

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/334684310>

# FIRST FAUNA OBSERVATIONS OF CALAMARÍ BANK: A MESOPHOTIC CORAL ECOSYSTEM

Poster · July 2019

CITATIONS

0

READS

66

7 authors, including:



**Cristina Cedeño-Posso**

Instituto de Investigaciones Marinas y Costeras (INVEMAR)

58 PUBLICATIONS 98 CITATIONS

[SEE PROFILE](#)



**Andrea Polanco**

Instituto de Investigaciones Marinas y Costeras (INVEMAR)

46 PUBLICATIONS 129 CITATIONS

[SEE PROFILE](#)



**Giomar Helena Borrero-Perez**

Instituto de Investigaciones Marinas y Costeras (INVEMAR)

44 PUBLICATIONS 411 CITATIONS

[SEE PROFILE](#)



**Erika Montoya Cadavid**

Instituto de Investigaciones Marinas y Costeras (INVEMAR)

19 PUBLICATIONS 42 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Contributions to Knowledge of Deep Sea Marine Life in Colombian Caribbean [View project](#)



Biodiversidad y condiciones oceanográficas del Estrecho de Gerlache"- BIOGERLACHE-ANTÁRTICA [View project](#)

# FIRST FAUNA OBSERVATIONS OF CALAMARÍ BANK: A MESOPHOTIC CORAL ECOSYSTEM

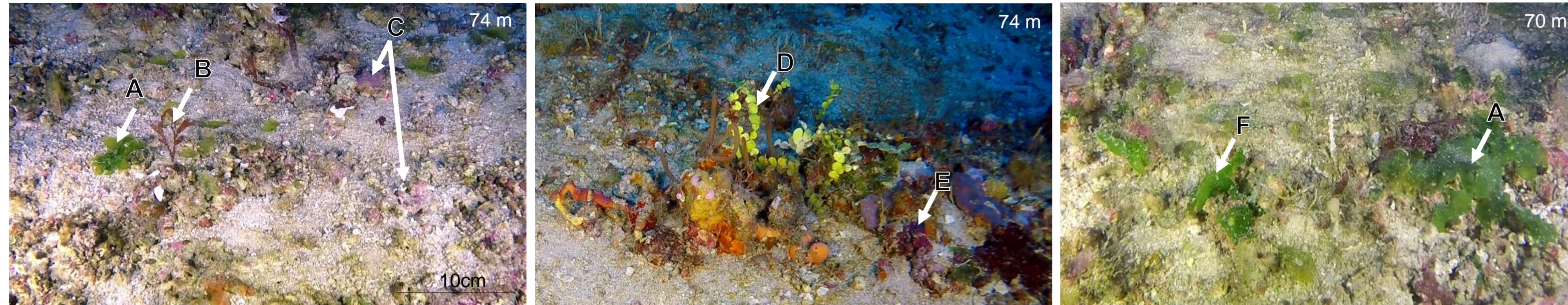
Cristina Cedeño-Posso<sup>1, 2</sup>, Andrea Polanco F.<sup>1, 2</sup>, Giomar H. Borrero-Pérez<sup>1, 2</sup>, Erika Montoya-Cadavid<sup>1, 2</sup>, Katherine Mejía-Quintero<sup>1, 2</sup>,  
M. Natalia Rincón-Díaz<sup>1, 2</sup>, David Alonso Carvajal<sup>1, 3</sup>

<sup>1</sup> Instituto de Investigaciones Marinas y Costeras, INVEMAR, Colombia.  
<sup>2</sup> Grupo de investigación Taxonomía, Sistemática y Ecología Marina, COL0012112  
<sup>3</sup> Grupo de investigación Manejo Integrado de Zonas Costeras, COL0012121



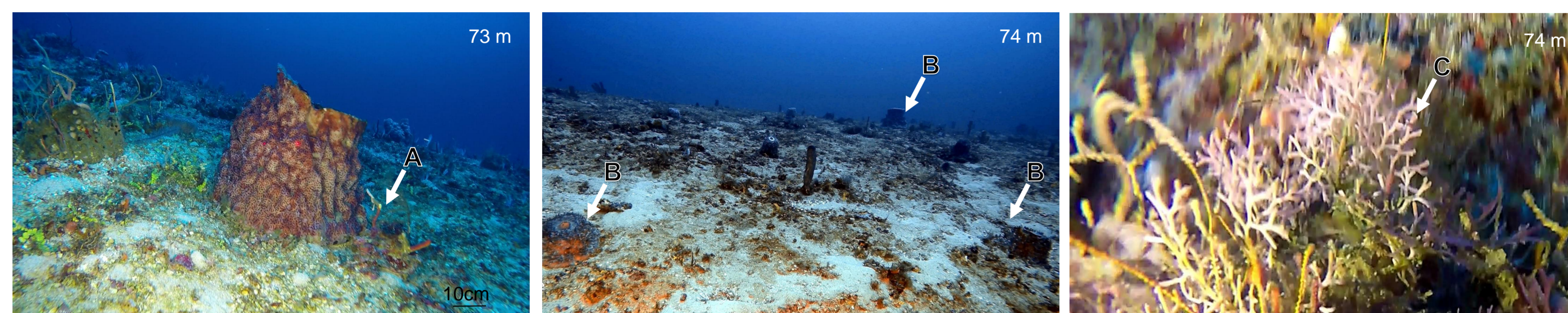
**The Calamarí Bank** is located in the northeastern side, out of the Deep-sea Coral National Natural Park of Colombia, NE-SW direction between the 70 m and 200 m isobaths. Is an elongated shape geoform that combines geological and biotic processes, via structural lifting through mud domes and via the colonization of coral formations. During an exploration carried out on April 7 2018, using **ROV Eloy V**, two video surveys were made between 70 and 120 m deep.

A total of 4 hours 33 minutes of video surveys were analyzed, 720 photograms were interpreted for identification of benthic macro-habitats and main faunal groups present and visible with this technology. The Bank is a mesophotic ecosystem (MCE) characterized by a macro-habitat of hard bottom and rhodolith beds with associated fauna, dominated by coralline algae, leafy and articulated algae (**Fig. 1**)

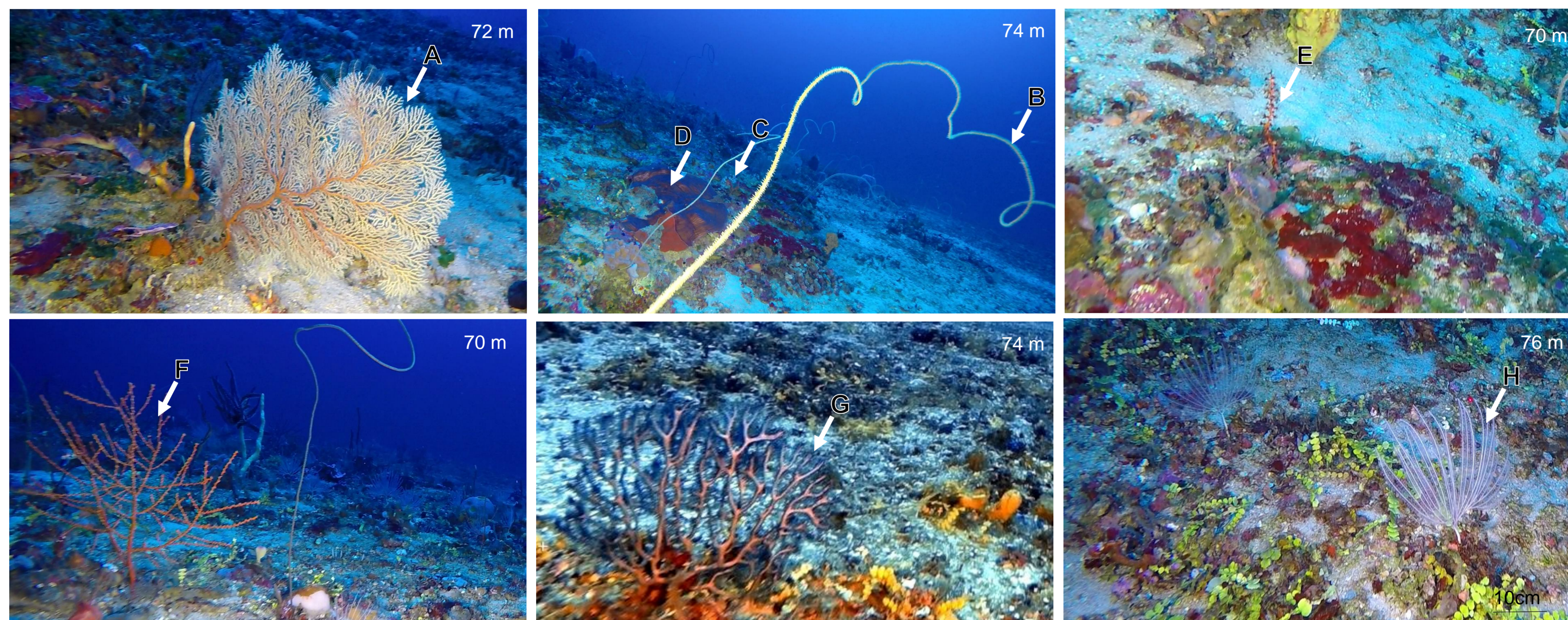


**Fig. 1.** Photograms from benthic video transects. Coralline algae, leafy and articulated algae: (A) *Anadyomene* sp./*Vergidellas* sp., (B) *Delesseriaceae*/*Halymeniaceae*, (C) Rhodoliths, (D) *Halimeda copiosa*, (E) *Peyssonnelia* sp., (F) *Codium* sp.

**A total of 72 taxa of benthic macrobiota and fish taxa were identified:** fourteen (14) algae, twelve (12) sponges (tubes, chimneys and barrels), two (2) bryozoans (arborescent and encrusting cheilostomatids) (**Fig. 2**), seventeen (17) cnidarians (hard corals, black corals, soft octocorals and hydroids) (**Fig. 3**), three (3) echinoderms (sea cucumber, unstalked crinoid and ophiuroid) (**Fig. 4**), and twenty four (24) rocky fishes (**Fig. 5**).



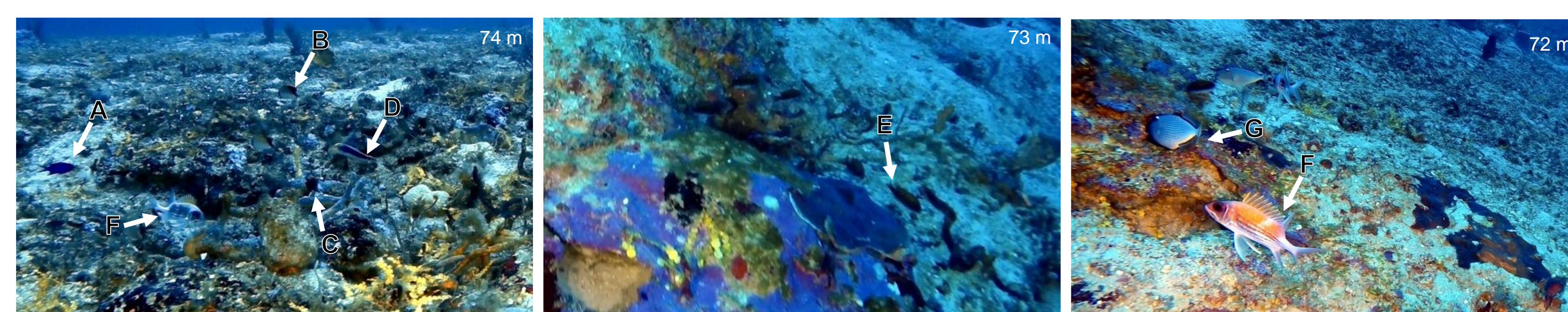
**Fig. 2.** Photograms from benthic video transects. Sponges: (A) *Aplysina* sp. (B) *Xetospongia muta* and (C) arborescent and encrusting cheilostomatid bryozoans.



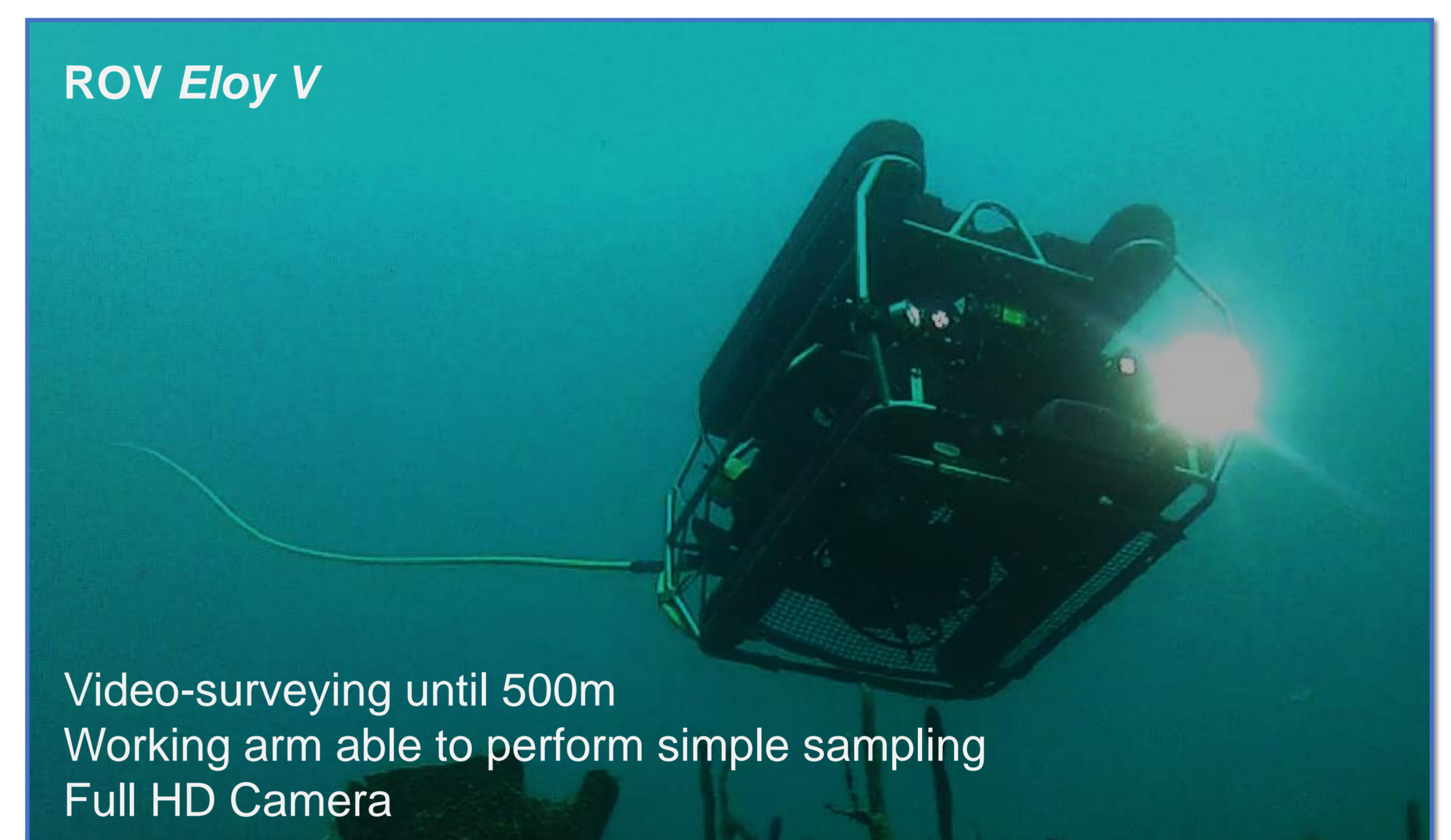
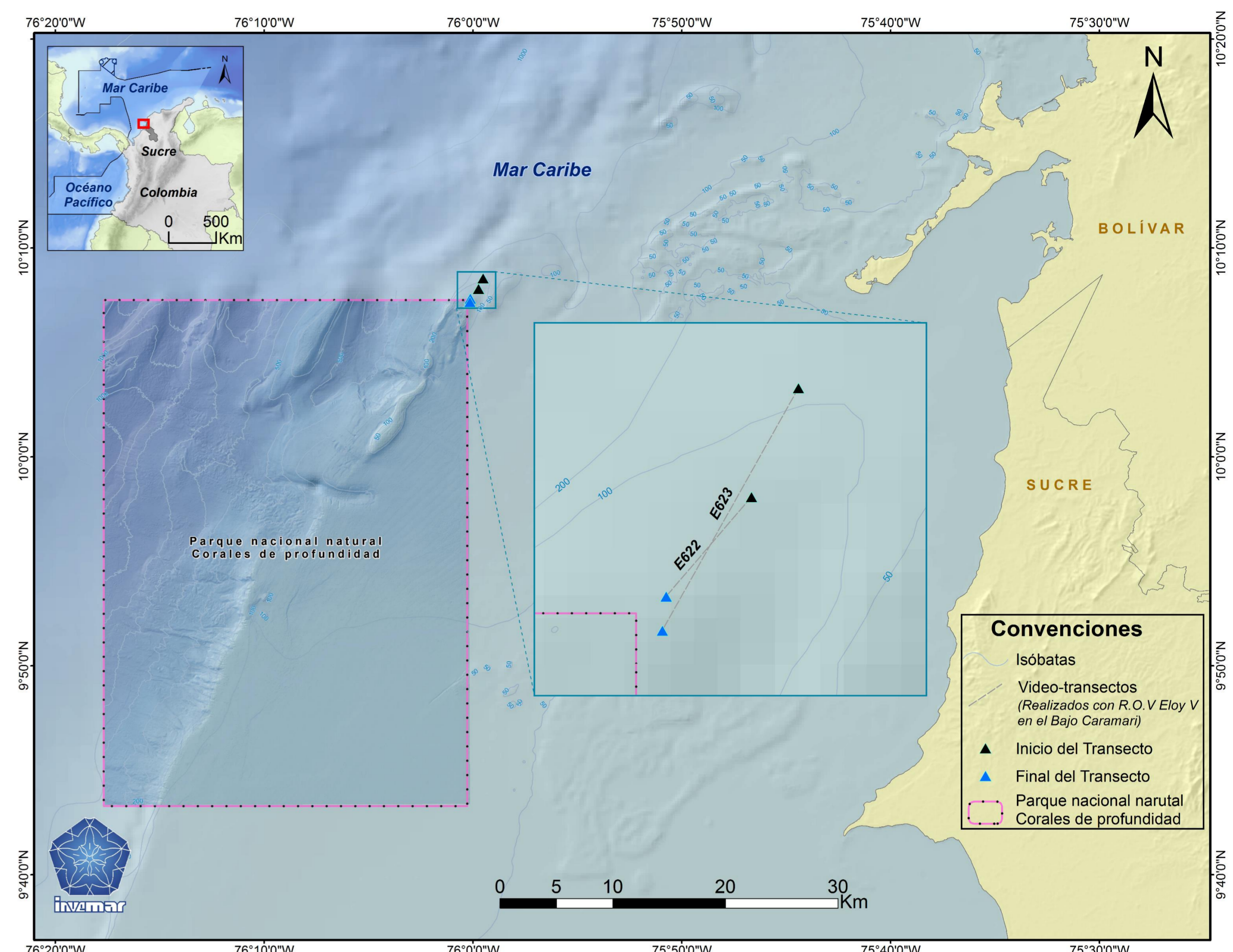
**Fig. 3.** Photograms from benthic video transects. Cnidarians: (A) *Nicella* sp., (B) *Stichopathes* sp., (C) *Stylaster roseus*, (D) *Agaricia* sp., (E) *Diodogorgia* sp., (F) *Swiftia* sp., (G) *Icligorgia schrammi*, (H) *Trichogorgia lyra*.



**Fig. 4.** Photograms from benthic video transects. Echinoderms: (A) *Isostichopus badiotus*, (B) *Nemaster grandis*, (C) *Ophiothrix* sp.



**Fig. 5.** Photograms from benthic video transects. Fishes: (A) *Chromis cyanea*, (B) *Chaetodon sedentarius*, (C) *Stegastes paritus*, (D) *Halichoeres cyanocephalus*, (E) *Chromis insolata*, (F) *Holocentrus adscensionis*, (G) *Xanthichthys ringens*.



**Next analyses of the taxonomy to a lower levels,** along with quantitative analyses of the video-transects, will allow a more precise characterization of the diversity and relative abundance of this mesophotic community, as well as a better understanding of the connectivity with other MCEs and shallow reefs in Colombia.

For now, these first observations of the partially protected Calamarí Bank, evidence the diversity of areas surrounding the Deep-sea Coral National Natural Park and these data may lead to expand the limits of the Marine Protected Area.

Overall, this preliminary study highlights that they are ecosystems with high species richness and that required further research efforts and monitoring to assess the ecological integrity, impacts and contribute to the relatively unexplored mesophotic coral ecosystem in Colombia.

## Acknowledgments

We would like to thank to Juan Manuel Casal (Mariscope), Fernando Dorado Roncancio, Manuel Garrido Linares, Juan Carlos Marquez, Freiman Ayala, Henry Fabian Bustos, Emiliano Logreira for their invaluable support with ROV operations.

