

### LEGEND

#### Holocene deposits

- g<sub>2</sub> beach deposits**  
Littoral sands and gravels bearing bioclasts.  
Thickness: few metres.  
HOLOCENE
- b<sub>2</sub> eluvial-colluvial deposits**  
Pebbles and cobbles dispersed in a sandy-silty matrix, bearing soils.  
Thickness: up to few metres.  
HOLOCENE
- a<sub>1</sub> rockfall deposits**  
Polygenic diamicton accumulated at the foot of cliffs.  
Thickness: <10 m.  
HOLOCENE

#### Pleistocene deposits

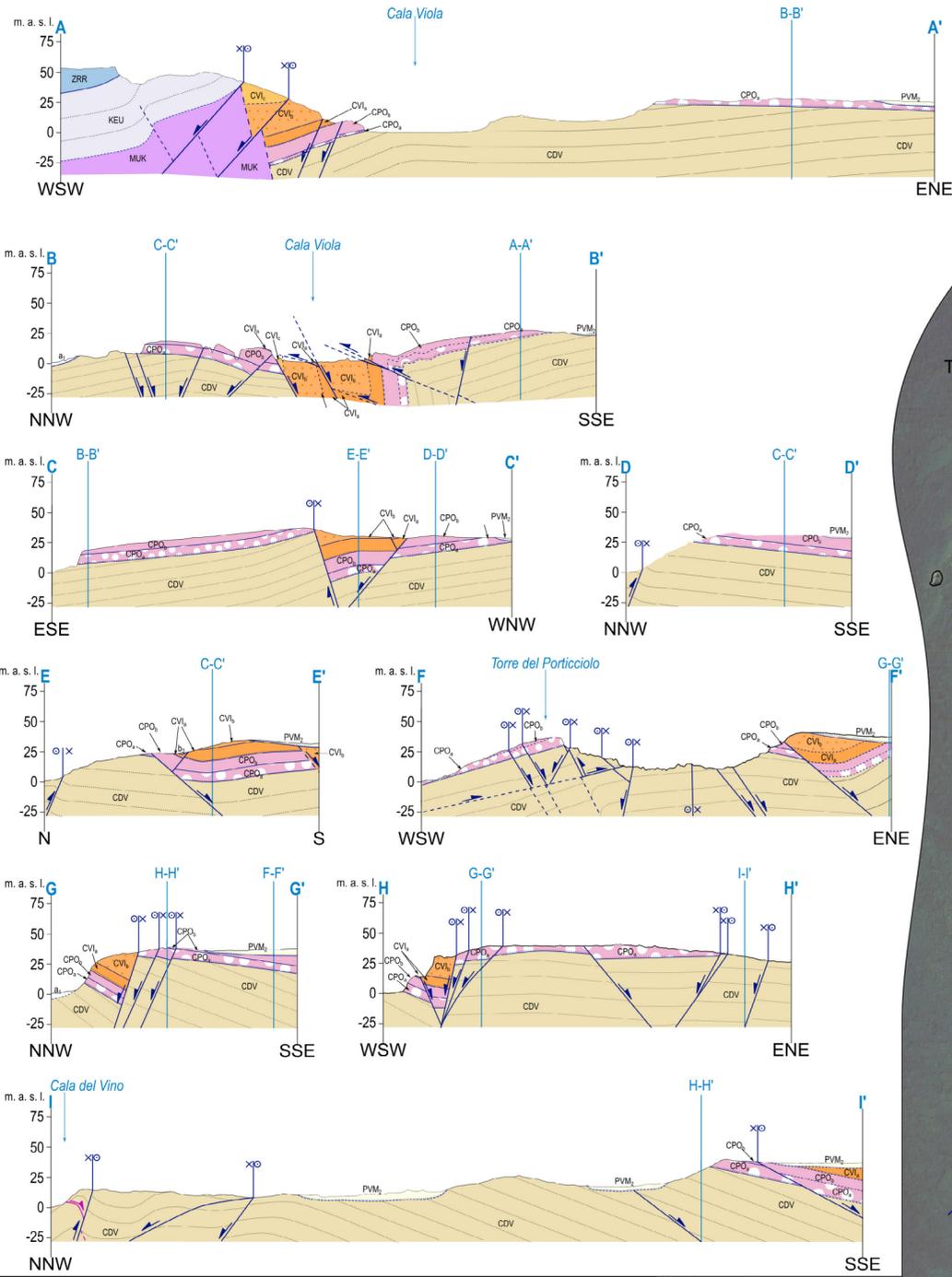
- Portovesme synthem**  
MIDDLE *p.p.*-UPPER PLEISTOCENE
- PVM<sub>2</sub> Portoscuso subsynthem**  
Yellowish eolian sands and sandstones.  
Thickness: up to 10 m
- PVM<sub>1</sub> Calamosca subsynthem**  
Polygenic conglomerates and breccias, and yellowish bioclastic sandstones and calcarenites (cf. "*panchina tirreniana*" *auct.*).  
Thickness: up to 10 m.

#### Paleozoic-Mesozoic deposits

- ZRR Monte Zirra formation**  
Oolitic and oncolitic limestones bearing quartz and arenaceous lithic clasts alternated with marls, quartzitic sandstones and dolostones.  
Thickness: >30 m.  
LOWER JURASSIC? (?Hettangian)
- KEU Keuper**  
Red, green and yellowish marls with gypsum intercalations.  
Thickness: >60 m.  
MIDDLE-UPPER TRIASSIC (Ladinian *p.p.*-Carnian)
- MUK Muschelkalk**  
Yellowish dolomiticrites with carnular porosity probably due to dissolution of evaporites.  
Thickness: >5 m; up to 150 m from literature.  
MIDDLE TRIASSIC (Ladinian *p.p.*)

- Cala Viola sandstones**  
MIDDLE TRIASSIC (Anisian *p.p.*)
- CVI<sub>c</sub> pelitic and marly lithofacies (cf. "Röt" facies)**  
Cm- to dm-thick, yellowish and grey sandstones associated with grey-greenish claystones, marls and massive red siltstones.  
Thickness: >10 m.
- CVI<sub>b</sub> arenaceous lithofacies**  
Red, orange and purple, cm- to dm-thick, sandstones and siltstones.  
Thickness: 15-20 m
- CVI<sub>a</sub> pelitic and sandy lithofacies**  
Well- to thinly-bedded dark red sandstones and siltstones, bearing climbing ripples and trough-cross lamination/bedding.  
Thickness: 2-7 m
- Porticciolo conglomerate**  
LOWER TRIASSIC (Induan?-Olenekian *p.p.*)
- CPO<sub>b</sub> pebbly to fine sandstone lithofacies**  
Cm to dm-thick tabular beds of whitish-pink coarse-grained to pebbly sandstones; upwards, fine to coarse-grained reddish cross-stratified sandstones.  
Thickness: up to 10 m.
- CPO<sub>a</sub> orthoquartzitic conglomerate**  
Reddish and pink conglomerates and sandstones dominated by pebbles of metamorphic quartz.  
Thickness: 0-3 m.
- CDV Cala del Vino formation**  
Massive red claystones and siltstones bearing cm to m-thick channelized yellowish greenish sandstones.  
Thickness: up to 200 m.  
CISURALIAN *p.p.*- GUADALUPIAN *p.p.* (upper Kungurian-Roadian *p.p.*)

### GEOLOGICAL CROSS SECTIONS



### The Cala Viola-Torre del Porticciolo coastal area: a unique tectono-stratigraphic site to unravel the polyphase tectonics in NW Sardinia

#### GEOLOGICAL MAP

Menegoni N.<sup>1</sup>, Cipriani A.<sup>2</sup>, Scarani R.<sup>3</sup>, Stori L.<sup>3</sup>, Citton P.<sup>4</sup>, Romano M.<sup>5</sup>, Nicosia U.<sup>5</sup> & Ronchi A.<sup>3</sup>

- (1) Ali I. Al-Naimi Petroleum Engineering Research Center, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia
- (2) Dipartimento per il Servizio Geologico d'Italia - ISPR, Roma
- (3) Dipartimento di Scienze della Terra e dell'Ambiente, Università di Pavia, Pavia, Italy.
- (4) IIPG, Instituto de Investigación en Paleobiología y Geología (CONICET - UNRN), General Roca, Río Negro, Argentina.
- (5) Dipartimento di Scienze della Terra, Sapienza Università di Roma, Roma, Italy.



Field geological mapping was carried out by Angelo Cipriani in September 2019

