PRE-MEETING TRANSECT CORSICA-ELBA ISLAND-SOUTHERN TUSCANY GUIDEBOOK

1 - CORSICA

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INTRODUCTION

The Corsica Island is divided into two structural complexes which lie in contact with one another each others: the "Hercynian" (western) Corsica, the northern continuation of Sardinia, and the "Alpine" (eastern) Corsica, the southern continuation of the Ligurian Alps. The present position of the "Corsica-Sardinia microcontinent" is the consequence of its 30-40°C anticlockwise rotation with respect to stable Europe at the beginning of Miocene (cf. Argand, 1924, Fig. 22-27). At St. Florent, Aleria, Bonifacio and Ponte-Leccia, it is possible to observe some Mio-Pliocene relics sediments successive to this rotation.

"HERCYNIAN" CORSICA

See Durand-Delga and Rossi, 1991.

1. **The pre-granitic basement** (Figs. 1 and 2): it appears in isolated spots in the Hercynian granitic batholith.

a- ***The meso-to-catazonal domain*** is the continuation of that of NE Sardinia in the complexes of Porto Vecchio-Solenzara, Zicavo (E of Ajaccio), and Belgodere (cf. Palagi et al., 1985). Its rocks, mainly "gneisses", are polymetamorphic and polydeformed. They commonly show the following features: **a.** the presence of a "leptyno-amphibolitic complex": its amphibolites derive from tholeiitic basalts of continental rifts; the associated orthogneisses may derive from Ordovician granites. **b.** a mesozonal metamorphism with several retromorphic stages preserving some eclogitic relics (Belgodere). **c.** some highly anatectic orthogneisses, in particular at the eastern ("lower") contact with the Mg-K Hercynian granitoids of Calvi (Laporte et al., 1991). Thus, the present parageneses of these "gneisses" (sometimes considered as "Precambrian") are Hercynian in age (Early Carboniferous).

b-. ***The epizonal domain and the Paleozoic of Galeria***. In some sericite-chlorite micaschists, some amphibolite bands have been dated back to Panafrican, alias to "Brioverian" (747±120 Ma). These rocks are mainly found along the eastern edge of Hercynian Corsica, where they underwent a thermal metamorphism ("cornéennes") due to the intrusion of the Hercynian granites. Along the western coast, near Galeria, these micaschists underlie a Paleozoic succession (Fig. 3) of Cambrian/Ordovician to Early Carboniferous age: the remnants of a slightly metamorphic unit (Belgodere succession) can be seen (Barca et al., 1996), thrust onto (or juxtaposed to) a "gneissic" lower unit. This (theoretical) setting has been disrupted by the later granitic intrusions.

2. **The Hercynian granitoids (Carboniferous).** The Corsica-Sardinia batholith results from the successive emplacement of three magmatic associations, the first two of which date back to Late Carboniferous age (Fig. 4).

Association **1**-, which is strictly plutonic, shows a Mg-K calc-alkaline chemistrymagmatic affinity. This association crops out only in the western side of Corsica, mainly south of Calvi. It includes a sequence of cogenetic acid intrusions from monzonitic to sieno-granitic, whose structures trend N-S. These granitoids were produced at a high temperature under a low water pressure. Emplacement conditions range from medium depth (indirectly inferred as 5-6 Kbar) to surface level (thermometamorphism of the Galeria phyllites). The ages are about 340 Ma.

The intrusions of the association **2**-, calc-alkaline, constitute the main part of the batholith. It is possible to distinguish: **a.** first of all granodiorites and monzogranites (SE of Ajaccio) with magmatic structures, of NW-SE trending. Some "septa" or massifs of basic-ultrabasic rocks are associated to them. **b.** some stocks of very acidic leucocratic monzogranites ("leucogranites") poor in Fe-Mg, trending NW-SE, and generally cutting the magmatic structures of the older intrusions.

The micaschists, preserved at the top of the batholith, show some chilled margins, which prove the emplacement at a medium to low depth. These intrusions date backare referred to 310 to- 290 Ma.

The lack of post-solidus deformation in these plutonic rocks, shows that they are younger than the main Hercynian orogenic phases. The lamination of the leucogranites and their association with some basic-ultrabasic tholeiitic bodies should indicate that these plutonites formed under crustal extension conditions of crustal extension.

3. **The "Carboniferous" deposits and the calc-alkaline volcanism of the "first cycle".** Some Upper Carboniferous sediments are locally exposed. The Solche Conglomerates, NW of Tenda, rework some Mg-K granites and are cut by calc-alkaline leucogranites; this fact suggests that between formation and erosion of the Mg-K granitoids, an uplift of at least 20 km took place in less than 50 Ma. The Fonde-Fuata

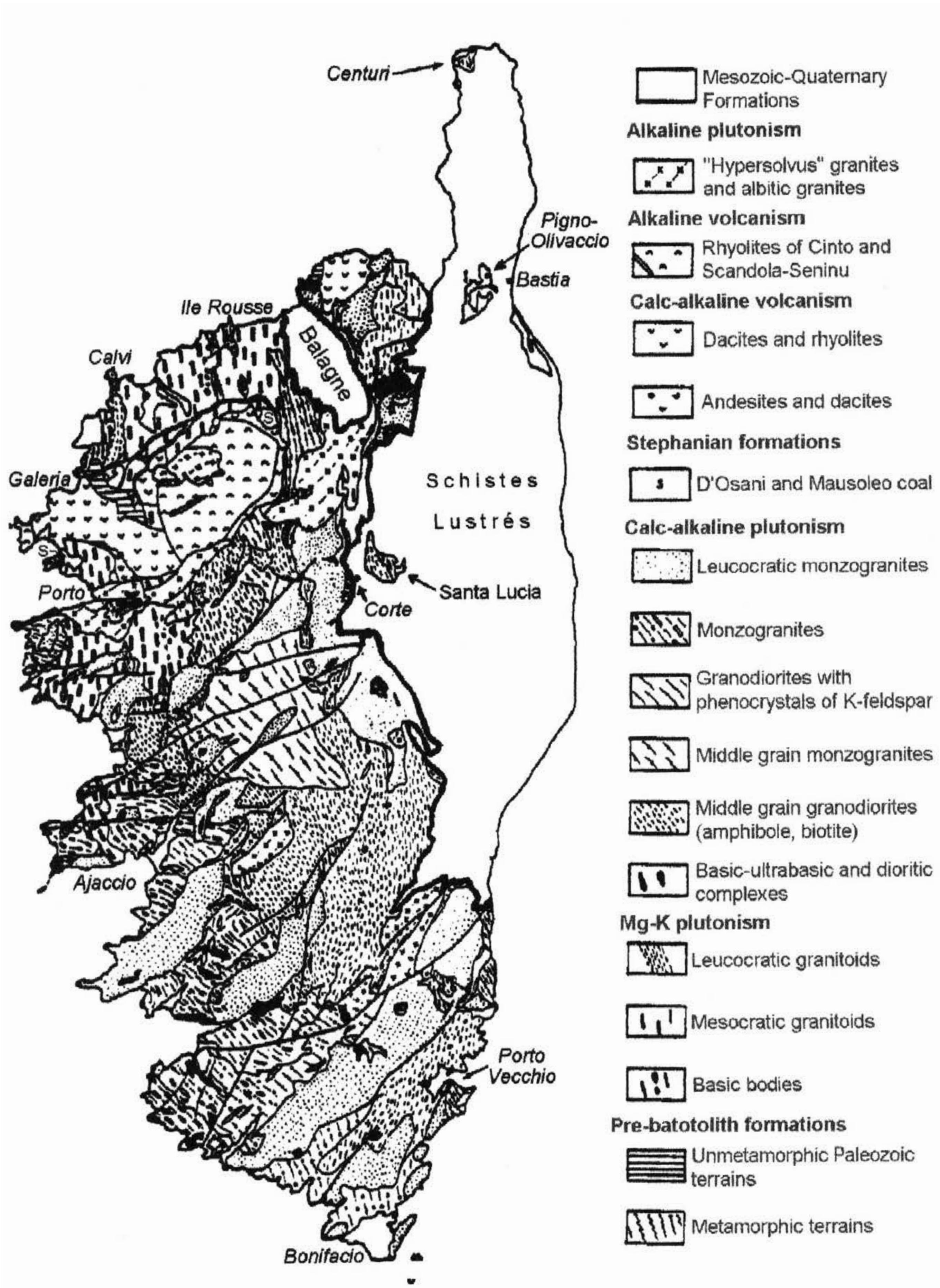

Fig. 1 - Ancient Corsica basement (from Durand Delga and Rossi, 1991).

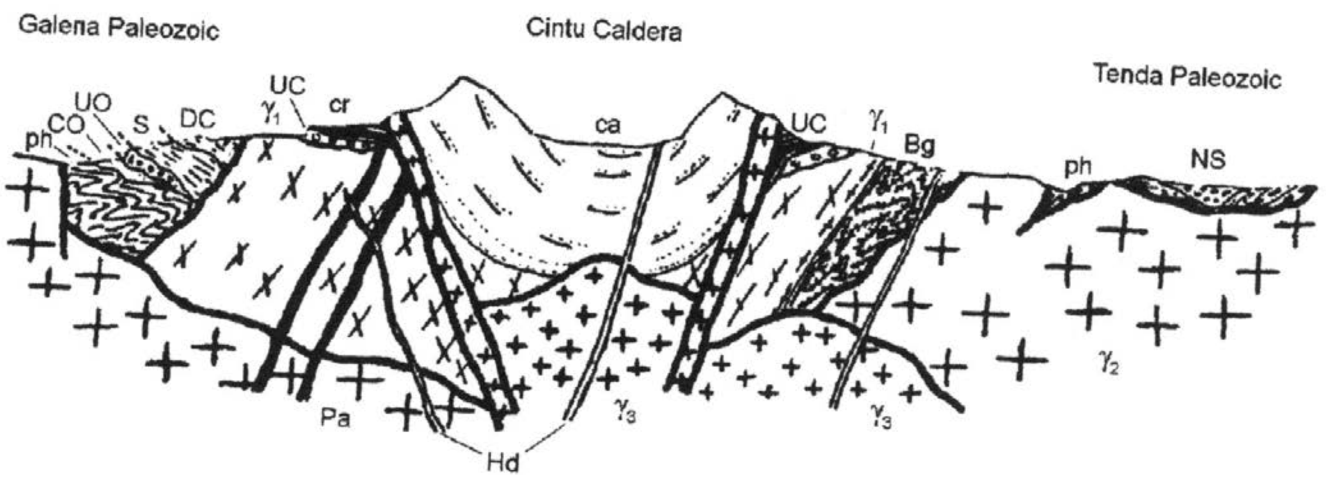

Fig. 2 - Theoretical relationships between the pre-Mesozoic formations in Corsica (from Durand Delga and Rossi, 1991). Pa- Lower Permian andesites; ph - “Phyllites”; CO- ?Cambrian-Lower Ordovician? quartzites; UO- Upper Ordovician conglomerates and quartzites; S- Silurian shales, sandstones and “lydienne”; DC- Devonian-Lower Carboniferous limestones and sandstones; g_1- Mg-K granitoids; γ_2- calc-alkaline granitoids; γ_3- alkaline granites; UC- Upper Carboniferous volcano-sedimentary rocks; cr- calc-alkaline rhyolites; ca- alkaline rhyolites; Bg- Belgodere gneiss; Hd- tardi-Hercynian dolerites; NS- Namourian-Stephanian rocks.

Conglomerates, W of Francardo (Fig. 21, “UCb”, section 4), reworking some Mg-K granites and their cornubianites, may belong to the same “Westphalian” stage.

Moreover, between Mausoleo and Asco (Fig. 13) and at Osani (south of Galeria), it is possible to find some detrital levels with traces of anthracite of “Stephanian” age. They are either stratigraphically overlain by the Permian volcanites (Osani) or they alternate with them (Mausoleo).

At the end of the Late Carboniferous, the Hercynian granites of Corsica have been extensively covered by calc-alkaline volcanites. They can be essentially found in the NW side of the Island (Fango Valley and Scandola-Senino Peninsula), over a collapsed granitic block. From mineralogical and geochemical points of view, this volcanism can be divided into two associations (Vellutini, 1977): **a**. the first one consists of microlithic andesites and dacites, probably resulting from partial mixing, under high water pressure, of mantle fragments uprisen during the Hercynian orogeny (Rossi, 1986). **b.** the second group is mainly constituted by ignimbritic dacites and rhyolites, which are supposed to have crustal origin.

4. The Permo-Triassic(?) magmatism. The Corsica Hercynian batholith has been cut by many ring- and linear complexes which can be correlated with the opening of the Tethys. This “anorogenic” province (Bonin, 1980) is mainly composed of granites and rhyolites, often associated with gabbros, diorites, syenites and some basalts. About 20 complexes have been identified: the main ones are (Fig. 3) the calderas of Scandola and Monte Cinto (Fig. 14 and 15), the linear complexes of Porto, Evisa and Popolasca, and the ring massifs of Tolla-Cauro and Bavella.

All these intrusions result from cauldron subsidence, in an extensional regime. Going from north to south, progressively deeper structures are exposed, thus showing their different levels, from the upper parts (calderas) down to the roots (ring massifs).

The alkaline felsic rocks of these complexes can be divided into two main groups, according to their chemical composition: **a.** metaluminous magmas with an *agpaicity* index Al<1 [Al = Na + (K/Al)]; **b**. peralkaline magmas with Al>1 *(“P” granites*). Furthermore, taking into account the nature and texture of the feldspars, the metaluminous granites can be divided into: **i**. plagioclase subsolvus granites *(“AS” granites*) with plagioclase and K-feldspars, often perthitic; **ii**. hypersolvus granites *(“AH” granites*), with perthitic feldspars only. Studying the Sm-Nd radiometric systematics, Poitrasson et al. (1994) concluded that “AS”

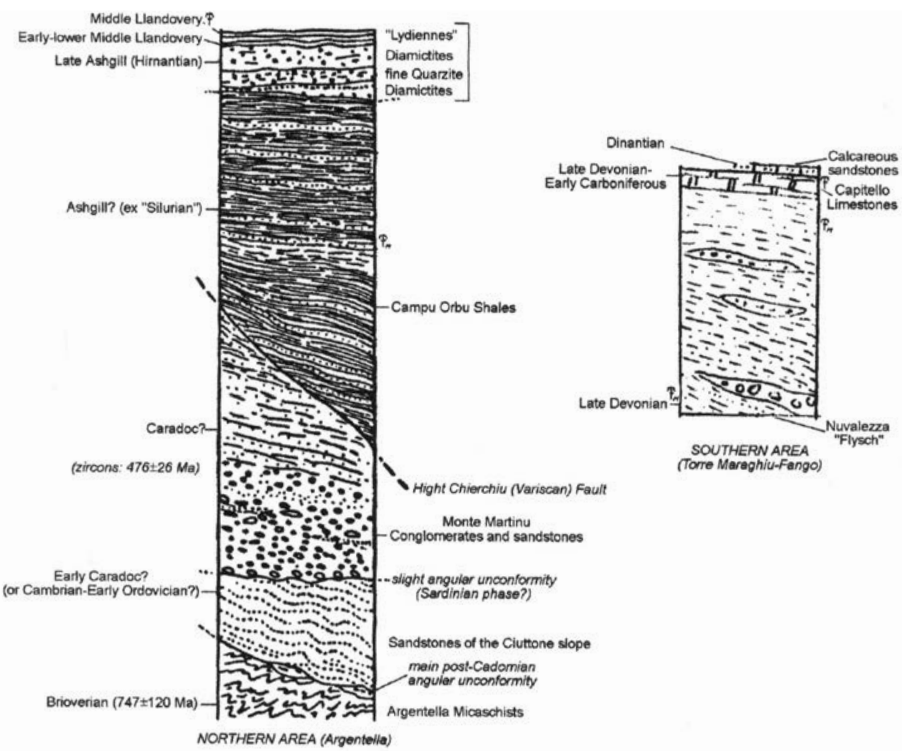

Fig. 3 - Stratigraphy of the Galeria Paleozoic rocks (from Barca et al., 1986). φ - fossiliferous locality.

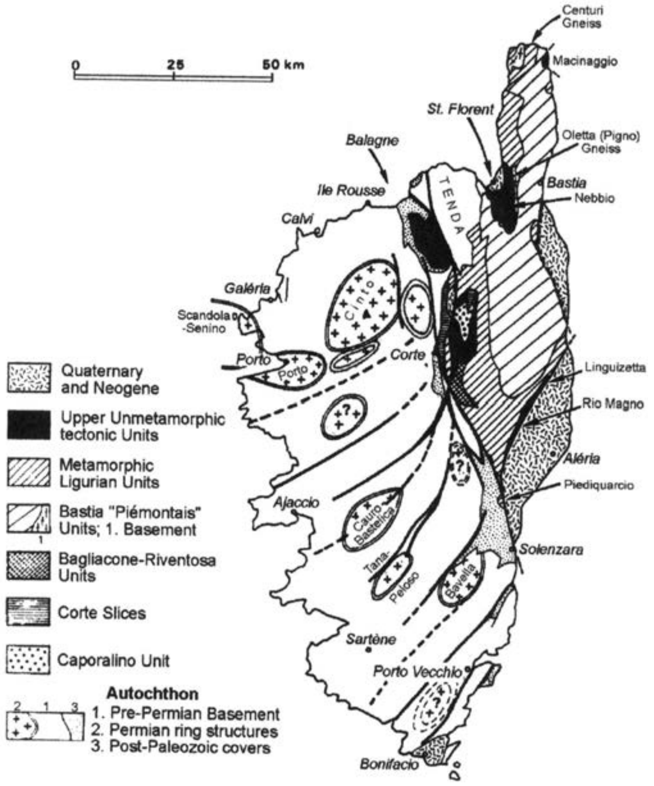

Fig. 4 - Permian plutonic-volcanic main complexes.

granites, characterised by a large dispersion of the εNd_i values, are crustal products. "P" granites, which have Nd isotope homogeneity are of mantle origin, without crustal contamination. "AH" granites also show a good Nd isotope homogeneity but the εNd_i values are lower than those of the "P" granites; they are interpreted as mantle magmas, but with crustal contamination.

In Corsica, "AS" magmas are generally the oldest (about 280 Ma for the granitic complex of Porto, i.e. an age very near to that of "Carboniferous" calc-alkaline leucogranites). On the contrary, the intrusions of "P" granites are younger: about 245 Ma (Permian-Triassic boundary) for the Evisa granites. This suggests a migration of the sources, from the crust to the mantle, in agreement with the tectonic evolution (increase of the extension rate) and uplift of the asthenosphere before the Alpine oceanisation.

A doleritic dike system cuts all the preceding complexes, along the "Late Hercynian" fracture system, mainly SW-NE, but also N-S or E-W, trending (Fig. 12, Stop I-4).

The first sedimentary deposits, unconformable on the Permian volcanogenic units, they are very thin detrital levels, sometimes reddish, followed by carbonates of Middle Triassic age (Rocher "Pilger", in the Balagne).

ALPINE CORSICA

See Durand-Delga (1984) and Rossi et al. (1994) (Fig. 5).

1. The external zones. They comprise units with a continental substratum. They crop out within a narrow belt bordering Hercynian Corsica to the E. It is possible to distinguish:

a- The Autochthon (Fig. 6) is a sedimentary succession with: several Mesozoic formations, thin and unconformable with one another (Early?-Middle Triassic), lying either on the Hercynian basement or on the Permian rocks; carbonates (Middle?-Late Jurassic); Late Cretaceous, generally represented by breccias. Conglomerates with nummulitic limestones at the base, ranges from Early Eocene to he south, to Late Eocene, directly transgressive, to the north.

b- The "Prépiémontais" allochthon (cf. section "Pedani", Fig. 7). On the basement and on the thick volcano-sedimentary Permian succession (cf. the "besimaudites" of Liguria) a Middle Triassic to Middle Liassic carbonatic succession crops out. A coarse detrital formation, Dogger-Malm(?) in age, for long time considered as Eocenic, is locally covered by Upper Malm limestones (Fig. 21, "UJ", sections 1 and 2). A sandy and pelitic Middle-Upper Eocene succession, lies unconformably on them. In the Caporalino Unit (Fig. 7), it is possible to assign certain levels to the Dogger, Malm, Late Cretaceous, Paleocene; each one of these is associated with coarse conglomerates of uncertain nature (base of unconformable cycles ?, cf. Fig. 7; large olistoliths in an Eocene matrix?).

c- The "Piémontais" Santa Lucia Nappe (Fig. 7), lying on the Caporalino Unit (Fig. 5, lower section; Fig. 23), includes a continental basement consisting of: **i**. (to the East) granulitic paragneisses containing a stratified basic-ultrabasic intrusion of "Ivrea type" (Libourel, 1985); **ii**. (to the West) Hercynian granitoids comparable to those of the autochthonous basement. Upwards, the thick Tomboni Conglomerates are followed, sometimes through a " flysch à lydiennes", by the marly-calcareous-arenaceous Senonian Tralonca Flysch. It is possible to link to the same "Piémontais" Domain some others allochthonous units, only represented by Upper Cretaceous flysch (Bagliacone-Rioventosa Unit; Bas-Ostriconi Unit, etc., Fig. 19).

d- A polyphased metamorphism, generally of greenschist facies, but with the presence of blue amphiboles (crossite), affects most of the external units (Bézert and Caby, 1988). It is very strong in some NS trending shear zones ("couloirs d'écrasement-coulissement"); in particular, in the autochthonous granites changed into orthogneiss ("protogine" Auctt.), whereas it can be totally laterally lacking. It is lacking also in the Caporalino Unit, proving that the thrust of the Santa-Lucia Nappe (whose basement shows Alpine HP-LT minerals) is the result of a successive event.

e- Some elements of a "Nappe Supérieure" Auctt. (Allochthon of Nebbio, Fig. 5, and of Macinaggio, NE of Cape Corse) lie, N of Golo, on the "Schistes Lustrés". They are composite units, associating slices of "Prépiémontais" (sometimes olistoliths in an Eocene or Upper Cretaceous matrix), of "Piémontais" flysches, and of ophiolitic "non-metamorphic" Ligurids (cf. Balagne). Their setting is probably the result of a late (but ante-Burdigalian) backthrust (Durand-Delga et al., 1978; Durand-Delga, 1984; Dallan and Puccinelli, 1986).

2. The internal zones. They include the ophiolitic Balagne Nappe and mainly the "Schistes Lustrés" Nappe.

The *Balagne Nappe* (Fig. 5, section 2, left) has been studied by several authors (Nardi et al., 1978; Durand-Delga et al., 1978; Durand-Delga, 1984; Dallan and Puccinelli, 1995), with very detailed geological maps. The post-nappe movements (after Late Miocene) isolated it at the bottom of a N-S synform, on top of the Autochthonous Eocene (Egal and Caron, 1988). This synform is bordered to the E by the Tenda antiform, where the autochthonous basement crops out again, and then by the synform of Nebbio.

The Balagne Nappe includes (Figs. 8 and 18) an ophiolitic substratum, mainly made up of pillow-lavas; a sedimentary cover (radiolarites, limestones and then “Palombini” shales) of Early Malm-Cretaceous age; then upwards, from “mid” Cretaceous to Middle Eocene (Bartonian), detrital sediments, sometimes coarse-grained (olistoliths), clearly coming from the autochthonous Corsica. Metamorphism, if present, is of very low grade.

The nappe is composed of several tectonic sub-units (Fig. 17). The structure is polyphased. In the famous site of San Colombano (Fig. 18) -on which many masters of Alpine geology quarrelled- some E-W fold axes are deformed by folds and thrusts trending NNE-SSW, during the nappe emplacement. In the northern part of the area, the ophiolitic Balagne Nappe was overthrust southwards by the complex of Parautochthon plus Bas-Ostriconi Nappe (Fig. 19).

The *“Schistes Lustrés” Nappe* (Caron, 1977; Lahondère J.C., 1992; Lahondèere D., 1996) (Figs 9, 10 and 11) is actually considered a “Schistes Lustrés” Zone, allochthonous and extremely complex. Its components can be distinguished mainly on the base of the tectono-metamorphic imprinting. To the north, this “Nappe” was thrust onto (Fig. 5, section from above) the Tenda basement and its cover, both being intensely tectonised and metamorphosed. Farther south, the contact with the external Alpine units is subvertical and often re-folded. Finally, S of Corte, a vertical fault, probably wrench, separates them from the autochthonous basement.

It is possible to distinguish (Durand-Delga, 1984), from the top to the base:

a- Some units of the Upper “Schistes Lustrés” (Ligurian, “Inzecca”-type). Their ophiolitic basement and cover of Malm-Early-“mid”? Cretaceous age are, except for the metamorphism, similar to the Internal Ligurid type of the Northern Apennine. These units are located at the western border of the zone and surround, to the S, the S-dipping periclinal of the large N-S Castagniccia antiform (Fig. 9). Their deformation is generally moderate, the pillow-lavas are slightly deformed (cf. section of Fium’Orbo, Inzecca). On the contrary, the lowest units of the Upper “Schistes Lustrés” show clear elongation-flattening deformations; the pillow-lavas become “prasinites”, often with glaucophane, more or less retromor-

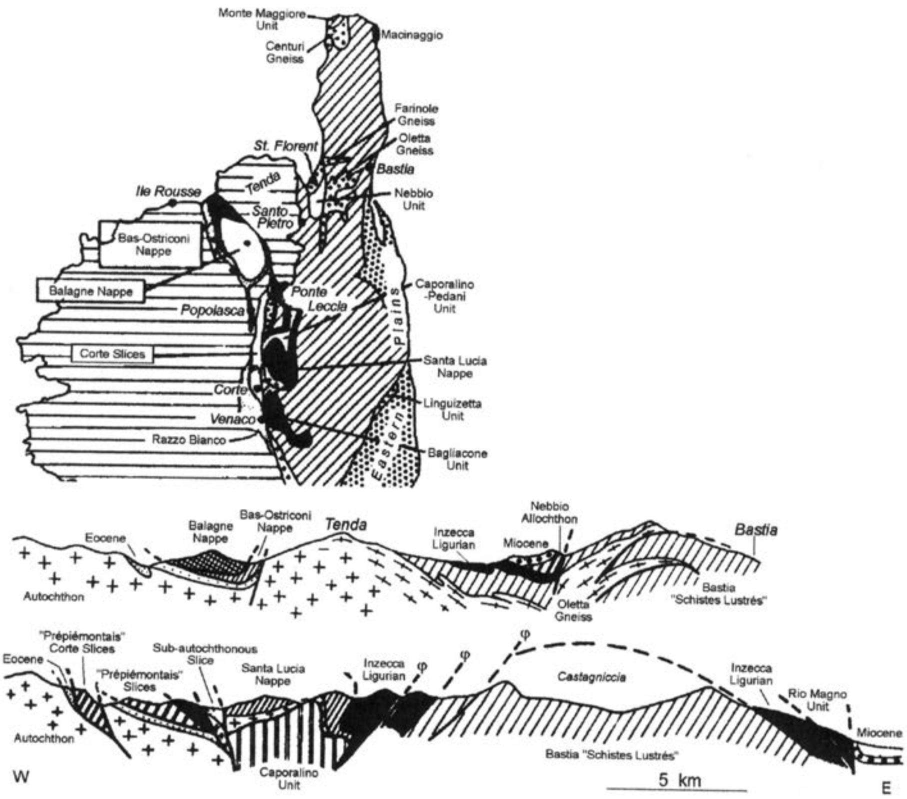

Fig. 5 - General setting of the northern Corsica Alpine Units and interpretative cross sections (from Durand-Delga, 1984, modified).

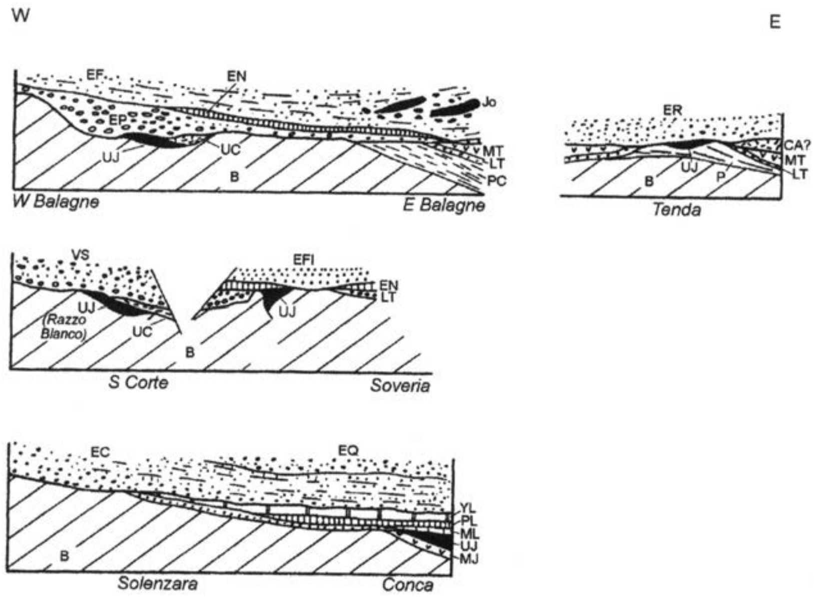

Fig. 6 - Stratigraphy of the sedimentary cover of the Corsica basement (from Durand-Delga, 1984, slightly modified). B- Basement; PC- Permo-Carboniferous rhyolites and arkoses; P- Permian riolites; LT- Lower Triassic sandstones; MT- Middle Triassic limestones; MJ- Middle Jurassic? limestones; UJ- Upper Jurassic limestones; UC- Upper Cretaceous breccias; CA- Monte Asto Conglomerates (Late Cretaceous?); ML- Maastrichtian limestones; PL- Paleocenic limestones; YL- Ypresian limestones; EP- Palasca Conglomerates (Middle Eocene); EC- Basal conglomerates (Middle Eocene); EN- Nummulitic limestones (Middle Eocene); VS- Venaco Sandstones; EF- Pelitic-arenaceous flysch (Middle-Late Eocene); EF_1- Flysch (Middle-Late Eocene); Jo- Calcareous olistoliths; ER- Reghia di Pozzo Conglomerates (Middle-Late Eocene?); EQ- Piedi Querciu Conglomerates (Late Eocene?, uncertain stratigraphic position).

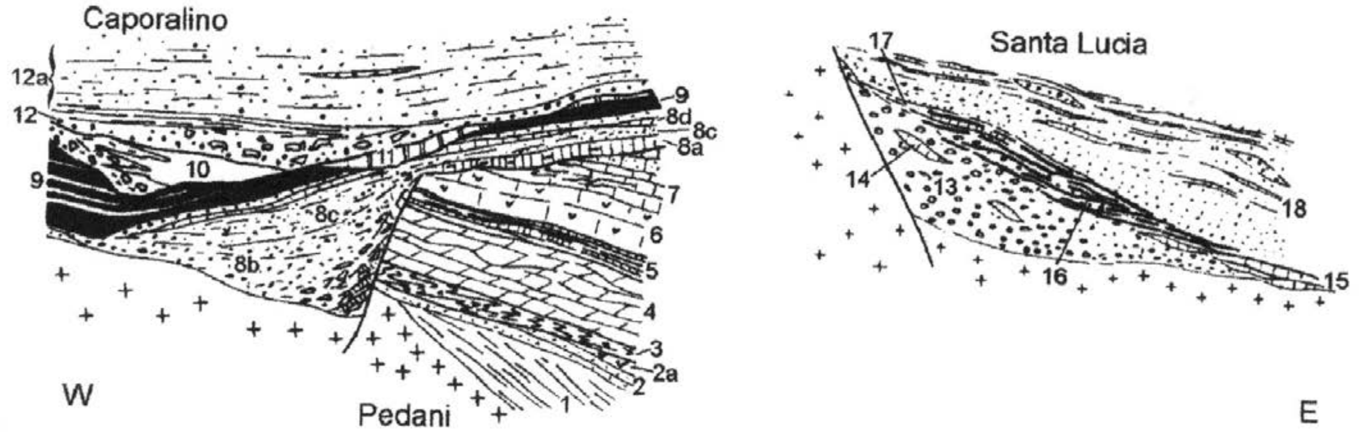

Fig. 7 - ‘Prepiémontais’ (W) and ‘Piémontais’ (E) successions (from Durand Delga, 1984, slightly modified).
W: 1- Permian ignimbrites; 2- Lower Triassic arkoses, shales and quartzites; 2a- Middle Triassic dolostones; 3- Carnian “cargneules”; 4- dolostones, “cargneules”, and dark shales (Norian); 5- Rhaetian limestones and marls; 6- Hettangian dolomitic breccias; 7- Sinemurian limestones; 8- Middle-Upper Jurassic: a- Spongolitic, calcareous level; 8b- massive breccias with basement elements; c- arenaceuos flysch; 9- Upper Jurassic, massive limestones; 10- Upper Cretaceous conglomerates; 11- Paleocenic calcarenites; 12- Eocenic conglomerates; 12a- Eocenic flysch.
E: 13- Tomboni Conglomerates (Middle Cretaceous?); 14- Upper Jurassic calcareous olistolithes; 15- Anchese Limestones; 16- “Lydiennes” Flysch; 17- “Pélites noires” (= Black shales); 18- Tralonca Flysch (Late Cretaceous).

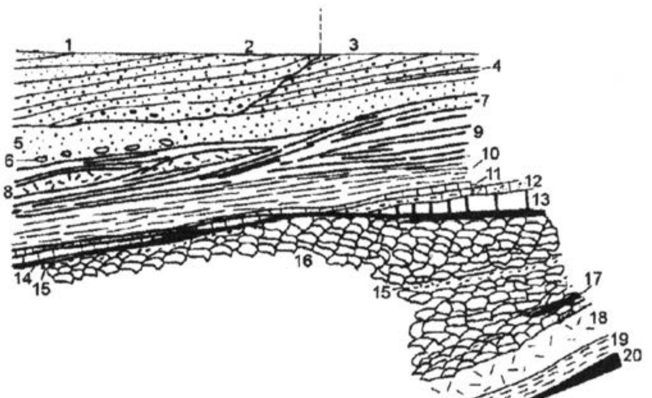

Fig. 8 - Reconstructed Balagne Nappe succession (Balano-Ligurian paleogeographic zone) (from Durand-Delga, 1984, slightly modified). 1- Annunziata Fm. with 2- Basal conglomerates; 3- Mitulelli Fm. with 4- Calcareous intercalations; 5- Alturaja Fm. with 6- Conglomerates; 7- Novella Station Sandstones; 8- Toccone Breccia; 9- “Lydiennes” Flysch; 10- San Martino Fm. (=”Palombini”); 11- Calpionella Limestones; 12- Polygenic breccias; 13- San Colombano Limestones; 14- Radiolarites; 15- Hyaloclastites; 16- Pillow-lavas; 17- Piana di Castifao quartzose sandstones; 18- Dolerites; 19- Gabbros; 20- Serpentinites.

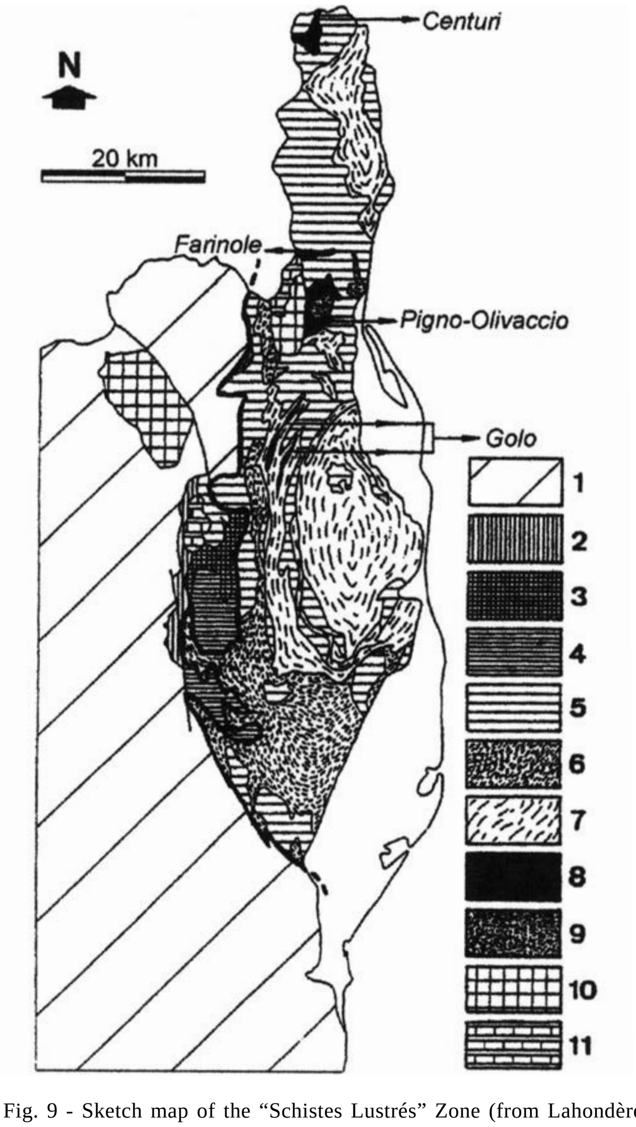

Fig. 9 - Sketch map of the “Schistes Lustrés” Zone (from Lahondère, 1996). 1- Autochthon; 2- Parautochthon; 3- “Prépiémontais”; 4- “Piémontais”; 5- Meta-ophiolites; 6- Upper “Schistes Lustrés” (Inzecca-type); 7- Lower “Schistes Lustrés” (Castagniccia-type); 8- Gneissic basement rocks tectonically included in the “Schistes Lustrés”; 9- Santo Pietro di Tenda Unit; 10- Balagne and Nebbio Units; 11- St. Florent Miocenic deposits.

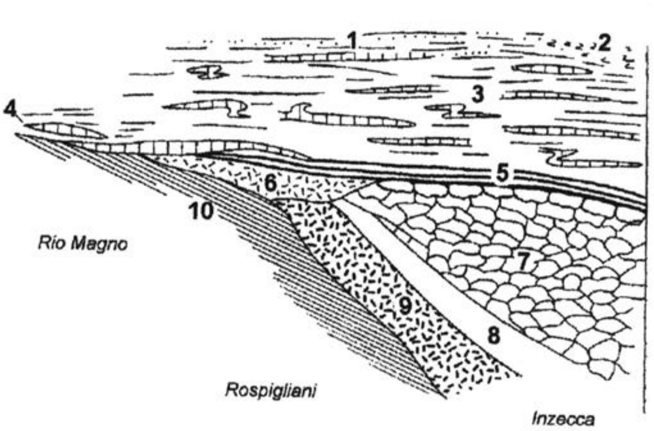

Fig. 10 - Successions of the Ligurian “Schistes Lustrés” (from Durand-Delga, 1984, slightly modified). 1- Quartzitic-shaly flysch; 2- Wildflysch; 3- Erbajolo Fm., 4- Calpionella Limestones; 5- Radiolarites; 6- Breccias and agglomerates; 7- Pillow-lavas; 8- Dolerites; 9- Gabbros; 10- Serpentinites.

phosed. Above these units, the small "Rio Magno Unit" (Fig. 5, lower section, right), separated by a big fault from the Miocene of Aleria plain, includes some Berriasian *Calpionella* limestones in a "Palombini" facies.

b- Some units of Lower "Schistes Lustrés" ("Liguro-Bastiais" -Bastia Ligurian) crop out in the Castagniccia-Cape Corse antiforms. It is a very thick pile of phengite and lawsonite micaschists, that seems, in the field, much more metamorphic than the preceding ones. They are rich of crystalline limestones and detrital horizons and associated with ophiolitic slices, sometimes topped by greenish recrystallised radiolarites. These "Castagniccia Schists", considered for long time as Jurassic, are presently regarded as Early Cretaceous in age (Durand-Delga, 1984) and as contemporaneous with the Erbajolo Fm. of the Upper "Schistes Lustrés".

c- Slices of Hercynian granitic basement, more or less transformed into orthogneiss, are folded together with the "Schistes Lustrés", mainly north of Golo (Fig. 11). They are often associated to sediments (arkosic sandstones transformed into paragneiss; "schistes à blocs" of basement rocks) which may represent the ancient cover of the granites.

An Austro-Alpine origin of these slices (or of some of them) was proposed in the past (Nardi, 1968); now they are believed to represent a Penninic basement, and can be correlated with the Autochthon. They could also be connected, at depth, to the external basement (Durand-Delga, 1984; Lahondère, 1992), assuming a basal thrust along all the "Schistes Lustrés" zone, or they could derive from a Jurassic continental rise which probably isolated a Balano-Ligurian oceanic branch (future Balagne Nappe) of the Ligurian Ocean *sensu stricto* (Lahondère J.C., 1996).

Some of these units contain relics of the cover, presently metamorphic, and recall the Tenda basement (Pigno-Olivaccio Unit; Campitello Unit, Fig. 11). Others (Volpajola Unit) show an association of ophiolitic and continental material, seemingly resedimented; they could correspond to the zone of Jurassic continent-ocean transition.

d- The Santo Pietro di Tenda Unit (*sensu stricto*) is a thick succession of marbles (Triassic-Liassic?) well exposed south-west and south-east of Saint Florent (Monte alla Torra). Locally, it is possible to recognise some levels with granite clasts, and conglomerates with Triassic elements (cf. Lower Lias of the Corte Slice, Fig. 22). They can be interpreted as "Prépiémontais" successions included in the "Schistes Lustrés" pile and detached from their Hercynian substratum.

Summarising, the "Schistes Lustrés" units show a polyphase HP-LT metamorphism (blueschists with glaucophane), and are often retromorphosed to greenschist facies. In this structural building (cf. SW of Bastia, Fig. 11) some continental (orthogneiss of Farinole) and oceanic (eclogitised gabbros of Morteda) slices are included. These slices constitute the "Morteda-Farinole composite Unit", with very high-pressure metamorphism (up to 18 Kbars; T, up to 450-500°), much higher than that of the surrounding units. The recent age assignment of the Accendi Pipa eclogites in the Golo Valley (Stop II-9) to the Late Cretaceous (~85 Ma) (Lahondère and Guerrot, 1987), would emphasise an early tectono-metamorphic HP-LT phase at a deep structural level. The events of a late HP-LT phase (Late Eocene) have completely rearranged the structural building.

FIELD TRIP

FIRST DAY

The Pre-Alpine Corsican basement, Asco Valley (P. Vellutini; Ph. Rossi). The Balagne ophiolitic Nappe (M. Durand-Delga and A. Puccinelli). The Miocene deposits of Ponte Leccia (J. Ferrandini).

From Corte to Ponte Leccia, the road follows the Corsican central depression ("dépression centrale corse") northwards (Fig. 12).

The Corte Zone. It comprises narrow N-S-trending units (Fig. 20 and 21), interposed between the granitic Autochthon (mountains to the west) and the "Schistes Lustrés" Nappe (to the E): **a**. "slices" in which the Eocene deposits are transgressive on the basement; **b**. "slices" in which the Eocene deposits lie on a "Prépiémontais" succession (Permian, Triassic-Jurassic). This setting has once been interpreted as alternation of horsts (without the Mesozoic formations) and grabens (with the Mesozoic formations), brought to the same level by the Eocene transgression, and later folded. According to the present hypothesis (Durand-Delga, 1984; cf. Rossi et al., 1994, Sheet Corte), a "Prépiémontais" Nappe was thrust onto the autochthonous Eocene, then sliced and folded together with it. Furthermore, narrow ophiolitic slabs (Inzecca-type "Schistes Lustrés") lie on the "Prépiémontais" ones and were re-folded (E-W, and later N-S trending folds) with them.

The town of Corte is located on the Ligurian meta-ophiolites. These latter lie onto, and include, to the north (Fig. 21, section 1), the Pinzalaccio "Prépiémontais" Mesozoic Unit. Going northwards, we cross the Dogger-Malm(?) "brèches sombres" (dark breccias) and the Triassic-Liassic carbonates (Fig. 21, sections 2 and 3) and, north of Bistuglio, some ophiolites, vertically folded with the "Prépiemontais". We reach the San Quilico Pass (539 m), which represents a morphological depression due to a big N-S fault.

Descending northwards, at the Caporalino-Omessa station (Fig. 21, section 4) we cross the base of the Caporalino Unit: a slab of Caporalino Limestones (Late Malm), unconformably covered by Upper Cretaceous conglomerates and marly limestones.

From Francardo, where we cross the Golo River, the road follows the eastern border of a post-nappe Miocenic basin (continental conglomerates), folded in a N-S synform. On the right side of the road, along the wooded high of Pineto, we see the Balano-Ligurian gabbros, which we cross before Ponte-Leccia (Fig. 21, section 5). Then, we will cover 25 km, to and fro, on the road to Asco (Fig. 13). West of this village we reach the eastern border of the Cinto Cauldron.

The Monte Cinto Cauldron (Fig. 14). The Monte Cinto complex is the biggest circular structure of the Permian magmatic cycle of Corsica (about 200 km^2), emplaced through cauldron-subsidence. It is filled with volcanic material, mainly peralkaline volcanites (Vellutini, 1977), extrusion of ignimbrites, welded tuff and domes. Also a big intrusion of peralkaline granite (Bonifato) pierces the volcanic pile (Fig. 15). This plutono-volcanic complex is one of the youngest in the non-orogenic province of Corsica (about 245 Ma, according to Maluski, 1977). Many doleritic dikes mark the cauldron borders. The felsic rocks, rhyolite and granite, contain essentially quartz, K-feldspar, blue amphibole and, subordinately, zircon and magnetite. The glass of the rhyolites is often recrystallised.

Stop I-1. *Greenish pyroclastites of Giunte.*

They are the lower term of the second Permian volcanic cycle (alkaline). They crop out at the inner border of the cauldron. The pyroclastites are injected by violet fluidate rhyolites. We are just at the west of the border fault of the Cinto Cauldron.

Stop I-2. *West of Asco. Ring-dike and Upper Carboniferous Belgodere Gneiss.*

A ring of calc-alkaline pyroclastites of the first Permian

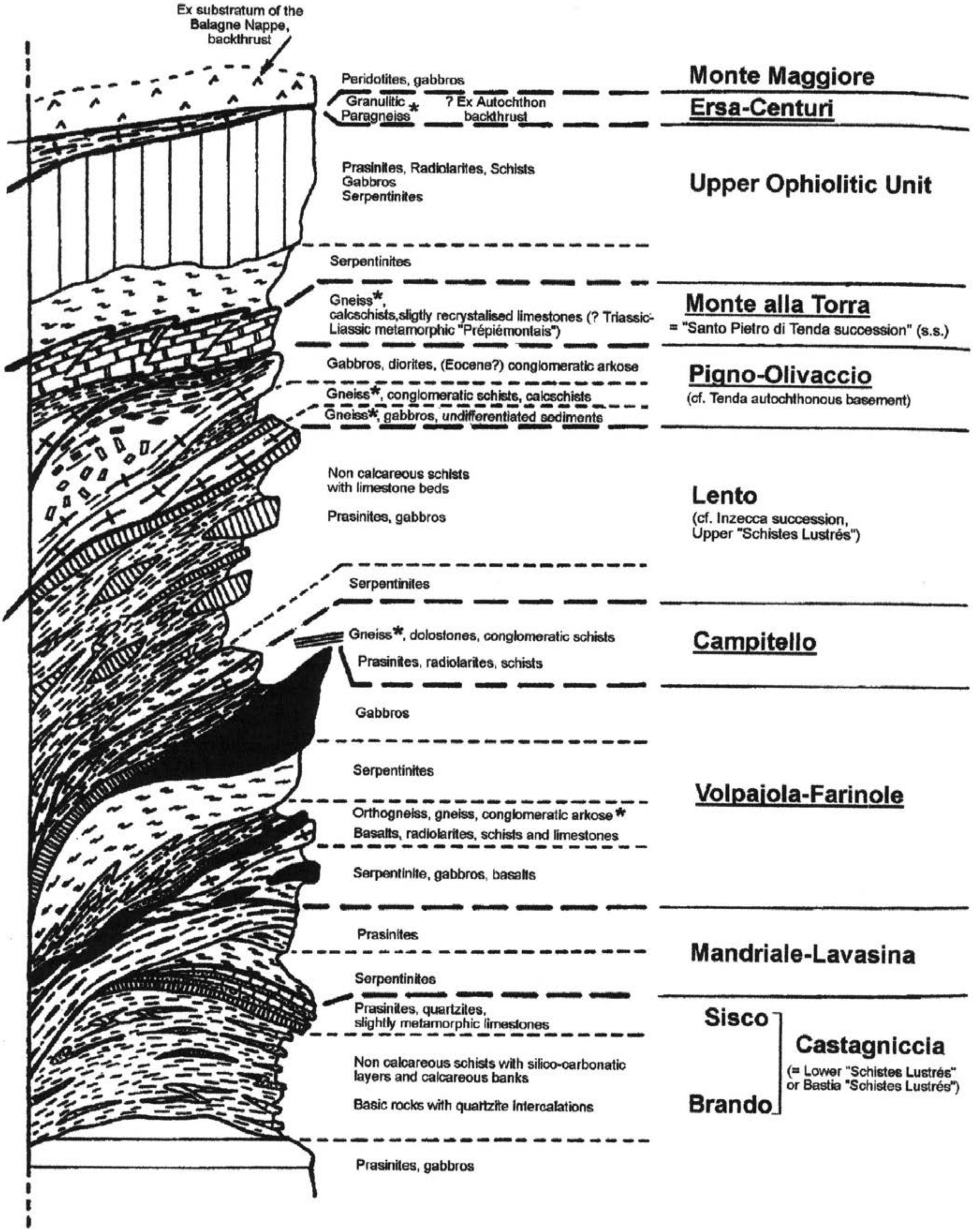

Fig. 11 - “Schistes Lustrés” tectonic pile (Lahondère, 1996). *- Basement slices. The units built up, totally or partially, of continental material are underlined.

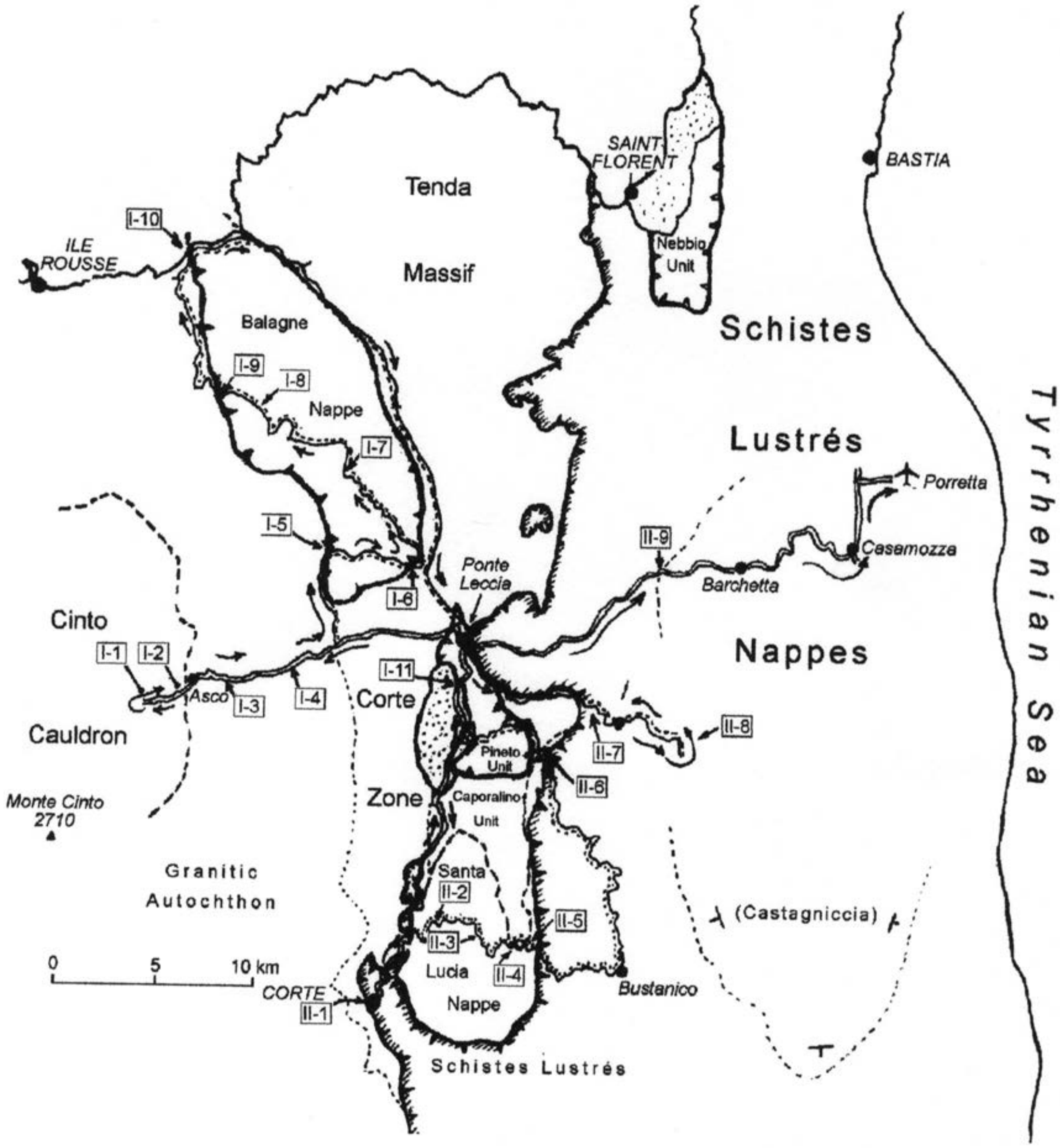

Fig. 12 - Itinerary and stops.

cycle (welded rhyolitic tuffs) encircles the cauldron (Fig. 2). This zone corresponds to a N-S belt with Alpine imprint; the pyroclastites (Fig. 13A) are overthrust by "Stephanian" folded and foliated detrital levels. A microgranite ring-dike (including a slab of Hercynian granites) encircles the Cinto Cauldron. To the east, the Belgodere Gneiss (anatectised basement of about 340 Ma) crops out.

Stop I-3. *Contact between gneiss and pink granite (hypersolvus facies) of Popolasca, 2 km east of Asco.*

At the contact, chilled margins and granite pegmatites are visible.

Popolasca Complex. This massif, 12 km long and 6 km wide, represents the eastward extension of the tectono-magmatic axis, from Porto to Ponte Leccia (Figs. 1 and 4). It was intruded in the calc-alkaline granites of the Hercynian batholith during the Permian (280 to 240 Ma). Eastwards, the massif is bounded by a N-S Alpine fault, thus the termination of the complex is unknown. Seven different intrusions of metaluminous granites have been identified (Gilormini and Vellutini, unpublished data), ranging from subsolvus to hypersolvus granites. Except for a fine-grained biotitic subsolvus granite, cropping out as a dike in the central part of the massif, the other facies are coarse or medium grained, trans- or hypersolvus leucocratic and equigranular granites.

According to the geochemical data, all the units of the Popolasca Complex do not derive from a simple differentiation process. By contrast, many sources can be responsible for the genesis of the granites.

Stop I-4. *Mulindini Bridge on the Asco River.*

In the lower part of the Asco gorge, the Permian Popolasca granite includes a sheet of Carboniferous monzogranodiorites, which are "intrusive" (cogenetic) in calc-alkaline rhyolitic volcanites of the 1st cycle. An age of 250 Ma has been assigned to an identical association in the north-western part of the Tenda Massif. Near a N-150 trending alpine fault, a tangle of late-Hercynian dolerites crops out.

From the Asco valley, we go up to Moltifao and Castifao, cutting repeatedly the Basement-Balagne Nappe contact. Cretaceous slices ("Lydiennes" Flysch; Alturaja Conglomerates, Fig. 8) separates the autochthonous Eocene Nummulitic limestones, to the West, from the ophiolites of the nappe, to the East.

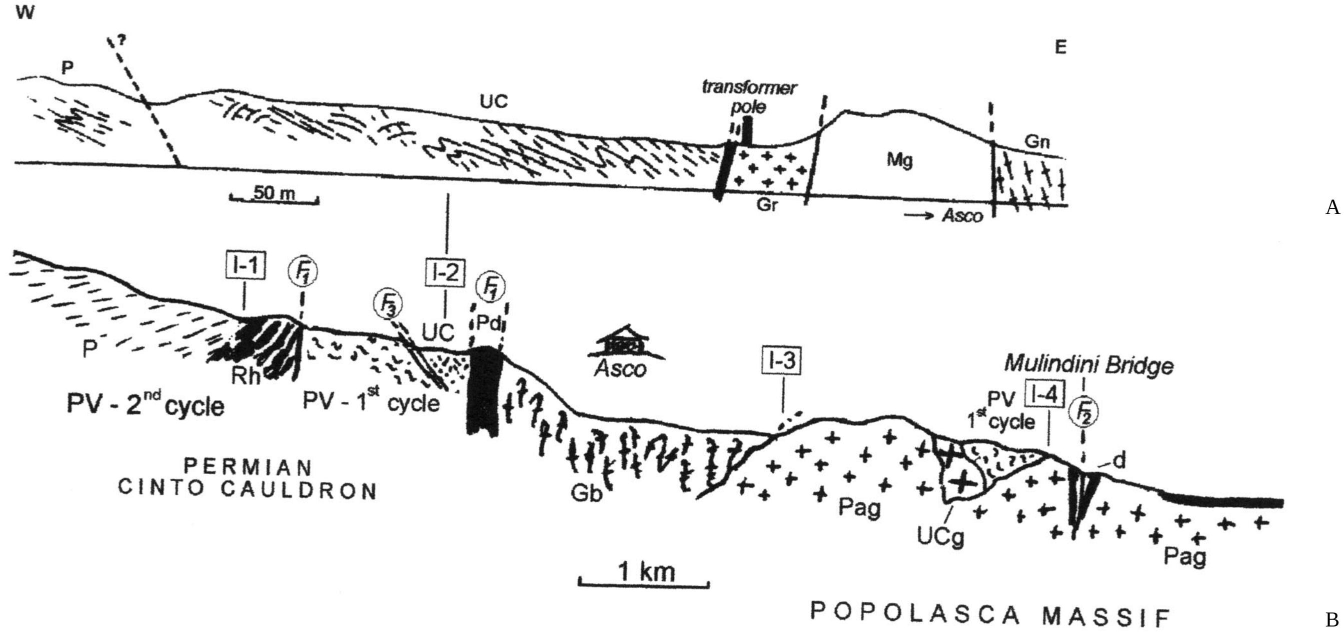

Fig. 13 - Section of the Corsican Basement along the Asco, with location of Stops I, 1-4.
A: P- Permian pyroclastites (1st cycle); UC- Upper Carboniferous alternations between blackish shales and arkoses, hatched line- schistosity, continuous line- stratification; Gr- Granite slice, cut by microgranite and rhyolite dikes; Mg- Permian alkaline microgranite ring-dike; Gn- Asco gneiss.
B: Permian pyroclastites; PV- Permian volcanites; Rh- Rhyolites; UC- Upper Carboniferous sediments; Pd- Permian ring-dike; Gb- Gneissic Basement; Pag- Permian alkaline granites; Ucg- Upper Carboniferous granodiorites; d- Dolerites. F_1- Ring collapse fractures; F_2- Upper-Hercynian fractures, with Alpine re-activation; F_3- Alpine fault.

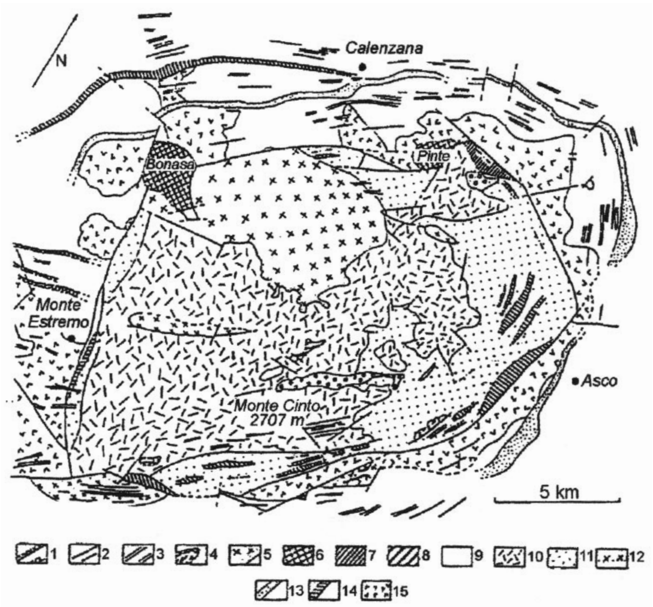

Fig. 14 - Geological map of the ring-structure of Monte Cinto (from Vellutini, 1977, slightly modified). 1- Ring-dikes; 2- Basic cone sheets; 3- Acidic cone sheets; 4- Detritus; 5- Hypovolcanic granite with chilled margins; 6- Rhyolitic domes (roots); 7- Rhyolitic sheets; 8- Upper pyroclastites; 9- Pumice flow; 10- Ignimbrites; 11- Lower pyroclastites; 12- Granitic ring-dike; 13- Internal microgranitic ring-dike; 14-External microgranitic ring-dike; 15- First eruptive cycle volcanites.

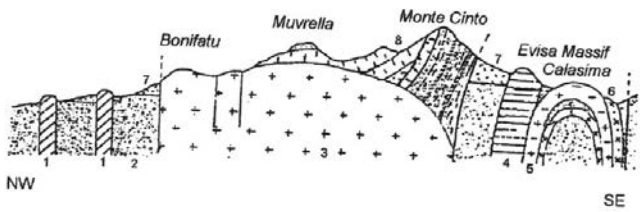

Fig. 15 - Section of the Monte Cinto Cauldron (From Vellutini, 1977). 1- Ring-dikes; 2- Basement; 3- Granitic dome; 4- Granitic ring-dike; 5- Evisa albitic granite; 6- Marginal riebeckite granite; 7- Calc-alkaline volcanites; 8- Alkaline volcanites (cauldron).

Stop 1-5. *Piana di Castifao (Fig. 16).*

In the lavas of the lower part of the Balagne Nappe, we can see an intercalation of sandstones (3 m) in basaltic breccias. This level of quartzitic sands must derive from a continental basement cropping out not far. The study of zircons (Durand-Delga et al., 1997; Rossi and Durand-Delga, 2001) proves their identity with the zircons of the calc-alkaline granites of western Corsica.

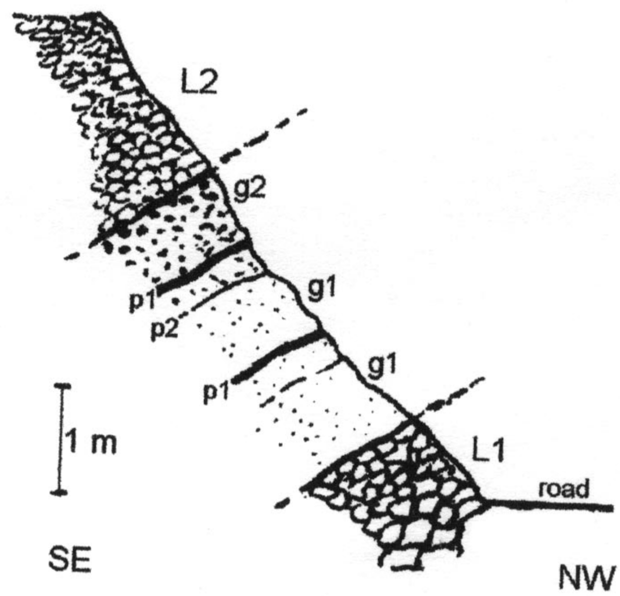

Fig. 16 - Quartzitic sandstones interbedded with the "Piana di Castifao" basalts. L1, L2- basaltic breccias ('exploded' pillow-lavas); g- sandstones (g1: fine-grained; g2: coarse); p- shales (p1: centimetric; p2: very thin-bed).

From Piana the road crosses eastwards the Jurassic basalts. After crossing the Tartagine River, we reach the nappe substratum: cornubianites (“roches brunes”), which are intruded by the Permian granites, crop out in places along the road, specially at the cross-road with the Ponte Lecia-Ile Rousse old main road.

Stop I-6. *Confluence Tartagine-Lagani River.*
On this road, about 100 m north of the cross-road, the autochthonous Eocene deposits are transgressive on the cornubianites. They begin with cm-dm rounded pebbles of basement in arenaceous-calcareous matrix. The pebbles become progressively more scarce, dispersed in sandy limestones with abundant *Discocyclinidae, Nummulitidae, Melobesiae*, etc., middle-late Lutetian in age.

Further upwards, the ophiolites of the Balagne Nappe crop out. Here, the contact is scree-covered but, on the opposite bank of the Lagani Creek, it is perfectly visible along the railway.

The Balagne Nappe. On the autochthonous Eocene deposits lying directly on the basement (Western Corsica and, to the east, Tenda Massif), an isolated north-south-trending synform klippe of the Balagne Nappe crops out. It includes: **a**- ophiolites, mainly in the southern part of the Nappe; **b**- the Malm-Cretaceous-Eocene sedimentary cover. This latter can be divided in several slices, thrust northwestwards. (For the stratigraphy, see Fig. 8; for the field geology, see the geological map at the scale 1:25,000 of Nardi et al., 1978; for the tectonic frame, see Fig. 17, where also the stops are indicated).

The itinerary follows the Ponte Leccia-Ile Rousse road through the San Colombano Pass and the Belgodere village.

Between Stop I.6 and the railway bridge of Volparone, a complex zone -where autochthonous Eocene deposits alternate with ophiolitic pillow lavas- has been differently interpreted. For some authors, the isolated outcrops of basalts are olistoliths in the detritic Eocene, for other authors (cf. Durand-Delga et al., 1978), they are synformal southeastward trending folds belonging to the lower part of the Balagne Nappe, thrust onto the autochthonous Eocene.

At the Volparone cross-road, we can see the contact between basalts and sedimentary ophiolitic breccias whose age has been discussed (Late Cretaceous or Eocene).

From Volparone, the road follows the Lagani meanders for about 10 km. It crosses Jurassic pillow lavas, about one km thick.

Stop I-7. *Railway bridge upon the road, “km 59”.*
We are on the south-eastern slope of the NNE-SSW trending Novella syncline, which deforms the nappe succession. A classic section, known after Termier (1928), shows (De Wever et al., 1987): **a**- pillow-lavas, basaltic breccias (8 m) and hyaloclastites (2 m); **b**- green and reddish radiolarites (7 m), dated Callovian-early Kimmeridgian; **c**- some layers of coarse-grained *Trocholina* limestones; **d**- reddish pelitic radiolarites (5 m); **e**- pelitic pastel limestones (5 m) with *Calpionella elliptica* and *Calpionellopsis oblonga* (transition between middle and late Berriasian).

Afterwards, we cross successively: **a**- the Lower-“mid” Cretaceous sediments (“Lydiennes”, then “Palombini” limestones) of the N-S Novella synclinal, **b**- the basalts of its western substratum, with the Servadio slice (alternance of Jurassic radiolarites and limestones), **c**- below, to the west, the Toccone sub-unit, of which, going upwards to the San Colombano Pass, we cross, for a long stretch of road, the Cretaceous “Lydiennes” Flysch and the associated sedimentary breccias.

Stop I-8. *San Colombano (682 m).*
At the Pass, the “Lydiennes” Flysch is exposed. On foot, along the track to Novella we can observe (Fig. 18, section X-X): Malm radiolarites with thick beds of limestone, subunit “III”; successively the “Grand Rocher” section, with Malm massive limestones, reworking basement rocks (of western Corsica type) of sub-units “I” and “II”.

From the San Colombano Pass, the road slopes down gently to the north and cuts successively: a- the black “Lydiennes” and the associated Toccone sub-unit; b- tectonically underneath, beyond the Olmi-Cappella cross-road, thick well-bedded sandstones of the Annunciata Unit, Middle Eocene in age.

Stop I-9. *South of Palasca.*
At the base of the Annunciata Unit, we see the previously called “slice zone” (“zone d’écaillage”); actually consisting of olistoliths (volcanogenic Permian, Triassic and Liassic carbonates, etc.). Downwards, the foliated “flysch noir” (black flysch), then Nummulitic sandstones and limestones, and finally conglomerates lying above the basement.

North of Palasca, the road cuts the polycyclic Belgodere gneiss succession (ancient basement with Hercynian migmatitic imprint). Crossed Belgodere, the road slopes to the sea. North of the village, we find the contact between

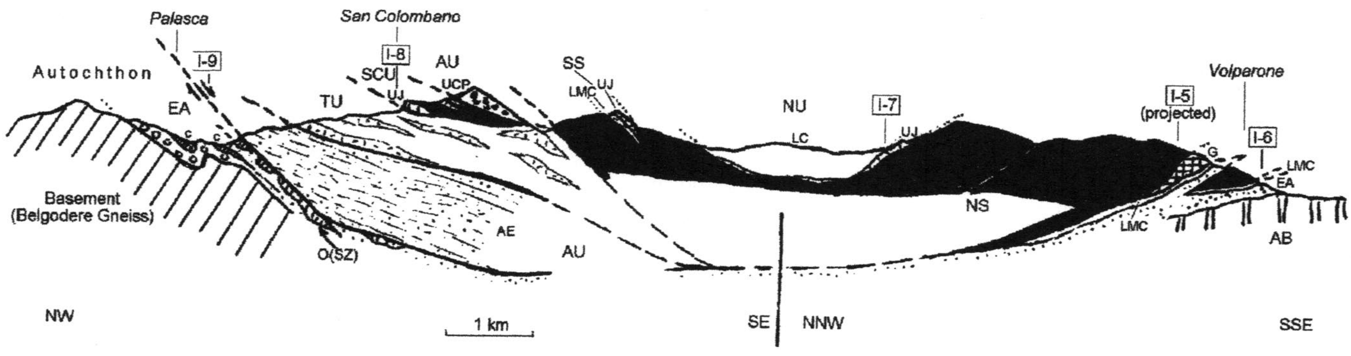

Fig. 17 - Structural section of the Balagne Nappe, with locations of Stops I, 5-9. EA- Eocenic autochthonous conglomerates; O(SZ)- Olistoliths, previously “Slice Zone”; AU- Annunziata Unit; AE- Annunziata Fm. (Eocene). TU- Toccone Unit; MC- “Mid” Cretaceous. SCU- San Colombano Unit; UJ- Upper Jurassic limestones; AlU- Alturaja Unit; UCP- Upper Cretaceous-Paleocenic flysch; SS- Servadio Slice; LMC- Lower-“mid” Cretaceous sandstones; NU- Novella Unit; LC- Lower Cretaceous rocks; NS- Navaccia Spilites; G- Gabbros; AB- Autochthonous Basement.

the Belgodere gneiss succession and the intrusive Calvi Mg-K Hercynian (~340 Ma) granites, which we cross as far as the sea.

Here we are reaching the Calvi-Bastia coastal road, that we follow to the east. On the granitic basement, lies the Eocene autochthonous succession: well-rounded pebbly

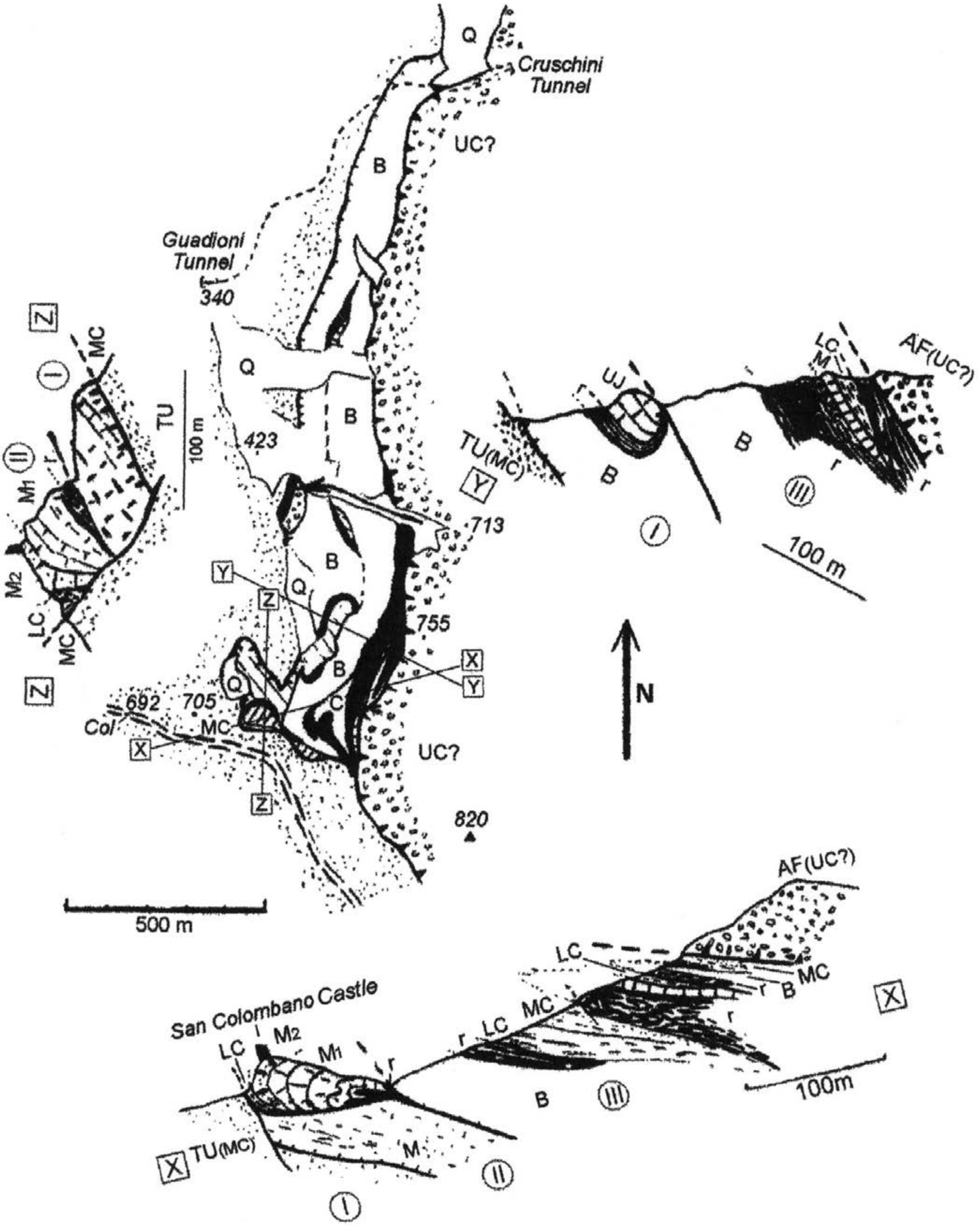

Fig. 18 - San Colombano Unit (Balagne Nappe). I, II, III- sub-units; B- basalts; r- cherts; M- Malm limestones (M1, massive; M2, detrital); LC- Lower Cretaceous marly limestones; MC- "mid" Cretaceous "Lydiennes" Flysch; UC- Upper Cretaceous-Paleocene(?) rocks; AF- Alturaja Fm (Senonian-Paleocene); Q- Quaternary deposits; TU(MC)- "mid" Cretaceous Toccone Unit; X, Y, Z- traces of the sections.

conglomerates, then sandy limestones with Lutetian *Nummulites*, arenaceous flysch with thick beds and, finally, pelitic-arenaceous flysch.

Stop I-10. *North of Punta d'Arco.*

In this northwestern part of Balagne, a nappe belonging to the "Piémontais" Zone directly lies (along a distensive fault) on the autochthonous Eocene deposits. This "Bas-Ostriconi Nappe" consists of a marly-arenaceous light-coloured flysch, Late Cretaceous in age (Narbinco Fm.), containing microconglomerates with clasts coming from the continental basement. This allochthonous flysch is topped, to the south, by the Punta d'Arco Conglomerates (Eocene?).

The Narbinco Upper Cretaceous Flysch (with its "autochthonous" basement) was afterwards backthrust southeastward onto the frontal slices of the ophiolitic Balagne Nappe (Fig. 19).

This flysch crops out for 2 km along the coastal road up to the alluvial deposits of the Ostriconi Valley.

The main road runs back southwards and follows the big N-S fault which separates the Balagne Nappe from the Tenda Basement. At the Pietralba Pass, we can observe on the right (west), the big calcareous olistoliths (Malm) in the autochthonous detrital Eocene. From the Pass, the road slopes down southwards in the autochthonous cornubianites and reaches the Tartagine Valley, where the autochthonous granite crops out. From the confluence Tartagine-Asco rivers (bridge on the latter), the road reaches the "Corte Zone", where several tectonic units are folded and faulted together: the southern extension of the ophiolitic Balagne Nappe with gabbros, at Ponte Leccia and south of the village; the Triassic-Liassic "Prépiémontais" allochthon; the autochthonous granitic basement and its Eocene cover.

Stop I-11. *Taverna, 2 km SSW of Ponte Leccia (presented by J. Ferrandini, Corte University).*

Quarry in the arenaceous marlstones with Pelecypods, Foraminifera (late Burdigalian), locally intercalated in the post-nappe continental conglomerates of the Francardo-Ponte Leccia basin. It was separated from the Miocenic open sea by the Tenda and Castagniccia antiforms (formed during Late Miocene).

Back to Corte.

SECOND DAY

1. Santa Lucia Nappe and Caporalino-Pedani Unity (Durand-Delga; Rossi);
2. "Schistes Lustrés" (Lahondère) (Figs. 20 and 21).

Corte: first we climb on foot to the citadel.

Stop II-1. *Panorama from the citadel.*

Towards WNW we can observe the tectonic overlap (with verticalised contacts) of: a- Autochthon (high granitic mountains); b- Corte Slice, "Prépiémontais"; c- Inzecca-type "Schistes Lustrés" with ophiolites (Fig. 22).

The Corte Slice (*sensu stricto*) has a Lower Liassic thick succession, including Triassic and Permian detrital blocks ("calcaires à blocs"), with isoclinal recumbent folds. This Liassic marbles are overturned on the Corbaghiola Breccias (Dogger-Malm?), including clasts of basement and Permian volcanoclastites, tectonically sheared and transformed into chloritic schists ("schistes chloriteux" Auctt.).

The citadel is built on layered prasinites - i.e. ex Ligurian pillow-lavas. Along the Golo River, they are associated with gabbros and serpentinites. In Corte, some marbles (Late Malm) and breccias (Dogger-Malm?), of a "Prépiémontais" unit are sliced and backthrust together and onto the ophiolites.

We go northwards, to the San Quilico Pass (see 1st Day); from the pass, to Bustanico via Santa Lucia di Mercurio we cross the Santa Lucia "Piémontais" Nappe from west to east (Fig. 23), firstly its base of very weathered Hercynian granites, 2-3 km beyond the pass.

Stop II-2. *San Rocco.*

Contact between the Tomboni Conglomerates (Fig. 7) and the Tralonca Flysch. The conglomerates ("mid" Cretaceous?) with elements of granite, "ancient" schists and rare (here!) Jurassic limestones, constitute the cover of the granites, and show a very strained Alpine deformation**,** north-south trending.

East of the San Rocco chapel, the conglomerates grade to green sandstones, alternating with black shales (equivalent to the "mid" Cretaceous? "Lydiennes" Flysch). Upwards, we find the Tralonca calcareous-arenaceous flysch (Senonian) which is intensely folded. This flysch fills up a large post-nappe N-S synform.

Stop II-3. *SE of Tralonca.*

Polyphased tectonics of the Tralonca Flysch (foliated marlstones, microconglomerates and calcareous sandstones). Recumbent folds with an E-W axis, deformed by later N-S folds.

Before reaching Santa-Lucia, the road reaches a gentle "fossil" perched valley (eastern side), with respect to the

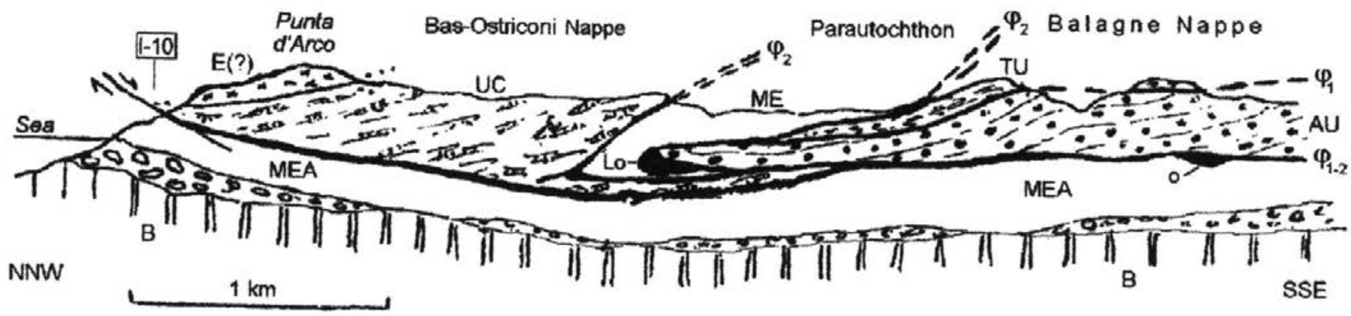

Fig. 19 - Post-nappe thrust of Bas-Ostriconi ('Piémontais') onto the ophiolitic Balagne Nappe, with location of stop I-10. E(?)- Eocenic? sandstones; UC- Upper Cretaceous Flysch; ME- Middle Eocene Flysch; TU- "mid" Cretaceous Toccone Unit; AU- Annunciata Unit, Eocene; Lo- Liassic calcareous olistolith; o- calcareous olistolith; MEA- Middle Eocene autochthonous succession; B- Autochthonous Basement; φ_1- early thrust; φ_2- later thrust.

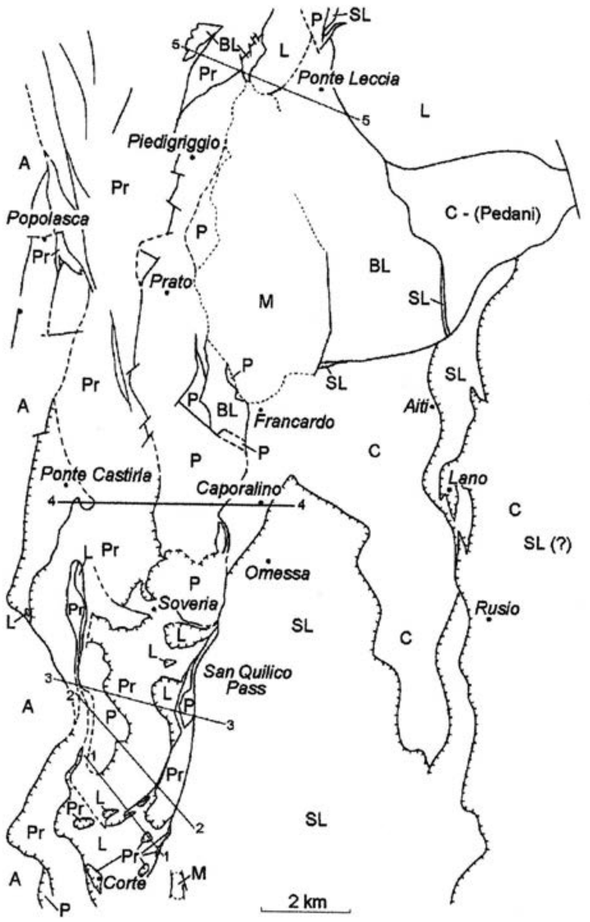

Fig. 20 - Structural scheme of the region north of Corte. L- Ligurian Unit; BL- Balano-Ligurian Unit; SL- Santa Lucia Nappe; C- Caporalino Unit; Pr- "Prépiémontais"; P- Parautochthon; A- Autochthon; M- Miocene. 1-5, traces of the sections of Fig. 21:

deep depression of Tralonca (western side). Near Santa Lucia the "Lydiennes" Flysch ("mid" Cretaceous?) extensively crops out.

From Santa Lucia to the east, we go down the succession of the Santa Lucia Nappe. Beneath the Upper Cretaceous Tralonca Flysch, its conglomeratic base crops out (crossroad to Piedivaldo).

Stop II-4. *NE of Piedivaldo.*

A post-nappe N-S antiform exposes (E side of the Tralonca synform) the Tomboni Conglomerates and their substratum; this latter consists here (SE side of the Santa Lucia Nappe) of a stratified basic complex (gabbros, serpentinites) of Ivrea-type (Ohnenstetter, 1993).

Along the axis of the N-S antiform, erosion exposes (in tectonic window) the thick (Upper?) Eocene "grès blancs" (white sandstones), i.e. the upper term of the Caporalino Unit. These sandstones continue northwards, and disappear southwards under the Santa Lucia Nappe.

After a complex zone (folds and faults), the road runs up to the San Martino Pass.

Stop II-5. *San Martino Pass.*

"Bagliacone" facies of the Tralonca Flysch, (ex "Lias Prépiemontais" Auctt.). It is an epimetamorphic flysch with thick beds of limestones, sandstones and microconglomerates, with re-crystallised siliceous beds.

The contact with the "Schistes Lustrés" Zone is just to the East, along the scree-covered slope of Piano Maggiore (1580 m). South-eastwards, the road crosses an "Inzecca"-type succession: Erbajolo Fm., schists with calcareous beds (ex "Palombini"), red radiolarites, pillow-lavas, a succession that we will see again at Stop II-7. Between Sermano and Bustanico, a mass of Ligurian serpentinites with big slides is exposed.

At Bustanico, N-S contact with the Castagniccia-type "Schistes Lustrés", which belong to a unit that we will see again at Morosaglia, to the North. The road goes up to the pass and then down along the Casaluna S-N depression; we cross longitudinally the different tectonic units of the "Schistes Lustrés" that are verticalised and aligned N-S (slices of serpentinites, gabbros, basalts, schists of different units). We reach a tributary of the Casaluna River.

Stop II-6. *Scoltola Bridge (Fig. 24).*

We observe the tectonic window of the Mesozoic "Prépiémontais" Pedani-(Caporalino) Unit: Norian dolomites with fillings of reddish shales (ex-paleosoils), Rhaetian marly-calcareous-dolomites, "Hettangian" stratified dolostones, Sinemurian(?) thin-bedded limestones, then arenaceous limestones including some blocks of Triassic rocks and of Basement.

The Pedani Mesozoic Unit (Fig. 24) is here in vertical fault contact with: a- to the east, the Santa Lucia Nappe (Tralonca Flysch); b- to the west, the "Balano-Ligurian" Unit of the Pineto gabbros.

We move to the NNW, crossing the Padule Breccias, which include blocks of granitic and gneissic basement, of Permian rhyolites, and calcareous levels with Dogger foraminifers.

Successively, the road crosses the Pineto gabbros of the Balagne Nappe, then it reaches the main road in the Golo Valley. At Ponte Leccia we will move towards the ESE up to the Prato Pass via Morosaglia, and then we will come back (26 km). We go up in the serpentinites of Serra Debbione (Ligurian, "Inzecca"-type?). We follow the E-W fracture which bounds to the N the Pedani Unit (uplifted with respect to the "Schistes Lustrés" located to the N); it includes Permian volcanogenic rocks, then Triassic-Liassic carbonates of Pedani. We are reaching an important pass, between the Golo (to the North) and Casaluna (to the South) valleys.

Stop II-7. *Bocca di Serna.*

A (polyphased) refolded vertical fault separates the Pedani Unit from the "Schistes Lustrés" zone. Outcrops of the Inzecca-type "Schistes Lustrés" include: Erbajolo Fm. (ex "Palombini"), radiolarites with Mn ores (once exploited), pillow basalts.

This Upper Ligurian Unit was thrust to the E onto some other Ligurian units with clearly more metamorphic schists (two units of Middle "Schistes Lustrés", Fig. 25, MSL) separated by some serpentinites.

At Morosaglia, a main tectonic contact probably occurs: slices of "gneiss" and micaschists with pebbles (granites, carbonates) close to the roman church above the village. This contact, re-folded into big N-S folds, will be found again near the Prato Pass.

We climb to the pass across the ophiolites: serpentinites, gabbros, glaucophane prasinites and associated "Schistes Lustrés" covers. We find here the structural horizon of the

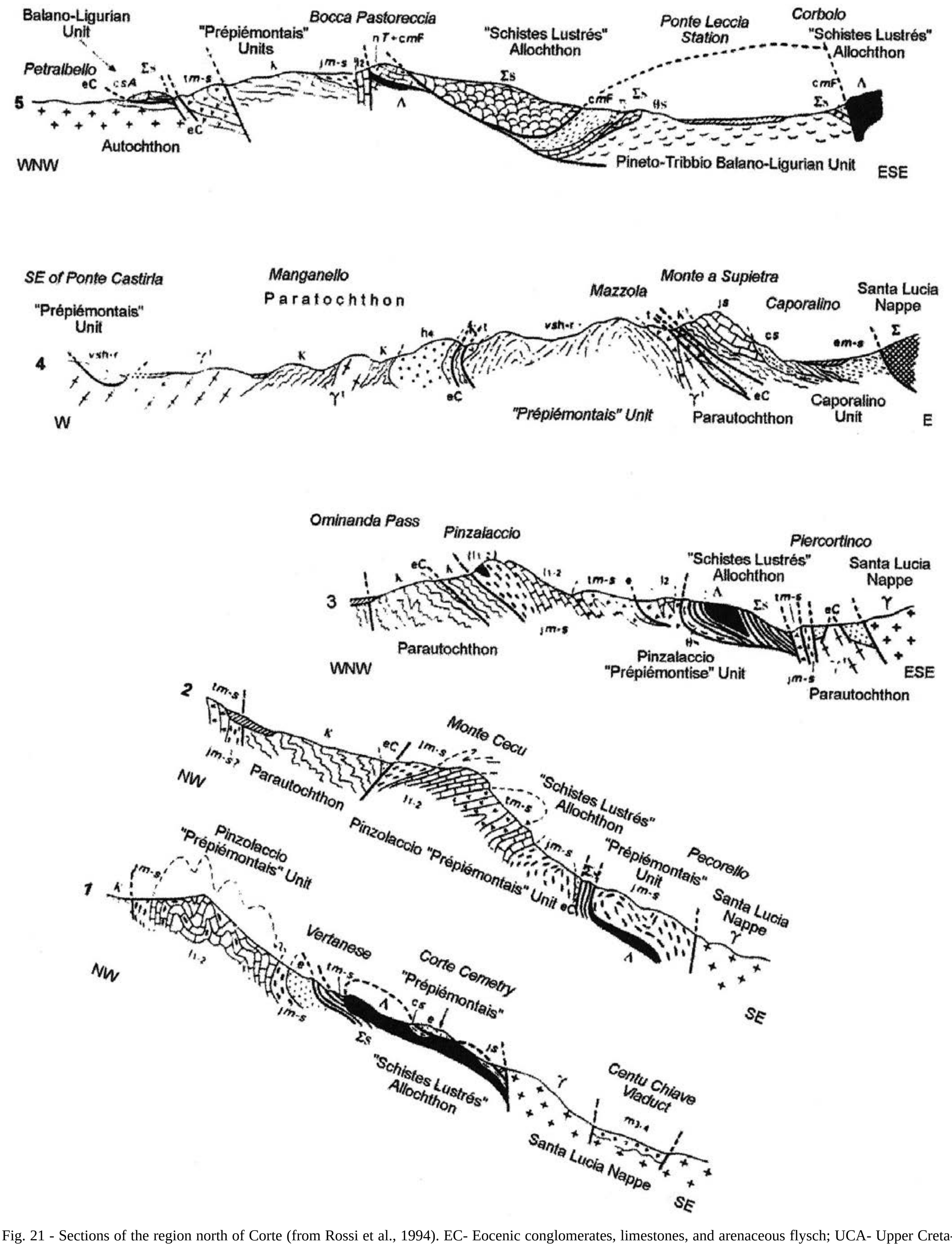

Fig. 21 - Sections of the region north of Corte (from Rossi et al., 1994). EC- Eocenic conglomerates, limestones, and arenaceous flysch; UCA- Upper Cretaceous Aiale Conglomerates; β- meta-basalts; MUT- Middle-Upper Triassic dolostones and "cargneules"; K- "Roches brunes": cornubianites and ancient terrains; UJ- Upper Jurassic detritism and Sentonia Arkoses; HS- Hettangian-Sinemurioan limestones and dolostones; Σ- Serpentinites;LC- Lower Cretaceous Punte di Tribbio limestones and schists; ACF- Albian-Cenomanian? Calcarenitic flysch (f. "gréso-calcaire"); ϑ- meta-gabbros; PCb- Permo-Carboniferous riodacites, arkoses, conglomerates; γ1- granites; UCb- Upper Carboniferous conglomerates; UJC- Upper Jurassic Caporalino Limestones; MUC- Erbajolo Fm. (Upper-"mid"? Cretaceous meta-limestones and schists); MUE- Middle-Upper Eocenic arenaceous flysch; SL- Undifferentiated Santa Lucia complex; E-Eocenic detritism; J_{2-3}- Sinemurian limestones; J_{1-2}- Liassic detritic limestones and dolostones; M_{3-4}- Miocenic Francardo sandstones and conglomerates.

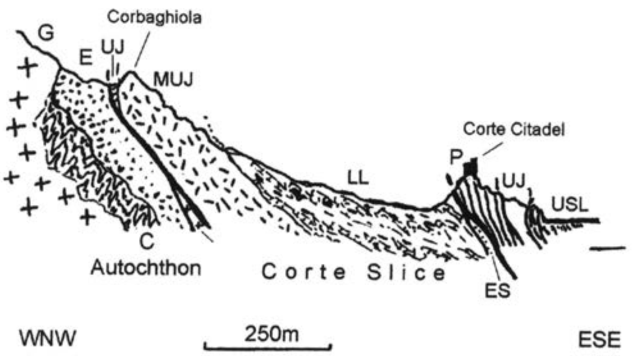

Fig. 22 - Geological section of the Corte area. G- Calc-alkaline granites; C-Cornubianites; E- Eocene conglomerates; UJ- Upper Jurassic rocks, MUJ-Middle-Upper Jurassic breccias; LL- Lower Liassic succession; ES-Eocenic slice; P- Prasinites; PUJ- Upper Jurassic "Prépiémontais" (marbles and breccias); USL- Upper "Schistes Lustrés".

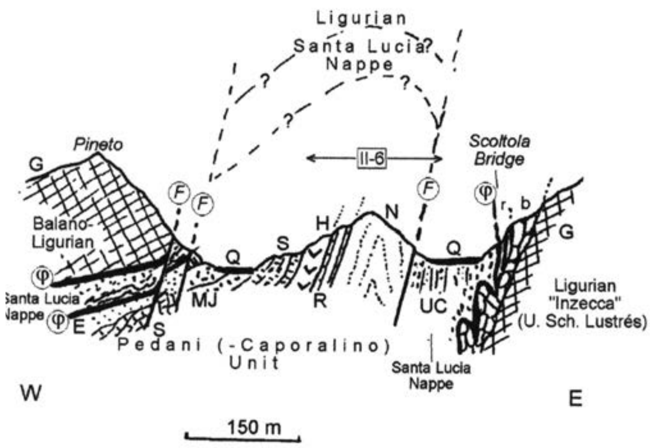

Fig. 24 - ??

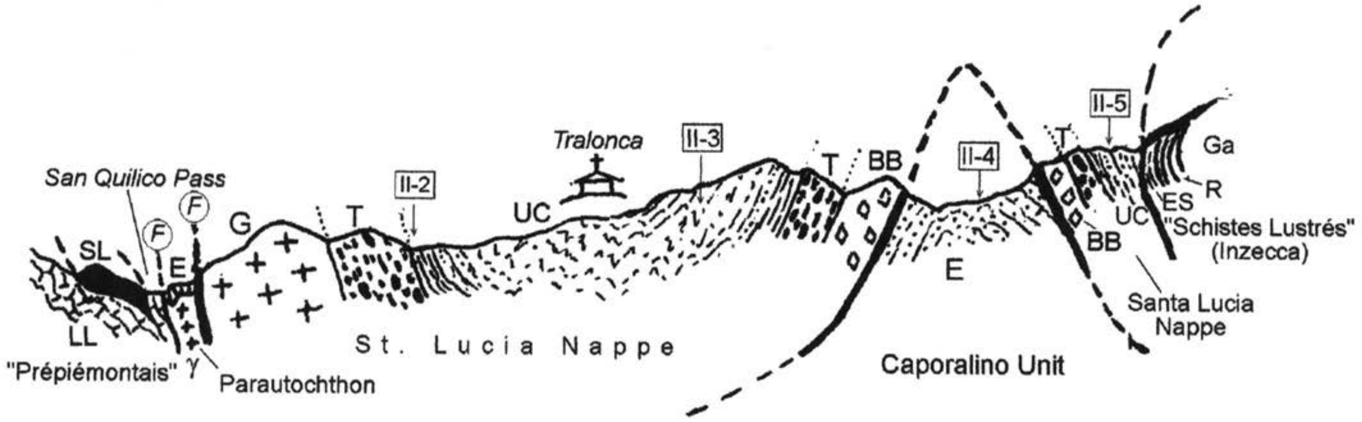

Fig. 23 - Section through the Santa Lucia Nappe, with location of Stops II-2, II-5. LL- Lower Liassic limestones; SL- "Schistes Lustrés"; γ- Granites; E-Eocenic flysch; G- Granites; T- Tomboni Conglomerates, "mid" Cretaceous?; UC- Upper Cretaceous Tralonca Flysch; BB- Basic basement; ES- Erbajolo Fm.; R- radiolarites; Ga- Gabbros.

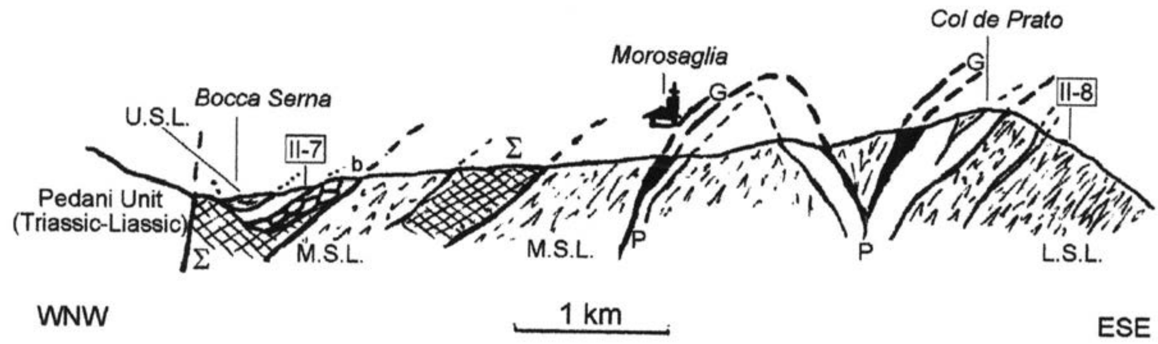

Fig. 25 - Interpretative section of the "Schistes Lustrés" between Pedani and Col de Prato, with location of Stops II-7 - II-8. Σ- Serpentinites; U.S.L.- Upper "Schistes Lustrés"- b- Basalts; M.S.L.- Middle "Schistes Lustrés"; G- Gneiss; P- Prasinites; L.S.L.- Lower Schistes Lustrés".

Morosaglia church: the HP-LT eclogitic unit. It continues southwards along the "roches vertes" ridge, going up to the San Petrone church (1767 m).

Stop II-8. *SE of the Prato Pass.*

We stop about 500 m south of the pass. Here we observe -along he road, below hill 1111 m- a tectonic lens of dark blue gabbros with glaucophane and amphibole. It is superposed on the Lower "Schistes Lustrés", cropping out several metres to the south, along the road. This unit, mainly deriving from an ophiolitic succession, lies between the Upper-Middle "Schistes Lustrés" and the ("Bastiais") Lower "Schistes Lustrés".

We come back to Ponte-Leccia (26 km), then to Bastia, the main road goes downstream, along the Golo River Section (Fig. 26, after R. Delcey, in Durand-Delga et al., 1978).

Stop II-9. *Eclogites between Accendi Pipa and Casa di Corona.*

The Golo River here cuts the units seen at the Prato Pass and which extend northwards of the river between Campitello and Volpajola (Delcey in Durand-Delga et al., 1978: "Fig. 25"). Eclogitic metamorphism affects the Volpajola-Farinole Unit (Lahondère and Caby, 1989), with: P = 13 Kbar and T = about 45°C (Lahondère D., 1996).

In the cliff, 300 m northwest of Casa di Corona, and about 30 m above the road, massive metabasites and metaquartzites (ancient radiolarites?) are followed by metasediments, mainly calcschists with calcareous horizons. Here, two "gneiss" sheets are intercalated. The lower slice derives from an ancient arkose with pebbles of acid rocks. The upper sheet consists of flaser gneiss with thin basic stretched amygdales, and "balls" of quartz, jadeite, phengite and glaucophane, remembering ancient pebbles of acid rocks. One of these bodies (mineralogical composition in Lahondère and Guerrot, 1997) is likely to derive from an arkose made up of calc-alkaline granite grains. An age obtained with the Sm-Nd method, on garnet, ferroglaucophane, jadeite and total rock gives an isochrone of 83.8±4.9 Ma. It is the first reliable age in Corsica of an eo-Alpine metamorphic episode.

On the other hand, the phengites (HP-LT) from a basic pebble of the Volpajola Metaconglomerates gave a radiometric ($^{39}Ar/^{40}Ar$ method) age of 40.3±0.9 Ma (Lahondère D., 1996). Thus, in the "Schistes Lustrés" Zone, both eo-Alpine (Late Cretaceous) and Eocenic HP-LT metamorphic events are recorded.

We continue to the East and reach the Biguglia airport.

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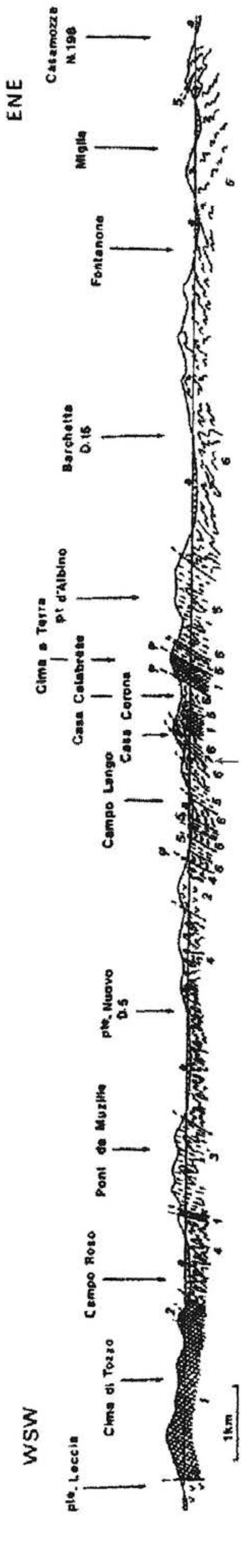

Fig. 26 - Golo section (Delcey, in Durand Delga et al., 1978). Upper "Schistes Lustrés": 1- Serpentinites; 2- Meta-gabbros; 3- Metamorphic pillow lavas, 4- Erbajolo Fm. Lower "Schistes Lustrés": 5- prasinites; 6- Castagniccia schists; 7- gneiss; a- Quaternary.

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