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Time and Life in the Silurian: a multidisciplinary approach

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Lower Telychian graptolite fauna in Sedda de S'Ortu Section (Lower Graptolitic Shales, SE Sardinia)

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LOCALITY	large road-cut at Sedda de S'Ortu, at geographical coordinates 39°35'21.00" N, 9°14'25.65" E).
LITHOSTRATIGRAPHIC UNIT	Lower Graptolitic Shales (informal unit).
AGE	Early Telychian (late Llandovery).
WHAT TO SEE	black alum slates with abundant and diversified early Telychian graptolite fauna. Effects of tectonic deformation are particularly well seen on graptolite rhabdosomes.

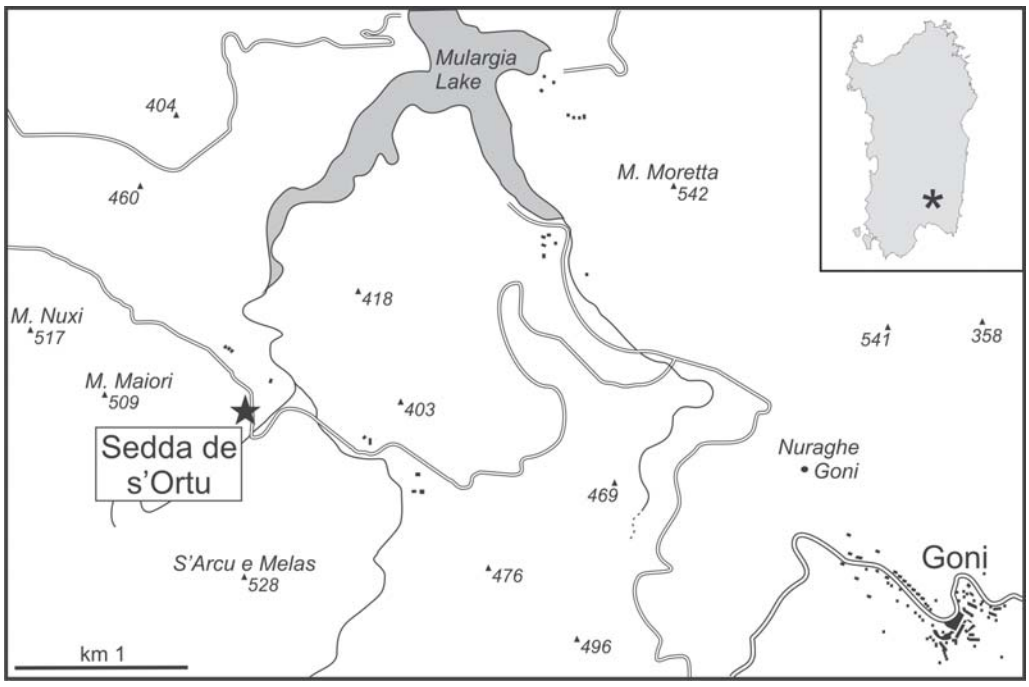

Fig. 1 - Location map of the Sedda de S'Ortu Section

Fig. 2 - Large road-cut exposure at Sedda de S'Ortu exhibits sheared and cleaved early Telychian black slates of the Lower Graptolitic Shale unit. Slates with common and determinable graptolites, less affected by cleavage, have been preserved in several places designated by numbers. Point No 1 corresponds with *S. turriculatus* Biozone, No 2 and No3 yield graptolites of the *R. linnaei* Biozone.

How to get there

A large exposure (road cutting) is located along the local old road connecting the Goni and Siurgus Donigala villages, about 5 km from Siurgus Donigala.

Historical Outline

This section is a quite new exposure: it was discovered several years ago after the construction of the road from Goni to Siurgus Donigala and is here described for the first time. However, the occurrence of Silurian graptolites in the area is known for long time: Gortani (1923) illustrated upper Aeronian graptolites from a close outcrop, missing today.

Together with Cungiareddu Section, Sedda de S'Ortu is a major reference locality for lower Telychian in southeastern Sardinia.

Lithology

Black alum slates more or less affected by cleavage.

Fossil content

Several successive graptolite assemblages have been encountered in the large tectonized exposure at Sedda de S'Ortu. Prominent cleavage destroyed graptolite remains in the most part of the exposure. Moderately well preserved and common, although deformed, graptolite rhabdosomes are mostly confined in three isolated points, marked by numbers

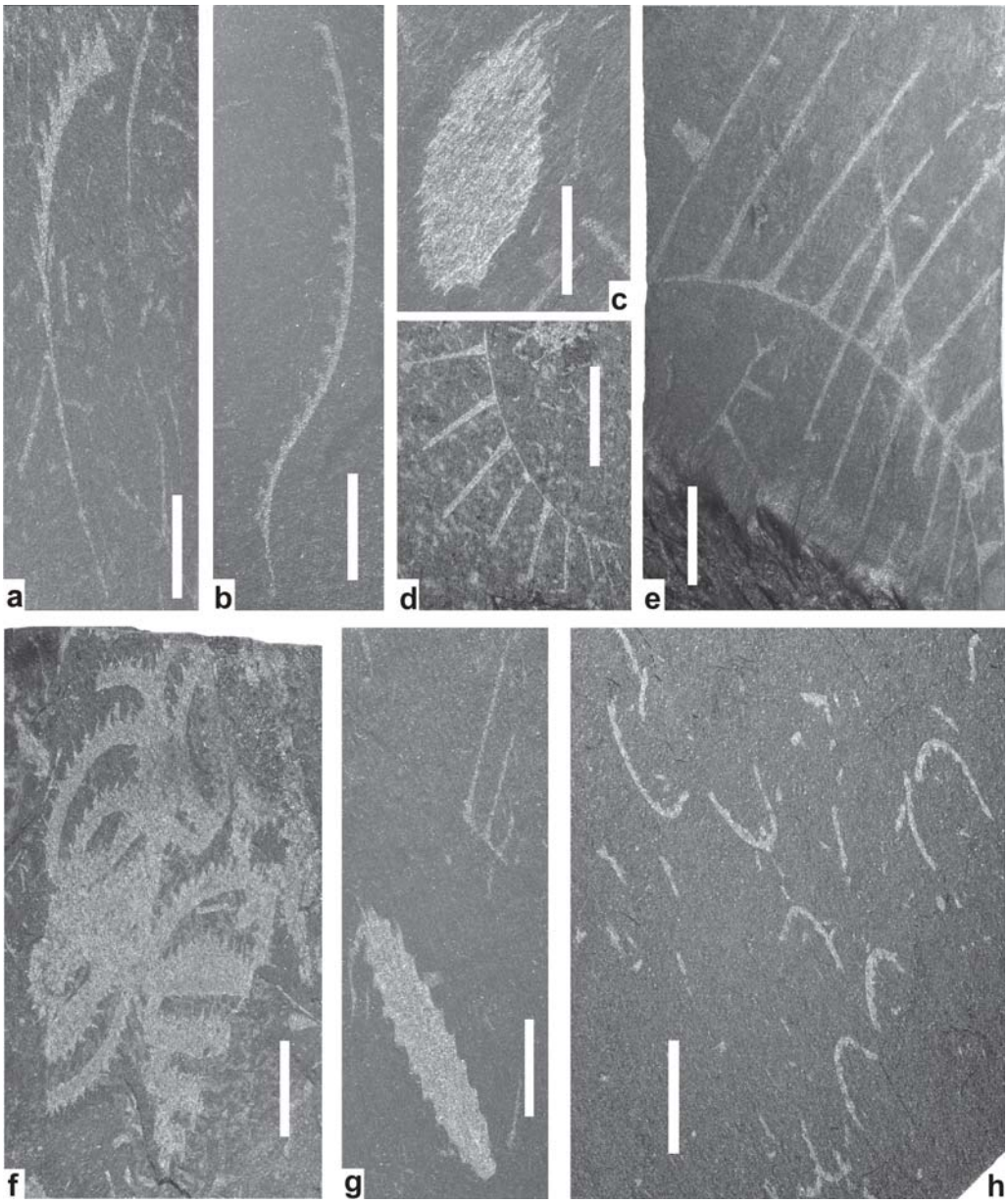

Fig. 3 - a) *Torquigraptus planus* (Barrande, 1850), *linnaei* Biozone, Sedda de S'Ortu; b) *Stimulograptus becki* (Barrande, 1850), *linnaei* Biozone, Sedda de S'Ortu; c) *Parapetalolithus ovatus* (Barrande, 1850), *linnaei* Biozone, Sedda de S'Ortu; d) *Rastrites linnaei* Barrande, 1850, *linnaei* Biozone, Cungiareddu; e) *Rastrites linnaei* Barrande, 1850, *linnaei* Biozone, Sedda de S'Ortu; f) *Spirograptus turriculatus* (Barrande, 1850), *turriculatus* Biozone, Sedda de S'Ortu; g) *Parapetalolithus elongatus* Boucek & Pribyl, 1941, *linnaei* Biozone, Sedda de S'Ortu; h) *Streptograptus exiguus* (Lapworth, 1876), *turriculatus* Biozone, Sedda de S'Ortu. Scale bars = 5 mm.

(1-3) in Fig. 2, Point 1 in the left part of the exposure and point 2 in its right part yield graptolite fauna of the *Rastrites linnaei* Biozone, well comparable with coeval zonal assemblage in Spain (Gutiérrez-Marco & Storch, 1998) and Bohemia (Storch, 1994).

Graptolite assemblage (Fig. 3) consists of *Glyptograptus* sp. (= "*Orthograptus ultimus*" sensu Manck), *Parapetalolithus ovatus* (Barrande), *Parapetalolithus elongatus* (Boucek & Pribyl), *Parapetalolithus* cf. *hispanicus* (Haberfelner), *Parapetalolithus* sp., *Pristiograptus variabilis* (Perner), *Pristiograptus pristinus* Pribyl, *Pristiograptus* cf. *renaudi* Phillipot, *Stimulograptus becki* (Barrande), *Stimulograptus halli* (Barrande), *Streptograptus* cf. *plumosus* (Baily), *Streptograptus* aff. *storchi* Loydell, ?*Paradiversograptus runcinatus* (Lapworth), *Monograptus gemmatus* (Barrande), "*Monograptus*" cf. *capillaris* (Carruthers), *Rastrites linnaei* Barrande, *Rastrites schaueri* Storch & Loydell, *Rastrites abbreviatus* Lapworth, *Rastrites fugax* Barrande, *Torquigraptus planus* (Barrande), *Torquigraptus obtusus* (Schauer), *Torquigraptus contortus* (Perner) and *Spirograptus guerichi* (Loydell, Storch & Melchin).

S. turriculatus-Str. crispus Biozone is represented on the right side of the road-cut exposure (Fig. 2, point 1) where mature rhabdosomes of *Spirograptus turriculatus* (Barrande), accompanied by *Parapetalolithus* sp., *Pristiograptus* cf. *pristinus* Pribyl, *Monograptus* ex gr. *priodon* (aff. *marri* Perner), *Torquigraptus* ?*proteus* (Barrande), *Torquigraptus* ?*planus* (Barrande), *Streptograptus exiguus* (Lapworth), *Streptograptus* cf. *storchi* Loydell and extremely slender *Diversograptus* sp., have been found.

Biostratigraphy

Rastrites linnaei and *Spirograptus turriculatus-Streptograptus crispus* graptolite biozones

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