

COMMUNICATIONS

CONFERENCES

11th European Conference on Echinoderms (ECE11), 16–20 October 2023, Lyon, France

Website: <https://ece11.univ-lyon1.fr>

Contact: ece11@univ-lyon1.fr

Provisional schedule

- Pre-conference excursion to Villefranche-sur-Mer marine station: October 11th–15th, 2023
- Registration, icebreaker: 16 October 2023
- Indoor scientific sessions: 16–17 and 19–20 October 2023
- Mid-conference excursion in Ardèche (la Voulte Lagerstätte): 18 October 2023
- Gala Dinner: 19 October 2023

Important dates

31 January 2023:

- First Circular

28 February 2023:

- Deadline for suggestions for workshops and scientific sessions
- Second Circular
- Opening of abstract submission
- Opening of pre-registrations

31 March 2023:

- Opening of registrations for conference and excursions

15 May 2023:

- Deadline for abstract submission

15 June 2023:

- Decisions on abstracts
- Deadline for registration to pre- and mid-conference excursions

30 June 2023:

- Deadline for early-bird registrations
- Third Circular, with full-program of conference and excursions

31 March 2024:

- Deadline for submission of manuscripts to the proceedings volume in Cahiers de Biologie Marine

Sea Cucumber Aquaculture: New Challenges, 3–4 October 2022 Concarneau Marine Station, France

The conference was supported by the French Agence Nationale de la Recherche, and the Belgian Fond National pour la Recherche Scientifique. The conference was part of the global project: South Est Asia -Europe Founding Scheme for Research and Innovation.

Programme included presentations by:

- Chantal CONAND (MNHN/Univ. La Réunion, France)
Global sea cucumbers fisheries: an update of the past decade
- Jean-François HAMEL (SEVE, Canada)
Community-based emerging fisheries in Nunavut (Canadian Arctic)
- Mercedes GONZALEZ-WANGUEMERT (WANGUMAR SLU, Spain)
Sea cucumber aquaculture, why not?
- Matthew James SLATER (Alfred Wegener Institute, Germany)
The uses of European sea cucumbers in integrated multitrophic aquaculture
- Frank DAVID (MNHN, France)
A screening of methods to differentiate wild vs. farmed European sea cucumbers
- Arnold RAKAJ (University of Rome Tor Vergata, Italy)
Aquaculture and IMTA applications with Mediterranean sea cucumbers: progress and problems
- Marc-André LAFILLE (French Polynesia Marine Ressources Department)
Strategic approach and sustainable development of sea cucumber farming adapted to French Polynesia context
- Igor EECKHAUT (Mons University, Belgium)
Ovarian and oocyte maturations of *Holothuria scabra* in the context of aquaculture production
- Philippe DUBOIS (ULB, Belgium)
Sea cucumber aquaculture in a changing world
- Patrick FROUIN (University of La Réunion, France)
Wild sea cucumber stress: what do enzymatic activities and oxidation protein products tell us about three tropical species (*Holothuria atra*, *Holothuria leucospilota* and *Stichopus chloronotus*)
- Alessandra WHAITE (Mons University, Belgium)
Tube feet and cuvierian tubules: two different adhesive systems from sea cucumbers
- Mohammad MAGDY (University of Rome Tor Vergata, Italy)
Towards sea cucumbers as a new model in embryo-larval bioassays in ecotoxicological studies
- Laurent BURGUY (Tahiti Marine Products, French Polynesia)
Development of sustainable sea cucumber farming (*Holothuria fuscogilva*) in French Polynesia
- Bastien SADOUL in videoconference (Institut Agro Rennes-Angers, France)
Latest advances in the breeding and rearing of *Holothuria forskali*
Gyda CHRISTOPHERSEN (Møreforskning AS, Norway)
Initiating reproduction in captivity – emerging species *Parastichopus tremulus*
- Annie MERCIER (Memorial University, Canada)
Latest advances on *Cucumaria frondosa*: biology, fisheries and aquaculture
- Gaëtan TSIRESY (ISTRCE, Madagascar)
Technical feasibility of sea cucumber farming (*Holothuria scabra*) at the pioneer site in North-Eastern of Madagascar
- Jérôme DELROISSE (Mons University, Belgium)
Story of a sea cucumber disease: a multidisciplinary approach of the skin ulceration syndrome in *Holothuria scabra*
- Anchana PRATHEP (Prince of Songkla University, Thailand)
The first observation of Skin Ulceration Disease (SKUD) in *Holothuria (Metriatyla) scabra* Jaeger, 1833 from seagrass meadows in Thailand and some metagenomic studies.
- Guillaume CAULIER (Mons University, Belgium)
From diseases to coelomocytes : the mysterious immune system of sea cucumbers

- Noé WAMBREUSE (Mons University, Belgium)
How do sea cucumbers cope with bacterial infection? Let's bring coelomocytes into the world of omics
- Patrick LE CHEVALIER (University of Bretagne Occidentale, France)
Plasticity and specificity of the bacterial microbiota in the Sea Cucumber *Holothuria forskali*
- Wilson IANONA (IANONA Wilson, Madagascar)
Looking for investors for sea cucumber (*Holothuria scabra*) farming project in the Northeastern of Madagascar in the SAVA region
- Agnès JOLY (Aquaprimeur, IOT, France)
Indian Ocean Trepang, the pioneer and leading private company of the West Indian Ocean producing *Holothuria scabra* in aquaculture



Participants to the Conference: Sea Cucumber Aquaculture: New Challenges

17th International Echinoderm Conference, 2024



NEW COURSES

Sea cucumber aquaculture, why not?

Where: Instituto de Formacion Profesional Maritimo-Pesquero de Canarias – Arecife (Lanzarote, Canary Islands, Spain)

When: 10–14 July 2023 or 17–21 July 2023

The aim of this course is to present the basic concepts and methodologies applied to sea cucumber aquaculture but adapted and developed for commercial species native to Europe and Africa. The course will include theoretical and practical lessons that will enable participants to learn basic concepts and methods of sea cucumber aquaculture that they can apply to their local species.

This course is aimed at professionals related to the aquaculture sector, but also at students interested in this subject, officials from fisheries and aquaculture departments, investors, researchers, managers, etc. The professors teaching this course have extensive experience and training in the field of sea cucumber aquaculture (<https://www.wangumar.com/about-us/>). In fact, they are a successful example of research, development and innovation transfer from a research centre/university to private companies.

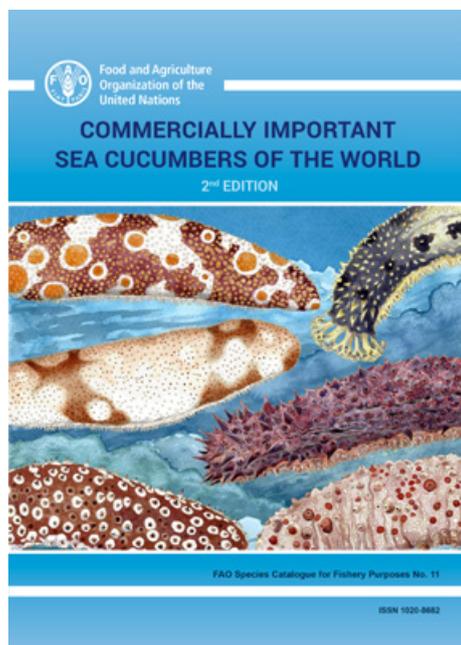
More information and pre-registration form available from: <https://www.wangumaqua.com/landing/>

Certificate in the Science of Artisanal Mariculture and Village Farming

See article by Igor Eeckhaut and co-authors on page 63 of this bulletin.

NEW BOOKS AND PUBLICATIONS

Commercially important sea cucumbers of the world



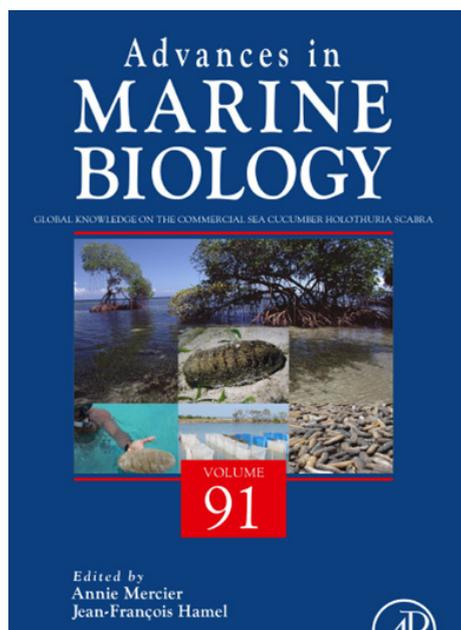
In 2012, the Food and Agriculture Organization of the United Nations (FAO) published the 1st edition of the guide on “Commercially important sea cucumbers of the world”. Since then, the number of commercially exploited sea cucumber species has increased and more species are traded from regions that were not traditionally engaged in this sector.

The preparation of the 2nd edition of the FAO guide started in 2022 and will be finalised in early-2023. This new edition contains information of 84 different species, and includes identification keys covering live and processed animals. There are updates to some taxonomic designations, identifying information, trade prices and distribution maps.

The guidebook will be first published online and the PDF version will be freely accessible on the FAO website. A limited number of printed copies will then be available shortly afterwards and distributed at no cost. Hard copies will be mailed by courier. Interested parties should provide their name, surname, full mailing address and a contact phone number (with country code and area code), as the latter is required by the courier service. Due to the limited number of printed copies and mailing expenses, FAO aims at distributing the guide to all those interested parties that would make good use of it, particularly trade and custom officers, fishery workers and scientists involved with sea cucumbers.

When sending your contact details please briefly indicated the reason you require a copy (please justify if you need more than one). Please send your requests directly to Mr Alessandro Lovatelli, FAO Fisheries and Aquaculture Officer, at the following address: alessandro.lovatelli@fao.org

The following information was provided by Prof. Chantal Conand:



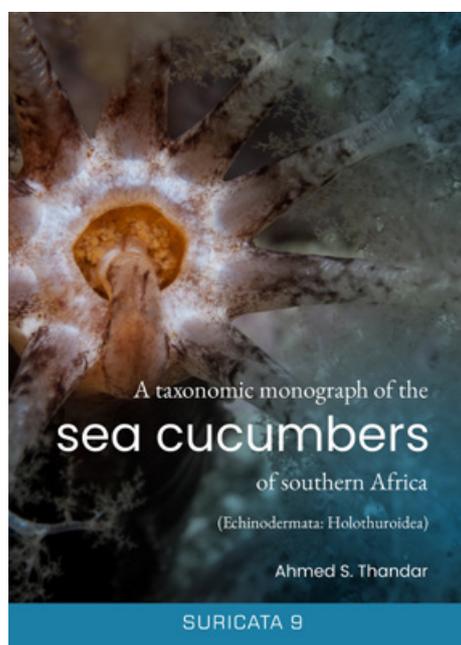
Global knowledge on the commercial sea cucumber Holothuria scabra

by Jean-François Hamel, Igor Eeckhaut, Chantal Conand, Jiamin Sun, Guillaume Caulier and Annie Mercier

In: *Advances in Marine Biology*, volume 91. <https://doi.org/10.1016/bs.amb.2022.04.001>

Holothuria scabra is one of the most intensively studied holothuroids, or sea cucumbers (Echinodermata: Holothuroidea), having been discussed in the literature since the early 19th century. The species is important for several reasons: 1) it is widely distributed and historically abundant in several shallow, soft-bottom habitats throughout the Indo-Pacific; 2) it has a high commercial value on the Asian, where it is mainly sold as a dried product (beche-de-mer); and 3) it is the only tropical holothuroid species that can currently be mass-produced in hatcheries. Over 20 years have elapsed since the last comprehensive review of *H. scabra* published in 2001. Research on *H. scabra* has continued to accumulate, fuelled by intense commercial exploitation, and further declines in wild stocks over the entire distribution range. This review compiles data from over 950 publications pertaining to the biology, ecology, physiology, biochemical composition, aquaculture, fishery, processing and trade of *H. scabra*, presenting the most complete synthesis to date, including scientific papers and

material published by local institutions and/or in foreign languages. The main goal of this project was to summarise and critically discuss the abundant literature on this species, making it more readily accessible to all stakeholders aiming to conduct fundamental and applied research on *H. scabra*, or wishing to develop aquaculture, stock enhancement and management programs across its geographic range.



A taxonomic monograph of the sea cucumbers of southern Africa (Echinodermata: Holothuroidea)

by A.S. Thandar, University of KwaZulu-Natal, Westville Campus, P/Bag x54001, Durban 4000, South Africa. thandara@ukzn.ac.za

The southern African marine region, which lies in the transition zone between the Atlantic and Indo-Pacific biomes, has a very rich biodiversity, with elements from the two major oceanic regions. This taxonomic monograph, long awaited by local enthusiasts, marine biologists and holothuroid specialists worldwide, focuses on the southern African Holothuroidea. It is based on the author's approximately 55 years of research on the taxonomy of sea cucumbers, with specific emphasis on the southern African fauna.

The monograph includes a brief account of the materials used; fixation, preservation and other techniques; an illustrated account of gross morphological features of mostly the shallow-water holothuroids; an illustrated glossary of the microscopic ossicles; some zoogeographical considerations; an updated checklist that summarises the composition, biodiversity and faunistic components of all southern African holothuroids; a dichotomous key to orders, families, genera and species; and the systematic account of all recorded species. All seven currently recognised orders are represented, distributed over 26 families, 76 genera and 171 nominal and 10 indeterminate species. These include a couple of new records for the southern African

region. South Africa has 152 nominal species.

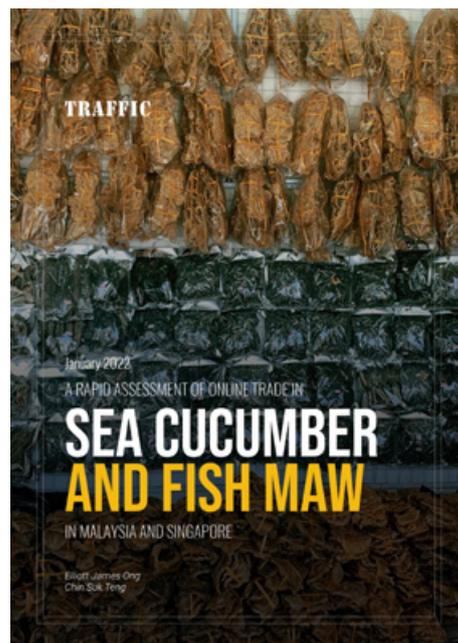
Each species account has a selected synonymy indicating the most pertinent synonyms, a brief diagnosis, the type locality, habitat notes, distribution data, concise remarks, a figure of the most important diagnostic characters and a distribution map. A comprehensive index and a full list of references that are cited or used in the text are also provided.

A rapid assessment of online trade in sea cucumbers and fish maw in Malaysia and Singapore

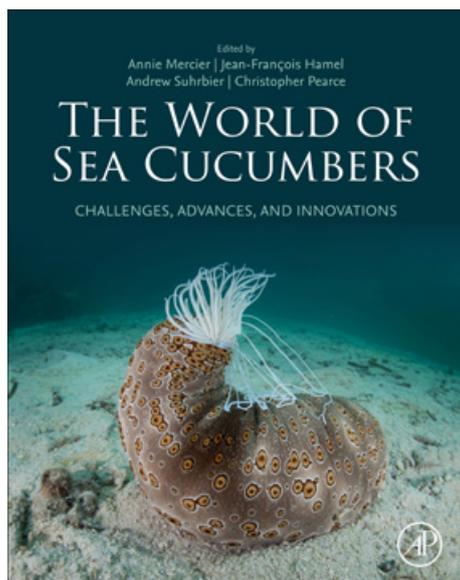
by Ong E.J. and Chin S.T. 2022. TRAFFIC, Southeast Asia Regional Office, Petaling Jaya, Selangor, Malaysia

An initial scoping exercise conducted for Malaysia and Singapore found sea cucumber and fish maw to be two of the most prevalent seafood commodities advertised for sale online. As legal trade volumes remains high along with concerning trafficking incidents, several countries have reported sea cucumber fishery closures due to population declines from overfishing. Equally, the illegal trade in these products is rife.

PDF available from: <https://www.traffic.org/publications/reports/a-rapid-assessment-of-online-trade-in-sea-cucumber-and-fish-maw-in-malaysia-and-singapore/>



Books to be published in 2023



The World of sea cucumbers – Challenges, advances and innovations

by Annie Mercier et al.

The World of Sea Cucumbers: Challenges, Advances, and Innovations provides broad coverage of sea cucumber biology, ecology, fisheries, aquaculture, and trade while also bringing forward novel cultural, socioeconomic and scientific topics related to commercial and non-commercial species worldwide. Written by international experts in their respective fields, the book offers a unique outlook into the fascinating world of sea cucumbers while also providing valuable information to various stakeholders and researchers. Commercial fisheries and aquaculture programs are addressed, especially as they relate to emerging species, but the book also covers novel, understudied or lesser-known biological, ecological, and commercial aspects. The involvement of Indigenous peoples and minorities in various community-level initiatives and on the cultural significance/impact of sea cucumbers in many regions are also examined. Finally, breakthroughs and emerging biotechnologies centered on sea cucumbers are presented.

<https://www.elsevier.com/books/the-world-of-sea-cucumbers/mercier/978-0-323-95377-1>

Information from the web or journals

Sea cucumber smuggling to Hong Kong sinks East African coastal livelihoods

by Willis Okumu, Senior Researcher – East and Horn of Africa, ENACT Project, ISS

<https://enactafrica.org/enact-observer/sea-cucumber-smuggling-to-hong-kong-sinks-east-african-coastal-livelihoods>

Préservation des holothuries blanches à mamelles à Tahiti: quand le savoir traditionnel devient le pivot d'un projet scientifique

<https://lnkd.in/eigyMEb>

Sandfish: Expensive, endangered and ecologically essential

<https://www.seafdec.org.ph/2020/sandfish-expensive-endangered-and-ecologically-essential/>

Youtube – Sea cucumbers: Educational edition

<https://www.youtube.com/watch?v=Ttu9AfRR8C8>

Seychelles – Sea cucumber season opens with a ban on white teatfish

<https://www.nation.sc/articles/15344/sea-cucumber-season-opens-with-a-ban-on-white-teat-fish->

Dr Myriam Sibuet

It is with great sadness that we announce the death of Dr Myriam Sibuet, former scientist at Ifremer (French Research Institute for Exploitation of the Sea). She had intensively contributed to the advancement of knowledge on deep sea echinoderms, and in particular on holothurians. Many of her scientific publications are listed in ResearchGate, including the following recent ones:

Levin L. and Sibuet M. 2012. Understanding continental margin biodiversity: a new imperative. *Annual Review of Marine Science* 4(1):79–112

Campos S. de L., Bassoi M., Nakayama C., Valentin Y.Y., Passeri Lavrado H., Menot L., Sibuet M. 2011. Antarctic-South American interactions in the Marine environment: A COMARGE and CAML effort through the South American Consortium on Antarctic Marine biodiversity. *Oecologia Australis* 15(1):5–22

Danovaro R., Company J.B., Corinaldesi C., D’Onghia G., Galil B. Cristina Gambi, Gooday A.J., Lampadariou N., Luna G.M., Morigi C., Olu K., Polymenakou P., Ramirez-Llodra E., Sabbatini S., Sardà F., Sibuet M. and Tselepides A. 2010. Deep-sea biodiversity in the Mediterranean Sea: the known, the unknown, and the unknowable. *PLoS ONE* 5(8): e11832. doi:10.1371/journal.pone.0011832

Olu K., Caprais J. C., Galéron J., Causse R., Cosel R. Von, Budzinski H., Le Ménach K., Le Roux C., Levaché D., Khripounoff A. and Sibuet M. 2009. Influence of seep emission on the non-symbiont-bearing fauna and vagrant species at an active giant pockmark in the Gulf of Guinea (Congo-Angola margin). *Deep-Sea Research II. Topical studies in Oceanography*. 56. 23:2259–2269.

We offer our sincere condolences to her family and loved ones.