

Occurrence and establishment of the alien polychaete *Alitta Succinea* (Annelida: Nereididae) along the southern French Mediterranean coast

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INTRODUCTION

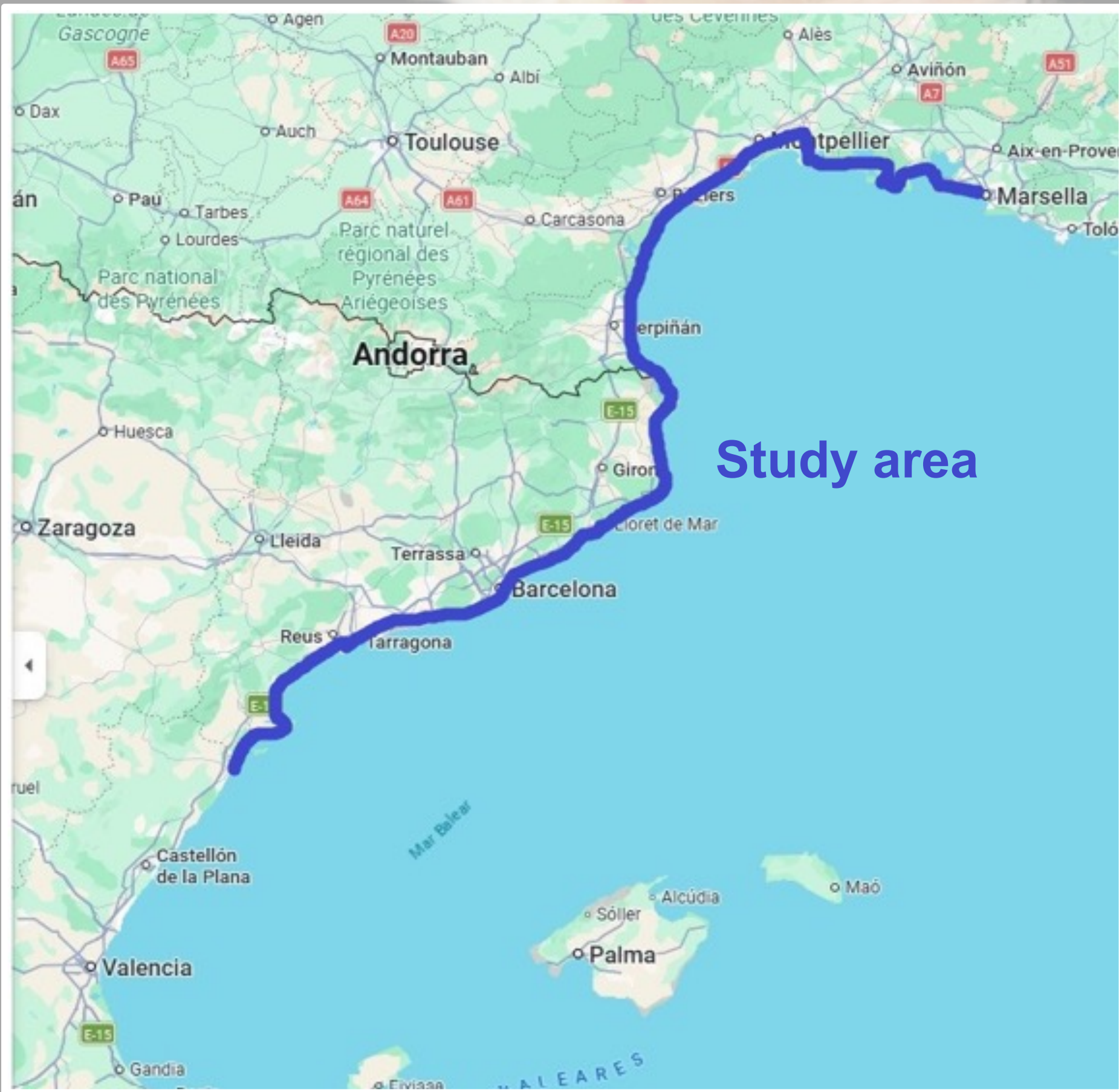
Alitta succinea (Leuckart, 1847), a typically intertidal nereidids that exhibits a remarkable tolerance to broad salinity fluctuations, shows a complex biogeographical history and a remarkably broad distribution. Originally described from the North Sea (Helgoland, Germany), the species has since been reported from numerous regions worldwide, including South and North America, Hawaii, China, South África, Australia, Greece, Italy, etc. Accordingly it has been regarded as a species complex (Villalobos-Gerrero & Carrera-Parra, 2015), while in many areas, it has been reported as introduced, with a high invasive potential (e.g., Ferreira et al., 2024).Based on field surveys carried out within the frame of the research agreement between the CEAB and the French company Creoceen, this study revises the presence of *A. succinea* in coastal water bodies along the Mediterranean coast of Southern France during the last three decades.

OBJECTIVES

(1)Compare Atlantic (Le Havre) and Mediterranean (diverse lagoons) individuals, both morphologically and molecularly (ethanol-preserved Mediterranean specimens to be collected). (2)Examine the relationship between occurrence of *A. succinea* and environmental variables (provided by Creoceen). (3) Assess the potential introduction pathways (ports, including small harbours and marinas, aquaculture (oysters and mussels). (4) Provide monitoring and management recommendations based on species distribution patterns and invasion pathways. (5) Disseminate our results to general public, including use of 3D models.

French water bodies historical dataset

Summary of sample information (year range, species, maximum average number)showing the presence of the native *Hediste sinesimplex* (Costa et al., 2025) and the introduced *Alitta succinea*

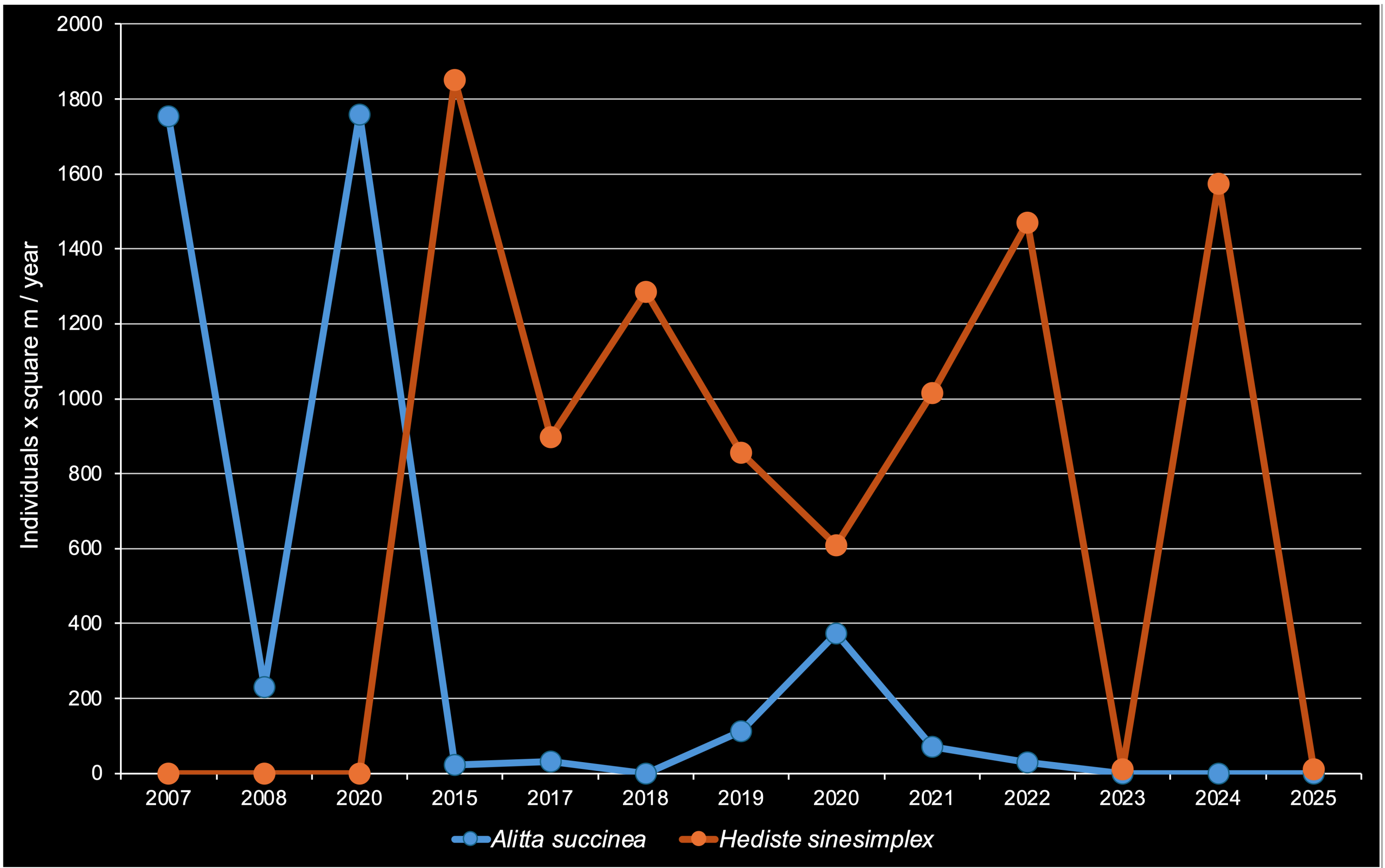
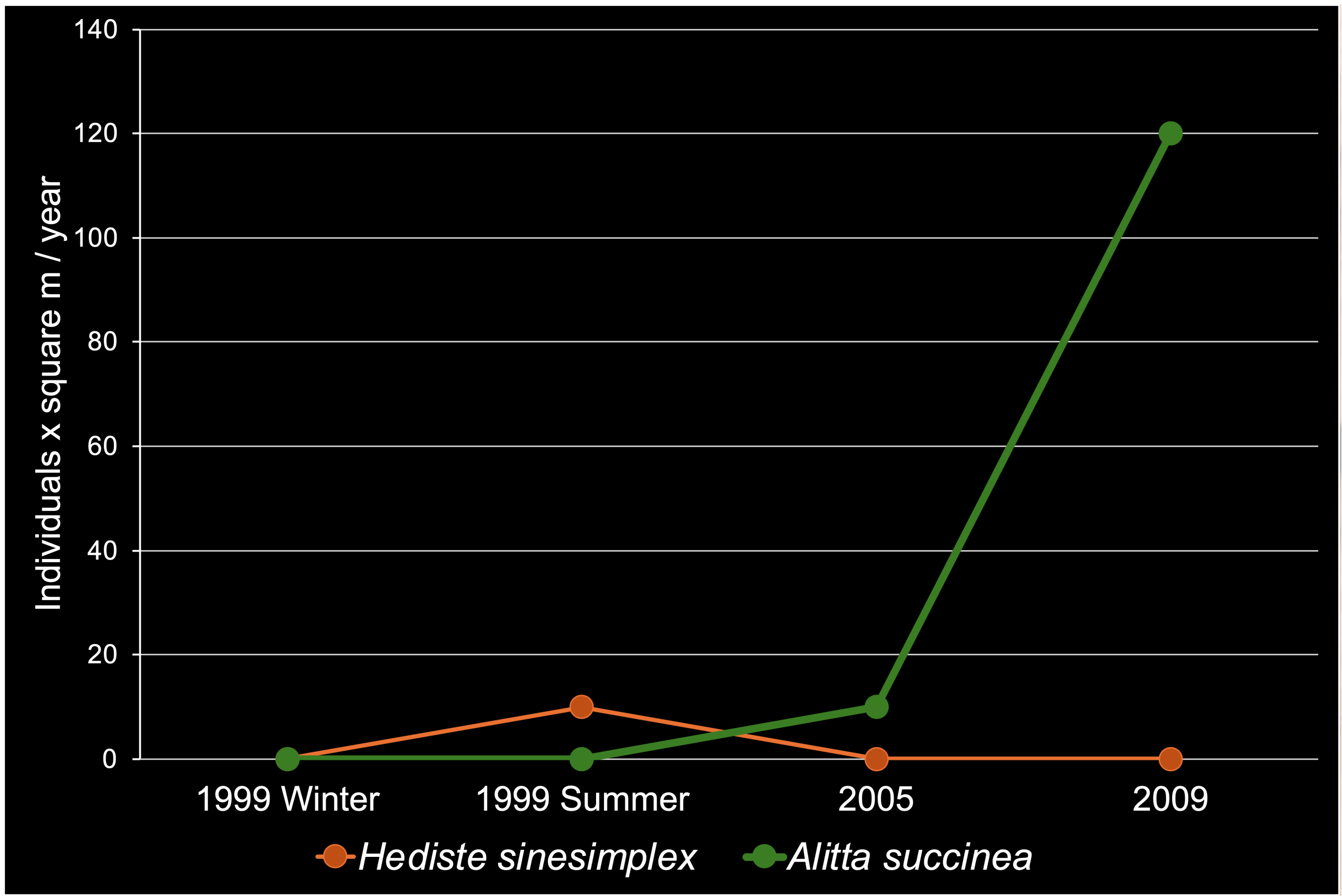
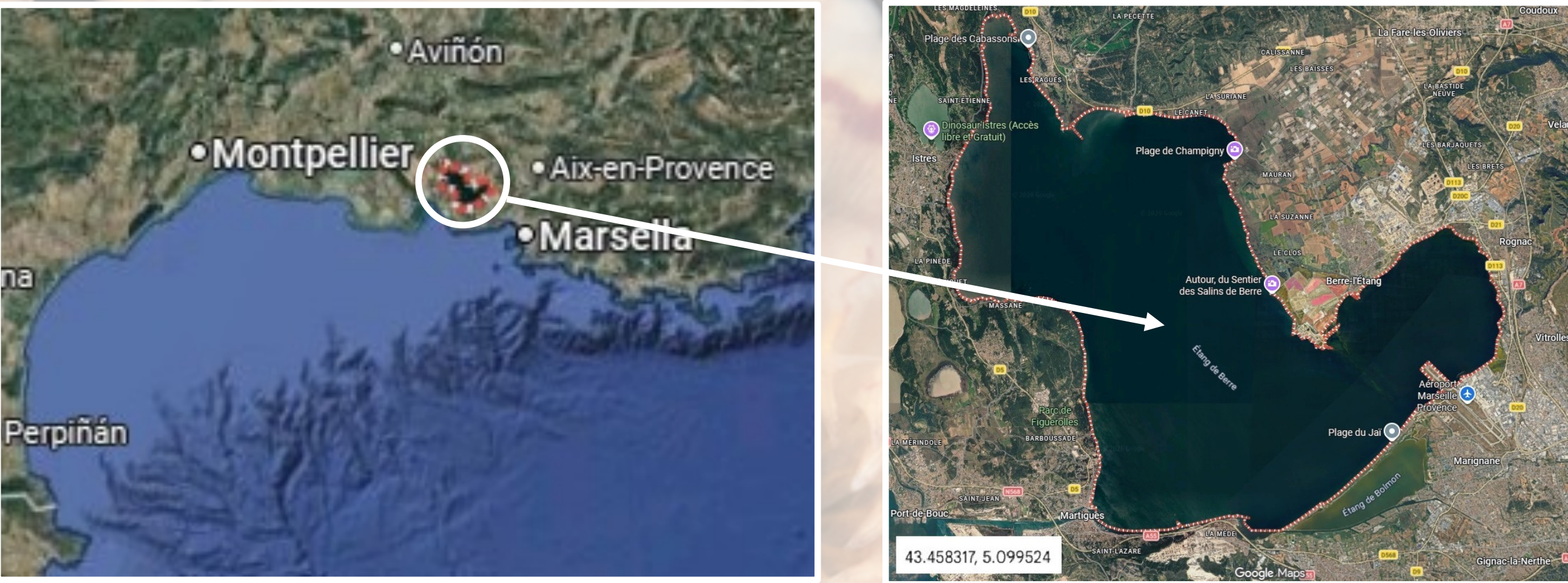


Water body	Year range	<i>A. succinea</i>	<i>H. sinesimplex</i>	Water body	Year range	<i>A. succinea</i>	<i>H. sinesimplex</i>
Arnel	2001	250		Marette	2009		690
Aryolles	1999-2005	30		Marignane	2014-2015	70	
Bages	1999-2009	703	10	Mejean	2001-2009	246	
Baignoles	2005	30		Niolon	2014		23
Baronet	2002		10	Otan	2002		83
Berre	2007-2025	1760	1560	Palus	2009		24
Bolnon	2009	160		Prévost	2001-2009	10	10
Campigniol	1999-2009		600	Pierre Blanche	2009		430
Canet	2002-2009	1648	610	Ponant	2001-2009		113
Chateaufneuf	2014-2015		1177	Port La Nouvelle	2002		436
Grec	1999-2001		626	Pérois	2001	226	
Grau du Roi	2000-2001		294	Rove	2001-2017	950	140
Gruissan	1999-2009	120	10	Thau	1999-2009	103	
Ingril	1999	197	80	Vacares	2009		430
L'Or	1999-2009	394		Vaine	2009	410	
La Palme	2001-2009	140		Vendres	2001-2009	4110	1990
Leucate	1999-2009	100		Vic	2001-2009	56	

Example of available data: the Gruissan lagoon



Focus at Berre lagoon: Long-term monitoring



Catalan coasts of the Iberian Penninsula

Alitta succinea has not been found at any sample from the studied ocations along the Catalan coast.

The absence of this species, particularly at the Ebro Delta, has been confirmed by eDNA analyses (Xavier Turon, pers. comm.).

REFERENCES

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Villalobos-Guerrero T.F. & Carrera-Parra L.F. 2015. Redescription of *Alitta succinea* (Leuckart, 1847) and reinstatement of *A. acutifolia* (Ehlers, 1901) n. comb. based upon morphological and molecular data (Polychaeta: Nereididae). Zootaxa 3919:157-178. https://doi.org/10.11646/zootaxa.3919.1.7