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Invertebrate Collection Donated by Professor Dr. Ion Cantacuzino to "Grigore Antipa" National Museum of Natural History from Bucharest

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Abstract. The catalogue of the invertebrate collection donated by Prof. Dr. Ion Cantacuzino represents the first detailed description of this historical act. The early years of Prof. Dr. Ion Cantacuzino's career are dedicated to natural sciences, collecting and drawing of marine invertebrates followed by experimental studies. The present paper represents gathered data from Grigore Antipa 1931 inventory, also from the original handwritten labels. The specimens were classified by current nomenclature. The present donation comprises 70 species of Protozoa, Porifera, Coelenterata, Mollusca, Annelida, Bryozoa, Sipuncula, Arthropoda, Chaetognatha, Echinodermata, Tunicata and Chordata.. The specimens were collected from the North West of the Mediterranean Sea (Villefranche–sur–Mer) and in 1899 were donated to the Museum of Natural History from Bucharest. The original catalogue of the donation was lost and along other 27 specimens. This contribution represents an homage to Professor's Dr. Cantacuzino generosity and withal restoring this donation to its proper position on cultural heritage hallway.

Key words. Ion Cantacuzino, donation, collection, marine invertebrates, Mediterranean Sea, Villefranche–sur–Mer, France.

INTRODUCTION

The name of Professor Dr. Ion Cantacuzino is related to Faculty of Medicine from Bucharest, where he occupied a teaching position since 1901, to experimental medicine, to epidemiology and to the first institution responsible for producing vaccines in Romania, which carries his name (Israil, 2009). Although Professor Dr. Ion Cantacuzino's prodigious researches are amply documented, limited material had been published regarding the early years of his career as a naturalist.

In 1886, he leaves for Paris to enroll both at the Natural Sciences Faculty and at the Faculty of Medicine from Sorbonne, from where he graduates in 1889 (Popa, 1939), attending the courses in parallel. Here, he would have attended the courses of great personalities of those times, like Professor Albert Dastre, Yves Delage, Lacaze–Duthiers, Duval, Pruvot or Professor Vaillant. Professor Baillon of Botany is mentioned to have taught medical natural history to Ion Cantacuzino and other famous Romanian botanists, members of the Romanian Academy, to Dimitrie Brândză (founder of the first botanical garden from Bucharest) and Dimitrie Grecescu (Ciufecu & Neguţ, 2013). In Sorbonne, he met not only Emil Racoviţă but also Dimitrie Voinov and Paul Bujor, other two prestigious Romanian biologists. During the summer vacation, in 1887, he went to Station biologique de Roscoff, on the West coast of Brittany, to prepare his thesis. At Roscoff he dissected marine animals, which he drew very meticulously. He was very pleased and he wrote his mother about being in a „wonderful working place" (Ciufecu & Neguţ, op. cit.). He studied comparative anatomy of the nerve centers of fishes parasitic worms (Ciufecu & Neguţ, op. cit.). In the laboratory of Professor Henri

Lacaze–Duthiers, Ion Cantacuzino prepared his bachelor thesis, obtaining his license, in 1891, at the same time as other famous Romanian man of science, Professor Emil Racoviţă (founder of biospeleology, organizer of the first institute of speleology from Romania). In 1894, following the insistence of his mother, Maria Cantacuzino, upon accepting the position of tutor at the Animal Morphology Department from Faculty of Science from Iaşi, he worked until 1896. Ion Cantacuzino returned to Paris unable to find the posibility to start a significant research in Romania.

During his stay at the Station biologique de Roscoff he met the greatest physiologist, Kowalewski, who would facilitate the contact with Nobel Laureate, Ilia Ilici Metchnikoff, from Pasteur Institute from Paris. Working as the assistant of Metchnikoff, Cantacuzino initiated several imunological experiments on marine decapods, his general interest targeting mostly the invertebrates and their internal medium, which he considered to be different from that of vertebrates. The first immunological researches started in the laboratory of Biological Station from Roscoff. His interest was focused on the gained immunity in symbiotic invertebrates, such as the hermit crab, *Eupagurus prideauxi* (Malacostraca, Decapoda), and anemone specie's *Adamsia paliata* (Anthozoa) toxin, or by the role of hemolysins of *Eupagurus* and European spider crab, *Maja squinado* (Malacostraca, Decapoda). The same gained immunity following vaccination is observed at the peanut worm, *Sipunculus nudus* (Sipuncula) and in ascidian, the sea squirt, *Phallusia mamillata* (Tăutu,1965). After he had obtained a doctoral degree in medicine in 1894, with a thesis regarding immunity, later on, in 1901 he returned to Romania.

On 1899 June 8 Grigore Antipa had been announced by the Ministry of Cults and Public Instruction (actual Ministry of Education) about the donation of Professor's Dr. Ion Cantacuzino collection, describing it as "…a wonderful collection of marine animals originating from the Mediterannean Sea…" (English translation) (Marinescu & Ionescu, 1985). Regrettably, nowadays, the catalogue of the donation had not been preserved. Museum's patrimony suffered from several damages during the course of hundred of years of tumultuous history, thus nowadays precious specimens or archives were lost, destroyed or with indecipherable labels. This contribution represents an homage to Professor's Dr. Cantacuzino generosity and withal restoring this donation to its proper position on cultural heritage hallway.

MATERIAL AND METHOD

In order to compile a list of donated species from the collection of Prof. Dr. Ion Cantacuzino, the present invertebrate collection's inventory of "Grigore Antipa" National Museum of Natural History from Bucharest had been studied and compared with older inventory files from museum's archives, including the inventory of Grigore Antipa from 1931. The correspondence of inventory numbers in the collection and the presence or the absence of the specimens had been noted. The aspect of the outer and inner labels was thoroughly investigated, such as the type of inscription could certify their originality and value: those written by hand in pencil by Cantacuzino and those in ink, by Grigore Antipa. These information linked to the existence of a donation's catalogue.

The invertebrate species were catalogued by their taxonomical classification, according to the present nomenclature, completed with data regarding their worldwide present distribution.

For classification we used accesssed World Register of Marine Species (WoRMS), Global Biodiversity Information Facility (GBIF), The Marine Life Information Network (MarLin) or others.

The specimens of marine invertebrates donated by Professor Dr. Ion Cantacuzino are preserved in 70% ethanol or formalin 4%, in old glass jars.

Abbreviations used in the text:

Alc.: alcohol; Coelent.: Coelenterata; coll. no.: collection number; Ctenoph.: Ctenophora; d.: donated; Dr. J. Cantacuz.: Dr. Jean Cantacuzino; Echinod.: Echinodermata; form.: formalin; Fr.: Franche; syphon.: Syphonaptera; s/m: sur Mer; Verm.: Vermes.

RESULTS

In the archive of the ”Grigore Antipa” National Museum of Natural History exists a list of that donation written by Grigore Antipa (in 1899) (Fig. 1). A total of 70 species were donated, 22 of them in 1898, and 48 in 1899, with 156 specimens. The correspondence with the present collection revealed that only 44 species with 129 specimens are present. From these we note the following aspects: radiolarian (one species and one specimen, lost), porifera (3 species and 6 specimens, with one species and one specimen, lost), coelentherata (3 species and specimens, only 11 specimens and species, present), molluscs (12 species from 14 specimens, with 3 species and 3 specimens, lost), polychaetes (4 species with 5 specimens, with only 2 species, present), bryozoan (one species and one specimen, lost), sipunculids (one species and one specimen, lost), crustaceans (9 species with 85 specimens, present, while 2 species and 3 specimens are lost), chelicerates (one species and specimen, present), echinoderms (8 species with 11 specimens, with one species and one specimen, present), chaetognaths (one species and one specimen, lost) and tunicates (6 species and 7 specimens, one species and one specimen, lost) . In conclusion, 26 species and 27 specimens were lost during time.

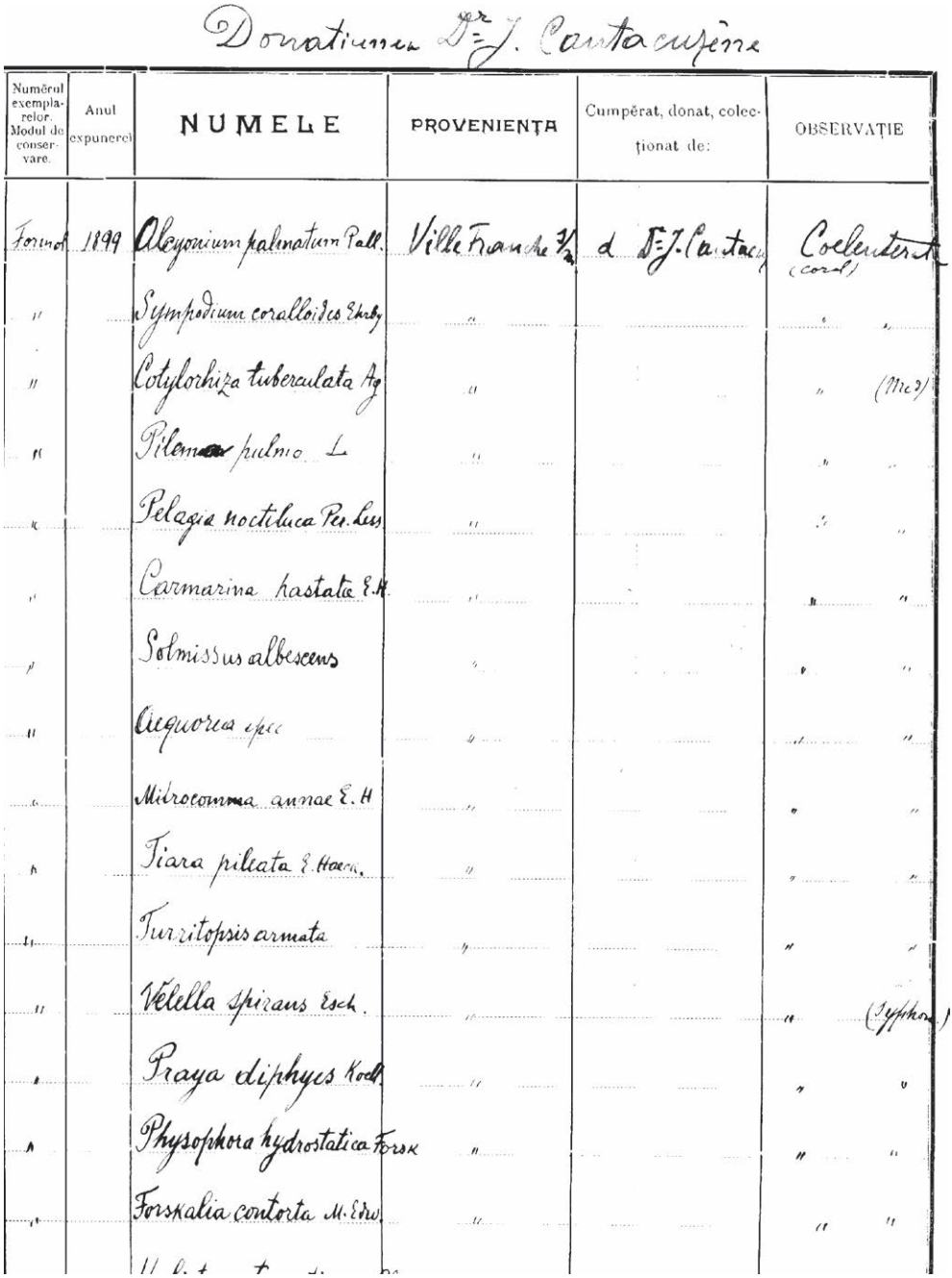
Phylum RETARIA T. Cavalier–Smith, 2002
Subphylum RADIOZOA Cavalier – Smith, 1987
Class POLYCYSTINEA Ehrenberg, 1838
Order Collodaria Haeckel, 1887
Family Collosphaeridae Huxley, 1851

Thalassicolla nucleata Huxley, 1851: 1 specimen, mentioned in Antipa’s inventory as “no. 64 Form., 1899, *Thalassicolla nucleata* Hack., Ville Franche s/m, d. Cantacuzino, radiolar”, lost.

Distribution: Atlantic Ocean, Mediterranean Sea, Indian Ocean, Pacific Ocean (Poupin et al., 1999; Adl et al., 2012).

Phylum PORIFERA Grant, 1836
Class DEMOSPONGIAE Sollas, 1885
Subclass Keratosa Grant, 1861
Order Dendroceratida Minchin, 1900
Family Darwinellidae Merejkowsky, 1879

Aplysilla rosea (Barrois, 1876): 1 specimen, coll. no. 25, mentioned in Antipa’s inventory as “no. 23, alc., 1898, *Aplysilla rosacea*”, Ville Franche s/m, d. Dr. J. Cantacuzino”, lost.



Donatiunea Dr. J. Cantacuzina

Numărul exemplarelor. Modul de conservare.	Anul expunerei	NUMELE	PROVENIENȚA	Cumpărat, donat, colecționat de:	OBSERVAȚIE
Formol	1899	Alcyonium palmatum Pall.	Ville Franche	d. Dr. J. Cantacuzino	Coelenterat (coral)
"		Symphodium coralloides Ehrb.	"		" "
"		Cotylorhiza tuberculata Ag	"		" (Mc?)
"		Pilema pulmo L	"		" "
"		Pelagia noctiluca Per. Les	"		" "
"		Carmarina hastata E.H.	"		" "
"		Solmissus albescens	"		" "
"		Aequorea spec	"		" "
"		Mitrocomma annae E.H	"		" "
"		Tiara pileata E. Haeck.	"		" "
"		Turritopsis armata	"		" "
"		Velella spirans Esch.	"		" (Syphon)
"		Praya diphyes Kochl.	"		" "
"		Physophora hydrostatica Forsk	"		" "
"		Forskalia contorta M. Edw.	"		" "

Fig. 1 – First page of the inventory of Grigore Antipa (1899) with Prof. Dr. Ion Cantacuzino's donation ("Grigore Antipa" Museum archive) where he notes (from left to right) the number of specimens and mode of preservation, the year of the exhibit, name, origin, donor and observations.

Distribution: Atlantic Ocean (Southern Norway to South Africa), Alboran Sea, Western Mediterranean Sea, Ionian Sea (van Soest et al., 2015).

Class CALCAREA Bowerbank, 1862
Subclass Calcaronea Bidder, 1898
Order Leucosolenida Hartman, 1958
Family Sycettidae Dendy, 1893

Sycon raphanus Schmidt, 1862: 2 specimens, coll. no. 9481/2, labels, outer "*Sycon raphanus* Villefranche", inner "*Sycon raphanus*"; coll. no. 9481/3, labels, outer „*Sycon raphanus*", inner "*Sycon raphanus* O. S., mentioned in Antipa's inventory as "no. 24, alc., 1898, *Sycon raphanus* O. S., Ville Franche, don. Dr. J. Cantacuzino, spongier".

Distribution: Atlantic Ocean, North Sea, Mediterranean Sea, Red Sea (van Soest et al., 2015).

Family Grantiidae Dendy, 1893

Leucandra aspera (Schmidt, 1862): 3 specimens, coll. no. 8144, 8146, fixed on glass plate, 8147, inner label "*Leuconia aspera*", donated in 1898, preserved in formalin, mentioned in Antipa's inventory as "no. 26, Form., *Leucandra aspera* O. S., Ville Franche s/m, d. Dr. J. Cantacuzino, spongier".

Distribution: Western Mediterranean Sea, Atlantic Ocean (van Soest et al., 2015).

Phylum CNIDARIA Verrill, 1865
Class ANTHOZOA Ehrenberg, 1834
Subclass Hexacorallia Haeckel, 1896
Order Actiniaria R. Hertwig, 1882
Suborder Nynatheae Calgren, 1899
Infraorder Thenaria Calgren 1899
Superfamily Acontiaria Stephenson, 1935
Family Sagartiidae Gosse, 1858

Cereus pedunculatus (Pennant, 1777): 1 specimen, fixed on glass plate, coll. no. 9485/156, inner label "*Helliactis bellis* Formol", mentioned in Antipa's inventory as "no. 20, Formol, 1899, *Heliactis bellis* Ellis, Ville Franche s/m, d. Dr. J. Cantacuzino, Coelenterat".

Distribution: North–east Atlantic Ocean, Mediterranean Sea (Fautin, 2011; 2013).

Family Hormathiidae Carlgren, 1932

Adamsia rondeletii (Delle Chiaje, 1822): 1 specimen, mentioned in Antipa's inventory as "no. 19, Formol, 1899, *Adamsia Rondeletii* D. Ch. (on pagurus) (on hermit crab), Ville Franche s/m, d. Dr. J. Cantacuzino, Coelenterat", lost.

Distribution: North Atlantic Ocean, North Sea, Mediterranean Sea (Fautin, 2011; 2013).

Superfamily Endomyaria Stephenson, 1921
Family Actiniidae Rafinesque, 1815

Aulactinia verrucosa (Pennant, 1777): 1 specimen, donated in 1899, mentioned in Antipa's inventory as "no. 21, Formol, 1899, *Bunodes gemaceus* Anov., Ville Franche s/m, d. Dr. J. Cantacuz, Coelenterat", lost.

Distribution: North Atlantic Ocean, Mediterranean Sea (Fautin, 2013).

Paranemonia cinerea (Contarini, 1844) (syn. *Anemonia contharini* Kelh.): 1 specimen, fixed on glass plate, coll. no. 9485/165, donated in 1899, mentioned in Antipa's inventory as "no. 22, *Anemonia contharini* Kelh., Ville Franche s/m, d. Dr. J. Cantacuzino, Coelenterat".

Distribution: North Atlantic Ocean, Mediterranean Sea (Fautin, 2011; 2013).

Subclass Octocorallia Haeckel, 1866
Order Alcyonacea Lamouroux, 1812
Family Alcyoniidae Lamouroux, 1812

Alcyonium palmatum Pallas, 1766: 1 specimen, coll. no. 8270, fixed on glass plate, outer label "*Alcyonium palmatum* Pall., Villafranca", mentioned in Antipa's inventory as "no.1, Formol, 1899, *Alcyonium palmatum* Pall., Ville Franche s/m, d. Dr. J. Cantacuzino, Coelenterat (coral)".

Distribution: North Atlantic, Mediterranean Sea (van Ofwegen, 2015).

Alcyonium coralloides (Pallas, 1766): 1 specimen, coll. no 8266, fixed on glass plate, inner label "*Sympodium coralloides* Formol", mentioned in Antipa's inventory as "no. 2, Formol, 1899, *Sympodium coralloides*, Ville Franche s/m, d. Dr. J. Cantacuzino, Coelenterat (coral)".

Distribution: Mediterranean Sea (Watling & Auster, 2005).

Class HYDROZOA Owen, 1843
Subclass Hydroidolina Collins, 2000
Order Anthoathecata Cornelius, 1992
Suborder Filifera Kühn, 1913
Family Eudendriidae L. Agassiz, 1862

Eudendrium racemosum (Cavolini, 1785): 1 specimen, preserved in alcohol 70%, donated in 1898, mentioned in Antipa's inventory as "no. 23, alc., 1898, *Eudendrium racemosum* Cavol., Ville Franche s/m, d. Dr. J. Cantacuzino, Coelent.", lost.

Distribution: North Atlantic Ocean, Mediterranean Sea, Balearic Sea, Indian and Pacific Oceans, Celebes Sea (Schuchert, 2008).

Family Oceaniidae Eschscholtz, 1829

Oceania armata Kölliker, 1853: 1 specimen, mentioned in Antipa's inventory as "no. 11, Formol, 1899, *Turritopsis armata,* Ville Franche s/m, d. Dr. J. Cantacuzino, Coelenterat", lost.

Distribution: North Atlantic Ocean, Mediterranean Sea, Gulf of Mexico, Pacific Ocean (Schuchert, 2004).

Family Pandeidae Haeckel, 1879

Neoturris pileata (Forsskål, 1775): 1 specimen, mentioned in Antipa's inventory as "no. 10, Formol, 1899, *Tiara pileata* E. Haeck., Ville Franche s/m, d. Dr. J. Cantacuzino, Coelenterat", lost.

Distribution: North Atlantic Ocean, Mediterranean Sea, North Pacific Ocean (Schuchert, 2015).

Suborder Capitata Kühn, 1913
Family Porpitidae (Goldfuss, 1818)

Velella velella (Linnaeus, 1758): 1 specimen, coll. no 8253, donated in 1899, mentioned in Antipa's inventory as "no. 12, Formol, 1899, *Velella spirans* Esch., Ville Franche s/m, d. Dr. J. Cantacuzino, Coelenterat, Syphon.", lost.

Distribution: North Atlantic Ocean, Mediterranean Sea, Gulf of Mexico, North Sea, North Pacific Ocean (Daly–Yahia et al., 2003; Kubota & Imahara, 2011).

Order Leptothecata Cornelius, 1992
Family Aequoreidae Eschscholtz, 1829

Aequorea sp.: 1 specimen, donated in 1899, mentioned in Antipa's inventory as "no. 8, Formol, 1899, *Aequorea* sp., Ville Franche s/m, d. Dr. J. Cantacuzino, Coelenterat", lost.

Distribution: North Atlantic Ocean, Mediterranean Sea, North Sea, North Pacific Ocean, New Zealand (Schuchert, 2015).

Family Mitrocomidae Haeckel, 1879

Mitrocoma annae Haeckel, 1864: 1 specimen, mentioned in Antipa's inventory as "no. 9, Formol, 1899, *Mitrocomma annae* E. Haeck., Ville Franche s/m, d. Dr. J, Cantacuzino, Coelenterat", lost.

Distribution: Mediterranean (Schuchert, 2015).

Subclass Trachylinae Haeckel, 1879
Order Narcomedusae Haeckel, 1879
Family Cuninidae Bigelow, 1913

Solmissus albescens (Gegenbaur, 1856): 1 specimen, coll. no. 9485/7, outer label (PC printed) „*Solmissus albescens* Heck. M. Mediterană, Villefranche", mentioned in Antipa's inventory as „no. 7, Formol, 1899, *Solmissus albescens*, Ville Franche s/m, d. Dr. J. Cantacuzino, Coelenterat". Exihibited in the museum before 2009.

Distribution: North Atlantic Ocean, Mediterranean Sea (Bouillon et al., 2004; Schuchert, 2015).

Order Trachymedusae Haeckel, 1866 (1879)
Family Geryoniidae Eschscholtz, 1829

Geryonia proboscidalis (Huxley, 1859): 1 specimen, coll. no 8241, donated in 1899, mentioned in Antipa's inventory as "no. 6, *Carmarina hastata* E. Haeckel, Ville Franche s/m, d. Dr. J. Cantacuz., Coelenterat", lost.

Distribution: North Atlantic Ocean, Mediterranean Sea, Gulf of Mexico (Bouillon et al., 2004).

Order Siphonophorae Eschscholtz, 1829
Suborder Physonectae Haeckel, 1888
Family Forskaliidae Haeckel, 1888

Forskalia contorta (Milne–Edwards, 1841): 1 specimen, fixed on glass plate, coll. no. 8245, labels, outer (PC printed) „*Forskalia contorta* (Milne–Edwards, 1840)", inner (inked) „*Forskalia contorta* M. Ed., Villafranca", mentioned in Antipa's inventory as "no. 15, Formol, 1899, *Forskalia contorta* M. Edw., Ville Franche s/m, d. Dr. J. Cantacuzino, Coelenterat". Exhibited in the museum before 2009.

Distribution: North & South Atlantic Ocean, Western Mediterranean Sea (Schuchert, 2015).

Family Agalmatidae Brandt, 1834

Nanomia bijuga (Delle Chiaje, 1844): 1 specimen, mentioned in Antipa"s inventory as "no. 16, Formol, 1899, *Halistema tergestinum* Claus, Ville Franche s/m, d. Dr. J. Cantacuzino, Coelenterat", coll. no. 8246, lost.

Distribution: Atlantic Ocean, Mediterranean Sea, Gulf of Mexico, Pacific Ocean, Indian Ocean, China Sea (Mapstone, 2009; Schuchert, 2015).

Family Physophoridae Eschscholtz, 1829

Physophora hydrostatica Forsskål, 1775: 1 specimen, fixed in a glass tube, coll. no. 9485/16, mentioned in Antipa's inventory as "no. 14, *Physophora hydrostatica* Forsk., Ville Franche s/m, d. Dr. J. Cantacuzino, Coelenterat".

Distribution: Barents Sea, Gulf of Mexico, Mediterranean Sea (France, Villefranche–sur–Mer), North Atlantic Ocean, North Sea, Indian Ocean, Pacific Ocean (Mapstone, 2009; Schuchert, 2015).

Suborder Colycophorae Leuckart, 1854

Family Prayidae Kölliker, 1853

Rosacea cymbiformis (Delle Chiaje, 1830): 1 specimen, mentioned in Antipa's inventory as "no. 13, Alc., 1899, *Praya diphyes* Koell., Ville Franche s/m, d. Dr. J. Cantacuzino, Coelenterat", lost.

Distribution: Mediterranean Sea (France, Villefranche–sur–Mer), Gulf of Mexico, Pacific Ocean (Mapstone, 2009; Schuchert, 2015).

Class SCYPHOZOA Götte, 1887

Subclass Discomedusae Haeckel, 1880

Order Rhizostomae Cuvier, 1799

Family Rhizostomatidae Cuvier, 1799

Rhizostoma pulmo (Macri, 1778): 1 specimen, coll. no. 9485/37, outer label (typed) "*Pilema pulmo* Villafranca", mentioned in Antipa's inventory as "no.4, Formol, *Pilema pulmo*, Ville Franche s/m, d. Dr. J. Cantacuz., Coelenterat (coral)".

Distribution: North Atlantic Ocean, Mediterranean Sea, Black Sea (Mapstone, 2009; Schuchert, 2015).

Suborder Kolpophorae Stiasny, 1921

Family Cepheidae Agassiz, 1862

Cotylorhiza tuberculata (Macri, 1778): 1 specimen, coll. no. 8258, mentioned in Grigore Antipa's inventory as "no.3, Formol, 1899, *Cotylorhiza tuberculata*, Ville Franche s/m, d. Dr. J. Cantacuz., Coelenterat (coral)".

Distribution: Mediterranean Sea, Red Sea, Adriatic Sea (Brotz & Pauly, 2012).

Order Semaeostomeae L. Agassiz, 1862

Family Pelagiidae Gegenbaur, 1856

Pelagia noctiluca (Forskal, 1775): 1 specimen, coll. no. 9485/34, fixed in a glass tube, mentioned in Antipa's inventory as "no. 5, Formol, 1899, *Pelagia noctiluca* Per. Less., Ville Franche s/m, d. Dr. J. Cantacuz., Coelenterat (coral)".

Distribution: Mediterranean Sea, North Sea, Atlantic Ocean (Ferraris et al., 2012).

Phylum CTENOPHORA Eschscholtz, 1829
Class NUDA Chun, 1879
Order Beroida Eschscholtz, 1829
Family Beroidae Eschscholtz, 1825

Beroe ovata Bruguière, 1789: 1 specimen, fixed on glass plate, coll. no 9485/176, inner label "*Beroe ovate,* Villafranca", mentioned in Antipa's inventory as "no. 17, Formol, 1899, *Beroe ovata* D. Ch., Ville Franche s/m, d. Dr. J. Cantacuzino, Coelenterat (Ctenoph)".

Distribution: Mediterranean Sea, Adriatic Sea, Aegean Sea, Black Sea (Collins, 2010).

Class TENTACULATA Eschscholtz, 1825
Order Cydippida Gegenbaur, 1856
Family Lampeidae Krumbach, 1925

Lampea pancerina (Chun, 1879): 1 specimen, mentioned in Antipa's inventory as "no. 18, Formol, 1899, *Lampetia pencerum* Chun, Ville Franche s/m, d. Dr. J. Cantacuzino, Coelenterat (Actinie)", lost.

Distribution: Atlantic Ocean, Mediterranean Sea, Adriatic Sea (Mianzan, 1999).

Phylum MOLLUSCA Linnaeus, 1758
Class POLYPLACOPHORA Gray, 1821
Order Chitonida Thiele, 1909
Suborder Chitonina Thiele, 1909
Superfamily Chitonoidea Rafinesque, 1815
Family Chitonidae Rafinesque, 1815

Chiton olivaceus Spengler, 1797: 1 specimen, fixed on glass plate, coll. no. 9487/2, old coll. no. 240; labels, outer „Muzeul de Istorie Naturală, No. 54, *Chiton olivaceus* Spgl., Ville Fr., d. Cantacuzino", inner indecipherable, mentioned in Antipa's inventory as "no. 54, alc., 1899, *Chiton olivaceus* Spngl., Ville Franche s/m, d. Cantacuzino, Molusc.".

Distribution: Mediterranean Sea, North Atlantic Ocean (Gowlet–Holmes, 2001).

Class GASTROPODA Cuvier, 1795
Subclass Heterobranchia Haszprunar, 1985
Infraclass Opisthobranchia Milne–Edwards, 1848
Order Anaspidea Fischer, 1883
Superfamily Aplysioidea Lamarck, 1809
Family Aplysiidae Lamarck, 1809

Aplysia punctata (Cuvier, 1803) (Fig.2A): 1 specimen, fixed on glass plate, coll. no. 9487/67 (old coll. no. 101); without outer label, inner one indecipherable, mentioned in Antipa's inventory as "no. 53, alc., 1899, *Aplysia punctata* Cuv., Ville Franche s/m, d. Cantacuzino, Molusc.".

Distribution: Atlantic Ocean (North Sea to Azores), North Sea (Belgium), Mediterranean Sea (France, Italy, Greece) (Bouchet & Rocroi, 2005).

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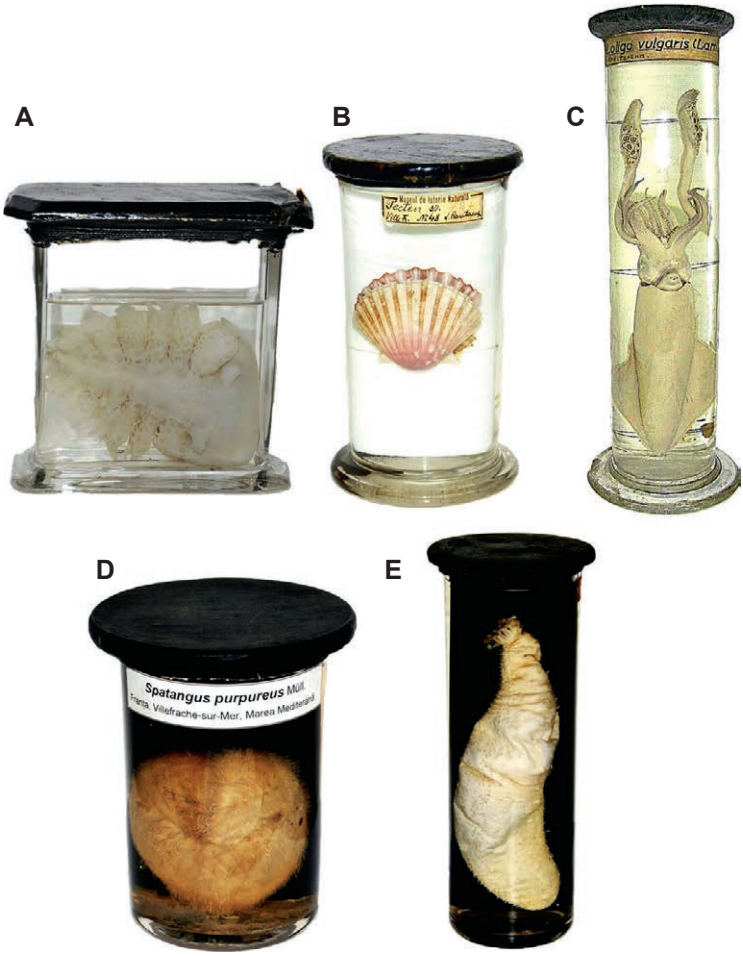

Fig. 2 – Molluscs and echinoderms donated by Prof. Dr. Ion Cantacuzino: A, *Aplysia punctata* (Cuvier, 1803); B, *Pecten maximus* (Linnaeus, 1758); C, *Loligo vulgaris* Lamarck, 1798; D, *Spatangus purpureus* O. F. Müller, 1776; E, *Holothuria tubulosa* Gmelin, 1791 (Photos George Năzăreanu).

Order Nudibranchia Cuvier, 1817
Suborder Dexiarchia Schrödl, Wägele & Willan, 2001
Infraorder Cladobranchia Willan & Morton, 1984
Superfamily Tritonioidea Lamarck, 1809
Family Phylliroidae Menke, 1830

Phylliroe bucephala Lamarck, 1816: 1 specimen, dried, coll. no. 9487/92, old coll. no. 207; labels, outer „*Phylliroe bucephala*, 92 (pencil), Villefranche, No. d. Cantacuzino", inner (pencil) „*Phylliroe bucephala,* Alcohol", mentioned in Antipa's inventory as "no. 56, Form., *Phylliroë bucephalum* Per., Ville Franche s/m, d. Cantacuzino, Molusc.".

Distribution: Mediterranean Sea, Gulf of Mexico, West Atlantic Ocean (Spencer et al., 2009).

Order Thecosomata Blainville, 1824
Suborder Euthecosomata Meisenheimer, 1905
Superfamily Cavolinioidea Gray, 1850 (1815)
Family Cavoliniidae Fischer, 1883

Cavolinia tridentata (Forskål in Niebuhr, 1775): 1 specimen, old coll.no. 210, mentioned in Antipa's inventory as "no. 55, alc., 1899, *Hyalea tridentata* Lam., Ville Franche s/m, d. Cantacuzino, Molusc.", lost.

Distribution: North Atlantic Ocean (both coasts), Cape Verde, Gulf of Mexico, Caribbean Sea, Indian Ocean, North Pacific Ocean, Mediterranean Sea (Rampal, 2002).

Family Cliidae Jeffreys, 1869

Clio pyramidata Linnaeus, 1767: 1 specimen, mentioned in Antipa's inventory as "no. 52, Form., 1899, *Cleodora pyramidata* Per. Less., Ville Franche s/m, d. Cantacuzino, Molusc.", lost.

Distribution: Mediterranean Sea, North Atlantic Ocean, Western Pacific Ocean (Rampal, 2002).

Suborder Pseudothecosomata Meisenheimer, 1905
Superfamily Cymbulioidea Gray, 1840
Family Cymbuliidae Cantraine, 1841

Cymbulia peronii Blainville, 1818: 2 specimens, fixed on glass plate, coll. no. 9487/78, old coll. no. 223; labels, outer: „*Cymbulia peronii* Blv., Villafranca, No. 77", inner one, indecipherable, mentioned in Antipa's inventory as "no. 51, Alc., 1899, *Cymbulia Peronii* Blain. Ville Franche s/m, d. Cantacuzino, Molusc.".

Distribution: Atlantic Ocean (European coasts), Cape Verde, occasionally in the Mediterranean Sea, Caribbean Sea (Costa Rica), Gulf of Mexico, Indian Ocean (Bouchet & Gofas, 2015a).

Gleba cordata Forskål in Niebuhr, 1776: 1 specimen, fixed on glass plate, coll. no. 9487/79, old coll. no. 230; outer label: „*Tiedemannia neapolitana* Bl., Villafranca, 79" (pencil), mentioned in Antipa's inventory as "no. 49, Form., 1899, *Tiedemannia neapolitana* Ben., Ville Franche s/m, d. Cantacuzino, Molusc.".

Distribution: Atlantic Ocean (European coasts), Cape Verde, Mediterranean Sea, Gulf of Mexico, Indian Ocean (Gofas, 2015).

Subclass Caenogastropoda Cox, 1960
Order Littorinimorpha Golikov & Starobogatov, 1975
Superfamily Pterotracheoidea Rafinesque, 1814
Family Carinariidae Blainville, 1818

Carinaria lamarckii Blainville, 1817: 2 specimens, fixed on glass plate, coll. no. 25.692, old coll. no. 36; without any other label, mentioned in Antipa's inventory as "no. 50, Form., *Carinaria mediterranea* Lam., Ville Franche s/m, d. Cantacuzino, Molusc.".

Distribution: Atlantic Ocean (European coasts, United Kingdom, Portugal, Azores), Cape Verde, Mediterranean Sea, Gulf of Mexico, Indian Ocean, Pacific Ocean (Canada) (Bouchet & Gofas, 2015b).

Class BIVALVIA Linnaeus, 1758
Sublcass Pteriomorphia Beurlen, 1944
Order Pectinoida Gray, 1854
Superfamily Pectinoidea Rafinesque, 1815
Family Pectinidae Wilkes, 1810

Pecten maximus (Linnaeus, 1758) (Fig. 2B): 1 specimen, fixed on glass plate, coll. no. 9487/127, old coll. no. 196, labels, *Pecten* sp., 127, Ville Fr. No. 48, d. Cantacuz.", fixed on a glass plate, inner one indecipherable, mentioned in Antipa's inventory as "no. 48, Alc., 1899, *Pecten* sp. Ville Franche s/m, d. Cantacuzino, Molusc.".

Distribution: North Atlantic Ocean (up to Azores), Mediterranean Sea (Brand, 2006).

Class CEPHALOPODA Cuvier, 1797
Subclass Coleoidea Bather, 1888
Superorder Decapodiformes Young, Vecchione & Donovan, 1998
Order Sepiida Zittel, 1895
Family Sepiidae Leach, 1817

Sepia officinalis Linnaeus, 1758: 1 specimen, old coll. no. 1; mentioned in Antipa's inventory as "no. 45, Form., 1899, *Sepia officinalis* L., Ville Franche s/m, d. Cantacuzino, Molusc. (Cephal.)", lost.

Distribution: North Atlantic Ocean, Mediterranean Sea, West Indian Ocean (Roper et al., 1984).

Order Myopsida Naef, 1916
Family Loliginidae Lesueur, 1821

Loligo vulgaris Lamarck, 1798 (Fig. 2C): 1 specimen, fixed on glass plate, coll. no. 8696, old coll. no. 12; outer label „*Loligo vulgaris* (Lam.), Mediterana", mentioned in Antipa's inventory as "no. 46, Form., 1899, *Loligo vulgaris* Lam., Ville Franche s/m, d. Cantacuzino, Molusc. (Cephal.)".

Distribution: Eastern Atlantic Ocean, from the North Sea to the Gulf of Guinea, Mediterranean Sea (Roper et al., 1984).

Superorder Octopodiformes Berthold & Engeser, 1987
Order Octopoda Leach, 1818
Family Octopodidae d'Orbigny, 1839

Octopus vulgaris Cuvier, 1797: 1 specimen, fixed on glass plate, coll. no. 9487/202, outer label (type written) „*Octopus vulgaris* Villafrance", mentioned in Antipa's inventory as „no. 47, Form., 1899, *Octopus vulgaris,* Ville Franche s/m, d. Cantacuzino, Molusc. (Cephal.)".

Distribution. North and South Atlantic Ocean, North Sea, Mediterranean Sea, Indian Ocean (African coast), Red Sea (Belcari et al., 2002).

Phylum ANNELIDA Lamarck, 1809
Class POLYCHAETA Grube, 1850
Subclass Errantia Audouin & H. Milne Edwards, 1832
Order Phyllodocida Dales, 1962
Suborder Phyllodociformia Levinsen, 1883
Family Alciopidae Ehlers, 1864

Torrea candida (Delle Chiaje, 1841): 1 specimen, donated in 1899, mentioned in Antipa's inventory as "no. 69, alc., 1899, *Asterope candida*, Ville Franche s/m, d. J. Cantacuzino, Verm. Sipunculid", lost.

Distribution: North Atlantic Ocean, Mediterranean Sea, Indian Ocean (Madagascar) (Read & Fauchald, 2015).

Krohnia lepidota (Krohn, 1845) (syn. *Alciope lepidota* Langerhans, 1880): 1 specimen, mentioned in Antipa's inventory as "no. 70, alc., *Alciope lepidota* Krohn, Ville Franche s/m, d. J. Cantacuzino, Verm. Sipunculid", lost.

Distribution: North Atlantic Ocean, Mediterranean Sea, Central Pacific Ocean (Read & Fauchald, 2015).

Order Eunicida Dales 1963
Family Onuphidae Kinberg, 1865
Subfamily Hyalinoeciinae Paxton, 1986

Hyalinoecia tubicola (O.F. Müller, 1776): 1 specimen, fixed on glass plate, coll. no. 9482/58, outer label „*Hialoneocia tubicola* O. Müll. Villefranche", mentioned in Antipa's inventory as "no. 68, alc., 1899, *Onuphis tubicola* Mud., Ville Franche s/m, d. J. Cantacuzino, Verm. Sipunculid".

Distribution: North Atlantic Ocean, Mediterranean Sea, Red Sea, Pacific Ocean (New Zealand) (Read & Fauchald, 2015).

Family Hesionidae Grube, 1850

Hesione pantherina Risso, 1826: 2 specimens, fixed on glass plate, coll. no. 8474, mentioned in Antipa's inventory as "no. 66, Form., 1899, *Hesione sicula*", Ville Franche s/m, d. J. Cantacuzino, Vierm.".

Distribution: Mediterranean Sea, Red Sea, Indian Ocean (Mozambique) (Read & Fauchald, 2015).

Phylum Bryozoa Ehrenberg, 1831
Class Gymnolaemata Allman, 1856
Order Ctenostomatida Busk, 1852
Family Phidoloporidae Gabb & Horn, 1862

Reteporella cellulosa (Linnaeus, 1758): 1 specimen, donated in 1899, mentioned in Antipa's inventory as "no. 65, Form., 1899, *Retepora cellulosa*, Ville Franche s/m, d. Cantacuzino, Bryozoa", lost.

Distribution: North Atlantic Ocean, Mediterranean Sea (Novosel & Požar–Domac, 2001).

Phylum SIPUNCULA Stephen, 1965
Class SIPUNCULIDEA Cutler and Gibbs, 1985
Order Sipunculida (Sipunculiformes) Cutler and Gibbs, 1985
Family Sipunculidae Rafinesque–Schmaltz, 1814

Sipunculus sp.: 1 specimen, old coll. no. 312; mentioned in Antipa's inventory as "no. 67, alc., 1899, *Sipunculus* sp., Ville Franche s/m, d. Cantacuzino, Verm. Sipunculid", lost.

Distribution: worldwide (Cutler, 1994).

Phylum ARTHROPODA Von Siebold, 1848
Subphylum CRUSTACEA Brünnich, 1772
Infraclass CIRRIPEDIA Burmeister, 1834
Superorder Thoracica Darwin, 1854
Order Lepadiformes Buckeridge & Newman, 2006
Family Lepadidae Darwin, 1852

Lepas (*Anatifa*) *pectinata* Spengler, 1793 (Fig. 3A): 75 specimens fixed on a fragment of reed, on glass plate, coll. no. 9490/15, old coll. no. 696, no. 17 white painted outer the jar; outer label (inked): „*Lepas pectinata* Spgl., Villefranche, d. Cantacuzin", inner one (pencil): „*Lepas punctata* Spgl., Ville Franche, d. Cantacuzino", mentioned in Antipa's inventory as "no. 43, Alc., 1898, *Lepas pectinata* Spgl., Ville Franche s/m, d. Dr. J. Cantacuzino, Crustacea".

Distribution: North Atlantic Ocean (United Kingdom to Azores), North Sea (Belgium), Mediterranean Sea (France to Greece), Gulf of Mexico, New Zealand (Martin & Davies, 2001; González et al., 2012).

Class MALACOSTRACA Latreille, 1802
Subclass HOPLOCARIDA Calman, 1904
Order Stomatopoda Latreille, 1802
Family Squillidae Latreille, 1802

Squilla mantis (Linnaeus, 1758) (Fig. 3B): 1 specimen, fixed on glass plate, coll. no. 9490/114, old coll. no. 145, round label: 12; outer label (ink): „*Squilla mantis* Rond., 12, Villefranche, d. Cantacuzin", inner label: indecipherable, mentioned in Antipa's inventory as "no. 35, Alc., 1898, *Squilla mantis* Rond., Ville Franche s/m, D. Dr. J. Cantacuzino, Crustacea".

Distribution: North Atlantic Ocean (up to Morocco), Mediterranean Sea (up to Greece) (Martin & Davies, 2001; Müller, 1994).

Subclass EUMALACOSTRACA Grobben, 1892
Superorder Peracarida Calman, 1904
Order Amphipoda Latreille, 1816
Suborder Hyperiidea Milne Edwards, 1830
Family Phronimidae Rafinesque, 1815

Phronima sedentaria (Forskål, 1775): 1 specimen, fixed on glass plate, coll. no. 9490/38, old coll. no. 615, no 53 painted ouside the jar; labels, outer (inked): „*Phronima sedentaria* Forsk., Villefranche, d. Cantacuzin", inner (pencil): „*Phronima sedentaria* Forsk., Villefranche, d. Cantacuzin", mentioned in Antipa's inventory as "no. 41, Alc., 1898, *Phronima sedentaria* Forsk., Ville Franche s/m, d. Dr. J. Cantacuzino, Crustacea".

Fig. 3 – Arthropods from Prof. Dr. Ion Cantacuzino collection: A, *Lepas* (*Anatifa*) *pectinata* Spengler, 1793; B, *Squilla mantis* (Linnaeus, 1758); C, *Maja squinado* (Herbst, 1788); D, *Liocarcinus corrugatus* (Pennant, 1777); E, *Ilia nucleus* (Linnaeus, 1758); F, *Euscorpius* (*Polytrichobothrius*) *italicus* (Herbst, 1800); G, old label written by Grigore Antipa; H, old label written by Ion Cantacuzino (Photos George Năzăreanu).

Distribution: North Atlantic Ocean (European and American coasts), Mediterranean Sea, Gulf of Mexico, Red Sea, South Pacific Ocean (New Zealand) (Vinogradov et al., 1996; Martin & Davies, 2001).

Order Isopoda Latreille, 1817

Family Sphaeromatidae Latreille, 1825

S*phaeroma* sp.: 1 specimen, fixed on glass plate, coll. no.9490/106, old coll. no. 584, no 134 painted ouside the jar; labels, outer (inked): „*Sphaeroma* spec., Villefranche,

d. Cantacuzino", inner, indecipherable, mentioned in Antipa's inventory as "no. 42, Alc., 1898, *Sphaeroma* sp., Ville Franche s/m, d. Dr. J. Cantacuzino, Crustacea".

Distribution: worldwide (Jacobs, 1987; Martin & Davies, 2001).

Superorder Eucarida Calman, 1904
Order Decapoda Latreille, 1803
Suborder Pleocyemata Burkenroad, 1963
Infraorder Caridea Dana, 1852
Family Palaemonidae Rafinesque, 1815

Palaemon sp.: 1 specimen, mentioned in Antipa's inventory as "no. 40, Alc., 1898, *Palaemon* sp., Ville Franche s/m, d. Dr. J. Cantacuzino, Crustacea", lost.

Distribution: North Atlantic Ocean, Mediterranean Sea, Black Sea (d'Udekem d'Acoz, 1999; Martin & Davies, 2001).

Infraorder Anomura MacLeay, 1838
Family Galatheidae Samoulle, 1819

Galathea strigosa (Linnaeus, 1761): 2 specimens, old coll. no. 47, 49; mentioned in Antipa's inventory as " no. 36, Form., *Galathea strigosa* Fabr., Ville Franche s/m, d. Dr. J. Cantacuzino, Crustacea", lost.

Distribution: North Atlantic Ocean (Norway, Sweeden, up to Azores, Canaries, Spain, North Sea, Belgium), Mediterranean Sea (France to Greece) (Martin & Davies, 2001; Baba et al., 2008).

Infraorder Brachyura Latreille, 1802
Family Leucosiidae Samoulle, 1819

Ilia nucleus (Linnaeus, 1758) (Fig. 3E): 2 specimens, fixed on glass plate, 1 ♂, coll. no. 9490/265, old coll. no. 217, outer label (inked) „*Ilia nucleus* Leach, Ville Franche, No. 39, d. Cantacuzin.", inner label „*Ilia nucleus* Leach, Alcohol", mentioned in Antipa's inventory as "no. 39, Alc., 1898, *Ilia nucleus* Leach, Ville Franche s/m, d. Dr. J. Cantacuzino, Crustacea"; 1 ♀, coll. no. 9490/266, old. coll.no. 218, outer label (typed) "*Ilia nucleus* Leach, Villefrance, d. Cantacuzino", inner label "*Ilia nucleus* Leach, Villefrance".

Distribution: North Atlantic Ocean, Mediterranean Sea (Martin & Davies, 2001; Marco–Herrero et al., 2015).

Family Majidae Samoulle, 1819

Maja squinado (Herbst, 1788) (Fig. 3C, H): 1 ♂, fixed on glass plate, coll. no. 9490/246, old coll. no. 126; labels, outer (typed) „*Maja squinado* Bosc. Villefrance, d. Cantacuzino", inner (pencil) „*Maja squinado* Bosk. Alcohol", mentioned in Antipa's inventory as "no. 38, Alc., 1898, *Maja squinado* Bosc., Ville Franche s/m, d. Dr. J. Cantacuzino, Crustacea".

Distribution: Atlantic Ocean (up to Azores, Cape Verde, Senegal, South Africa), English Channel, North Sea (Belgium, The Netherlands), Mediterranean Sea (France to Israel) (Neumann, 1998; Martin & Davies, 2001; Marco–Herrero et al., 2015).

Family Polybiidae Ortmann, 1893

Liocarcinus corrugatus (Pennant, 1777) (Fig. 3D): 1 ♀, fixed on glass plate, coll. no. 9490/258, old coll. no. 215; labels, outer „*Portunus corrugatus*, Villefranche, d. Cantacuzino", inner „*Portunus corrugatus*, Alcohol", „Muzeul de Istorie Naturală

(printed), *Portunus corrugatus*, Ville Franche, No. 37, d. Cantacuzin, mentioned in Antipa's inventory as "no. 37, Alc., 1898, *Portunus corrugatus*, Ville Franche s/m, d. Dr. J. Cantacuzino, Crustacea".

Distribution: Atlantic Ocean (United Kingdom to Cape Verde, Morocco and Angola), Mediterranean Sea (France to Greece), South Pacific Ocean (New Zealand) (Martin & Davies, 2001; Ng & Davie, 2015; Marco–Herrero et al., 2015).

Subphylum CHELICERATA Heymons, 1901
Class ARACHNIDA Cuvier, 1812
Order Scorpiones C. L. Koch, 1837
Family Scorpionidae Peters, 1862

Euscorpius (*Polytrichobothrius*) *italicus* (Herbst, 1800) (Fig. 3F): 1 specimen, fixed on glass plate, coll. no. 9491/156, old coll. no. 400; outer label (inked) „*Scorpio europeus* Villafranca", inner label (pencil) „*Scorpio europeus* Alcohol", mentioned in Antipa's inventory as "no. 44, Alc., 1898, *Scorpio europeus*, Ville Franche s/m, d. Dr. J. Cantacuzino, Arahnida".

Distribution: Northern Africa, Georgia, Turkey, Europe (Albania, Croatia, France, Greece, Hungary, Italy, Macedonia, Monaco, Romania, Russia, San Marino, Slovenia, Switzerland, former Yugoslavia) (Vignoli & Salomone, 2008).

Phylum CHAETOGNATHA Leuckart, 1854
Class SAGITTOIDEA Claus & Grobben, 1905
Family Sagittidae Claus & Grobben, 1905

Parasagitta setosa (Müller, 1847) (syn. *Sagitta setosa* Müller, 1847): 1 specimen, mentioned in Antipa's inventory as "no. 63, alc., 1899, *Sagitta* sp., Ville Franche s/m, d. Cantacuzino, Chaetognathe", lost.

Distribution: Atlantic Ocean, North Sea, Baltic Sea, Mediterranean Sea, Black Sea (van der Land & Kapp, 2001).

Phylum ECHINODERMATA Bruguière, 1791
Subphylum ASTEROZOA von Zittel, 1895
Class CRINOIDEA Miller, 1821
Order Comatulida A. H. Clark, 1908
Family Antedonidae Norman, 1865

Antedon bifida (Pennant, 1777): 2 specimens, coll. no. 9484/4, fixed on glass plate outer label ((inked) „*Antedon rosacea* L. Ville Franche", mentioned in Antipa's inventory as „no. 33, Alc., 1898, *Antedon rosacea* Norm., Ville Franche s/m, d. Dr. J. Cantacuzino, Echinod."; 9484/5, outer label (inked) "*Antedon rosacea* L. Ville Franche", inner label „*Antedon rosacea* Norman, Alcohol".

Distribution: North Atlantic Ocean (both coasts), Western Mediterranean Sea (Messing, 2015).

Class OPHIUROIDEA Gray, 1840
Order Ophiurida Müller & Troschel, 1840
Family Ophiuridae Müller & Troschel, 1840

Ophiura ophiura (Linnaeus, 1758): 1 specimen, fixed on glass plate, coll. no. 8969, labels, outer "*Ophioglypha lacertosa* L., Villa Franche, 46/8969", inner one (typed) "*Ophioglypha lacertosa* Lyman, Ville Franche, No. 32, d. I. Cantacuzino", mentioned in Antipa's inventory as "no. 32, Alc., *Ophyoglypha lacertosa* Lyman,

Ville Franche s/m, d. Dr. J. Cantacuzino, Echinod.”. Exhibited in old museum from Polonă Street.

Distribution: North Atlantic Ocean, Mediterranean Sea (Stöhr & Hansson, 2007).

Class ASTEROIDEA De Blainville, 1830
Superorder Forcipulatacea Blake, 1987
Order Forcipulatida Perrier, 1884
Family Asteriidae Gray, 1840

Marthasterias glacialis (Linnaeus, 1758): 2 specimens, coll. no. 9484/99, fixed on glass plate, outer label missing, inner one indecipherable; 9484/100, labels, outer “*Asterias glacialis* O.F. Müller”, mentioned in Antipa’s inventory as “no. 27, Alc., 1898, *Asterias glacialis* O. F. M., Ville Franche s/m, d. Dr. J. Cantacuzino, Echinod.”.

Distribution: North Atlantic Ocean (both coasts), Mediterranean Sea (France) (Mah, 2008).

Class HOLOTHUROIDEA De Blainville, 1834
Order Aspidochirotida Grube, 1840
Family Holothuriidae Burmeister, 1837

Holothuria tubulosa Gmelin, 1791 (Fig. 2E): 1 specimen, fixed on glass plate, coll. no. 9484/24, outer label „*Holoturia tubulosa* Grube, Ville Franche”, mentioned in Antipa’s inventory as „no. 34, Alc., 1898, *Holothuria tubulosa* Grub., Ville Franche s/m, d. Dr. J. Cantacuzino, Echinod.”.

Distribution: North Atlantic Ocean, Mediterranean Sea, Red Sea, Indian Ocean (Mozambique) (Hansson, 2001).

Class ECHINOIDEA Leske, 1778
Order Spatangoida L. Agassiz, 1840
Suborder Brissidina Stockley, Smith, Littlewood,
Lessios & MacKenzie–Dodds, 2005
Family Loveniidae Lambert, 1905

Echinocardium mediterraneum (Forbes, 1844): 1 specimen, mentioned in Antipa’s inventory as “no. 29, Alc., 1898, *Echinocardium mediterraneum* Gray, Ville Franche s/m, d. Dr. J. Cantacuzino, Echinod.”, lost.

Distribution: Mediterranean Sea, Adriatic Sea, Aegean Sea (Kroh & Mooi, 2015).

Family Spatangidae Gray, 1825

Spatangus purpureus O. F. Müller, 1776 (Fig. 2D): 1 specimen, fixed on glass plate, coll. no. 9484/83, outer label (PC printed) „*Spatangus purpureus* Müll. Franţa, Villefranche–sur–Mer, Mediterana”, inner label indecipherable; exhibited in the museum before 2009, mentioned in Antipa’s inventory as „no. 28, alc., 1898, *Spatangus purpureus* Leske, Ville Franche s/m, d. Dr. J. Cantacuzino, Echinod”.

Distribution: North Atlantic Ocean, Mediterranean Sea, Adriatic Sea (Kroh & Mooi, 2015).

Suborder Paleopneustina Markov & Solovjev, 2001
Family Schizasteridae Lambert, 1905

Ova canaliferus (Lamarck, 1816): 1 specimen, fixed on glass plate, coll. no. 9484/90, labels, outer "*Ova canalifera* (Lam.) Marea Mediterană", inner one "*Schizaster canalifer*, Ag., mentioned in Antipa's inventory as "no. 30, Alc., *Schizaster canalifer* Ay., Ville Franche s/m, d. Dr. J. Cantacuzino, Echinod.".

Distribution: Atlantic Ocean, Mediterranean Sea (Kroh & Mooi, 2015).

Order Camarodonta Jackson, 1912
Family Parechinidae Mortensen, 1903

Psammechinus microtuberculatus (*Blainville, 1825*): 2 specimens, coll. no. 9484/59, fixed on glass plate, outer label (inked) "*Echinus microtuberculatus*,", inner one "*Echinus microtuberculatus* Blv., Alcohol", mentioned in Antipa's inventory as "no. 31, Alc., 1898, *Echinus microtuberculatus* Blv., Ville Franche s/m, d. Dr. J. Cantacuzino, Echinod."; 8940, outer label (inked) " *Echinus microtuberculatus*, Ville Franche".

Distribution: North Atlantic Ocean, Mediterranean Sea (Kroh & Mooi, 2015).

Phylum CHORDATA Haeckel, 1874
Subphylum TUNICATA Lamarck, 1818
Class THALIACEA Nielsen, 1995
Order Pyrosomatida Jones, 1848
Family Pyrosomatidae Lahille, 1888

Pyrosoma sp.: 1 specimen, mentioned in Antipa's inventory as „no. 61, Form., *Pyrosoma* sp., Ville Franche s/m, d. Cantacuzino, Tunicate", lost.

Distribution: worldwide (van Soest, 1981).

Order Doliolida Delage & Hérouard, 1898
Family Doliolidae Bronn, 1862

Doliolum denticulatum Quoy & Gaimard, 1834: 1 specimen, fixed in a glass tube, coll. no. 9007, old coll. no. 3; outer label (inked): „*Doliolum ehrenbergii*", inner label (pencil, scarcely visible) „*Doliolum ehrenbergii* …", mentioned in Antipa's inventory as "no. 60, *Doliolum Ehrenberghii*, Ville Franche s/m, d. Cantacuzino, Tunicate".

Distribution: North Atlantic Ocean, Mediterranean Sea, Red Sea, Western Pacific Ocean, New Zealand (van Soest, 2015).

Class ASCIDIACEA Nielsen, 1995
Order Stolidobranchia Lahille, 1887
Family Pyuridae Hartmeyer, 1908

Halocynthia papillosa (Linnaeus, 1767): 2 specimens, fixed on glass plate, coll. no. 9486/23, old coll. no. 383, without labels; 9486/27, old coll. no. 373; „*Cynthia papillosa* Villefranche", inner label „*Cynthia papillosa*, Villefranche, d. Cantacuzino", „*Cynthia papillosa*, Alcohol", mentioned in Antipa's inventory as „no. 62, Form., *Cynthia papillosa* L., Ville Franche s/m, d. Cantacuzino, Tunicate".

Distribution: North Atlantic Ocean, Mediterranean Sea, Western Pacific Ocean (Sanamyan, 2007).

Order Salpida Forbes, 1853
Family Salpidae Lahille, 1888

Cyclosalpa pinnata (Forskål, 1775): 1 specimen, fixed on glass plate, coll. no. 9017, inner label (inked) "*Salpa pinnata*", mentioned in Antipa's inventory as "no.59, *Salpa pinnata,* Ville – Franche s/m, d. Cantacuz., Tunicata".

Distribution: Atlantic Ocean, Mediterranean Sea (van Soest, 1974).

Salpa maxima Forskål, 1775: 1 specimen, coll. no. 9486/49, old coll. no. 19, outer label „*Salpa africana maxima solitaria*, Villafranca", mentioned in Antipa's inventory as „no. 57, Form., *Salpa maxima africana* Forsk., Ville Franche s/m, d. Cantacuzino, Tunicate".

Distribution: North Atlantic Ocean (Eastern and Western), Mediterranean Sea, Red Sea, North and Western Pacific Ocean, New Zealand, Antarctic Ocean (van Soest, 1974).

Soestia zonaria (Pallas, 1774): 1 specimen, coll. no. 9015, mentioned in Antipa's inventory as "no. 58, Form., *Salpa zonaria aggregata,* Ville Franche s/m, d. Cantacuzino, Tunicate".

Distribution: North Atlantic Ocean, Mediterranean Sea, North Pacific Ocean, Antarctic Ocean (Kott, 2005).

DISCUSSION

After five years since moving his zoological collections from University, the new director of Natural History Museum, Grigore Antipa (appointed on April 1st 1893), received the collection donated by Professor Dr. Ion Cantacuzino to Ministry of Cults and Public Instruction in the new building of the museum, from 19 Polonă Street, most of them being displayed at that time. At that moment it was the first collection of animals from that area in the patrimony of Natural History Museum from Bucharest.

According to the assertion of Tăutu (1965), Professor Dr. Ion Cantacuzino apparently had never been to Villefranche–sur–Mer or in any other point on the Mediterranean's Sea coast and instead he pursued numerous stages at Station biologique de Roscoff by the French Atlantic littoral. In Grigore Antipa's 1899 inventory the origin of these specimens is Villefranche–sur–Mer, as well as on handwritten labels from the inside of the jars (not ones written by Cantacuzino).

Three jars, *Chiton olivaceus*, *Pecten* sp. and *Ilia nucleus* present their original labels, from that period, with a printed border and also the inscription of the Natural History Museum. Others, like those of *Phylliroe bucephala*, *Lepas pectinata*, *Squilla mantis*, *Sphaeroma* sp. and *Phronima sedentaria*, have a different type of old label present on the jar, but without museum's inscription. Other preparates, *Portunus corrugatus* (Fig. 3 G) and *Ophiura ophiura*, presents two types of labels: one in exterior and another, inside (with the printed museum's inscription), suggesting that those specimens could had been exposed later in the new building of the museum from Kiseleff 1. On those old labels an indication of a number (from the lost catalogue) could be found, like in *Ilia nucleus*, *Pecten* sp. and *Chiton olivaceus*, a fact that suggests the existence of a donation's catalogue, therefore we could form an approximate idea of its volume. Other specimens, such as *Phylliroe bucephala*, have an old label (written in ink, possibly by Grigore Antipa himself), but without other specifications, except for the word "no.", as well as for *Cymbulia peronii*, while others have typewritten labels (after 1950) or labels that include only the name of the animals (*Doliolum*

ehrenbergii) and one without label (*Aplysia punctata*). Certainly the specimens with old labels had been exposed in the museum, but for others we could only assume. A number of 30 jars present inside labels written in pencil, probably written by Ion Cantacuzino himself, therefore rising the importance and the historical value of this invertebrate collection.

This donation represents Professor Dr. Ion Cantacuzino's enormous generosity, enthusiasm and also patriotic spirit. This paper has the purpose to bring to its ment importance a part of forgotten heritage and underline the importance of a correct identification of species and curratorial maintenance in a museological collection, of inestimable cultural value.

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