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included in the ancient Quaternary (LONA, 1962). Indeed the boundary period between *Amussium* and *Amphistegina* layers is characterized by a notable percentage of *Sciadopytis* (see above). On this base we may state that this layer is more ancient than Leffian period, but—by now—it appears difficult to approach more detailed chronological discriminations.

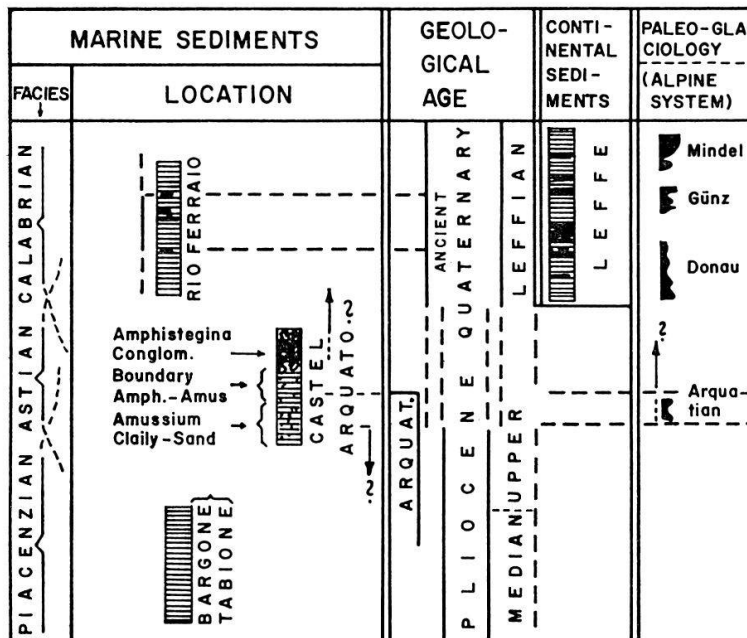


Fig. 2

The diagram includes also a more ancient deposit (Bargone-Tabiano) of Piacenzian faces. This contains a fauna characteristic of the median-upper Pliocene (after G. PELOSIO; in lit.).

Pollen analysis of some samples of this deposit demonstrated a content of 12% of *Sciadopytis* in a forest characterized by a great percentage of *Cedrus*.

Würm interstadial deposits of Calprino (Lugano) indicating a striking *Fagus* diffusion

By F. LONA

It is known from several publications (H. ANNAHEIM 1934, etc.) that the phyllitiferous deposits of the surroundings of lake LUGANO (Calprino, Paradiso, Noranco, etc.) are Würm-Interstadial deposits. These are very interesting because of the scarce availability of data regarding the reforestation during such Interstadials and especially the first one, i.e. the Göttweig Interstadial. Some material was studied by MÜLLER (1956) who obtained a very homoge-

nous picture of the forest during the interstadial phases of the Würm glaciation.

After MÜLLER'S diagrams, the forest was absolutely predominated by *Abies* and *Pinus*, less *Picea* and small percentages of *Quercus*, *Ulmus*, *Tilia*, *Alnus* and with some traces of *Fagus*, *Buxus*, etc.

Many authors reported the presence of *Rhododendron ponticum*, *Philadelphus*, basing their quotations on macroscopic fossils (see for example SORDELLI (1896)).

Examining some samples (with phyllites of several plants) of the Museum of LUGANO (collected by G. CALLONI 1875) coming from the deposit of Calprino, I found a rich representation of *Fagus* in almost all the 8 pieces examined. In 3 of them *Fagus* was abundantly predominant over other species. Other samples gave prevailing *Abies*, but again with abundant *Fagus*. One sample gave a typical flora of a cold period and another a typical forest of oceanic temperate climate with predominant *Fagus* and abundant *Carpinus* and then also *Abies*, *Iuglandaceae*, etc. We frequently found pollen of *Buxus* and sometimes of *Philadelphus* too.

From these data we are allowed to say that during some Würm-Interstadial, and probably in the Gottweig one, there was a striking diffusion of *Fagus* by Lugano. This is interesting because in Northern Italy we found that Riss-Würm Interglacial (Pianico-Sellere) was not characterized by a real diffusion of *Fagus*, but only by traces of it. We can put forward the hypothesis that *Fagus* begun its great diffusion during Würm Interstadials. Further investigations will give us better knowledge on this subject and provide more data on local environmental conditions and other factors that may have influenced the peculiar paleophytogeography of *Fagus*.

The authenticity of Göttweiger Interstadial (cf. Brörup Interstadial in WOLDSTEDT 1962) will be discussed elsewhere.

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