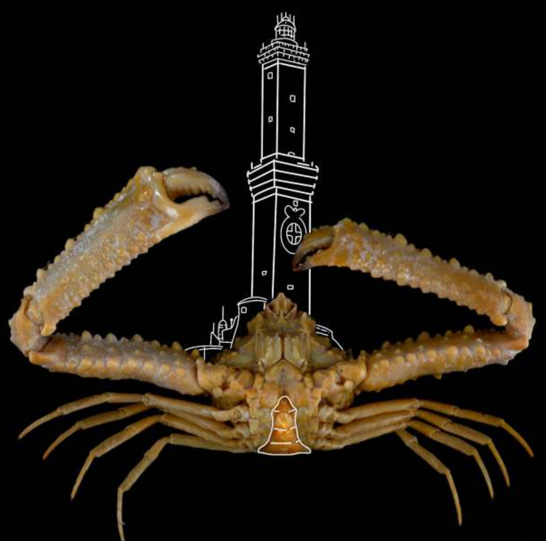
THE DIGITIZATION OF SINGAPORE ZOOLOGICAL COLLECTION HELD IN ITALIAN NATURAL HISTORY MUSEUMS: A CONTRIBUTION TO THE SIGNIFY PROJECT

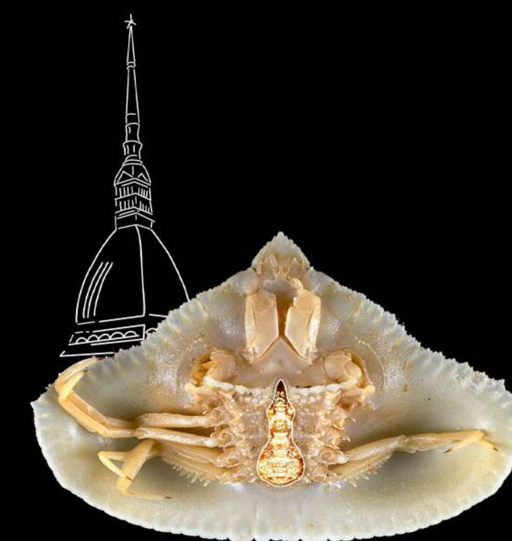
Giuliano Giacobelli[1], Gianna Innocenti[2], Lydia Xinjie Gan[3], Sara Scapinello[4], Franco Andreone[4], Luca Ghiraldi[4], Roberta Tota[4], Maria Tavano[5] & Marco Bernardi[1]

1. Dipartimento di Biologia, Università di Firenze, 50125 Firenze, Italy
2. Museo di Storia Naturale, Sezione di Zoologia "La Specola", 50125 Firenze, Italy
3. Lee Kong Chian Natural History Museum, Faculty of Science, National University of Singapore, 117377, Singapore, Republic of Singapore
4. Museo Regionale di Scienze Naturali, Sezione di Zoologia, 10123 Torino, Italy
5. Museo Civico di Storia Naturale "Giacomo Doria", Sezione di Zoologia, 16121 Genova, Italy



Museo Civico di Storia Naturale "Giacomo Doria"

Museo di Storia Naturale "La Specola"



Museo Regionale di Scienze Naturali

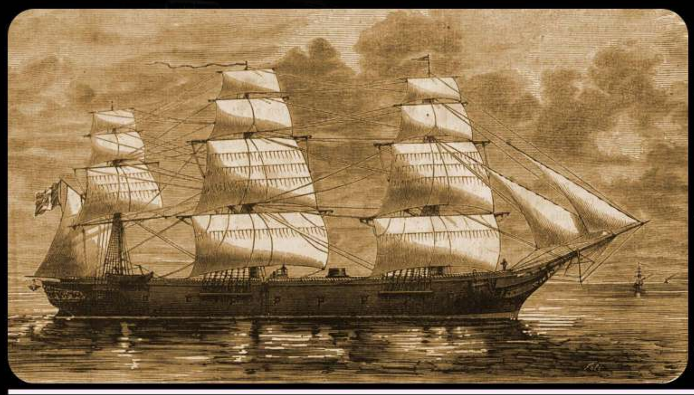
The SIGNIFY (Singapore in Global Natural History Museums Information Facility) project, led by the Lee Kong Chian Natural History Museum of Singapore, is digitising and disseminating, via an open-access digital repository, zoological specimens originally collected from Singapore. By enabling the virtual repatriation of valuable collections, the project provides an improvement to the conservation, facilitates scholarly engagement, and ameliorate institutional collaboration.

In Italy, several natural history collections preserve specimens representing different taxa, including type material, representing a witness to some of the

Singapore specimens in Italian natural history museums

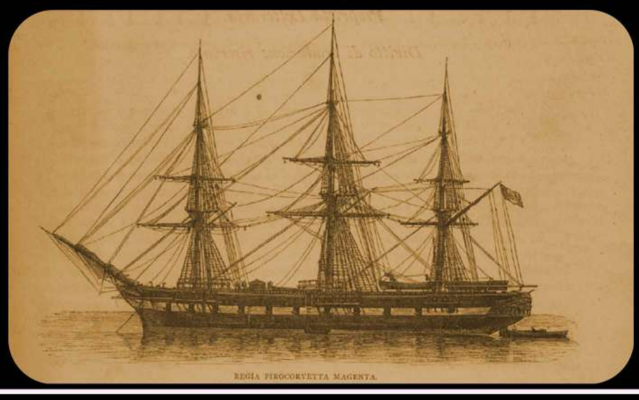
Spanning the late XIX and early XX centuries, oceanic campaigns made significant contributions to the advancement of zoological investigations. The Italian steam corvettes *Magenta* and *Vettor Pisani* collected thousands of samples from all over the world, including hundreds from Singapore. The initial phase of the digitisation project involved a deep analysis of historical literature, consultations with Italian museum curators, and compiling a checklist of the specimens of interest. Historical museum inventories and catalogues were critical in this first phase.

Steam corvette *Vettor Pisani*



Vettor Pisani visited Singapore between 1884 and 1885, to increase its zoological collection under the control of lieutenant G. Chierchia. Several fish specimens were stored in the La Specola Museum.

Steam corvette *Magenta*



Magenta reached Singapore in 1866. Prominent naturalists F. De Filippi and E.H. Giglioli collected birds, crustaceans and gastropods.

G. Nobili revised the decapods of Singapore in 1903, mainly studying material donated to M.G. Peracca and reunited by E. Deschamps, describing five new species.

Methodology and workflows

More samples here!

From shelves to screens: data accessibility

"The beauty lies in details": High-resolution digitisation captures fine details and provides both visual and scientific value of the diversity of Singapore's fauna. Out of 245 specimens that were identified from literature, 186 have been already imaged, although the actual number may range between 250–300 samples, following ongoing contacts with other Italian institutions.

Firenze	Torino	Genova
MAL: 33	MAL: 89	MAL: 8
ACT : 47	AVES: 17	AVES: 3*
	MER : 1	INS: 32*
		ARA: 2*
		GAS: 16*

*The number of specimens is being confirmed.

The archive digitally preserves the Singapore's biodiversity stored in Italy. Aside from facilitating scientific collaborations and enabling data accessibility, the project studies and shares about the histories behind the specimens, including the circumstances under which they were collected, bridging science and history.

The digitisation equipment has been provided by the EU - Next Generation EU Mission 4, Component 2 - CUP B53C22002150006 - Project IR0000032 – ITINERIS - Italian Integrated Environmental Research Infrastructures System