasawa, 1992, p. 221, figs. 8-13a, b, 14: *T. foliacea* Heron-Allen and Earland. Oki, 1989a, p. 76, pl. 2, figs. 10; Hatta and Ujiié, 1992a, p. 59, pl. 2, figs. 7a, b: *T. foliacea oceanica* Cushman. Nomura, 1988, p. 865, pl. 1, fig. 3: *T. goesii* Cushman. Inoue, 1989a, pl. 19, figs. 3a, b; Oki, 1989a, p. 76, pl. 3, figs. 1a, b: *T. kattegatensis* Höglund *kagoshimaensis* Oki, 1989a, p. 76, pl. 3, figs. 2a, b. (n. subsp.): *T. kuwanoi* Oki, 1989a, p. 77, pl. 3, fig. 3. (n. sp.): *T. neorugosa* Thalmann. Hatta and Ujiié, 1992a, p. 59, pl. 2, figs. 8a, b: *T. sp. 3.* Oki, 1989a, p. 78, pl. 3, figs. 5a, b: *T. sp.* Inoue, 1989a, pl. 19, fig. 6: *T. wiesneri* Earland. Oki, 1989a, p. 77, pl. 3, figs. 4a, b.
- Thalmanamina parkerae* (Uchio). Matoba and Honma, 1986, p. 61, pl. 2, figs. 6a, b; Hasegawa, 1988, pl. 1, figs. 9a-c; Inoue, 1989a, pl. 24, figs. 6a, b, pl. 29, figs. 4a, b; Inoue, 1989b, pl. 2, figs. 7a, b; Matoba and Fukasawa, 1992, p. 221, figs. 7-6a-c.
- Tiphotrocha kellestae* (Thalmann). Oki, 1989a, p. 82, pl. 4, figs. 2.
- Tosaia hanzawai* Takayanagi. Inoue, 1989a, pl. 18, figs. 7a, b, pl. 27, figs. 3a, b; Akimoto, 1990, p. 214, pl. 22, fig. 10.
- Tretomphalus bulloides* (d'Orbigny). Hatta and Ujiié, 1992b, p. 184, pl. 33, figs. 3a-c.
- Trifarina angulosa* (Williamson). Oki, 1989a, p. 121, pl. 12, figs. 10a, b; Xu and Ujiié, 1994, p. 516, fig. 6-12: *T. bradyi* Cushman. Akimoto, 1990, p. 214, pl. 15, fig. 5: *T. cf. carinata* (Cushman). Ujiié, 1990, p. 32, pl. 12, fig. 14: *T. japonica* (Asano). Hasegawa, 1988, pl. 2, figs. 6a, b: *T. kokozuraensis* (Asano). Inoue, 1989a, pl. 24, figs. 2a, b, pl. 32, figs. 7a, b; Inoue, 1989b, pl. 1, figs. 1a, b: *T. occidentalis* (Cushman). Oki, 1989a, p. 122, pl. 12, figs. 11a-c.
- Triloculina affinis* d'Orbigny. Hatta and Ujiié, 1992a, p. 73, pl. 11, figs. 4a, b: *T. austriaca* d'Orbigny. Hatta and Ujiié, 1992a, p. 73, pl. 11, figs. 5a-6b: *T. bertheliniana* (Brady). Hatta and Ujiié, 1992a, p. 73, pl. 11, figs. 7a, b: *T. bicarinata* d'Orbigny. Hatta and Ujiié, 1992a, p. 73, pl. 11, figs. 8a, b: *T. earlandi* Cushman. Hatta and Ujiié, 1992a, p. 73, pl. 12, figs. 1a-c: *T. kerimbatica* (Heron-Allen and Earland). Hatta and Ujiié, 1992a, p. 73, pl. 12, figs. 2a-3b; Ujiié and Rifardi, 1993, p. 123, pl. 2, figs. 4a-c: *T. lecalvezae* Kaaschieter. Hatta and Ujiié, 1992a, p. 74, pl. 12, figs. 4a-c: *T. marshallana* Todd. Hatta and Ujiié, 1992a, p. 74, pl. 12, figs. 5a, b: *T. oblonga* (Montague). Hatta

and Ujiié, 1992a, p. 74, pl. 12, figs. 6a, b: *T. rotunda* d'Orbigny. Konda, 1987, pl. 2, figs. 1a-c: *T. subgranulata* Cushman. Hatta and Ujiié, 1992a, p. 74, pl. 12, figs. 7a, b: *T. transversistriata* (Brady). Ujiié and Hatta, 1994, p. 12, pl. 1, figs. 6a, b: *T. tricarinata* d'Orbigny. Oki, 1989a, p. 90, pl. 5, fig. 9a-c; Ujiié, 1990, p. 15, pl. 3, figs. 6a, b; Akimoto, 1990, p. 214, pl. 22, fig. 7; Kato, 1992, p. 389, pl. 1, figs. 8a, b; Hatta and Ujiié, 1992a, p. 74, pl. 12, figs. 8a, b: *T. trigonula* (Lamarck). Oki, 1989a, p. 90, pl. 5, fig. 10; Akimoto, 1990, p. 214, pl. 17, fig. 10; Nomura and Seto, 1992, p. 239, fig. 15, nos. 8a, b.

Triloculinella ? aff. *obliquinodus* Riccio. Hatta and Ujiié, 1992a, p. 75, pl. 13, figs. 1a-c.

Trimosina ? *takayanagii* Oki, 1989a, p. 118, pl. 12, figs. 2a-g. (n. sp.): *T. sp.* Oki and Yamamoto, 1992, p. 197, fig. 5-2.

Tritaxis fusca (Williamson). Inoue, 1989a, pl. 19, figs. 9a-c.

Trochammina advena Cushman. Hasegawa, 1988, pl. 1, figs. 2a-c: *T. charlottensis* Cushman. Inoue, 1989a, pl. 24, figs. 10a-c; Oki, 1989a, p. 79, pl. 3, figs. 7a-d; Matoba and Fukasawa, 1992, p. 221, figs. 7-13a-c: *T. conglobata* Brady. Akimoto et al., 1990, p. 108, p. 112, figs. 5a, b: *T. globigeriniformis* (Parker and Jones). Inoue, 1989a, pl. 19, figs. 10a-c; Akimoto, 1990, p. 214, pl. 11, fig. 6; pl. 13, fig. 9; Akimoto et al., 1990, p. 108, p. 112, figs. 4a-c: *T. hadai* Uchio. Konda, 1987, pl. 1, figs. 5a-c, 6a-c, 7a-c; Matsushita and Kitazato, 1989, pl. 1, figs. 1a-2c, pl. 2, figs. 1a-4c; Nomura and Seto, 1992, p. 239, fig. 14, nos. 3a, b, 4a-c; Kamemaru, 1996, p. 6, fig. 19, nos. 1-3: *T. inflata* (Montagu) var. Matoba and Honma, 1986, p. 62, pl. 3, figs. 4a-c: *T. inflata* (Montagu). Akimoto, 1990, p. 214, pl. 11, fig. 4; Scott et al., 1995, p. 294, figs. 6-10-17: *T. japonica* Ishiwada. Matoba and Honma, 1986, p. 62, pl. 3, figs. 1a-c; Hasegawa, 1988, pl. 1, figs. 3a-c; Nomura, 1988, p. 867, pl. 3, fig. 3; Inoue, 1989a, pl. 24, figs. 5a-c; Inoue, 1989b, pl. 2, figs. 8a, b: *T. cf. japonica* Ishiwada. Konda, 1987, pl. 1, figs. 8a-c, 9a-c, 10a-c; Kamemaru, 1996, p. 6, fig. 19, nos. 4-6: *T. macrescens* Brady. Scott et al., 1995, p. 294, figs. 6-6-8: *T. nitida* Brady. Oki, 1989a, p. 80, pl. 3, figs. 8a, b: *T. osumiensis* Oki, 1989a, p. 80, pl. 3, figs. 9a, b. (n. sp.): *T. pacifica* Cushman. Matoba and Honma, 1986, p. 60, pl. 3, figs. 5a-c; Inoue, 1989a, pl. 23, figs. 9a-c; Akimoto, 1990, p. 214, pl. 11, fig. 5; Nomura and Seto, 1992, p. 239, fig. 14, nos. 5a-c; Matoba and Fukasawa, 1992, p. 221, figs. 7-14a-c: *T. pacifica simplex* Cushman and McCulloch. Oki, 1989a, p. 80, pl. 3, figs. 10a, b: *T. pygmaea* Höglund. Oki, 1989a, p. 81, pl. 3, figs. 11a-c; Matoba and Fukasawa, 1992, p. 221, figs. 8-2a-c, 3a, b: *T. pygmaea* Höglund var. Matoba and Honma, 1986, p. 62, pl. 3, figs. 2a-c: *T. quadriloba* Höglund. Matoba and Honma, 1986, p. 61, pl. 3, figs. 3a-c; Hasegawa, 1988, pl. 1, figs. 4a-c; Matoba and Fukasawa, 1992, p. 221, figs. 8-4a-c: *T. rotaliformis* Wright. Hasegawa, 1988, pl. 1, figs. 5a-c: *T. sp.* 2. Oki, 1989a, p. 82, pl. 4, figs. 1a-c: *T. sp.* 1. Matoba and Fukasawa, 1992, p. 221, figs. 8-1a-c.

Tubinella funalis (Brady). Hatta and Ujiié, 1992a, p. 77, pl. 14, fig. 6: *T. sp.* Hatta and Ujiié, 1992a, p. 77, pl. 14, fig. 7.

Ungulatella pacifica Cushman. Hatta and Ujiié, 1992b, p. 181, pl. 31, figs. 1a, b.

Uvigerina akitaensis Asano. Inoue, 1989a, pl. 24, fig. 1, pl. 28, figs. 10a, b, pl. 33, figs. 1a, b; Inoue, 1989b, pl. 1, fig. 2; Kato, 1992, p. 390, pl. 2, figs. 14a, b: *U. akitaensis* Asano var. Kato, 1992, p. 390, pl. 2, figs. 15a, b: *U. asperula* Czjzek. Ujiié, 1990, p. 31, pl. 13, figs. 7, 8; Ujiié, 1995, p. 63, pl. 6, figs. 8a, b: *U. bosoenis* Aoki. Oki, 1989a, p. 119, pl. 12, figs. 3a, b: *U. canariensis* d'Orbigny. Ujiié, 1995, p. 63, pl. 6, figs. 7a, b: *U. excellens* Todd. Inoue, 1989a, pl. 18, fig. 10a, b: *U. hispida* Schwager. Akimoto, 1990, p. 215, pl. 16, fig. 11: *U. hispidocostata* Cushman and Todd. Akimoto, 1990, p. 215, pl. 16, fig. 10: *U. lobulata* (Jung). Kato, 1992, p. 390, pl. 2, fig. 16: *U. peregrina* Cushman. Inoue, 1989a; Ujiié, 1990, p. 31, pl. 13, figs. 1-3: *U. peregrina dirupta* Todd. Inoue, 1989a, pl. 32, figs. 5a, b, 6a, b; Ujiié, 1990, p. 31, pl. 13, figs. 4-6: *U. porrecta* Brady. Akimoto, 1990, p. 215, pl. 15, fig. 2: *U. proboscidea* Schwager. Akimoto, 1990, p. 215, pl. 22, fig. 12; Ujiié, 1990, p. 32, pl. 13, figs. 10, 11: *U. proboscidea vadescens* Cushman. Inoue, 1989a, pl. 20, figs. 2a, b; Ujiié, 1990, p. 32, pl. 13, fig. 9; Akimoto, 1990, p. 215, pl. 16, fig. 12; Xu and Ujiié, 1994, p. 516, fig. 6-10: *U. schencki* Asano. Oki, 1989a, p. 119, pl. 12, figs. 4a, b; Akimoto, 1990, p. 215, pl. 16, fig. 13: *U. schwageri* Brady. Hatta and Ujiié, 1992b, p. 176, pl. 27, fig. 7: *U. vadescens* Cushman. Oki, 1989a, p. 120, pl. 12, figs. 5a, b: *U. yabei* Asano. Kato, 1992, p. 390, pl. 2, figs. 17a, b.

- Uvigerinella glabra* (Millett). Kosugi et al., 1991, figs. 7-1; Matoba and Fukasawa, 1992, p. 221, figs. 9-10.
- Vaginulinopsis asanoi* Ishizaki. Akimoto, 1990, p. 215, pl. 22, fig. 3.
- Valvobifarina mackinnonii* (Millett). Hatta and Ujiié, 1992b, p. 177, pl. 28, figs. 2a, b.
- Valvorotalia minuta* Ujiié, 1997, p. 127, pl. 2, figs. 3a-c. (n. gen. et n. sp.)
- Valvulineria hamanakoensis* (Ishiwada). Matsushita and Kitazato, 1989, pl. 1, figs. 5a-c; Kosugi et al., 1991, fig. 5-6: *V. aff. hamanakoensis* (Ishiwada). Oki, 1989a, p. 129, pl. 14, figs. 9a-f: *V. minuta* (Schubert). Ujiié, 1995, p. 64, pl. 7, figs. 5a-c, 6: *V. sadonica* Asano. Kato, 1992, p. 390, pl. 2, figs. 20a-c: *V. sp.* Oki, 1989a, p. 129, pl. 14, fig. 1.
- Vertebralina striata* d'Orbigny. Hatta and Ujiié, 1992a, p. 62, pl. 4, figs. 6a, b.
- Virgulopsis* cf. *pustulata* Finlay. Oki and Yamamoto, 1992, p. 197, fig. 4-14.
- Wiesnerella auriculata* (Egger). Oki, 1989a, p. 85, pl. 4, fig. 10; Hatta and Ujiié, 1992a, p. 62, pl. 4, figs. 7a-c: *W. ujiiéi* Hatta, in Hatta and Ujiié, 1992a, p. 62, pl. 4, figs. 8a-c. (n. sp.)

3. Bibliography and References

- Akimoto, K., 1989. Recent foraminifera from Enshunada. In *Collected Papers on Foraminifera from the Japanese Islands* edited by Takayanagi, Y. and Ishizaki, K., p. 93-104. (in Japanese)
- Akimoto, K., 1990. Distribution of recent foraminiferal faunas in the Pacific off southwest Japan and around Hachijojima Island. *The Science Report of the Tohoku University, Second Ser. (Geol.)*, vol. 60, no. 2, p. 139-223, pls. 11-24.
- Akimoto, K. and Torii, M., 1996. Distribution of recent benthic foraminiferal assemblages in the surface sediments of the Hyuganada area, off Kyushu and Shikoku, Japan. *Bulletin of the Geological Survey of Japan*, vol. 47, no. 1, p. 41-59.
- Akimoto, K., Tanaka, T., Hattori, H. and Hotta, H., 1990. Recent benthic foraminiferal assemblages from the hydrothermal deposits in the Okinawa Trough, Ryukyu Islands, Japan. *JAMSTECTR Deepsea Research*, p. 99-114. (in Japanese with English abstract)
- Akimoto, K., Tanaka, T., Hattori, M., and Hotta, H., 1992. Recent benthic foraminiferal assemblages around hydrothermal vents in the Okinawa Trough, Ryukyu Islands, Japan. In *Studies in Benthic Foraminifera (BENTHOS '90)* edited by Takayanagi, Y. and Saito, T., p. 211-225, Tokai University Press.
- Hasegawa, S., 1988. Distribution of recent foraminiferal fauna in Toyama Bay, Central Japan. *Revue de Paléobiologie, Special Volume (BENTHOS'86)*, p. 803-813.
- Hasegawa, S., 1989. Coastal benthic foraminiferal fauna in the Japan Sea. In *Collected Papers on Foraminifera from the Japanese Islands* edited by Takayanagi, Y. and Ishizaki, K., p. 131-142. (in Japanese with English abstract)
- Hatta, A., 1996. *Pyrgo rasheedi*, n. sp. (Foraminifera). *South Pacific Study (Kagoshima University Research Center for the South Pacific)*, vol. 17, no. 1, p. 21-28, pl. 1.
- Hatta, A. and Ujiié, H., 1992a. Benthic foraminifera from coral seas between Ishigaki and Iriomote Islands, southern Ryukyu Island Arc, northwestern Pacific. Part 1. Systematic descriptions of Textulariina and Miliolina. *Bulletin of the College of Science, University of the Ryukyus*, no. 53, p. 49-119, pls. 1-19.
- Hatta, A. and Ujiié, H., 1992b. *Ditto*. Part 2. Systematic description of Rotaliina. *Bulletin of the College of Science, University of the Ryukyus*, no. 54, p. 163-287, pls. 20-51.
- Inoue, Y., 1989a. Northwest Pacific foraminifera as paleoenvironmental indicators. *Science Reports of the Institute of Geoscience, University of Tsukuba, Section B = Geological Sciences*, vol. 10, p. 57-162, pls. 18-33.
- Inoue, Y. 1989b. Foraminiferal faunas in cores from the Sado Basin. In *Collected Papers on Foraminifera from the Japanese Islands* edited by Takayanagi, Y. and Ishizaki, K., p. 117-129, pls. 1, 2. (in Japanese)
- Kaiho, K. and Hasegawa, S., 1986. Bathymetric distribution of benthic foraminifera in the bottom sediments off

- Onahama, Fukushima Prefecture, northeast Japan. *In Studies on Cenozoic Benthic Foraminifera in Japan* edited by Matoba, Y. and Kato, M., p. 43-52. (in Japanese)
- Kamemaru, A., 1996. Changing composition of benthic foraminiferal thanatocoenoses in Matsushima Bay, northeast Japan, from 1960's to 1970's. *Fossils (Kaseki)*, no. 61, p. 1-20. (in Japanese with English abstract)
- Kato, M., 1986. Recent shallow water foraminifera in Hiroshima Bay, Seto Inland Sea, Japan. *In Studies on Cenozoic Benthic Foraminifera in Japan* edited by Matoba, Y. and Kato, M., p. 27-42. (in Japanese)
- Kato, M., 1989. Benthic foraminifers from the Japan Sea piston cores. *In Collected Papers on Foraminifera from the Japanese Islands* edited by Takayanagi, Y. and Ishizaki, K., p. 111-116. (in Japanese)
- Kato, M., 1992. Benthic foraminifers from the Japan Sea: Leg 128. In Pisciotto, K. A., Ingle, J. C., Jr., von Breymann, M. T., Barron, J. et al., 1992. *Proc. ODP, Sci. Results, 127/128, Pt. 1: College Station, TX (Ocean Drilling Program)*, 365-392, pls. 1-4.
- Kawagata, S. and Ujiie, H., 1996. Distribution and environmental relationships of recent bathyal foraminifera in the Ryukyu Island Arc region, northwest Pacific Ocean. *Journal of Foraminiferal Research*, vol. 26, no. 4, p. 342-356.
- Kitazato, H., 1986. Ecological observations of benthic foraminifera living in the rocky shore. *In Studies on Cenozoic Benthic Foraminifera in Japan* edited by Matoba, Y. and Kato, M., p. 1-12, pls. 1,2. (in Japanese)
- Kitazato, H., 1988a. Ecology of benthic foraminifera in the tidal zone of a rocky shore. *Revue de Paléobiologie, Special Volume (BENTHOS'86)*, p. 815-825.
- Kitazato, H., 1988b. Locomotion of some benthic foraminifera in and on sediments. *Journal of Foraminiferal Research*, vol. 18, no. 4, p. 344-349.
- Kitazato, H., 1989. Vertical distribution of benthic foraminifera within sediments (Preliminary Report). *Benthos Research (Bulletin of Japanese Association of Benthology)*, no. 35/36, p. 41-51.
- Kitazato, H., 1994. Foraminiferal microhabitats in four marine environments around Japan. *Marine Micropaleontology*, Vol. 24, no. 1, p. 29-41.
- Kitazato, H., 1995. Recolonization by deep-sea benthic foraminifera: possible substrate preferences. *Marine Micropaleontology*, Vol. 26 (Special Volume FORAMS'94), p. 65-74.
- Kitazato, H. and Matsushita, S., 1996. Laboratory observations of sexual and asexual reproduction of *Trochammina hadai* Uchio. *Transactions and Proceedings of the Palaeontological Society of Japan, N. S.*, no. 182, p. 454-466
- Kitazato, H., Ikeya, N. and Kikuchi, T., 1981. Benthic foraminifera from Otsuchi Bay - I. *Report of the Otsuchi Marine Research Center*, 7, p. 21-24. (in Japanese)
- Kitazato, H., Ikeya, N. and Wada, H., 1982. Benthic foraminifera from Otsuchi Bay - II. *Report of the Otsuchi Marine Research Center*, 8, p. 7-12. (in Japanese)
- Konda, I., 1987. Changes of foraminiferal assemblage in Osaka Bay. *Reports of the Machinery of Kansai for the Protection of Natural Environment*, no. 14, p. 11-22. (in Japanese, title translated)
- Konda, I. and Chiji, M., 1989. Change of foraminiferal thanatocoenoses in Tanabe Bay, Kii Peninsula, during the last thirty years. *In Collected Papers on Foraminifera from the Japanese Islands* edited by Takayanagi, Y. and Ishizaki, K., p. 105-110. (in Japanese with English abstract)
- Kosugi, M., Kataoka, H. and Hasegawa, S., 1991. Classification of foraminifer communities as indicators of environments in an inner bay and its application to reconstruction of paleoenvironments. *Kaseki (Fossils)*, no. 50, p. 37-55.
- Loeblich, A. R., Jr. and Tappan, H., 1987. Foraminiferal genera and their classification. p. 1-970, pls. 1- 847, Van Nostrand Reinhold (New York).
- Matoba, Y. and Honma, N., 1986. Depth distribution of recent benthic foraminifera off Nishitsugaru, eastern Sea of Japan. *In Studies on Cenozoic Benthic Foraminifera in Japan* edited by Matoba, Y. and Kato, M., p. 53-78,

pls. 1-4. (in Japanese with English abstract)

- Matoba, Y. and Fukasawa, K., 1992. Depth distribution of Recent benthic foraminifera on the continental shelf and uppermost slope off southern Akita Prefecture, northeast Japan (the eastern Japan Sea). *In* Centenary of Japanese Micropaleontology edited by Ishizaki, K. and Saito, T., p. 207-226, Terra Science Publishing (Tokyo).
- Matsushita, S. and Kitazato, H., 1989. Seasonality in the benthic foraminiferal community and the life history of *Trochammina hadai* Uchio in Hamana Lake, Japan. *In* Paleocology, Biostratigraphy, Paleoceanography and Taxonomy of Agglutinated Foraminifera edited by Hemleben C., Kaminski, M. A., Kuhnt, W. and Scott, D.B., p. 695-715, pls. 1, 2. Kluwer Academic Publishers (Netherlands).
- Nishi, H., 1992. The depth distribution of living benthic foraminifera within marine sediments of Suruga and Sagami Bays, off the southern coast of Japan. *In* Studies in Benthic Foraminifera (BENTHOS'90) edited by Takayanagi, Y. and Saito, T., p. 109-192, Tokai University Press (Tokyo).
- Nomura, R., 1982. List and bibliography of the Recent benthonic foraminifera. *Memoirs of the Faculty of Education, Shimane University*, no. 15, p. 31-69.
- Nomura, R. 1983. *Ditto*. *Memoirs of the Faculty of Education, Shimane University*, no. 16, p. 21-54.
- Nomura, R., 1984. Scanning electron microscopy of *Favocassidulina favus* (Brady). *Journal of Foraminiferal Research*, vol. 14, no. 2, p. 93-100.
- Nomura, R., 1988. Ecological significance of wall microstructure of benthic foraminifera on the southwestern Sea of Japan. *Revue de Paléobiologie, Special Volume (BENTHOS'86)*, p. 859-871.
- Nomura, R. and Seto, K., 1992. Benthic foraminifera from brackish lake Nakanoumi, San-in District, Southwestern Honshu, Japan. *In* Centenary of Japanese Micropaleontology edited by Ishizaki, K. and Saito, T., p. 227-240, Terra Science Publishing (Tokyo).
- Nomura, R. and Yoshikawa, K., 1995. Benthic foraminiferal changes in relation to human activities in brackish environment: Part 2 the results of one central transit in Lake Shinjiko. *Memoirs of the Faculty of Education, Shimane University, Natural Science*, vol. 29, p. 31-43.
- Oki, K., 1986. Preliminary report on living population of benthic foraminifera in Kagoshima Bay, south Kyushu, Japan. *In* Studies on Cenozoic Benthic Foraminifera in Japan edited by Matoba, Y. and Kato, M., p. 13-26.
- Oki, K., 1989a. Ecological analysis of benthonic foraminifera in Kagoshima Bay, south Kyushu, Japan. *South Pacific Study (Kagoshima University Research Center for the South Pacific)*, vol. 10, no. 1, p. 1-191, pls. 1-22.
- Oki, K., 1989b. Distribution of the genus *Buliminella* from areas around Japan. *In* Collected Papers on Foraminifera from the Japanese Islands edited by Takayanagi, Y. and Ishizaki, K., p. 143-150.
- Oki, K. and Yamamoto, H., 1992. Notes on marine Quaternary sediments newly found in the west coastal area of the Satsuma Peninsula, Kyushu, Japan, with special reference to the benthic foraminiferal assemblages. *In* Centenary of Japanese Micropaleontology edited by Ishizaki, K. and Saito, T., p. 189-205, Terra Science Publishing (Tokyo).
- Scott, D. B., Hasegawa, S., Saito, T., Ito, K. and Collins, E., 1995. Marsh foraminiferal and vegetation distributions in Nemuro Bay wetland areas, eastern Hokkaido. *Transaction and Proceedings of the Palaeontological Society of Japan, N. S.*, no. 180, p. 282-295.
- Takayanagi, Y. and Hasegawa, S., 1986. Pleistocene benthic foraminifera in Well Kashimaoki SK-1. *In* Studies on Cenozoic Benthic Foraminifera in Japan edited by Matoba, Y. and Kato, M., p. 95-104, pls. 1, 2.
- Ujiié, H., 1990. Bathyal benthic foraminifera in a piston core from east off the Miyako Islands, Ryukyu Island Arc. *Bulletin of the College of Science, University of the Ryukyus*, no. 49, p. 1-60, pls. 1-32.
- Ujiié, H., 1995. Benthic foraminifera common in the bathyal surface sediments of the Ryukyu Island region, Northwest Pacific. *Bulletin of the College of Science, University of the Ryukyus*, no. 60, p. 51-111, pls. 1-14.
- Ujiié, H., 1997. New benthic foraminifera from the Hess Rise Core, Northwest Pacific. *Bulletin of the College of*

- Science, University of the Ryukyus*, no. 63, p. 125-131, pls. 1-2.
- Ujiié, H. and Hatta, A., 1994. Additional descriptions of benthic foraminifera from coral seas between Ishigaki and Irimote Islands, southern Ryukyu Island Arc. *Bulletin of the College of Science, University of the Ryukyus*, no. 57, p. 11-25, pls. 1-4.
- Ujiié, H. and Hatta, A. 1995. Quantitative analyses of benthic foraminiferal assemblages from southern Ryukyu Island Arc, subtropical northwestern Pacific Ocean. *Journal of Foraminiferal Research*, vol. 25, no. 4, p. 334-349.
- Ujiié, H. and Rifardi, D., 1993. Some benthic foraminifera from the Oura River Estuary and its environs, Okinawa. *Bulletin of the College of Science, University of the Ryukyus*, no. 56, p. 121-143, pls. 1-6.
- Yasuda, H., 1989. Benthic foraminifers and sedimentary facies of the lower slope basin off Shikoku, Japan. *In* Collected Papers on Foraminifera from the Japanese Islands edited by Takayanagi, Y. and Ishizaki, K., p. 83-92.
- Xu, X. and Ujiié, H., 1994. Bathyal benthic foraminiferal changes during the past 210,000 years: Evidence from piston cores taken from seas south of Ishigaki Island, southern Ryukyu Island Arc. *Transaction and Proceedings of the Palaeontological Society of Japan, N. S.*, no. 175, p. 497-520.