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#### 4. Ages

The biostratigraphy is based on ammonite horizons within the *Tenuicostatum* and *Serpentinus* Zones (Venturi, in press) and on provisional horizons within the other zones studied by Venturi and not yet published (personal communication). The ammonite horizons are summarized in Table 1 and ammonite zones have been indicated, for graphic convenience, with age initials followed by a number. Each horizon is reported in metres in Figure 4, 5 and 6, following the Channell et al. (1984) sampling. Recently published data of the Valdorbia Section have been used as well (Cresta et al. 1989, Fig. 37 and 38). Calcareous nannofossil events, reported by Reale (1989), are located on the right side of the four partial sections. The lower part of the Valdorbia section (530 m to 510 m) has been attributed to the Carixian on the base of the first occurrence of *Mitrolithus jansae* at 499.8 m (Fig. 4) which falls in the upper part of the Davoei Zone (Carixian) according to Reale et al. (1991).

#### 5. Micropaleontology

An important micropaleontological study of the Valdorbia Jurassic microfacies has been carried out by Centamore et al. (1971) in which the Valdorbia section was indicated as "Sezione del Sentino Ovest". A preliminary study of the microfossils occurring in the Valdorbia section both in thin section and in the sample washed residues was illustrated by Cresta et al. (1988), by means of a schematic distribution chart. No distinction between microfacies (observed in thin section) and microfossils (separated from the sediments) was indicated and a further study has allowed a better understanding of the microfaunal distribution and of the microfossil reworking.

In this work the micropaleontological observations concern both the microfaunal content of the microfacies analysed in thin section and the assemblages of the separated microfossils from the washed residues. 160 samples have been collected in stratigraphic order at 1 m interval roughly spanning the period of time from the Carixian to the Early Aalenian. 92 samples, mainly limestones have been processed for microfacies study from the COR, while 68 samples, mainly argillaceous and marly sediments, about 400 gr. each, have been collected mainly from the MS and RAUM units.

##### 5.1 Data presentation

###### 5.1.1 Microfacies

The fossil content is summarised in Figure 20 where the microfacies are arranged in groups with different characteristics.

- Microfacies 1 (Carixian). The most characteristic fossils are stout calcareous sponge spicules and recrystallized echinoid remains (Pl. 1, Fig. 1, 2 and 3) while other organisms are scattered discontinuously. Radiolarians are associated with gastropods and other microfossils. This microfacies contains *Miliolina* (Pl. 1, Fig. 8), simple agglutinated foraminifers (Pl. 1, Fig. 5), plurilocular agglutinated foraminifers and *Lagenina*, both sculptured and smooth (Pl. 1 Fig. 7, Fig. 1, 2, 12, 13 and 14) of which *Lenticulina* is the dominant taxon. Besides *Ophthalmidium* (Pl. 1, Fig. 11) and *Agerina martana* (Pl. 1, Fig. 10), there are some tubular, porcellaneous, biloculine forms interpreted here as *Planiinvoluta* (Pl. 1, Fig. 6 and 9) with a porcellaneous test, according to Koehn Zaninetti (1969). The latter are characteristic but of controversial interpretation be-