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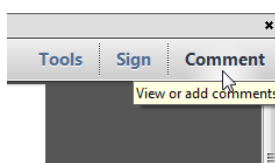
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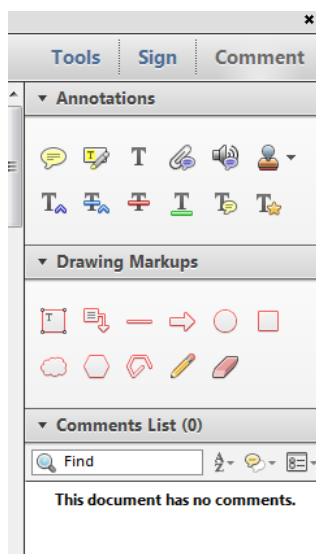
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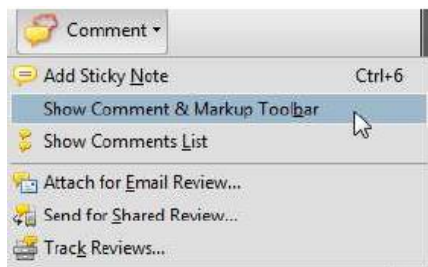


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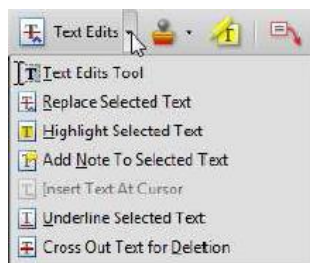
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The Crustacean Society

# Journal of Crustacean Biology

Journal of Crustacean Biology (2021) XX(XX), 1–8. <https://doi.org/10.1093/jcabi/ruab031>

## 1.5 Alain Crosnier's role in modern carcinology: exploration, international collaboration, and taxonomy 1.75

AQ1–AQ4

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(Received 4 June 2021; accepted 11 June 2021)

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### ABSTRACT

1.35 The French carcinologist and oceanographer Alain Crosnier (1930–2021) had a most influen- 1.105  
tial role in modern carcinology. This tribute reviews his contributions to organising oceanog-  
raphic expeditions; expanding collections of specimens, particularly from the deep sea; and  
supporting international collaboration for taxonomic investigations of the rich collections of  
material obtained from these expeditions. His expertise and enthusiasm also extended to the  
publication of the results of these investigations.

1.40 **Key Words:** Crustacea, Decapoda, deep-sea fauna, Indo-West Pacific region, oceanographic 1.110  
expeditions, taxonomy

### 1.45 INTRODUCTION

1.50 Knowledge in marine zoology has progressed remarkably during 1.115  
the 20th century. Such progress resulted mostly from an increase  
in the number of regions studied, most especially across the trop-  
ical regions, areas with the highest biodiversity. The period of num-  
erous international exploratory expeditions between the 1870s  
and 1950s was followed by a marked reduction in such effort,  
coinciding with the development of more ecologically-based re-  
search in the 1960s. The development of new techniques and the  
extension of the depth zones abled to be explored gave explor-  
ations a fresh start in the 1970s.

1.55 The French carcinologist Alain Georges Paul Crosnier (1930– 1.125  
2021) (Fig. 1) played a considerable role in this in several key ways:  
organization of oceanographic expeditions in the research ves-  
sels of Office de la Recherche Scientifique et Technique Outre-  
Mer (ORSTOM), Institut Français de Recherches sur la Mer  
(IFREMER), and of Terres Australes et Antarctiques françaises  
(TAAF); substantial expansion of marine sampling (intensity and  
geographic coverage); and, most importantly, catalysing taxonomic  
work, first in western Africa and eventually across the Indian  
Pacific oceans (see Crosnier & Forest, 1973; Poore, 2004; Bouchet  
*et al.*, 2008; Richer de Forges, 2013; Chan *et al.*, 2017; Richer de  
Forges & Bouchet, 2021). With remarkable energy and efficiency,  
Crosnier masterminded the four fundamental stages for excellence  
in taxonomic research: 1) collection, 2) sorting and dispatching  
the collections, 3) obtaining financial support for invited special-  
ists from all over the world to the Muséum national d'Histoire  
naturelle, Paris (MNHN) to identify the vast collections, and 4) the  
publication of the results in numerous series of publications (see  
Macpherson *et al.*, 1998; Richer de Forges *et al.*, 2013).  
Crosnier was not just an organiser but also a specialist in the  
taxonomy of tropical crustaceans, first in Madagascar and the  
French Congo (present-day Republic of the Congo) and eventu-  
ally across the Indo-West Pacific region. He was convinced that  
the best road for the development of research in taxonomy was  
to expand both collecting and the diffusion of the results. He thus  
used his expertise and his eventual directorship of ORSTOM to  
promote numerous projects on the biodiversity of the Indo-West  
Pacific fauna.

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**Figure 1.** Alain Georges Paul Crosnier (1930–2021).

INTERNATIONAL COLLABORATION

Crosnier not only put together, nurtured, and developed a network of international taxonomists to study the newly collected material in Paris, but stimulated researchers at the ORSTOM centre in Nouméa, New Caledonia to collaborate with neighbouring nations: Australia, New Zealand, Indonesia, and those in Southeast Asia. The new series of deep-water explorations in 1976 highlighted the capture of the famous “living fossil” *Neoglyphea inopinata* Forest & de Saint Laurent, 1975 (Decapoda, Glypheidea) (Fig. 2) in the Philippines during the first of many MUSORSTOM expeditions. It was Crosnier who persuaded the ORSTOM’s administration to divert N.O. *Vauban* on its way from Marseille to Nouméa with a detour to the Philippines to look again for *Neoglyphea*. The MUSORSTOM 1 Expedition was in many ways, starting point for the establishment of an international network of taxonomists and the eventual publication of their results.

PROMOTER OF WORK ON THE TAXONOMY OF MARINE BENTHOS

In addition to his own work on the taxonomy of penaeoid and caridean shrimps as well as brachyuran crabs (Crosnier & Forest, 1973; Crosnier, 1962, 1965, 1986, 1987, 1988a, b, 1991, 1994, 2003; Crosnier et al. 2007), Crosnier initiated studies on the benthos of the New Caledonia reef lagoons (1984–2000) (Richer de Forges, 1991). With the support of Claude Lévi, sponge specialist at MNHN, a team of divers and biologists began collecting in the lagoons, the collections shared with taxonomists around the world. The resulting taxonomic work, which included the description of numerous new species, started publication as part of the Faune tropical series: echinoderms (Guille et al., 1986), ascidians (Monniot et al., 1991), sponges (Lévi et al., 1998), gorgonians (Grasshoff & Bargibant, 2001), and marine snakes (Ineich & Laboute, 2002). Crosnier also encouraged publication for the



**Figure 2.** Living specimen of *Neoglyphea inopinata* Forest & de Saint Laurent, 1975 on board N.O. *Vauban* in 1976 (photo by J. Forest).

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general public, as in the case of volumes on fishes (Fourmanoir & Laboute, 1976; Laboute & Grandperrin, 2016) and invertebrates in general (Laboute & Richer de Forges, 2004).

Investigations undertaken in 1976 on the upper bathyal zone south of New Caledonia by Claude Lévi, Philippe Bouchet, and Anders Warén on board N.O. *Vauban* further revealed huge gaps in knowledge of the fauna, with half of the species collected being new to science. It became evident that the Pacific deep-sea fauna was enormously rich and at the same time poorly known. Additional oceanographic expeditions between 1984 and 2020 (Fig. 3) attempted to fill the gaps. By 2017, 83 expeditions had been organised, 32 volumes and more than 1,500 articles had been published, and more than 3,600 new species described (Bary, 2018; Ng & Bouchet, 2019), an extraordinary achievement.

PUBLICATION OF EXPEDITION RESULTS

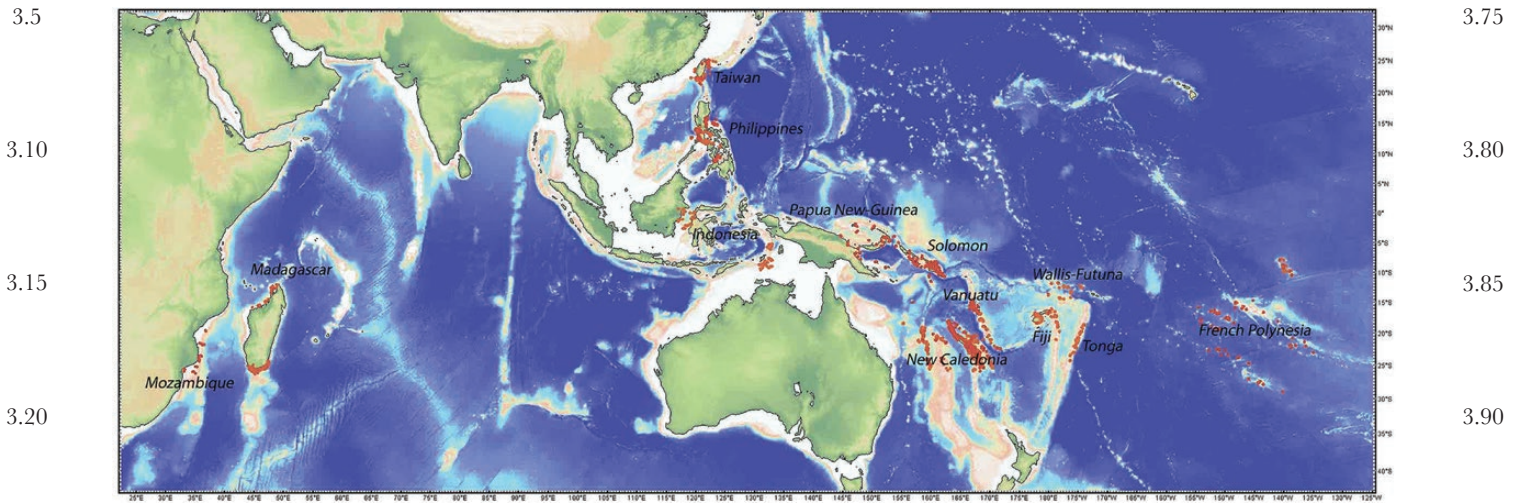
The ‘Résultats des Campagnes MUSORSTOM’ series began in 1981 with Jacques Forest as editor. Forest edited the first five volumes, including his monograph on the pylochelid pagurids (Forest, 1987). Crosnier became editor of the series starting with the Volume 6, and remained editor until Volume 21 in 2000. Volume 6 signalled an extension of the series’ focus to the rest of the Indo-West Pacific, while reporting material mostly collected from New Caledonia. Such wider coverage saw the need to revise the taxonomic information provided by earlier classical work based on the collections obtained by the *Challenger*, *Investigator*, *Albatross*, *Valdivia*, *Siboga*, and *Galathea* expeditions. The series became a groundwork of valuable information, and praise-worthy. Clark (2000), in his review of Volume 20, wrote ‘The MUSORSTOM marine biological project with its vision of unselfish international scientific collaboration is probably unrivalled in our modern era. May its tropical deep-sea program be funded, long into the new millennium by the French government.’ Volume 23 of *Tropical Deep-Sea Benthos*, the successor of the MUSORSTOM series, was highlighted as ‘This sustained continuity relied for many years on the energy and enthusiasm of Alain Crosnier, formerly at ORSTOM ... Of the 226 species reported, described and illustrated in the present volume, no less than 82 (36%) are new’ (Poore, 2004).

Philippe Bouchet, malacologist at MNHN, took over the publication of *Tropical Deep-Sea Benthos* (TDB) (Fig. 4) with Crosnier’s retirement in 2001.

IMPACT ON STUDIES ON MARINE BIODIVERSITY

Supplementary material Appendix S1 provides an exhaustive list of taxa named in honour of Crosnier. An examination of the families, genera, and species clearly shows that Crosnier was well respected by taxonomists working on many groups of animals, not only crustaceans, with one family, 13 genera, and 129 species being named in his honour to date.

Not to be forgotten is his crucial role in motivating the training of French researchers and technicians in the field of carcinology.



3.25 **Figure 3.** The Indo-West Pacific region and the areas (in red) sampled by recent French expeditions (from Richer de Forges *et al.*, 2013). 3.75



3.30 **Figure 4.** Cover of Volume 31 of the MUSORSTOM/ *Tropical Deep-Sea Benthos* series, which was devoted to the crustaceans of Papua New Guinea. 3.100

3.35 Among the many names, we can mention Arthur Anker, Régis Cleve, Jean-François Dejouanet, Laure Corbari, Pierre LeLoeuff, Jacques Marcille, Pierre Noël, Olga Odinetz, Joseph Poupin, Sonia Ribes-Beaudemoulin, and Bertrand Richer de Forges. 3.130

3.40 His inspiration also influenced a large body of non-French researchers who became leaders in their respective nations and disciplines: Australia: Shane T. Ahyong, Alexander (Sandy) J. Bruce, Niel Bruce, Peter J.F. Davie, Diana Jones, Jim Lowry, Gary C.B. Poore; Belgium: Cédric d'Udekem d'Acoz; Brazil: Marcos Tavares; China, Huilian Chen, Xinzheng Li; Germany: Angelika Brandt, Michael Türkay; Indonesia: Mohammad Kasim Moosa, Dwi Listyo (Yoyo) Rahayu; Israel: Bella Galil; Japan: Keiji Baba, Ken-Ichi Hayashi, Tomoyuki Komai, Tohru Naruse, Masayuki Osawa, Katsushi Sakai; The Netherlands: Charles Franssen, Jan Stock; New Zealand: John Buckridge, Colin McLay; Romania: 3.140

3.45 Mihai Bacescu; Russia: Rudolf Burukovsky, Vassily A. Spiridonov, Alexis Vereshchaka; Singapore: Diana Chia, Ngan Kee Ng, Peter K.L. Ng, José Christopher Escano Mendoza, Sheryl Tan, Swee Hee Tan; Spain: Jordi Corbera, Enrique Macpherson, Ferran Palero; Taiwan: Benny K.K. Chan, Tin-Yam Chan, Din Ann Lee, Chia-Wei Lin; United Kingdom: Roger Bamber, Paul F. Clark, Rony Huys; and United States: Christopher B. Boyko, Peter (Pedro) Castro, Joseph W. Goy, Janet Haig, Roy K. Kropp, Raymond B. Manning, Patsy A. McLaughlin, Rafael Lemaitre, John C. Markham. The authors of many of the articles published in the MUSORSTOM/TDSB series were former collaborators of Crosnier, who became referred to as 'Crosnier's cronies' (Macpherson *et al.*, 1998; Supplementary material Appendix 2). He was able to find funds to bring together groups of researchers to work alongside each other in Paris for weeks (and sometimes 3.142

4.5 for months) at a time. This strategy was in part responsible for the enthusiasm that these individuals showed for contributing to the MUSORSTOM/TDSB series. Crosnier's scientific vision significantly looked not only to the best current workers in the field, but also toward finding and fostering the next generation of experts who could succeed their contemporaries.

4.10 Thanks also to international links initiated by Crosnier, additional expeditions were organized in Indonesia (KARUBAR on board *Baruna Jaya 1* in 1991; see Crosnier et al., 1997) and Taiwan (since 2000 and still ongoing) on board both research and fishing vessels (Richer de Forges & Justine, 2006).

4.15 TAXONOMIC REVISIONS

4.20 The study of the valuable MUSORSTOM/TDSB collections in Paris, together with the study of collections in other museums, resulted in the publication of comprehensive revisions of many taxa. As editor, Crosnier encouraged contributors to look beyond the material at hand to ensure the revision had a lasting impact. Many of the resulting works are now the 'go-to' article for subsequent research. Besides the 1,500 articles in the MUSORSTOM/TDSB volumes, many have been published in other journals. Besides Crosnier's editorial work and own contributions to the MUSORSTOM/TDSB series, he took more than a year to edit a manuscript on the Xanthoidea (Brachyura) of the Indian Ocean left unfinished by the death of his colleague and friend Raoul Serène (Serène, 1984). This remains a key work on these difficult families of crabs.

4.35 Forest (1987) revised the Pylochelidae, a family of symmetric pagurids (Anomura) that live within wood, sponges, or pumice, based mainly on the MUSORSTOM collections from the Philippines. Guinot & Richer de Forges (1981, 1987) revised Homolidae (Brachyura), and two new families of Brachyura, Phyllotymolidae and Trichopeltariidae, were described by Tavares (1995) and Tavares & Cleva (2010), respectively. Revisions of other groups of brachyuran crabs followed: Cyclodorippidae and Cymonomidae (Tavares, 1993), Trapeziidae and Tetraliidae (Castro, 1997a, b, 1999; Castro et al., 2004), Palicoidea (Castro, 2000), Latreilliidae (Castro et al., 2003), Ethusidae (Castro, 2005), Goneplacidae (Castro, 2007, 2012), Chasmocarainidae (Ng & Castro, 2016). Other revisions on mostly deep-water taxa should also be noted, among others: callianassoid and axiid Axiidea (Poore, 2015, 2020; Poore et al., 2019; Robles et al., 2020); Parapaguridae (Anomura) (Lemaitre, 1994, 1997, 1998, 1999, 2004, 2013, 2014), *Bathynomus* A. Milne-Edwards, 1879 (Isopoda) (Lowry & Dempsey, 2008), Chirostylidae especially *Uroptychus* Henderson, 1888 (Anomura) (Baba, 2018), *Munida* Leach, 1820 and *Munidopsis* Whiteaves, 1874 (Anomura) (Macpherson, 1994, 2007), many groups of Penaeoidea (Crosnier, 1986, 1987, 1988a, 1991, 1994, 2003; Crosnier et al., 2007; Chan et al., 2016) Caridea (Noël, 1986; Crosnier, 1988b; Cleva, 1990, 2001; Chan & Crosnier, 1991, 1997; Chan, 1996, 2004; Hayashi, 1999, 2004, 2006; Komai, 2004, 2006a, 2008; Kim & Chan, 2005), and lobsters (Achelata, Astacidea, Polychelidae) (Macpherson, 1990; Poupin, 1994; Chan & Yu, 1995; Chan 1997; Chan & de Saint Laurent, 1999; Galil, 2000; Holthuis, 2002). Also resulting from the rich collections were revision of other groups of invertebrates such as stylasterid corals (Hydrozoa) (Cairns, 2015), pyramidelloid molluscs (Peñas & Rolán, 2017), and other families of Mollusca.

4.65 DISCOVERY OF 'LIVING FOSSILS'

4.70 Numerous species of marine invertebrates previously known only as fossils were discovered by MUSORSTOM expeditions (Bary, 2018). The decapod *Neoglyphea inopinata* Forest & de Saint Laurent, 1975 was discovered during the first MUSORSTOM expedition to the Philippines (Forest & de Saint Laurent, 1975, 1976), with

a second glypheid, *Laurentaeglyphea neocaledonica* (Richer de Forges, 2006), discovered in 2005 in the Chesterfield Is. (Richer de Forges, 2006; Forest, 2006; Charbonnier et al., 2013; Boisselier et al., 2016). Crosnier's help was fundamental in the study and the resulting publications of this species (Fig. 5). The cirriped *Waikalasma boucheti* Buckeridge, 1983, another 'living fossil,' was discovered in Vanuatu during the MUSORSTOM 8 cruise in 1994.

The brachiopod *Neoancistrocrania norfolki* Laurin, 1992 from the seamounts south of New Caledonia is another 'living fossil,' and many species of bryozoans and sponges can also be considered 'living fossils' (Gordon & d'Hondt, 1991; Hooper & Lévi, 1994). Pedunculate crinoids (Echinodermata) are additional examples, with 14 genera, of which eight can be considered 'living fossils,' all from New Caledonia (Hess et al., 1999). Known from fossils, many living species of *Perotrochus* P. Fischer, 1885, gastropods of the family Pleurotomariidae have also been described (Anseeuw et al., 2015).

4.95 IMPORTANCE OF SAMPLING AND DESCRIPTION OF NEW TAXA

4.100 The great demand for mining and energy resources from the deep-sea environment has made imperative to learn more about this environment, the most extensive on planet Earth. We are only now beginning to comprehend the diversity of the deep-sea fauna, and one must first understand what we exploit (i.e., Fouquet & Lacroix, 2012; Vanreusel et al., 2015; Jaeckel et al., 2016; Halsband et al., 2020). In order 'to explore before exploiting' (Cordes & Levin, 2018; Schiaparelli et al., 2016), expeditions to collect the fauna and a pool of experts to identify it are needed. Crosnier was a pioneer in the field, paving the way for this challenging task.

4.105 Knowledge of deep-sea biodiversity is also essential for its conservation. The results of the MUSORSTOM expeditions to the Coral Sea and the areas adjacent to New Caledonia was instrumental in the creation of the Coral Sea Natural Park (Parc naturel de la mer de Corail) in 2014, one of the largest (about 1.3 million km<sup>2</sup>) marine protected areas in the world. The series of MUSORSTOM and TDSB volumes that have reported on the results of French deep-sea expeditions provides one of most extensive data bases on the deep-sea fauna of the Indo-West Pacific region. This information, especially that referring to the New Caledonia species, is integrated in part of Ocean Biodiversity Information System (OBIS). A New Caledonia species includes 8,783 identified species (Péry & Richer de Forges, 2006). Data on the taxonomy of the MUSORSTOM/TDSB species are also included in World Register of Marine Species (WoRMS) and, more recently, in GenBank.



4.125  
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4.140 **Figure 5.** *Laurentaeglyphea neocaledonica* (Richer de Forges, 2006) collected during the EBISCO expedition on board NO *Alis* in the Chesterfield Is. (photo by J. Lai).  
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- 5.5 Information obtained by the MUSORSTOM/TDSB expeditions has also provided data for other investigations: speciation and endemism in seamounts (Richer de Forges *et al.*, 2000; Samadi *et al.*, 2006; Castelin *et al.*, 2011), fauna associated with organic substrates (Samadi *et al.*, 2010), venomous molluscs (Puillandre *et al.*, 2011), phylogeny based on molecular data and sperm ultrastructure (Cohen *et al.*, 2004; Boisselier *et al.*, 2010; Tudge *et al.*, 2012), symbiosis and parasitism (Forest, 1987; Lemaitre, 2004), and even biochemistry (Laille *et al.*, 1998; Le Gall *et al.*, 1999; Debitus & Kornprobst, 2014; Motuhi *et al.*, 2016). These studies, as well as ongoing research in various fields, are consequence of the efforts started by Crosnier. Two volumes of *Tropical Deep-Sea Benthos* will be published this year, one on the decapod crustaceans of the southwestern Indian Ocean edited by L. Corbari *et al.* and another dealing with the deep-sea corals that will make New Caledonia the epicenter of the marine biodiversity of the Pacific Ocean (M. Kitahara & S. Cairns, unpublished data). The enormous influence of A. Crosnier in the development of marine biology and zoology during the 20th century is still been felt during the 21st century.

### SUPPLEMENTARY MATERIAL

- Supplementary material is available at *Journal of Crustacean Biology* online.
- 5.30 S1 Appendix. List of species named in honour of A. Crosnier.  
S2 Appendix. Photo album of A. Crosnier and colleagues.

### ACKNOWLEDGEMENTS

- 5.35 We dedicate this article to Alain Crosnier in acknowledgement for his unique contribution in facilitating the discovery and eventual description of many marine taxa. Alain was truly an international personality who generously made the collections available to all biologists regardless of gender or creed. Alain was indeed a remarkable host. We thank the following researchers who contributed to the preparation of the manuscript: Keiji Baba, Philippe Bouchet, Angelica Brandt, Niel Bruce, John Buckeridge, Danielle Defaye, Jean-François Dejouanet, Bella Galil, Cédric D'Udekem D'Acoz, René Grandperrin, Dennis Gordon, Danièle Guinot, John Hooper, Diana Jones, Michelle Kelly-Borges, Jim Lowry, Philippe Maestrati, Jose Christopher Escano Mendoza, Tina Molodtsova, Sarah Samadi, Kareen Schnabel, Bernard Séret, Masatsune Takeda, and Helmut Zibrowius.

### REFERENCES

- 5.55 Anseeuw, P., Puillandre, N., Utge, J. & Bouchet, P. 2015. *Perotrochus caledonicus* (Gastropoda: Pleurotomariidae) revisited: descriptions of new species from the South-West Pacific. *European Journal of Taxonomy*, **134**: 1–23.
- 5.60 Baba, K. 2018. Chirostylidae of the Western and Central Pacific: *Uroptychus* and a new genus (Crustacea: Decapoda: Anomura). *Tropical Deep-Sea Benthos*, **Vol. 30**. *Mémoires du Muséum national d'Histoire naturelle*, **212**: 1–612.
- 5.65 Bary, S. 2018. *Les représentations de la biodiversité dans les fonds marins. Une approche épistémologique et scientifique*. Doctoral thesis, Université Paris-Descartes, France.
- Boisselier-Dubayle, M.-C., Bonillo, C., Cruaud, C., Couloux, A., Richer de Forges, B. & Vidal, N. 2010. The phylogenetic position of the “living fossils” *Neoglyphea* and *Laurentaeglyphea* (Decapoda: Glypheidea). *Comptes Rendus Biologies*, **333**: 755–759.
- 5.70 Cairns, S.D. 2011. Asteridae (Cnidaria: Hydrozoa: Anthoathecata) of the New Caledonia region. *Tropical Deep-Sea Benthos*, **Vol. 28**. *Mémoires du Muséum National d'Histoire naturelle*, **207**: 1–362.
- 5.72 Castelin, M., Puillandre, N., Lozouet, P., Sysoev, A., Richer de Forges, B. & Samadi, S. 2011. Molluscan species richness and endemism on New Caledonian seamounts: are they enhanced compared to adjacent slopes? *Deep Sea Research I*, **58**: 637–646.
- Castro, P. 1997a. Trapeziid crabs (Brachyura: Xanthoidea: Trapeziidae) of New Caledonia, eastern Australia, and the Coral Sea. In: *Le benthos des fonds meubles des lagons de Nouvelle-Calédonie* (B. Richer de Forges, ed.). *Études et Thèses*, **3**: 59–107.
- 5.80 Castro, P. 1997b. Trapeziid crabs (Brachyura: Xanthoidea: Trapeziidae) of French Polynesia. In: *Le benthos des fonds meubles des lagons de Nouvelle-Calédonie* (B. Richer de Forges, ed.). *Études et Thèses*, **3**: 109–139.
- Castro, P. 1999. The Trapeziidae (Crustacea: Brachyura: Xanthoidea) of the Indian Ocean and Red Sea. *Zoosystema*, **21**: 93–120.
- 5.85 Castro, P. 2000. Crustacea Decapoda: A revision of the Indo-west Pacific species of palicid crabs (Brachyura Palicidae). In: *Résultats des Campagnes MUSORSTOM* (A. Crosnier, ed.), Vol. 21. *Mémoires du Muséum national d'Histoire naturelle*, **184**: 437–610.
- Castro, P. 2005. Crabs of the family Ethusinae Guinot, 1977 (Crustacea, Brachyura, Dorippidae) of the Indo-West Pacific region. *Zoosystema*, **27**: 499–600.
- 5.90 Castro, P. 2007. A reappraisal of the family Goneplacidae MacLeay, 1838 (Crustacea, Decapoda, Brachyura) and revision of the subfamily Goneplacinae, with the description of 10 new genera and 18 new species. *Zoosystema*, **29**: 609–773.
- 5.95 Castro, P., Ng, P.K.L. & Ah Yong, S.T. 2004. Phylogeny and systematics of the Trapeziidae Miers, 1886 (Crustacea: Brachyura), with the description of a new family. *Zootaxa*, **643**: 1–70.
- Castro, P., Williams, A.B. & Cooper, L.L. 2003. Revision of the family Latreilliidae Stimpson, 1858 (Crustacea, Decapoda, Brachyura). *Zoosystema*, **25**: 601–634.
- 5.100 Chan, T.-Y. 1996. Crustacea Decapoda Crangonidae: revision of the three closely related genera *Aegaeon* Agassiz, 1846, *Pontocaris* Bate, 1888 and *Parapontocaris* Alcock, 1901. In: *Résultats des Campagnes MUSORSTOM* (A. Crosnier, ed.), **Vol. 15**. *Mémoires du Muséum national d'Histoire naturelle*, **168**: 269–336.
- 5.105 Chan, T.-Y. 1997. Crustacea Decapoda: Palinuridae, Scyllaridae and Nephropidae collected in Indonesia by the KARUBAR cruise, with an identification key for the species of *Metanephrops*. In: *Résultats des Campagnes MUSORSTOM* (A. Crosnier & P. Bouchet, eds.), **Vol. 16**. *Mémoires du Muséum national d'Histoire naturelle*, **172**: 409–431.
- 5.110 Chan, T.-Y. 2004. The “*Plesionika rostricrescentis* (Bate, 1888)” and “*P. lophotes* Chace, 1985” species groups of *Plesionika* Bate, 1888, with descriptions of five new species (Crustacea: Decapoda: Pandalidae). In: *Tropical Deep-Sea Benthos* (B. Marshall & B. Richer de Forges, eds.), **Vol. 23**. *Mémoires du Muséum national d'Histoire naturelle*, **191**: 293–318.
- 5.115 Chan, T.-Y. & Crosnier, A. 1991. Crustacea Decapoda: Studies of the *Plesionika narval* (Fabricius, 1787) group (Pandalidae) with descriptions of six new species. In: *Résultats des Campagnes MUSORSTOM* (A. Crosnier, ed.), **Vol. 9**. *Mémoires du Muséum national d'Histoire naturelle*, **152**: 413–461.
- 5.120 Chan, T.-Y. & Crosnier, A. 1997. Crustacea Decapoda: Deep-sea shrimps of the genus *Plesionika* Bate, 1888 (Pandalidae) from French Polynesia, with descriptions of five new species. In: *Résultats des Campagnes MUSORSTOM* (A. Crosnier, ed.), **Vol. 18**. *Mémoires du Muséum national d'Histoire naturelle*, **176**: 187–234.
- 5.125 Chan, T.-Y. & de Saint Laurent, M. 1999. The rare lobster genus *Thaumastocheles* (Decapoda: Thaumastocheleidae) from the Indo-Pacific, with description of a new species. *Journal of Crustacean Biology*, **19**: 891–901.
- Chan, T.-Y. & Yu, H.-P. 1995. On the rare lobster genus *Palinustus* A. Milne Edwards, 1880 (Decapoda: Palinuridae), with description of a new species. *Journal of Crustacean Biology*, **15**: 376–394.
- 5.130 Chan, T.-Y., Richer de Forges, B. & Barazer, J.F. 2017. Ship-based collection of large crustaceans. *Journal of Crustacean Biology*, **37**: 481–489.
- 5.135 Chan, T.-Y., Cleva, R. & Chu, K.H. 2016. On the genus *Trachysalambria* Burkenroad, 1934 (Crustacea, Decapoda, Penaeidae), with descriptions of three new species. *Zootaxa*, **4150**: 201–254.
- 5.140 Charbonnier, S., Garassino, A., Schweigert, G. & Simpson, M. 2013. A worldwide review of fossil and extant glypheid and litogastrid lobsters (Crustacea, Decapoda, Glypheoidea). *Mémoires du Muséum national d'Histoire naturelle*, **205**: 1–304.
- Clark, P.F. 2000. Book review: Résultats des Campagnes MUSORSTOM, 1999, volume 20, Coordonné par Alain Crosnier. *Mémoires du Muséum national d'Histoire naturelle*, **180**. *Journal of Natural History*, **34**: 954–956.
- 5.142 Cleva, R. 2001. Les Bathypalaemonellidae de Saint-Laurent, 1985 (Crustacea, Decapoda, Caridea) avec description d'une espèce nouvelle et définition d'un genre nouveau. *Zoosystema*, **23**: 757–782.



- 6.5 Cohen, B. L., Améziane, N., Eleaume, M. & Richer de Forges, B. 2004. Crinoid phylogeny: a preliminary analysis (Echinodermata: Crinoidea). *Marine Biology*, **144**: 605–617.
- 6.10 Cordes, E. & Levin, L.A. 2018. Exploration before exploitation. *Science*, **359**: 719.
- Crosnier, A. 1962. Crustacés Décapodes, Portunidae. *Faune de Madagascar*, **16**: 1–154, pls. 1–13.
- Crosnier, A. 1965. Crustacés Décapodes, Grapsidae et Ocypodidae. *Faune de Madagascar*, **18**: 1–143, pls. 1–11.
- 6.15 Crosnier, A. 1986. Crustacés Décapodes: Penaeidae. Les espèces indo-ouest-pacifique du genre *Parapenaeus*. In: *Résultats des Campagnes MUSORSTOM I et II - Philippines (1976, 1980)* (J. Forest, ed.), **Vol. 2. Mémoires du Muséum national d'Histoire naturelle**, **133**: 303–355.
- Crosnier, A. 1987. Les espèces indo-ouest-pacifique d'eau profonde du genre *Metapenaeopsis* (Crustacea, Decapoda, Penaeidae). *Bulletin du Muséum national d'Histoire naturelle*, **9**: 409–453.
- 6.20 Crosnier, A. 1988a. Sur les *Heterocarpus* (Crustacea, Decapoda, Pandalidae) du sud-ouest de l'océan Indien. Remarques sur d'autres espèces ouest-pacifiques du genre et description de quatre taxa nouveaux. *Bulletin du Muséum national d'Histoire naturelle*, **10**: 57–103.
- Crosnier, A. 1988b. Contribution à l'étude des genres *Haliporus* Bate, 1881 et *Gordonella* Tirmizi, 1960 (Crustacea Decapoda Penaeoidea). Description de deux espèces nouvelles. *Bulletin du Muséum national d'Histoire naturelle*, Section A, Zoologie, **10**: 563–601.
- 6.25 Crosnier, A. 1991. Crustacea Decapoda: Les *Metapenaeopsis* indo-ouest-pacifiques sans appareil stridulant (Penaeidae). Deuxième partie. In: *Résultats des Campagnes MUSORSTOM* (A. Crosnier, ed.), **Vol. 9. Mémoires du Muséum national d'Histoire naturelle**, **152**: 155–297.
- 6.30 Crosnier, A. 1994. Crustacea Decapoda: Les *Metapenaeopsis* indo-ouest-pacifiques avec un appareil stridulant (Penaeidae). In: *Résultats des Campagnes MUSORSTOM* (A. Crosnier, ed.), **Vol. 12. Mémoires du Muséum national d'Histoire naturelle**, **161**: 255–337.
- 6.35 Crosnier, A. 2003. *Sicyonia* (Crustacea, Decapoda, Penaeoidea, Sicyoniidae) de l'indo-ouest Pacifique. *Zoosystema*, **25**: 197–350.
- Crosnier, A. & Forest, J. 1973. Les crevettes profondes de l'Atlantique oriental tropical. *Faune tropicale*, **19**: 1–409.
- Crosnier, A., Machordom, A., Boisselier-Dubayle, M.-C. 2007. Les espèces du genre *Trachypenaeopsis* (Crustacea, Decapoda, Penaeidae). Approches morphologiques et moléculaires. *Zoosystema*, **29**: 471–489.
- 6.40 Crosnier, A., Richer de Forges, B. & Bouchet, P. 1997. La campagne KARUBAR en Indonésie, au large des îles Kai et Tanimbar. In: *Résultats des campagnes MUSORSTOM* (A. Crosnier & P. Bouchet, eds.), **Vol. 16. Mémoires du Muséum national d'Histoire naturelle**, **172**: 9–26.
- 6.45 Debitus, C. & Kornprobst, J.-M. 2014. Pigments of living fossil crinoids. In: *Outstanding marine molecules: chemistry, biology, analysis* (S. La Barre & J.M. Kornprobst, eds.), pp. 163–170. Wiley-Blackwell, Weinheim, Germany.
- 6.50 Forest, J. 1987. Les Pylochelidae ou 'Pagures symétriques' (Crustacea Coenobitoidea). In: *Résultats des Campagnes MUSORSTOM* (J. Forest, ed.), **Vol. 3. Mémoires du Muséum national d'Histoire naturelle**, **137**: 1–254, pls. 1–9.
- Forest, J. 2006. *Laurentaeglyphea*, un nouveau genre pour la seconde espèce actuelle de Glyphéide récemment découverte (Crustacea Décapoda Glyphéidae). *Comptes Rendus Biologies*, **239**: 841–846.
- 6.55 Forest, J. & de Saint Laurent, M. 1975. Présence dans la faune actuelle d'un représentant du groupe mésozoïque des Glyphéides: *Neoglyphea inopinata* gen. nov, sp. nov. (Crustacea Decapoda Glyphéidae). *Compte Rendu Hebdomadaire des Séances de l'Académie des Sciences* (Paris), Série D, **281**: 155–158.
- 6.60 Forest, J. & de Saint-Laurent, M. 1976. Capture aux Philippines de nouveaux exemplaires de *Neoglyphea inopinata* (Crustacés Decapoda Glyphéidae). *Compte Rendu Hebdomadaire des Séances de l'Académie des Sciences* (Paris), Série D, **283**: 935–938.
- 6.65 Fouquet, Y. & Lacroix, D. 2012. *Les ressources minérales marines profondes – Etude prospective à l'horizon 2030*. Editions Quae, Versailles, France.
- Fourmanoir, P. & Laboute, P. 1976. *Poissons des mers tropicales. Nouvelle-Calédonie. Nouvelles Hébrides*. Editions du Pacifique, Papeete, French Polynesia.
- 6.70 Galil, B.S. 2000. Crustacea Decapoda: Review of the genera and species of the family Polychelidae Wood-Mason, 1874. In: *Résultats des Campagnes MUSORSTOM* (A. Crosnier, ed.), **Vol. 21. Mémoires du Muséum national d'Histoire naturelle**, **184**: 285–387.
- Gordon, D.P. & d'Hondt, J.-L. 1991. Bryozoa: the Miocene to Recent family Petalostegidae. Systematics, affinities, biogeography. In: *Résultats des Campagnes MUSORSTOM* (A. Crosnier, ed.), **Vol. 9. Mémoires du Muséum national d'Histoire naturelle** (A), **151**: 341–373.
- 6.75 Gasshoff, M. & Bargibant, J.-M. 2011. Les gorgones des récifs coralliens de Nouvelle-Calédonie/ Coral Sclerogomians of New-Caledonia. Collection Faune et Flore tropicales, **No. 38**. IRD, Paris.
- 6.80 Guille, A., Laboute, P. & Menou J.-L. 1986. *Guide des étoiles de mer, oursins et autres échinodermes du lagon de Nouvelle-Calédonie*. Collection Faune et Flore tropicales, **N° 25**. ORSTOM, Paris.
- 6.85 Guinot, D. & Richer de Forges, B. 1981. Homolidae, rares ou nouveaux, de l'Indo-Pacifique (Crustacea, Decapoda, Brachyura). *Bulletin du Muséum national d'Histoire naturelle*, Série 4, section A, **2**: 523–581.
- Guinot, D. & Richer de Forges, B. 1995. Crustacea Decapoda Brachyura: Révision de la famille des Homolidae de l'Indo-Pacifique. In: *Résultats des campagnes MUSORSTOM* (A. Crosnier, ed.), **Vol. 13. Mémoires du Muséum national d'Histoire naturelle**, **163**: 283–517.
- 6.90 Halsband, C., Ah Yong, S., Brandt, A., Kosobokova, K., Ward, P., Goodall-Copetake, W.P. & Macpherson, E. 2020. Biogeography of the oceans. In: *The natural history of the Crustacea*. (G.C.B. Poore & M. Thiel, eds.) pp. 121–154. Oxford University Press, New York.
- 6.95 Hayashi, K.-I. 1999. Crustacea Decapoda: Revision of *Pasiphaea sivado* (Risso, 1816) and related species, with descriptions of one new genus and five new species (Pasiphaeidae). In: *Résultats des Campagnes MUSORSTOM* (A. Crosnier, ed.), **Vol. 20. Mémoires du Muséum national d'Histoire naturelle**, **180**: 267–302.
- 6.100 Hayashi, K.-I. 2004. Revision of the *Pasiphaea cristata* Bate, 1888 species group of *Pasiphaea* Savigny, 1816, with descriptions of four new species, and referral of *P. australis* Hanamura, 1989 to *Alainopasiphaea* Hayashi, 1999 (Crustacea: Decapoda: Pasiphaeidae). In: *Tropical Deep-Sea Benthos* (B. Marshall & B. Richer de Forges, eds.), **Vol. 23. Mémoires du Muséum national d'Histoire naturelle**, **191**: 319–373.
- 6.105 Hayashi, K.-I. 2006. Revision of the *Pasiphaea alcocki* species group (Crustacea, Decapoda, Pasiphaeidae). In: *Tropical Deep-Sea Benthos* (B. Richer de Forges & J.-L. Justine, eds.), **Vol. 24. Mémoires du Muséum national d'Histoire naturelle**, **193**: 193–241.
- Hess, H., Ausich, W.I., Brett, C.E. & Simms, M.J. 1999. *Fossil crinoids*. Cambridge University Press, Cambridge, UK.
- 6.110 Holthuis, L.B. 2002. The Indo-Pacific scyllarine lobsters (Crustacea, Decapoda, Scyllaridae). *Zoosystema*, **24**: 499–683.
- Hooper, J.N.A. & Lévi, C. 1994. Biogeography of Indo-west pacific sponges: Microcionidae, Raspailiidae, Axinellidae. In: *Sponges in time and space* (R.W.M. Soest, T.M.G. Kempen & J.C. Brackman, eds.), pp. 191–212. Balkema, Rotterdam, The Netherlands.
- 6.115 Ineich, I. & Laboute, P. 2002. *Sea snakes of New Caledonia/Les serpents marins de Nouvelle-Calédonie*. Collection Faune et Flore tropicales, **N° 39**. IRD, Paris.
- Jaekel, A., Ardron, J.A. & Gjerde, K.M. 2016. Sharing benefits of the common heritage of mankind – Is the deep seabed mining regime ready? *Marine Policy*, **70**: 198–204.
- 6.120 Kim, J.N. & Chan, T.-Y. 2005. A revision of the genus *Priocrangon* (Crustacea: Decapoda: Caridea: Crangonidae). *Journal of Natural History*, **39**: 1597–1625.
- 6.125 Komai, T. 2004. A review of the Indo-West Pacific species of the genus *Glyphocrangon* A. Milne-Edwards, 1881 (excluding the *G. caeca* species group) (Crustacea: Decapoda: Caridea: Glyphocrangonidae). In: *Tropical Deep-Sea Benthos* (B. Marshall & B. Richer de Forges, eds.), **Vol. 23. Mémoires du Muséum national d'Histoire naturelle**, **191**: 375–610.
- 6.130 Komai, T. 2006a. A review of the crangonid genus *Lissosabinea* Christoffersen, 1988 (Crustacea, Decapoda, Caridea), with descriptions of three new species from the western Pacific. *Zoosystema*, **28**: 31–59.
- 6.135 Komai, T. 2006b. Revision of the *Glyphocrangon caeca* species group. In: *Tropical Deep-Sea Benthos* (B. Richer de Forges & J.-L. Justine, eds.), **Vol. 24. Mémoires du Muséum national d'Histoire naturelle**, **193**: 243–264.
- 6.140 Komai, T. 2008. A world-wide revision of species of the deep-water crangonid genus *Parapontophilus* Christoffersen, 1988 (Crustacea, Decapoda, Caridea), with descriptions of ten new species. *Zoosystema*, **30**: 261–332.
- 6.142 Laboute, P. & Grandperrin, R. 2016. *Guide des poissons de Nouvelle-Calédonie*. Catherine Ledru, Nouméa, New Caledonia.
- Laboute, P. & Richer de Forges, B. 2004. *Lagons et récifs de Nouvelle-Calédonie*. Catherine Ledru, Nouméa, New Caledonia.

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- 7.5 Laille, M., Gerald, F. & Debitus, C. 1998. In vitro antiviral activity on dengue virus of marine natural products. *Cellular and Molecular Life Sciences*, **54**: 167–170.
- Laurin, B. 1992. Découverte d'un squelette de soutien du lophophore de type 'crura' chez un brachiopode inarticulé. Description de *Neoancistrocrania noyfolki* gen. nov. sp. nov. (Craniidae). *Comptes Rendus de l'Académie des Sciences, Sciences de la Vie* (Paris), Série 3, **314**: 343–350.
- 7.10 Le Gall, F., Favreau, P., Richard, G., Benoit, E., Letourneux, Y. & Molgo, J. 1999. Biodiversity of the genus *Conus* (Fleming, 1822): A rich source of bioactive peptides. *Belgium Journal of Zoology*, **129**: 17–42.
- 7.15 Lemaître, R. 1994. Crustacea Decapoda: Deep-water hermit crabs (Parapaguridae) from French Polynesia, with descriptions of four new species. *Résultats des Campagnes MUSORSTOM*, **Vol. 12. Mémoires du Muséum national d'Histoire naturelle, **161**: 375–419.**
- Lemaître, R. 1997. Crustacea Decapoda: Parapaguridae from the KARUBAR Cruise in Indonesia, with descriptions of two new species. In: *Résultats des Campagnes MUSORSTOM* (A. Crosnier & P. Bouchet, eds.), **Vol. 16, Mémoires du Muséum national d'Histoire Naturelle**, **172**: 573–597.
- 7.20 Lemaître, R. 1998. Revisiting *Tylaspis anomala* Henderson, 1885 (Parapaguridae), with comments on its relationships and evolution. *Zoosystema*, **20**: 289–305.
- 7.25 Lemaître, R. 1999. Crustacea Decapoda: A review of the species of the genus *Parapagurus* Smith, 1879 (Parapaguridae) from the Pacific and Indian Oceans. In: *Résultats des Campagnes MUSORSTOM* (A. Crosnier, ed.), **Vol. 20. Mémoires du Muséum national d'Histoire naturelle**, **180**: 303–378.
- 7.30 Lemaître, R. 2004. A worldwide review of hermit crab species of the genus *Sympagurus* Smith, 1883 (Crustacea: Decapoda: Parapaguridae). *Tropical Deep-Sea Benthos* (B. Marshall & B. Richer de Forges, eds.), **Vol. 23. Mémoires du Muséum national d'Histoire naturelle**, **191**: 85–149.
- Lemaître, R. 2013. The genus *Parapagurus* Lemaître, 1996 (Decapoda: Anomura: Paguroidea: Parapaguridae): A worldwide review of the species, with descriptions of five new species. In: *Tropical Deep-Sea Benthos* (S.T. Ah Yong, T.-Y. Chan, L. Corbari & P. K. L. Ng, eds.), **Vol. 27. Mémoires du Muséum national d'Histoire naturelle**, **204**: 311–421.
- 7.35 Lemaître, R. 2014. A worldwide taxonomic and distributional synthesis of the genus *Oncopagurus* Lemaître, 1996 (Crustacea: Decapoda: Anomura: Parapaguridae), with descriptions of nine new species. *Raffles Bulletin of Zoology*, **62**: 210–301.
- 7.40 Lévi, C., Laboute, P., Bargibant, G. & Menou, J.-L. 1998. *Sponges of New Caledonian Lagoon*. Collection Faune et Flore tropicales, **No. 23**, ORSTOM, Paris.
- 7.45 Lowry, J. K. & Dempsey, K. 2006. The giant deep-sea scavenger *Bathynomus* (Crustacea, Isopoda, Cirolanidae) in the Indo-West Pacific. *Tropical Deep-Sea Benthos* (B. Richer de Forges, & J.-L. Justine, eds.), **Vol. 24. Mémoires du Muséum national d'Histoire naturelle**, **193**: 163–192.
- 7.50 Macpherson, E. 1990. Crustacea Decapoda: On a collection of Nephropidae from the Indian Ocean and Western Pacific. In: *Résultats des Campagnes MUSORSTOM* (A. Crosnier, ed.), **Vol. 6. Mémoires du Muséum national d'Histoire naturelle**, **145**: 289–329.
- Macpherson, E. 1994. Crustacea Decapoda: Studies on the genus *Mumida* Leach, 1820 (Galatheididae) in New Caledonia and adjacent waters with descriptions of 56 new species. In: *Résultats des Campagnes MUSORSTOM* (A. Crosnier, ed.), **Vol. 12. Mémoires du Muséum National d'Histoire Naturelle**, **161**: 421–569.
- 7.55 Macpherson, E. 2007. Species of the genus *Munidopsis* Whiteaves, 1874 from the Indian and Pacific Oceans and reestablishment of the genus *Galacantha* A. Milne-Edwards, 1880 (Crustacea, Decapoda, Galatheididae). *Zootaxa*, **1417**: 1–135.
- 7.60 Macpherson, E., Lemaître, R., Richer de Forges, B. & Manning, R.B. 1998. Les 'Crosnier's conies' par la fenêtre du grenier/Crosnier's conies and their view from the attic window. *Zoosystema*, Série 4, **20**: 139–141.
- 7.65 Monniot, C., Monniot, F. & Laboute, P. 1991. *Coral Sponges of New Caledonia*. Collection Faune et Flore tropicales, **No. 30**, ORSTOM, Paris.
- Motuhi, S., Schiri, M., Payri, C.E., Labarre, S. & Bach, S. 2016. Marine natural products from New Caledonia—A review. *Marine Drugs*, **14**: 58 [doi:10.3390/md14030058].
- 7.70 Ng, P.K.L. & Bouchet, P. 2019. The French - Singapore connection: vieux amis, ambitions partagées et nouvelles perspectives. In: *Voyageurs, explorateurs et scientifiques. The French and natural history in Singapore* (M.E.Y. Low, K. Pockington & W.F.A. Jusoh, eds.), pp. 312–335.
- 7.72 *National University of Singapore and Muséum national d'Histoire Naturelle*, Paris.
- Ng, P.K.L. & Castro, P. 2016. Revision of the family Chasmocarcinidae Serène, 1964 (Crustacea, Brachyura, Genoplacoidea). *Zootaxa*, **4209**: 1–182.
- Noël, P. 1986. Crustacés Décapodes: Processidae de l'Indo-Pacifique. In: *Résultats des Campagnes MUSORSTOM I et II - Philippines (1976, 1980)* (J. Forest, ed.), **Vol. 2. Mémoires du Muséum national d'Histoire naturelle**, **133**: 261–301.
- 7.80 Payri, C.E. & Richer de Forges, B. 2006. *Compendium of marine species from New Caledonia*. Documents Scientifiques et Techniques II7, Volume spécial. IRD, Nouméa, New Caledonia.
- 7.85 Peñas, A. & Rolán, E. 2017. *Deep water Pyramidelloidea from the Central and South Pacific. The Tribe Chrysallidini*. Sociedad Española de Malacología ECIMAT, Universidad de Vigo, Vigo, Spain.
- Poore, G.C.B. 2004. Book review: *Tropical Deep-Sea Benthos*, volume 23 (2004) (edited by Bruce A. Marshall and Bertrand Richer de Forges). *Journal of Crustacean Biology*, **24**: 680–681.
- 7.90 Poore, G.C.B. 2015. Rediagnosis of Callianideidae and its genera (Crustacea: Decapoda: Axiidea), and description of a new species of *Heardaxius* Sakai, 2011. *Zootaxa*, **3995**: 229–240.
- Poore, G.C.B. 2020. Axiid and micheleid lobsters from Indo-West Pacific deep-sea environments (Crustacea: Decapoda: Axiidea: Axiidae, Micheleididae). In: *Tropical Deep-Sea Benthos*, **Vol. 31** (L. Corbari, T.-Y. Chan & S.T. Ah Yong, eds.), *Mémoires du Muséum National d'Histoire Naturelle*, **213**: 259–367.
- 7.95 Poore, G.C.B., Dworschak, P.C., Robles, R., Mantelatto, F.L. & Felder, D.L. 2019. A new classification of Callianassidae and related families (Crustacea: Decapoda: Axiidea) derived from a molecular phylogeny with morphological support. *Memoirs of Museum Victoria*, **78**: 73–146.
- 7.100 Poupin, J. 1994. The genus *Justitia* Holthuis, 1946, with description of *J. chani* and *J. vericeli* spp. nov. (Crustacea: Decapoda: Palinuridae). *Journal of Taiwan Museum*, **47**: 37–56.
- 7.105 Puillandre, N., Meyer, C.P., Bouchet, P. & Olivera, B.M. 2011. Genetic divergence and geographical variation in the deep-*Conus orbigny* complex (Mollusca: Conoidea). *Zoologica Scripta*, **40**: 350–363.
- 7.110 Richer de Forges, B. 1991. Les fonds meubles des lagons de Nouvelle-Calédonie: généralités et échantillonnages par dragages. In: *Les fonds meubles des lagons de Nouvelle-Calédonie (Sédimentologie, benthos)* (B. Richer de Forges, ed.), *Études et Thèses*, **1**: 7–148.
- Richer de Forges, B. 2006. Découverte en mer du Corail d'une deuxième espèce de glyphéide (Crustacea, Decapoda, Glypheoidea). *Zoosystema*, **28**: 17–28.
- 7.115 Richer de Forges, B. & Bouchet, P. 2021. Alain Crosnier (1930–2021). *Geomare Zoologica*, **3**: 21–29.
- Richer de Forges, B. & Justine, J.-L. 2006. Introduction. In: *Tropical Deep-Sea Benthos* (B. Richer de Forges & J.-L. Justine, eds.), **Vol. 24. Mémoires du Muséum national d'Histoire naturelle**, **193**: 9–13.
- 7.120 Richer de Forges, B., Corbari, L., Chan, T.Y., Lemaître, R., Macpherson, E., Ah Yong, S.T. & Ng, P.K.L. 2013. The MUSORSTOM-TDSB Deep-Sea Benthos Exploration Program (1976–2012). In: An overview of decapod crustacean discoveries and new perspectives on deep-sea zoology and biogeography (Ah Yong, S.T., Chan, T.Y., Corbari, L. & Ng, T.Y., eds.), *Tropical Deep-Sea Benthos*, **Vol. 27. Mémoires du Muséum national d'Histoire naturelle**, **204**: 13–46.
- 7.125 Richer de Forges, B., Koslow, J.A. & Poore, G.C.B. 2000. Diversity and endemism of the benthic seamount macrofauna in the southwest Pacific. *Nature*, **405**: 944–947.
- Robles, R., Dworschak, P.C., Felder, D.L., Poore, G.C.B. & Mantelatto, F.L. 2020. A molecular phylogeny of Callianassidae and related families (Crustacea: Decapoda: Axiidea) with morphological support. *Invertebrate Systematics*, **34**: 113–132.
- 7.130 Samadi, S., Bottan, L., Macpherson, E., Richer de Forges, B. & Boisselier, M.-C. 2006. Seamount endemism questioned by the geographic distribution and population genetic structure of marine invertebrates. *Marine Biology*, **149**: 1463–1475.
- 7.135 Samadi, S., Corbari, L., Lorion, J., Hourdez, S., Haga, T., Dupont, J., Boisselier, M.-C. & Richer de Forges, B. 2010. Biodiversity of deep-sea organisms associated with sunken-wood or other organic remains sampled in the tropical Indo-Pacific. *Cahier de Biologie Marine*, **51**: 459–466.
- 7.140 Schiaparelli, S., Schnabel, K.E., Richer de Forges, B. & Chan, T.-Y. 2016. Sorting, recording, preservation and storage of biological samples. In: *Biological sampling in the deep sea* (M.R. Clark, M. Consalvey & A.A. Rowden, eds.), pp. 338–367. John Wiley & Sons, Chichester, UK.
- 7.142

8.5	Serène, R. 1984. <i>Crustacés décapodes brachyours de l'Océan Indien occidental de la Mer Rouge. Xanthoidea: Xanthidae et Trapeziidae (addendum Caryocidae et Menippidae par Alain Crosnier)</i> . Collection Faune tropicale, No. 24, ORSTOM, Paris.	description of one new genus and five new species. <i>Papéis Avulsos de Zoologia</i> , <b>50</b> : 97–157.	8.75
8.10	Tavares, M. 1993. Crustacea Decapoda: Les Cyclodorippidae et Cymonomidae de l'Indo-Ouest-Pacifique à l'exclusion du genre <i>Cymonomus</i> . In: <i>Résultats des Campagnes MUSORSTOM</i> (A. Crosnier, ed.), <b>Vol. 10</b> . <i>Mémoires du Muséum national d'Histoire naturelle</i> . Série A, Zoologie, <b>156</b> : 253–313.	Tudge, C. C., Scheltinga, D.M., Jamieson, B.G.M., Guinot, D. & Richer de Forges, B. 2012. Comparative ultrastructure of the spermatozoa of the Majoidea (Crustacea, Decapoda, Brachyura) with new data on six species in five genera. <i>Acta Zoologica</i> , <b>95</b> : 1–20.	8.80
8.15	Tavares, M. & Cleva, R. 2010. Trichopeltariidae (Crustacea, Decapoda, Brachyura), a new family and superfamily of eubrachyuran crabs with	Vanreusel, A., Hilario, A., Ribeiro, P.A., Menot, L., Martínez-Arbizu, P. 2015. Threatened by mining; polymetallic nodules are required to preserve abyssal epifauna. <i>Scientific Reports</i> <b>6</b> : [doi: 10.3389/fmars.2016.00190].	8.85
8.20			8.90
8.25			8.95
8.30			8.100
8.35			8.105
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8.45			8.115
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8.72			8.142