

Zeitschrift: Eclogae Geologicae Helvetiae
Herausgeber: Schweizerische Geologische Gesellschaft
Band: 86 (1993)
Heft: 2

Artikel: Towards a better definition of the Anisian/Ladinian boundary : new biostratigraphic data and correlations of boundary sections from the Southern Alps
Autor: [s.n.]
Anhang: Plates
DOI: <https://doi.org/10.5169/seals-167250>

Nutzungsbedingungen

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. [Siehe Rechtliche Hinweise.](#)

Conditions d'utilisation

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. [Voir Informations légales.](#)

Terms of use

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. [See Legal notice.](#)

Download PDF: 16.03.2025

ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>

Plate 1

(all figures natural size)

- Figs. 1–8: *Hungarites zalaensis* (Böckh, 1872), Latemar Limestone, “Lastei di Valsorda” locality, Reitzi/Kellnerites Zone.
- Fig. 1: PIMUZ 7005, lower part of outcrop.
- Fig. 2: PIMUZ 7006, lower part of outcrop.
- Fig. 3: PIMUZ 7007, middle part of outcrop; for cross section see Fig. 15 b.
- Fig. 4: PIMUZ 7008, adult, complete specimen, lower part of outcrop.
- Figs. 5–6: PIMUZ 7009, lower part of outcrop; for cross section see Fig. 15 a.
- Figs. 7–8: PIMUZ 7010, middle part of outcrop.

Plate 1

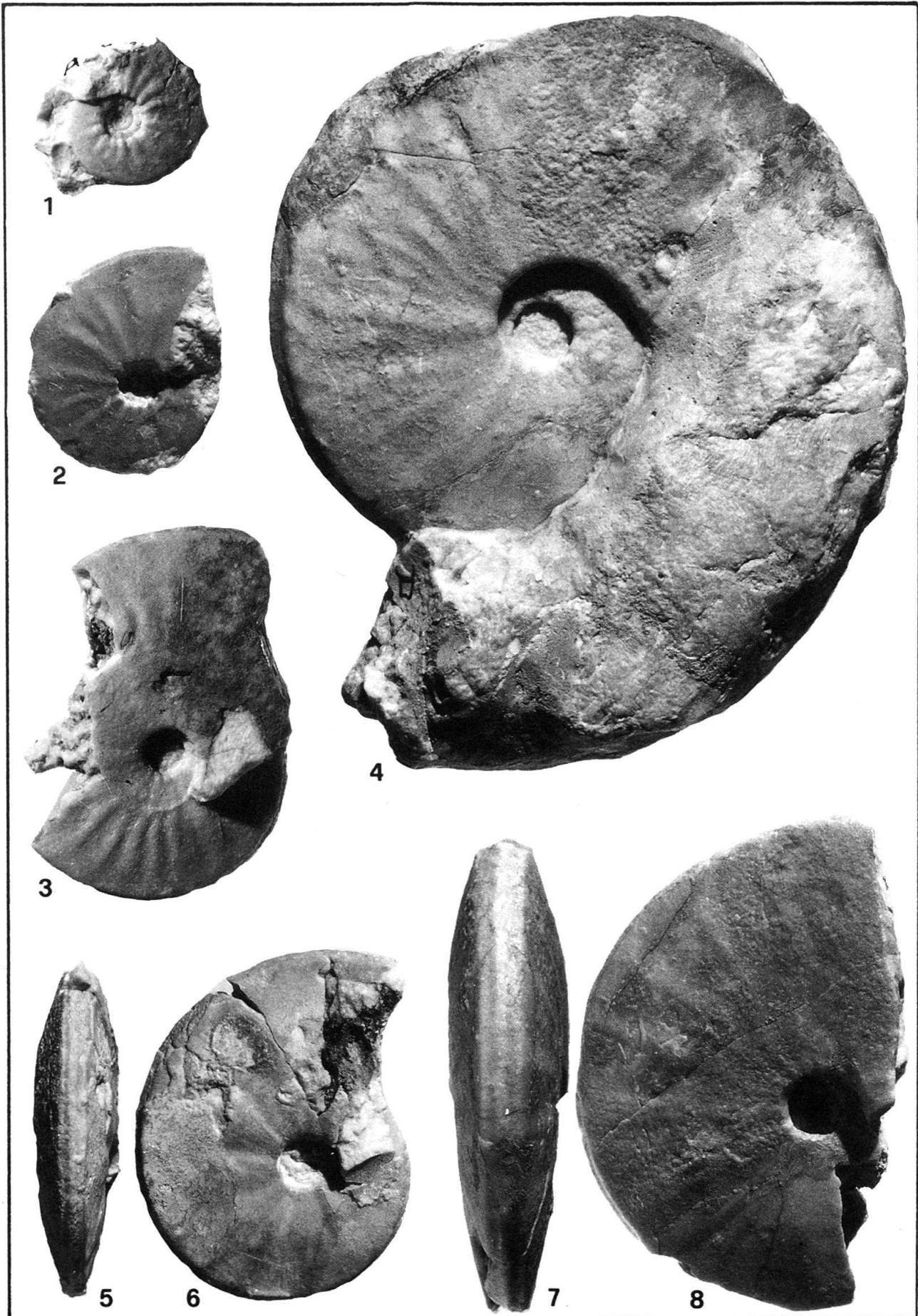


Plate 2

(all figures natural size)

- Fig. 1: *Hungarites* cf. *plicatus* (Hauer, 1896), PIMUZ 7012, specimen with shell, Marmolada Limestone, Punta di Zonia, lower horizon, Reitzi/Kellnerites Zone; for cross section and suture line see Figs. 15c and 16b.
- Fig. 2: *Hungarites* cf. *plicatus* (Hauer, 1896), PIMUZ 7013, Marmolada Limestone, Punta di Zonia, lower horizon, Reitzi/Kellnerites Zone; for suture line see Fig. 16a.
- Fig. 3: *Hungarites* cf. *plicatus* (Hauer, 1896), PIMUZ 7014, Marmolada Limestone, Punta di Zonia, lower horizon, Reitzi/Kellnerites Zone.
- Fig. 4: *Hungarites* cf. *plicatus* (Hauer, 1896), PIMUZ 7015, Marmolada Limestone, Punta di Zonia, lower horizon, Reitzi/Kellnerites Zone.
- Fig. 5: *Hungarites lenis* (Hauer, 1896), PIMUZ 7019, adult, complete specimen with partly preserved shell, "transitional beds", 54.25 m, Bagolino, Reitzi/Kellnerites Zone.
- Figs. 6–7: *Hungarites lenis* (Hauer, 1896), PIMUZ 7020, "transitional beds", 54.25 m, Bagolino, Reitzi/Kellnerites Zone.
- Figs. 8–9: *Hungarites* cf. *plicatus* (Hauer, 1896), PIMUZ 7016, fragment of a small specimen with distinct ribs, Marmolada Limestone, Punta di Zonia, lower horizon, Reitzi/Kellnerites Zone.
- Figs. 10–11: *Parakellnerites arthaberi* (Diener, 1899), PIMUZ 7024, Fig. 10: anterior part of last turn removed to show the inner whorl, "transitional beds", 57.8 m, Bagolino, Reitzi/Kellnerites Zone.

Plate 2

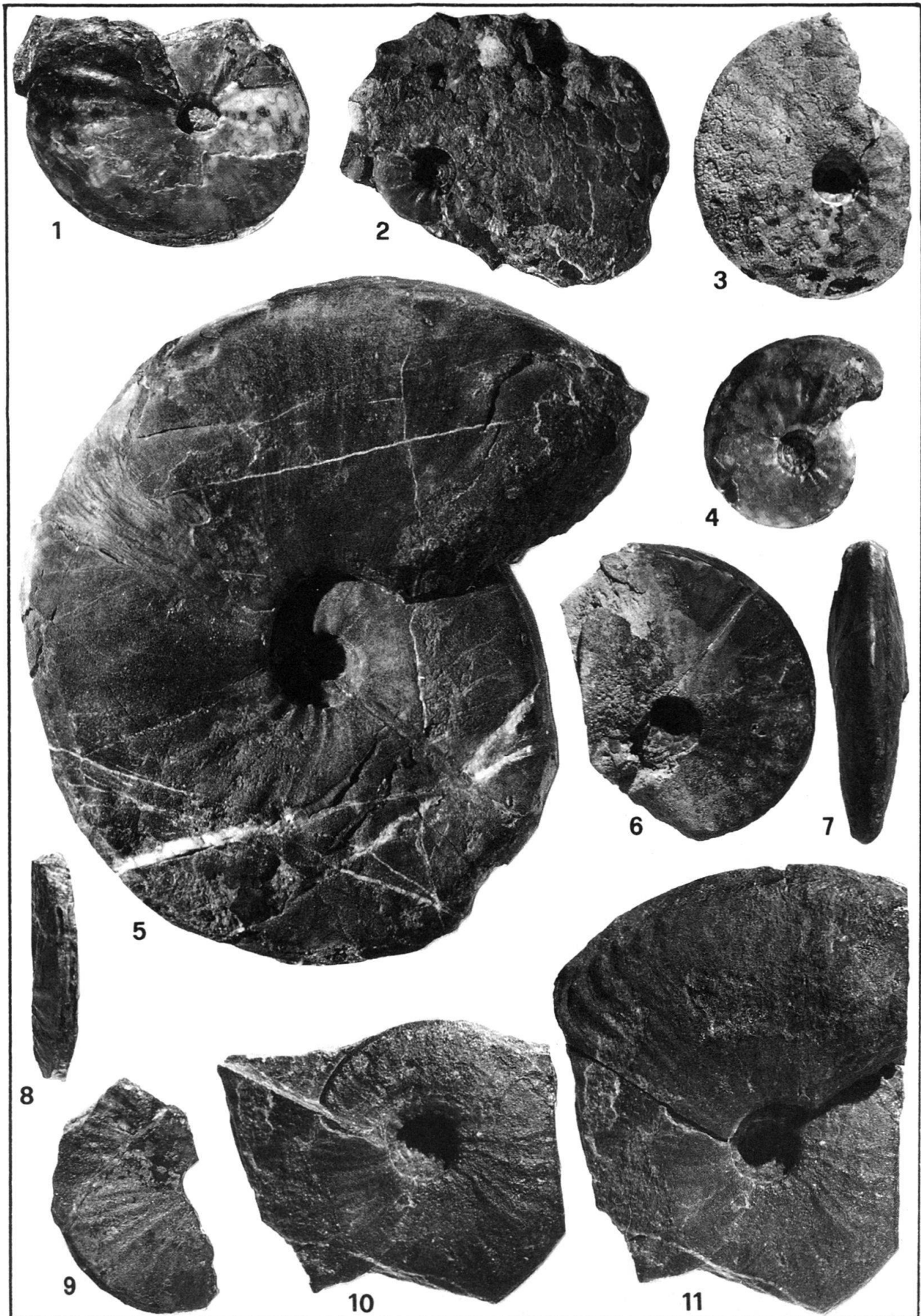


Plate 3

(all figures natural size)

- Figs. 1–10: *Parakellnerites zoniaensis* n. sp., Marmolada Limestone, Punta di Zonia, lower horizon, Reitzi/Kellnerites Zone.
- Figs. 1–2: PIMUZ 7027, complete, adult specimen; for cross section and suture line see Figs. 15 e and 16 d.
- Fig. 3: PIMUZ 7028, small specimen, note the distinct ribs on the inner part of the flank.
- Fig. 4: PIMUZ 7029.
- Fig. 5: PIMUZ 7030, phragmocone; for cross section see Fig. 15 f.
- Figs. 6–7: PIMUZ 7031, complete specimen; for cross section see Fig. 15 g.
- Figs. 8–9: PIMUZ 7032.
- Fig. 10: Holotype, PIMUZ 7033, complete, adult specimen; for cross section see Fig. 15 d.

Plate 3

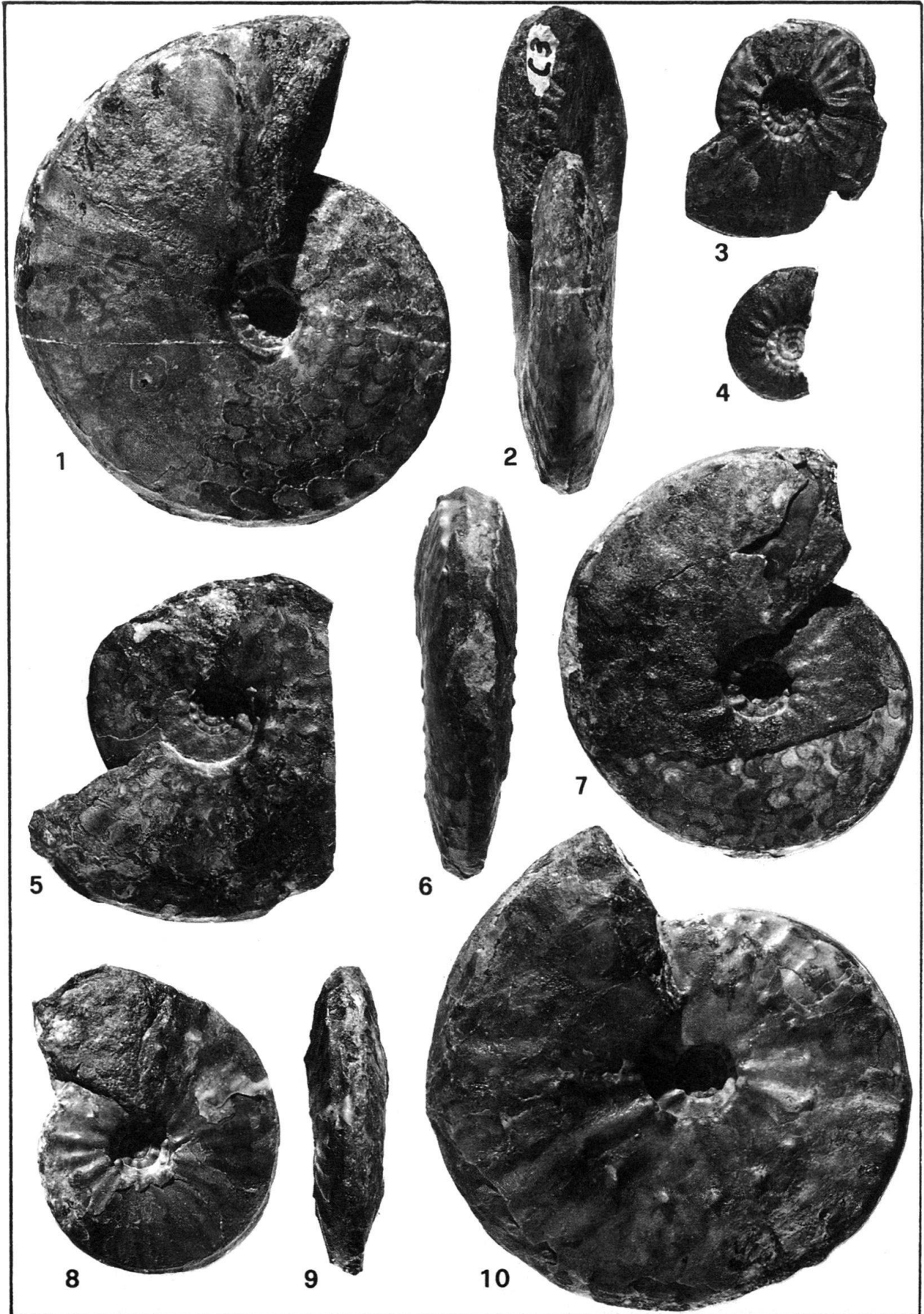


Plate 4

(all figures natural size)

- Figs. 1–17: *Parakellnerites rothpletzi* (Salomon, 1895), Latemar Limestone, “Lastei di Valsorda” locality, upper part of outcrop, Reitzi/Kellnerites Zone.
- Figs. 1–2: PIMUZ 7034; for cross section see Fig. 15h.
- Figs. 3–4: PIMUZ 7035.
- Fig. 5: PIMUZ 7036.
- Fig. 6: PIMUZ 7037.
- Figs. 7–8: PIMUZ 7038.
- Fig. 9: PIMUZ 7039.
- Fig. 10: PIMUZ 7040.
- Fig. 11: PIMUZ 7041.
- Figs. 12–13: PIMUZ 7042.
- Fig. 14: PIMUZ 7043.
- Fig. 15: PIMUZ 7044.
- Figs. 16–17: PIMUZ 7045.
- Fig. 18: *Parakellnerites* aff. *rothpletzi* (Salomon, 1895) and a very small *Aplococeras* sp., PIMUZ 7046, “Lower Plattenkalke”, Seceda, Reitzi/Kellnerites Zone.
- Fig. 19: *Parakellnerites* ? *waageni* (Mojs., 1882), PIMUZ 7047, cast of a mould from the Marmolada Limestone, Marmolada, note the undulated median keel.

Plate 4

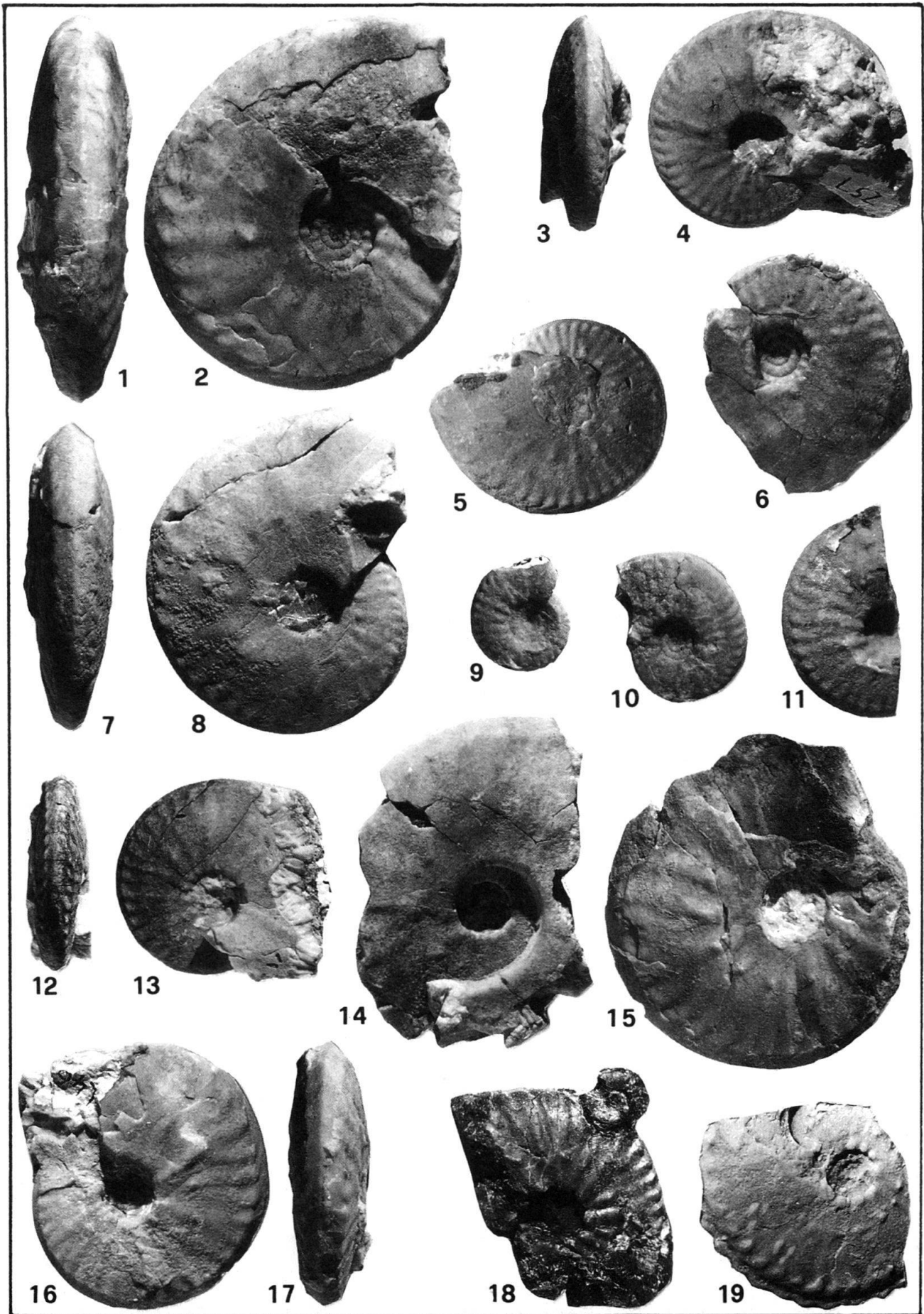


Plate 5

(all figures natural size)

- Figs. 1–2: “*Hungarites*” cf. *lenis* (Hauer, 1896), PIMUZ 7048, complete specimen, Fig. 1: right side with body chamber, Fig. 2: left side anterior part of the body chamber removed, “transitional beds”, 53.8 m, Bagolino, Reitzi/Kellnerites Zone.
- Figs. 3–17: Ammonoids from the “transitional beds”, Pèrtica, Reitzi/Kellnerites Zone; all figured specimens are preserved as siliceous pseudomorphs.
- Fig. 3: *Lardaroceras* aff. *pseudohungaricum* Balini, 1992, PIMUZ 7050.
- Fig. 4: *Lardaroceras* sp., PIMUZ 7054.
- Fig. 5: *Lardaroceras* sp., PIMUZ 7053.
- Fig. 6: Hungaritidae gen. et sp. indet., PIMUZ 7055.
- Figs. 7–8: *Kellnerites bosnensis* (Hauer, 1887), PIMUZ 7059.
- Fig. 9: *Kellnerites bosnensis* (Hauer, 1887), PIMUZ 7060.
- Fig. 10: *Kellnerites bosnensis* (Hauer, 1887), PIMUZ 7058.
- Figs. 11–12: *Lardaroceras* aff. *pseudohungaricum* Balini, 1992, PIMUZ 7049.
- Figs. 13–14: *Kellnerites bosnensis* (Hauer, 1887), PIMUZ 7057.
- Fig. 15: *Lardaroceras* aff. *pseudohungaricum* Balini, 1992, PIMUZ 7051.
- Figs. 16–17: *Lardaroceras* aff. *krystyni* Balini, 1992, PIMUZ 7052.

Plate 5

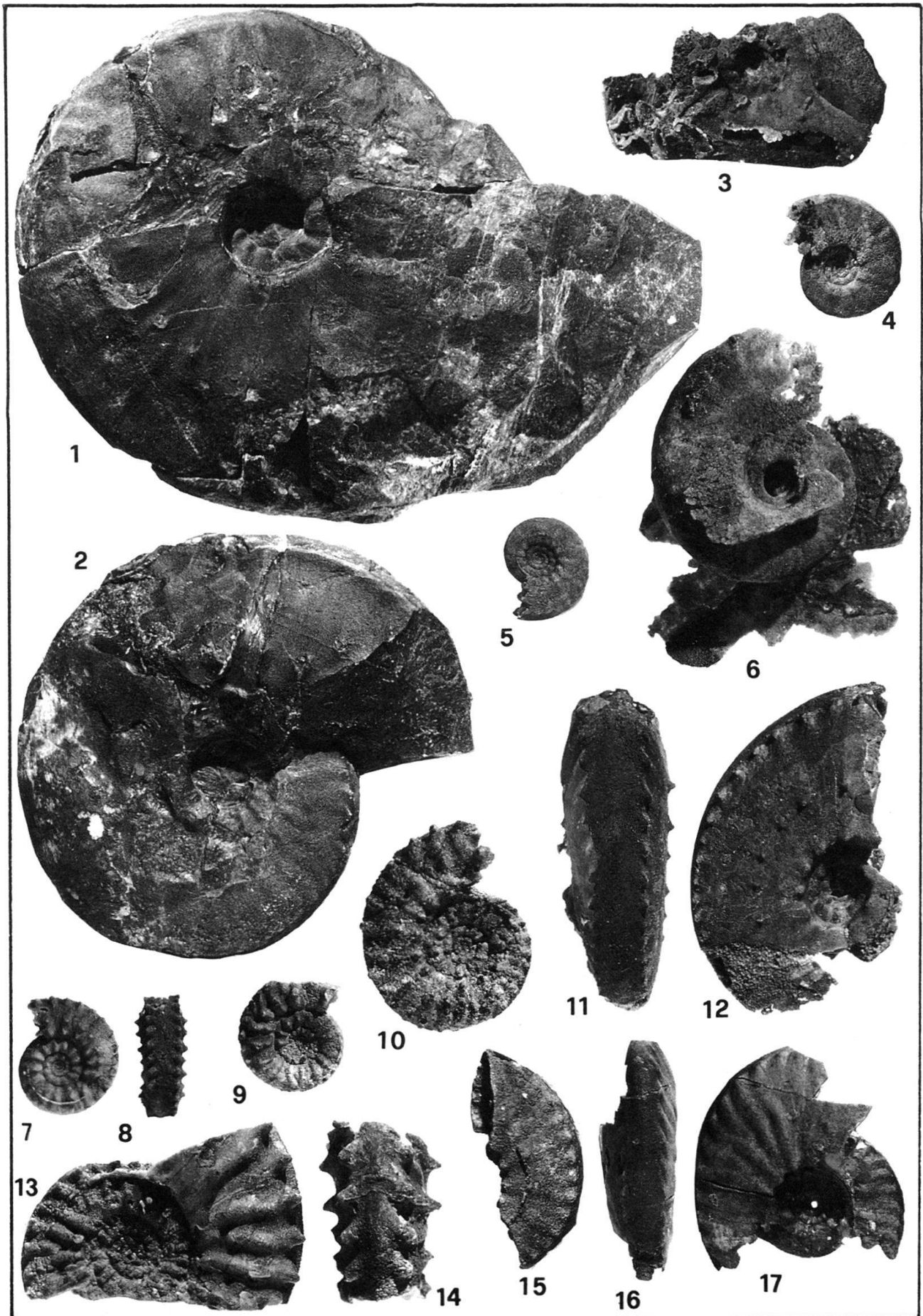


Plate 6

(all figures natural size)

- Figs. 1–2: *Kellnerites bagolinensis* n. sp., holotype, PIMUZ 7061, internal mould with body chamber (180°), “transitional beds”, 55.5 m, Bagolino, Reitzi/Kellnerites Zone; for cross section and suture line see Figs. 15o and 16e.
- Fig. 3: *Kellnerites bagolinensis* n. sp., PIMUZ 7062, internal mould of a specimen with weak, densely arranged ribs and nodes, “transitional beds”, 56.6 m, Bagolino, Reitzi/Kellnerites Zone.
- Fig. 4: *Kellnerites angustecarinatus* (Hauer, 1896), PIMUZ 7065, “transitional beds”, 54.25 m, Bagolino, Reitzi/Kellnerites Zone.
- Figs. 5–6: *Kellnerites* cf. *ecarinatus* (Hauer, 1896), PIMUZ 7066, internal mould of the body chamber, external side without median keel, “transitional beds”, 54.65 m, Bagolino, Reitzi/Kellnerites Zone.
- Figs. 7–8: *Kellnerites halilucensis* (Hauer, 1896), PIMUZ 7067, internal mould, last half turn belonging to the body chamber, “transitional beds”, 53.0 m, Bagolino, Reitzi/Kellnerites Zone.
- Fig. 9: *Kellnerites bagolinensis* n. sp., PIMUZ 7063, internal mould of the body chamber with weak, densely arranged ribs and nodes, “transitional beds”, 55.5 m, Bagolino, Reitzi/Kellnerites Zone.
- Figs. 10–11: *Kellnerites bosnensis* (Hauer, 1896), PIMUZ 7068, internal mould of the body chamber and a small part of the phragmocone, “transitional beds”, scree, Bagolino, Reitzi/Kellnerites Zone.

Plate 6

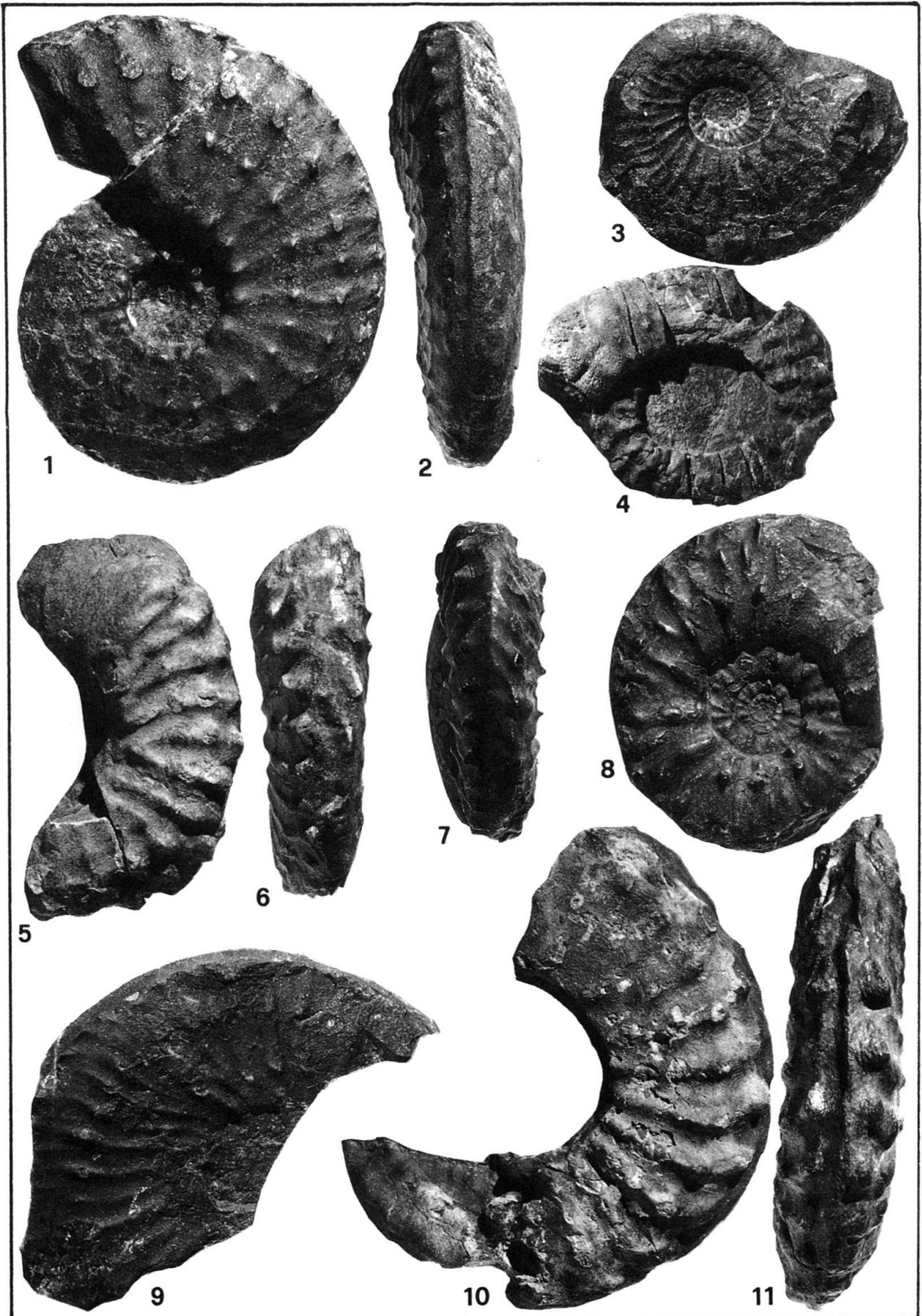


Plate 7

(all figures natural size)

- Fig. 1: *Reitziites reitzi* (Böckh, 1872), PIMUZ 7097, internal mould with a part of the body chamber, “transitional beds”, 56.6 m, Bagolino, Reitzi/Kellnerites Zone.
- Figs. 2–3: *Kellnerites fissicostatus* (Hauer, 1896), PIMUZ 7098, “transitional beds”, 54.25 m, Bagolino, Reitzi/Kellnerites Zone.
- Fig. 4: *Reitziites reitzi* (Böckh, 1872), PIMUZ 7099, a little compressed internal mould, “transitional beds”, Pèrtica, Reitzi/Kellnerites Zone.
- Fig. 5: *Reitziites reitzi* (Böckh, 1872), PIMUZ 7100, internal mould with the body chamber, “transitional beds”, 56.6 m, Bagolino, Reitzi/Kellnerites Zone; for cross section and suture line see Figs. 15s and 17e.
- Figs. 6–7: *Reitziites reitzi* (Böckh, 1872), PIMUZ 7101, internal mould of the inner whorls of a finely ornamented specimen, “transitional beds”, 56.6 m, Bagolino, Reitzi/Kellnerites Zone.

Plate 7

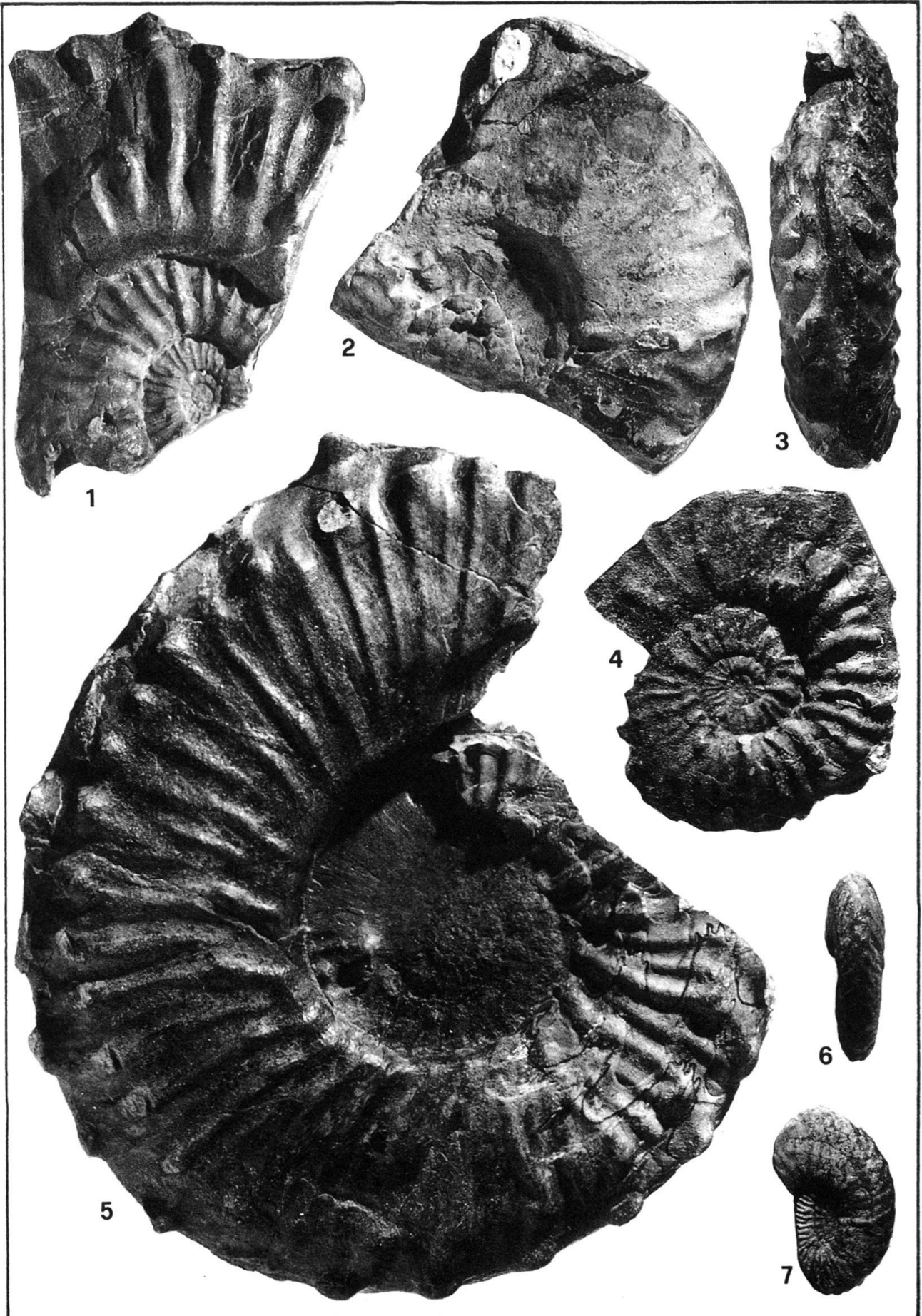


Plate 8

(all figures natural size)

Figs. 1–14: *Reitziites reitzi* (Böckh, 1872), all figured specimens are preserved as internal moulds and are from the “transitional beds” at Bagolino (Figs.: 1–5, 7–10, 13–14 from horizon, 56.6 m, and Fig. 11 from horizon 57.6 m) and Pèrtica (Figs.: 6, 12), Reitzi/Kellnerites Zone.

Fig. 1: PIMUZ 7102.

Fig. 2: PIMUZ 7104.

Figs. 3–4: PIMUZ 7103.

Fig. 5: PIMUZ 7105; for cross section see Fig. 15r.

Fig. 6: PIMUZ 7110.

Figs. 7–8: PIMUZ 7106.

Figs. 9–10: PIMUZ 7107.

Fig. 11: PIMUZ 7109.

Fig. 12: PIMUZ 7111; for suture line see Fig. 17f.

Figs. 13–14: PIMUZ 7108.

Plate 8

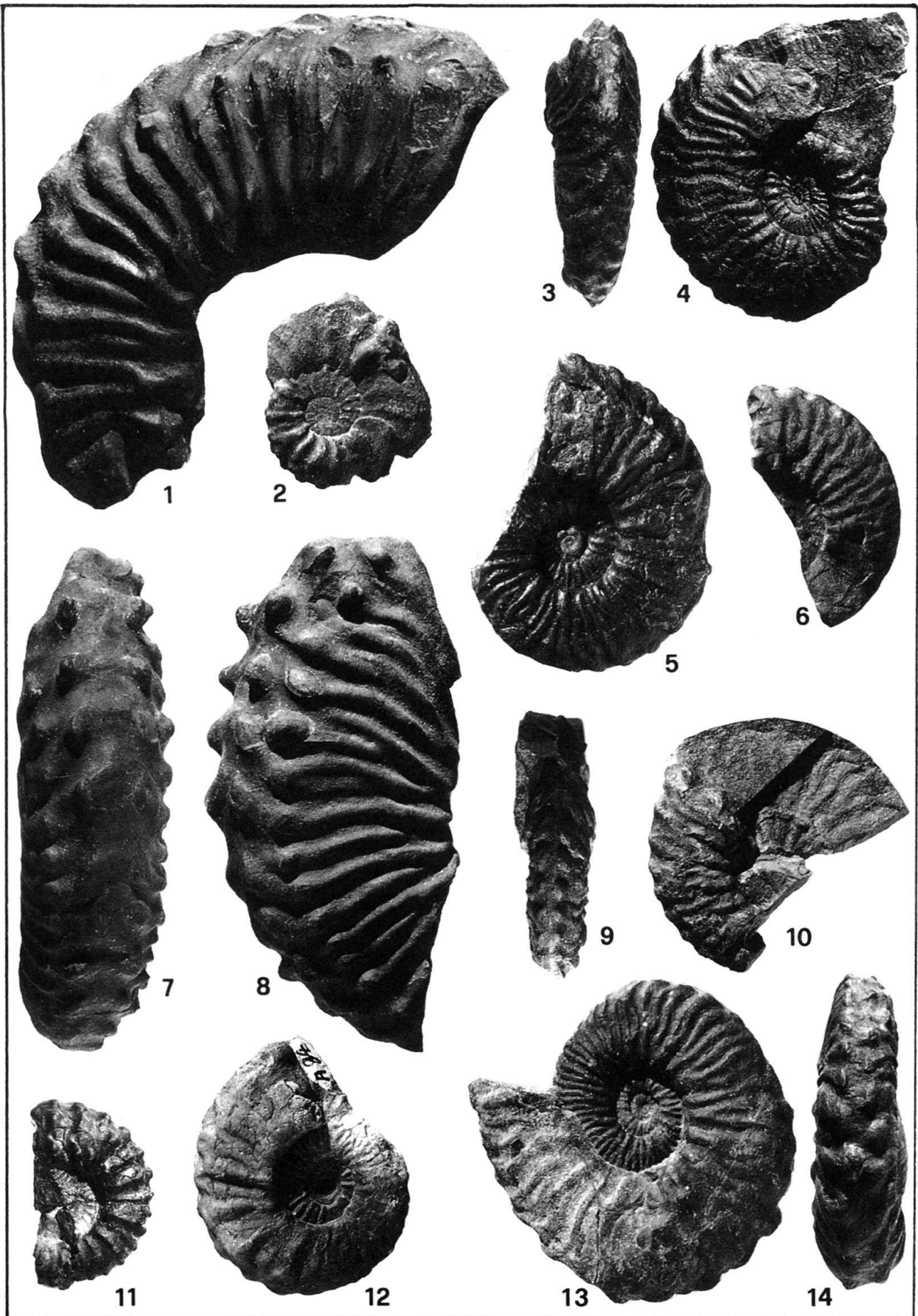


Plate 9

(all figures natural size)

- Figs. 1–2: *Ticinites brescianus* n. sp., PIMUZ L/1641, internal mould of the body chamber and of a small part of the phragmocone, “Buchenstein Beds”, lower “Knollenkalke”, Biogno, Nevadites Zone; for cross section see Fig. 15 m.
- Fig. 3: *Ticinites brescianus* n. sp., PIMUZ 7090, internal mould of the body chamber, “Buchenstein Beds”, lower “Knollenkalke”, Biogno, Nevadites Zone.
- Fig. 4: *Ticinites dolomiticus* n. sp., holotype, PIMUZ 7092, internal mould of the right side (left side completely corroded), “Buchenstein Beds”, lowermost “Knollenkalke”, Seceda, Nevadites Zone; for suture line see Fig. 17 a.
- Fig. 5: *Ticinites* sp., PIMUZ 7094, “Buchenstein Beds”, lowermost “Knollenkalke”, Seceda, Nevadites Zone.
- Figs. 6–7: *Stoppaniceras evolutum* n. sp., PIMUZ 7096, internal mould of the body chamber and parts of the phragmocone, “Buchenstein Beds”, lowermost “Knollenkalke”, Seceda, Nevadites Zone.
- Figs. 8–9: *Ticinites dolomiticus* n. sp., PIMUZ 7093, internal mould, “Buchenstein Beds”, scree of the lowermost “Knollenkalke”, Seceda, Nevadites Zone; for cross section see Fig. 15 n.
- Fig. 10: *Stoppaniceras evolutum* n. sp., holotype, PIMUZ 7095, internal mould with body chamber, “Buchenstein Beds”, lowermost “Knollenkalke”, Seceda, Nevadites Zone; for cross section see Fig. 15 l.
- Fig. 11: *Ticinites brescianus* n. sp., PIMUZ 7091, internal mould of a part of the body chamber, “Buchenstein Beds”, lower “Knollenkalke”, Prezzo, Nevadites Zone.

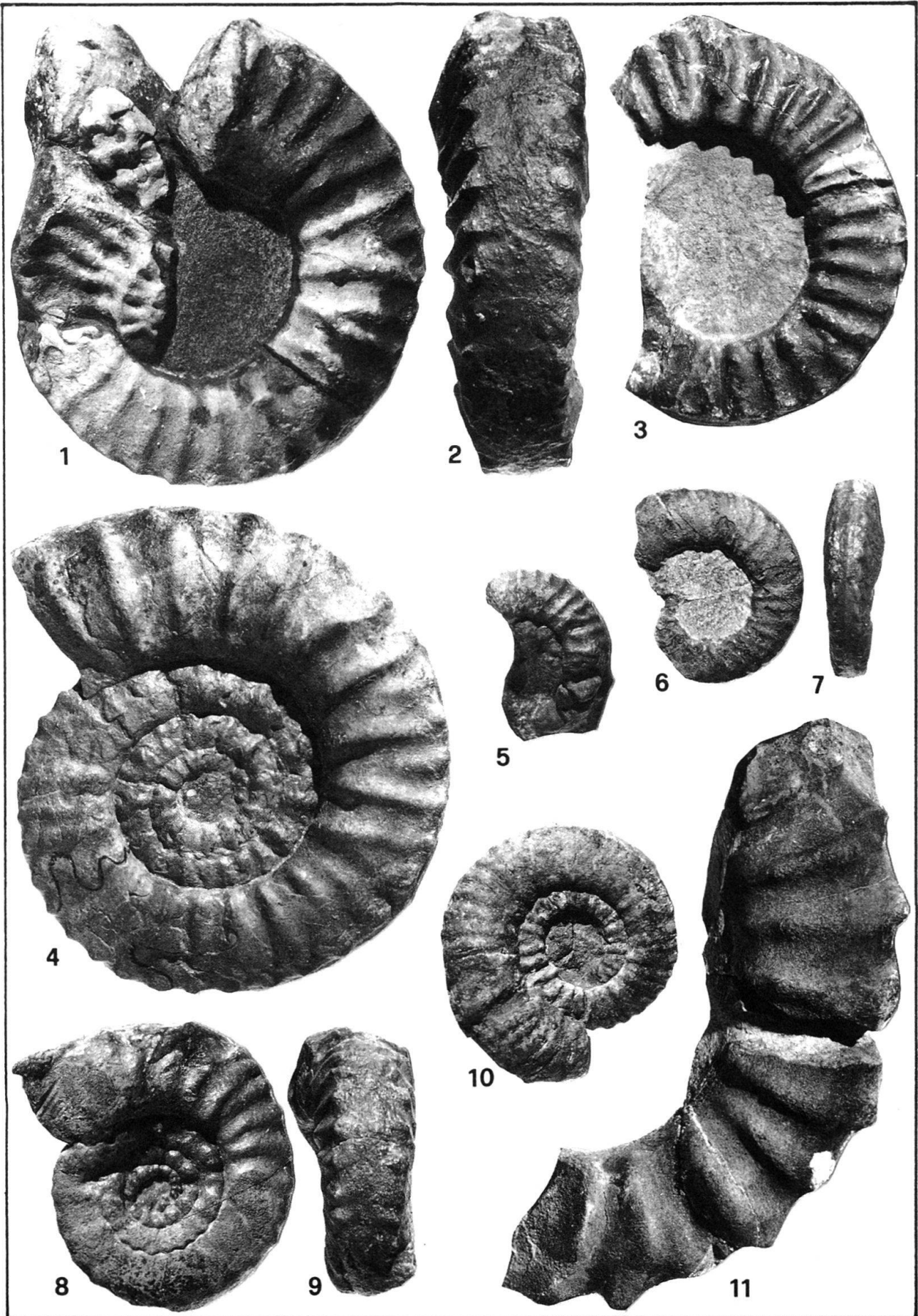


Plate 10

(all figures natural size)

Figs. 1–24: *Latemarites latemarensis* n. sp., Latemar Limestone, “Lastei di Valsorda” locality, lower part, Reitzi/Kellnerites Zone. All specimens are preserved with the shell. However, the internal mould and the shell are usually completely recrystallized. With the exception of Figs. 1–2 all figures are arranged in such a way, that the ornamentation of the specimens decreases from top to bottom.

Figs. 1–2: Holotype, PIMUZ 7069; for cross section see Fig. 15i.

Fig. 3: PIMUZ 7070.

Fig. 4: PIMUZ 7071.

Fig. 5: PIMUZ 7072.

Fig. 6: PIMUZ 7073.

Figs. 7–8: PIMUZ 7074.

Fig. 9: PIMUZ 7075.

Figs. 10–11: PIMUZ 7076.

Fig. 12: PIMUZ 7077.

Fig. 13: PIMUZ 7078.

Figs. 14–15: PIMUZ 7079.

Fig. 16: PIMUZ 7080.

Figs. 17–18: PIMUZ 7081.

Fig. 19: PIMUZ 7082.

Fig. 20: PIMUZ 7083.

Figs. 21–22: PIMUZ 7084.

Figs. 23–24: PIMUZ 7085.

Plate 10

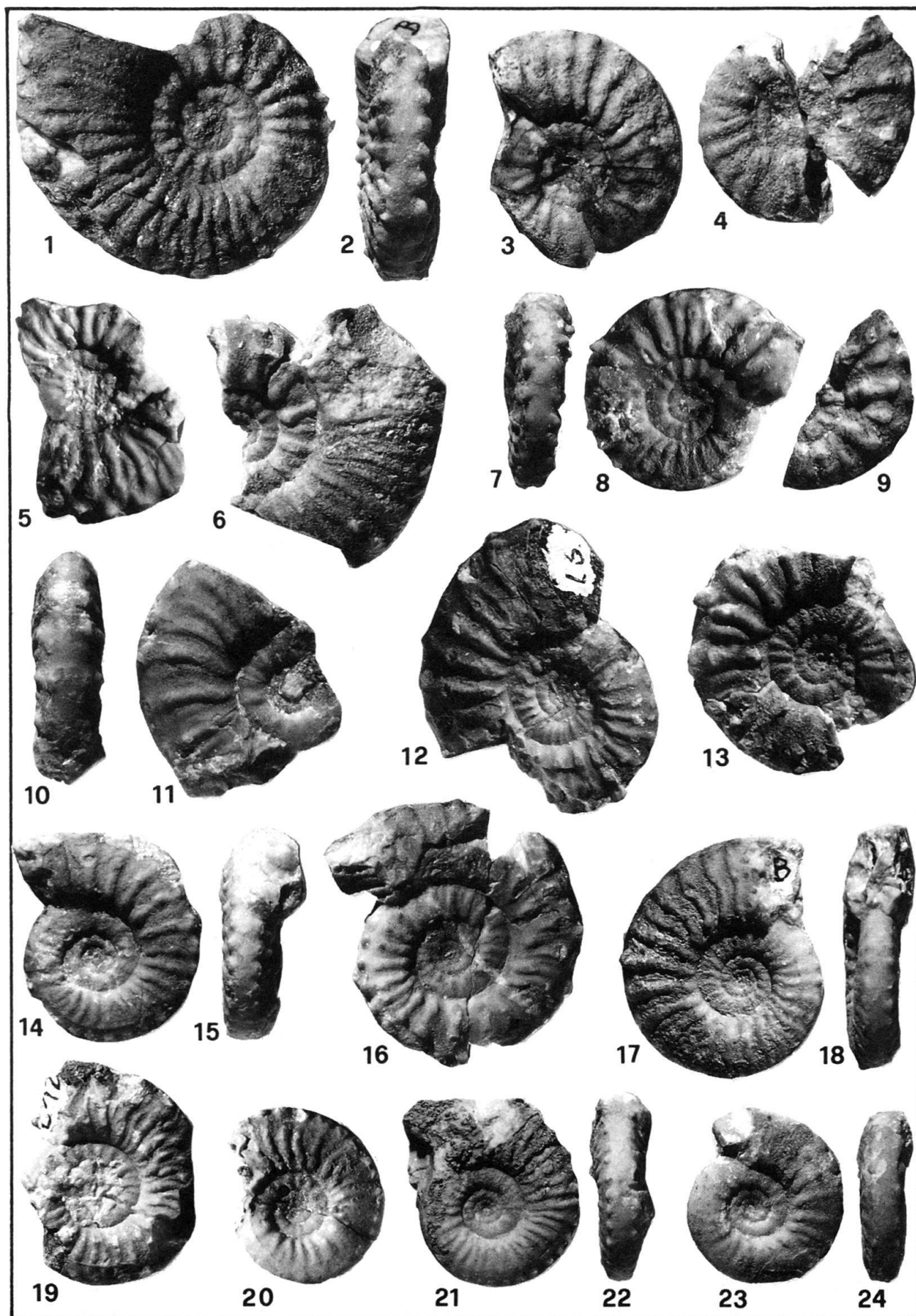


Plate 11

(all figures natural size)

- Figs. 1–2: *Reitziites reitzi* (Böckh, 1872), PIMUZ 7112, very coarsely ornamented morphotype, “transitional beds”, 56.6 m, Bagolino, Reitzi/Kellnerites Zone.
- Fig. 3: *Reitziites reitzi* (Böckh, 1872), PIMUZ 7113, very finely ornamented morphotype, “transitional beds”, 56.6 m, Bagolino, Reitzi/Kellnerites Zone.
- Figs. 4–5: *Nevadites secedensis* n. sp., PIMUZ 7115, “Buchenstein Beds”, lower “Knollenkalke”, Seceda, Nevadites Zone.
- Figs. 6–7: *Nevadites secedensis* n. sp., PIMUZ 7114, “Buchenstein Beds”, lower “Knollenkalke”, Seceda, Nevadites Zone; for cross section see Fig. 15q.
- Fig. 8: *Nevadites secedensis* n. sp., holotype, PIMUZ 7116, internal mould of a complete specimen, “Buchenstein Beds”, lower “Knollenkalke”, Seceda, Nevadites Zone; for cross section see Fig. 15k.
- Figs. 9–10: *Nevadites avenonensis* n. sp., PIMUZ 7118, “Buchenstein Beds”, lower “Knollenkalke”, Pèrtica, Nevadites Zone.
- Figs. 11–12: *Nevadites avenonensis* n. sp., holotype, PIMUZ 7117, part of the body chamber, internal mould with some fragments of the shell, “Buchenstein Beds”, lower “Knollenkalke”, Pèrtica, Nevadites Zone.

Plate 11

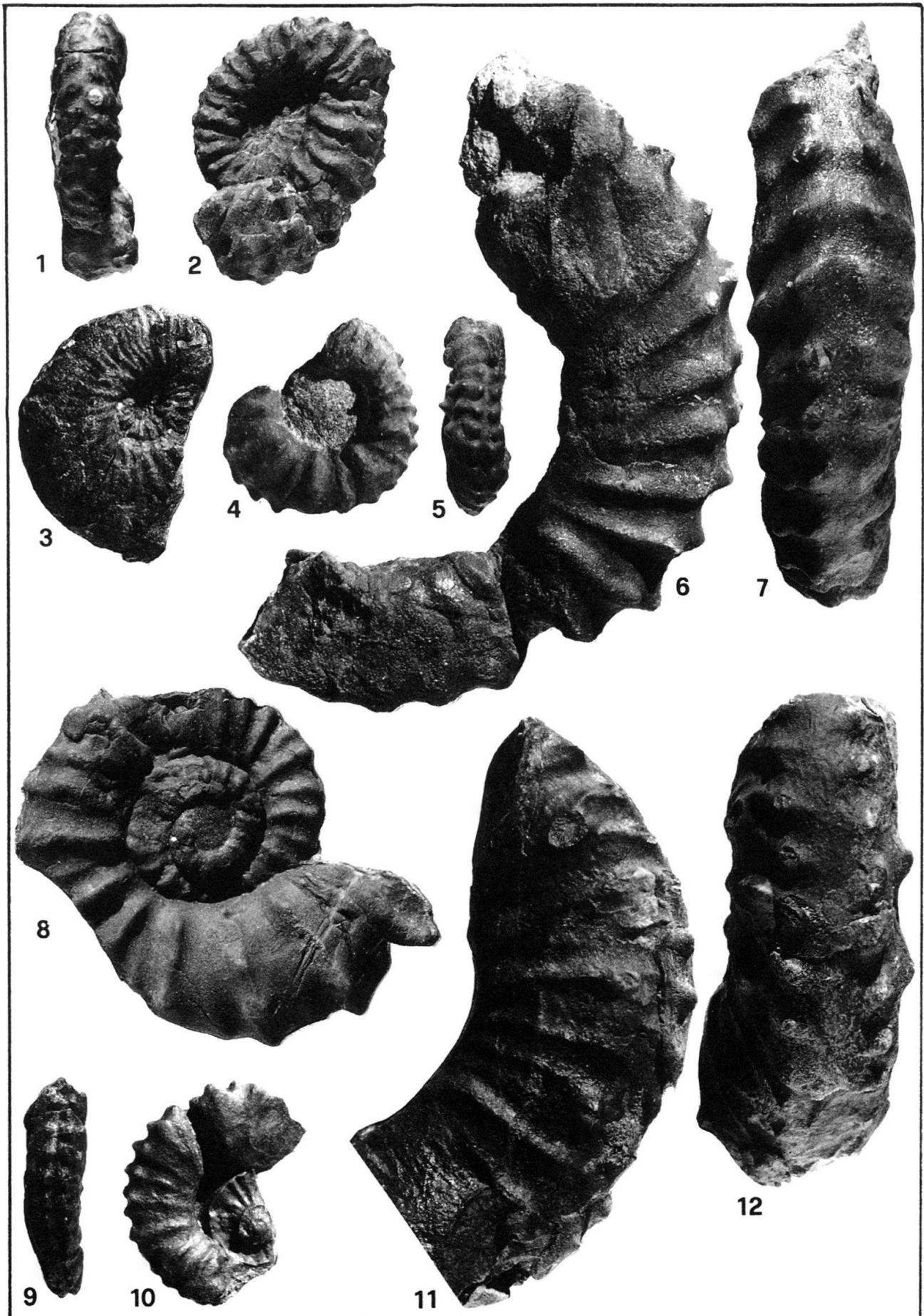


Plate 12

(all figures natural size)

- Figs. 1–2: *Nevadites crassiornatus* n. sp., holotype, PIMUZ 7119, internal mould of the body chamber, “Buchenstein Beds”, lower “Knollenkalke”, Seceda, Nevadites Zone; for cross section see Fig. 15 p.
- Figs. 3–4: *Nevadites secedensis* n. sp., PIMUZ 7120, “Buchenstein Beds”, lower “Knollenkalke”, Seceda, Nevadites Zone.
- Figs. 5–6: *Nevadites avenonensis* n. sp., PIMUZ 7121, “Buchenstein Beds”, lower “Knollenkalke”, Pèrtica, Nevadites Zone.
- Fig. 7: *Parakellnerites arthaberi* (Diener, 1899), PIMUZ 7025, “transitional beds”, 57.75 m, Bagolino, Reitzi/Kellnerites Zone; for suture line see Fig. 16 f.
- Fig. 8: *Nevadites secedensis* n. sp., PIMUZ 7122, “Buchenstein Beds”, lower “Knollenkalke”, Seceda, Nevadites Zone; for suture line see Fig. 17 d.
- Fig. 9: *Aplococeras avisianum* (Mojs., 1882), PIMUZ 7123, Latemar Limestone, “Lastei di Valsorda” locality, upper part, Reitzi/Kellnerites Zone.
- Fig. 10: *Parakellnerites arthaberi* (Diener, 1899), PIMUZ 7026, “transitional beds”, 57.75 m, Bagolino, Reitzi/Kellnerites Zone.
- Fig. 11: *Aplococeras avisianum* (Mojs., 1882), PIMUZ 7124, Marmolada Limestone, Punta di Zonia, lower horizon, Reitzi/Kellnerites Zone.
- Fig. 12: *Aplococeras avisianum* (Mojs., 1882), PIMUZ 7125, Marmolada Limestone, Punta di Zonia, lower horizon, Reitzi/Kellnerites Zone; for suture line see Fig. 17 c.

Plate 12

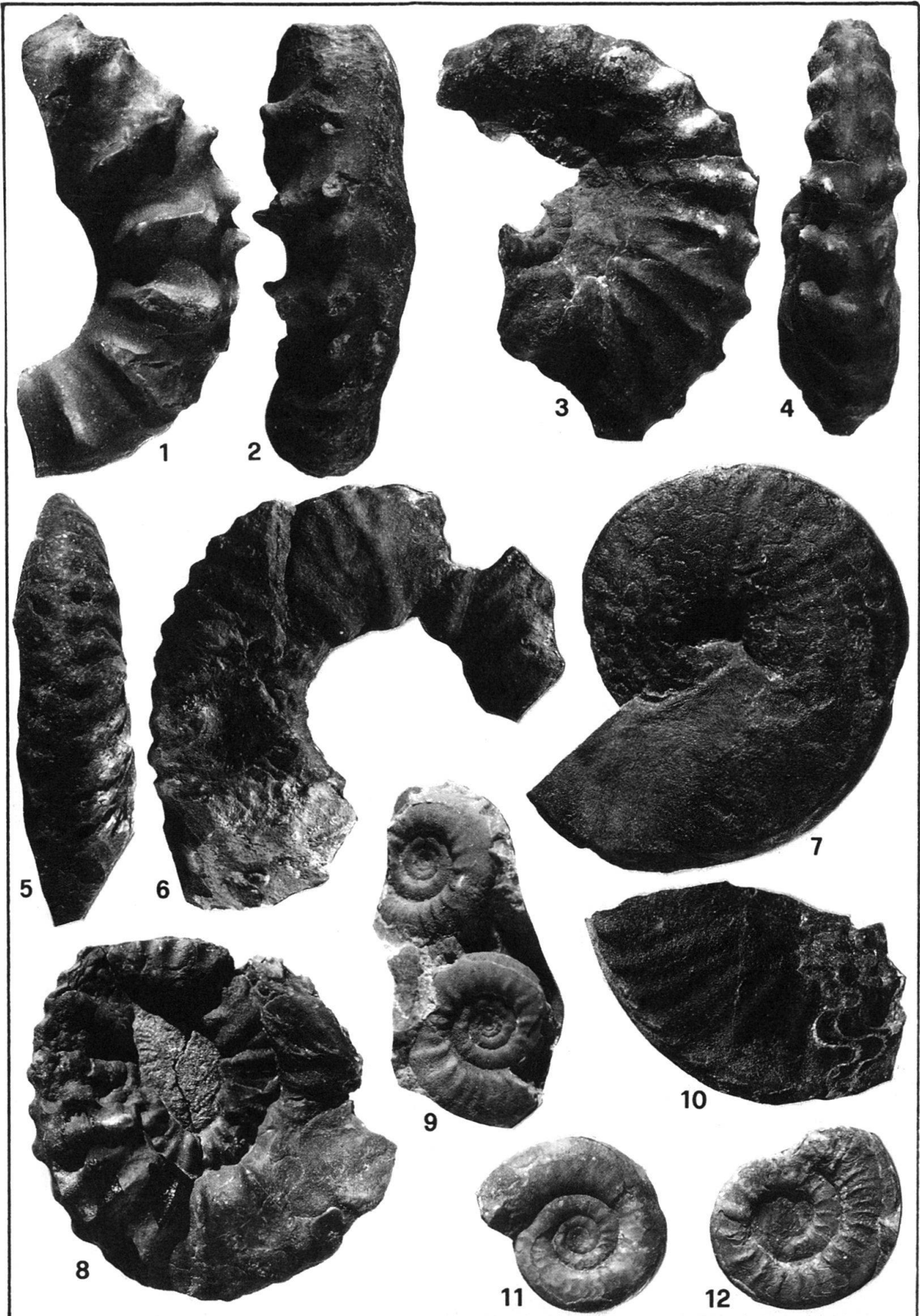


Plate 13

(all figures natural size)

- Fig. 1: *Protrachyceras steinmanni* (Mojs., 1882), PIMUZ 7126, internal mould of the body chamber, "Buchenstein Beds", upper "Knollenkalke", Monte Corona, Gredleri or Archelaus Zone.
- Figs. 2–3: *Protrachyceras archelaus* (Laube, 1869), PIMUZ 7133, "Wengen Beds", Monte Corona, Archelaus Zone.
- Fig. 4: *Protrachyceras steinmanni* (Mojs., 1882), PIMUZ 7128, "Buchenstein Beds", upper "Knollenkalke", Monte Corona, Gredleri or Archelaus Zone.
- Fig. 5: *Protrachyceras steinmanni* (Mojs., 1882), PIMUZ 7127, "Buchenstein Beds", upper "Knollenkalke", Bagolino, 79.25 m, Gredleri Zone; for suture line see Fig. 17g.
- Fig. 6: *(Eo-)Protrachyceras margaritosum* (Mojs., 1882), PIMUZ 7129, internal mould of the body chamber, "Buchenstein Beds", "Knollenkalke", Bagolino, 68.75 m, Curionii or Gredleri Zone.
- Fig. 7: *(Eo-)Protrachyceras margaritosum* (Mojs., 1882), PIMUZ 7130, "Buchenstein Beds", scree of "Knollenkalke", Val Gola, Curionii or Gredleri Zone; for suture line see Fig. 17h.
- Figs. 8–9: *Protrachyceras gortanii* Pisa, 1966, morphotype *nodato*, PIMUZ 7132, internal mould of the body chamber, "Buchenstein Beds", "Knollenkalke", Seceda, Gredleri Zone.

Plate 13

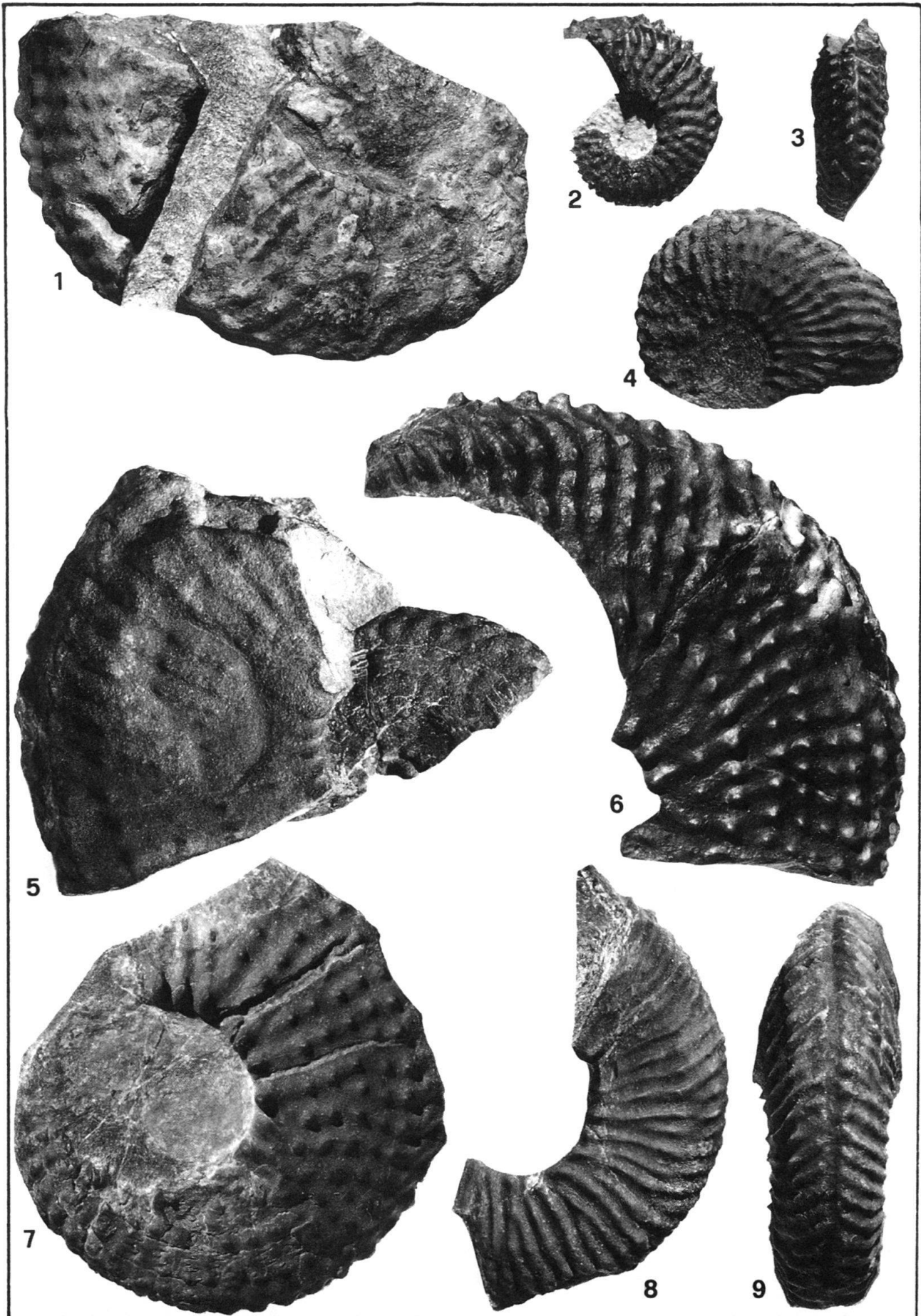


Plate 14

Figs.: 1–4, 6–7, 9–10, 13–14, 17, 19 natural size, and Figs.: 5, 8, 11–12, 15–16, 18 twice natural size.

- Fig. 1: *Daonella pichleri* (Gümbel, 1861), PIMUZ 7134, “Buchenstein Beds”, “Upper Bänderkalke”, Seceda, Gredleri or Archelaus Zone.
- Fig. 2: *Daonella pichleri* (Gümbel, 1861), PIMUZ 7135, “Buchenstein Beds”, “Upper Bänderkalke”, Seceda, Gredleri or Archelaus Zone.
- Fig. 3: *Daonella pichleri* (Gümbel, 1861), PIMUZ 7136, “Buchenstein Beds”, upper “Knollenkalke”, Monte Corona, Gredleri or Archelaus Zone.
- Fig. 4: *Daonella (Longidaonella) elongata* Mojs., 1874, PIMUZ 7137, “Buchenstein Beds”, “Lower Plattenkalke”, Seceda, Reitzi/Kellnerites Zone.
- Figs. 5–6: *Daonella sotschiadensis* n. sp., holotype, PIMUZ 7138, “Buchenstein Beds”, “Lower Plattenkalke”, Seceda, Reitzi/Kellnerites Zone.
- Fig. 7: *Daonella (Longidaonella) angulata* Rieber, 1968, PIMUZ 7139, “Buchenstein Beds”, “Lower Plattenkalke”, Seceda, Reitzi/Kellnerites Zone.
- Figs. 8–9: *Daonella cerneraensis* n. sp., PIMUZ 7140, cast of silicon rubber, “Buchenstein Beds”, “Lower Plattenkalke”, Seceda, Reitzi/Kellnerites Zone.
- Fig. 10: *Daonella (Longidaonella) serpianensis* Rieber, 1968, PIMUZ 7141, “Buchenstein Beds”, “Lower Plattenkalke”, Seceda, Reitzi/Kellnerites Zone.
- Fig. 11: *Daonella cerneraensis* n. sp., holotype, PIMUZ 7142, Marmolada Limestone, Punta di Zonia, lower horizon, Reitzi/Kellnerites Zone.
- Fig. 12: *Daonella cerneraensis* n. sp., PIMUZ 7143, Marmolada Limestone, Punta di Zonia, lower horizon, Reitzi/Kellnerites Zone.
- Fig. 13: Slab with *Daonella cerneraensis* n. sp., PIMUZ 7142 (Fig. 11, holotype) and 7143 (Fig. 12).
- Figs. 14–15: *Daonella cerneraensis* n. sp., PIMUZ 7144, “Buchenstein Beds”, “Lower Plattenkalke”, Seceda, Reitzi/Kellnerites Zone.
- Fig. 16: *Daonella cerneraensis* n. sp., PIMUZ 7145 (Fig. 19), “Buchenstein Beds”, “Lower Plattenkalke”, Seceda, Reitzi/Kellnerites Zone.
- Figs. 17–18: Slab with *Daonella cerneraensis* n. sp., PIMUZ 7146, Marmolada Limestone, Punta di Zonia, lower horizon, Reitzi/Kellnerites Zone.
- Fig. 19: *Daonella cerneraensis* n. sp., PIMUZ 7145 (Fig. 16).

Plate 14

