

# SCLERACTINIAN *OCULINA PATAGONICA* DE ANGELIS, 1908 EL-KALA ALGERIA

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## Abstract

The scleractinian *Oculina patagonica* is a species native of Atlantic waters, it's reported for the first time in El-Kala waters, at extreme east of Algeria. Characterization of some colonies observed has revealed an important development of *Oculina patagonica*; the species presence goes back to more than twenty years. Integrity signs of ecosystems where it has been met are particularly reflected by a high diversity level. Nevertheless, the sizeable extension of colonies out competing those of the endemic *Astroides calycularis*, corroborates the possible threat constituted by the species on the marine ecosystems of El-Kala

**Keywords:** Alien species, Monitoring, Competition, Algerian Sea

## Introduction

One of the actual priorities in assessing marine ecosystems is the reporting of introduced and/or invasive species. In Mediterranean, some of them (lessepsian or Atlantic) have been given particular attention due to the rapid extension of their distribution areas. The Scleractinian *Oculina patagonica* is one of the most studied introduced species at the level of Mediterranean basin. This species, native of Atlantic waters was introduced *via* maritime traffic and transporting species of economical interest. Within the framework of the biological and ecological study of the marine part of the Parc National d'El-Kala (PNEK) [1], we have listed numerous colonies of *O. patagonica* in three different sites (Fig.1). This first record in the region of El-Kala is the third in Algeria after those of îles Habibas [3] and that of Algiers [6]. In this same framework, we conducted campaigns of biometric measurements of colonies at the Cap Segleb.

## Materials and methods

Colonies were observed by scuba diving, they were localized, photographed and depth was recorded. Vertical and horizontal extensions of ten colonies of Cap Segleb were measured. Samples have been taken by scratching for a precise indentifying of the species.

## Results

*Oculina patagonica* has been reported at three distinct sites, respectively at 8m, 12m and 0.5 to 2.5m depth (tab.1).

Tab. 1 Geodesic coordinates of *Oculina patagonica* localizations.

Sites	Depth (m)	Geodesic coordinates (UTM)	Observation
Calle Prisonnière	8m	x=429554 y 4089050	Scuba diving along transect
Cap Gros	12m	x=446613 y=4085738	Scuba diving along transect
Cap Segleb	0.5 to 2.5m	x= 465506 y= 4088242	Ponctual scuba diving

At Cap Segleb, we recorded most important number of colonies on an area surface of 300m<sup>2</sup>. Around twenty colonies were listed; they have predominantly regular hemispheric shape (tab.2).

Tab. 2: Biometric measurements of *Oculina patagonica* colonies at Cap Segleb (ST3)

N° colony	(VE-HE) cm	Depth	N° colony	(VE-HE) cm	Depth
1	57-46	80cm	6	16-14	80cm
2	16-21	1,20m	7	15-20	80cm
3	41-33	1.20m	8	21-35	2,50m
4	11-20	60cm	9	6-6	2.50m
5	27-15	60cm	10	77-60	50cm

## Discussion

Besides the important number of colonies, their extensions, compared to those of other colonies recorded and measured in Cap Nègre (10 to 40cm)

and Galite (35 to 41cm) in Tunisia, show an important development of *Oculina patagonica* in El-Kala waters, with a maximal extent of colony n°10 (77-60cm). Studies carried out by FINE and collaborators [1] on some colonies, revealed a linear growth rate of 0.6 to 0.75cm/year, experimental colonies transplantations in Marseille showed an annual growth rate a little less than 1m/year [3], implying that a medium colony of an average diameter of 20cm could exist since more than 15 years. According to those authors, it is strongly dependent on colonies shapes. In the present study, some cases of fusing colonies have been observed, reminding how difficult is estimating a colony age whose big dimensions might be due to this fusion. Encrusting colonies of *Oculina patagonica* develop on vertical rocky walls and caves, with coralligenous enclaves species, like the endemic scleractinians *Astroides calycularis* and *Cladocora caespitosa*, reminding the threat of switch by *O. patagonica* that has greater aptitudes for adapting to disturbances and environmental stress.

## Conclusion

At present state, the marine ecosystems response to the introduction of *Oculina patagonica* in El-Kala waters is not perceptible, and sites where it has been reported shows integrity signs of marine ecosystems. Nevertheless, changes can occur in structure of these assemblages with apparition of competitive behaviors for space and food, knowing *O. patagonica* has high adaptive abilities thanks to its reproductive mode (sexual and asexual) described by (Karamarsky-Winter et al., 1994) [1], to its Maximal occurrence in disturbed sites (urban pollution, artificial reefs, marinas...), as well as in healthy waters, to the Early maturity of individuals (1-2years old), to the Hermatypic species status showing high adaptive abilities. Developing monitoring programs for assessing the evolution of *O. patagonica* colonies is essential to evaluate their impact on marine ecosystems in El-Kala, essentially by studying growth, reproduction, depth, temperature and salinity intervals for this species survival, as well as functioning of the ecosystems housing it.

## References

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