

2018 Market price update for beche-de-mer in Melanesian countries

Hugh Govan¹

In 2017, the Fisheries Technical Advisory Committee of the Melanesian Spearhead Group (MSG) of countries agreed that MSG countries should collect and share data on prices paid to fishers, traders and exporters as a first step towards ensuring that a fair proportion of the value of beche-de-mer remains within countries and in the pockets of local fishers.

This brief provides a compendium of available data across three broad areas of the value chain: 1) retail sale at the end market (China); 2) prices paid by importers to national exporters; and 3) prices paid locally and nationally. Data are not fully reliable as most depend on relatively few surveys, quality of trader responses, or whether price lists reflect prices actually paid. Nevertheless, these data provide the best information available. Caution should also be exercised when comparing figures at different levels of the value chain as survey methods and other conditions vary substantially.

Retail prices in China

The main information sources available include the survey undertaken by Purcell et al. (2018), which provides 2016 updates for a previous price survey in 2011 (Purcell 2014). Other available information includes Dumestre (2017) and Fabinyi (2015).

Table 1 shows the surveyed retail market prices in Hong Kong and Guangzhou in mainland China. The most notable features from these studies are that:

- average retail prices were higher in Hong Kong (about 50%) than in Guangzhou, Beijing or Shanghai;
- average prices for high-value species range up to USD 369 kg⁻¹, and a maximum of USD 1898 kg⁻¹ was recorded for exceptional quality products; and
- prices have tended to increase in Hong Kong and, for most species in Guangzhou, at an annual rate of around 2.4%.

Prices are exponentially higher for larger specimens of the three high-value sea cucumber species: *Holothuria fuscogilva* (white teatfish), *H. lessoni* (golden sandfish) and *H. scabra* (sandfish). Prices for seven other species (price per unit weight) did not relate significantly to product length. In addition, products that were traditionally lower value now appear more accepted in the marketplace. The results from

the surveys by Dumestre (2017) and Fabinyi (2015) support the prices found by Purcell and colleagues (2018).

The higher prices of large individuals of high-value species lends weight to calls for stricter enforcement of minimum size limits at the production end. Interpretation of retail prices needs to take into account taxes and other costs the retailer may incur, as well as the risks that traders perceive when advancing capital for purchasing sea cucumbers (Fabinyi et al. 2017). Mitigating or compensating for risk is a significant factor for traders. The cost of living in Hong Kong is higher than in mainland China, which may explain some of the price differences observed. A forthcoming study (James P. in prep.) will examine this in more depth.

Importer prices

Very little data are available regarding the prices that importers pay or are willing to pay for beche-de-mer, and importers (or national exporters) are generally reticent to share such information. Mangubhai et al. (2016) produced the only extensive data based on a survey of exporters in Fiji who were working mainly with buyers from China and Hong Kong. Peter Waldie (pers. comm., Coastal Fisheries Manager, Melanesia Program, The Nature Conservancy, 17 October 2017) interviewed Hong Kong traders about the prices they were willing to pay (and the prices they ultimately paid) for sandfish and white teatfish of high quality and certifiable sustainable origin in Papua New Guinea (PNG). Data relating to export values collected by governments (e.g. Solomon Islands and Fiji) is generally unreliable because they rely on unverifiable exporter declarations. Such data are not included here.

Table 2 presents the information available. The figures provided for Fiji likely relate to the markets in China and Hong Kong, where most exports go although not exclusively. Notable features include: 1) actual values recorded as paid in Hong Kong for good-quality PNG product were USD 180–200 kg⁻¹ for sandfish, and USD 95–140 kg⁻¹ for white

¹ Consultant, the Pacific Community and the World Bank Pacific Islands Regional Oceanscape Program. Email: hgovan@gmail.com

Table 1. Prices of processed beche-de-mer in China (USD per kilo) – figures in green indicate an increase from 2011 to 2016, and red indicates a decrease.

Common name	Scientific name	FAO Code	Retail price										Wholesale price			
			November 2011 ¹				November 2016 ²				Sep. 2015 ⁴	Sep. 2014 ³	Sep. 2015 ⁴			
			Hong Kong		Guangzhou		Hong Kong		Guangzhou		Hong Kong	Hong Kong	Hong Kong	Guangzhou	Beijing	Shanghai
Avg. price	Max. price	Avg. price	Max. price	Avg. price	Max. price	Avg. price	Max. price	Range	Avg.	Range	Range	Range	Range			
Amberfish	<i>Thelenota anax</i>	HLX			22	32			31	47						
Black teatfish	<i>Holothuria whitmaei</i>	JDG	180	230	68	116	208	294	161	194	166–294	208	191–319	96–156	128–156	96–152
Blackfish	<i>Actinopyga miliaris</i>	KUQ			79	95										
Brown curryfish	<i>Stichopus vastus</i>	JPW					230	230								
Brown sandfish	<i>Bohadschia vitiensis</i>	BDV			48	48	209	209	55	81			40–60			36
Burying blackfish	<i>Actinopyga spinea</i>	YGS			79	95										
Chalkfish	<i>Bohadschia similis</i>	BDX?														
Curryfish	<i>Stichopus hermanni</i>	JNG	197	214	121	159	350	358	145	219					96–128	96
Deep water redfish	<i>Actinopyga echinites</i>	KUE			63	63			69	69						
Deepwater blackfish	<i>Actinopyga palauensis</i>	YGP			106	116	145	145	77	131						128
Dragonfish (Peanutfish in SI)*	<i>Stichopus horrens*</i>	KUN			69	83			119	119						
Dragonfish (Pink curryfish in PNG)*	<i>Stichopus naso*</i>	JPR					145	145	91	94						
Dragonfish*	<i>Stichopus monotuberculatus*</i>	JPQ			118	133	188	188	127	204						
Elephant trunkfish	<i>Holothuria fuscopunctata</i>	HOZ			15	19			22	78					128	128
Eye-spot curryfish	<i>Stichopus ocellatus</i>	JPT			111	111			78	78						
Flowerfish	<i>Pearsonothuria graeffei</i>	EHV														
Golden sandfish	<i>Holothuria lessoni</i>	JCO	385	787			389	849			84–359	481	196–338	64–156	128–220	96–252
Greenfish	<i>Stichopus chloronotus</i>	JCC			79	95			100	125						
Lollyfish	<i>Holothuria atra</i>	HFA							31	31						
Pinkfish	<i>Holothuria edulis</i>	HFE							110	110						
Prickly redfish	<i>Thelenota ananas</i>	TFQ			130	231			107	219	63				96–128	96
Sandfish	<i>Holothuria scabra</i>	HFC	303	1 668	137	200	369	1 898	153	251	84–359	353	196–338	64–156	128–220	96–252
Snakefish	<i>Holothuria coluber</i>	HHW			38	38			37	37						
Stonefish	<i>Actinopyga lecanora</i>	YVV			94	108	166	166	76	107						
Surf redfish	<i>Actinopyga mauritiana</i>	KUY	145	145	75	79			72	72						
Tigerfish	<i>Bohadschia argus</i>	KUW			58	63			63	70						
White teatfish	<i>Holothuria fuscogilva</i>	HFF	192	274	120	165	219	401	154	219	166–294	243	191–319	96–156	128–156	96–152

¹ Purcell 2014

² Purcell et al. 2018

³ Dumestre 2017 for between 10 and 95 sample size

⁴ Fabinyi 2015; Fabinyi et al. 2017

* Possible misidentifications in this group because of look-alikes.

teatfish; 2) larger sandfish and white teatfish commanded higher prices.

Import prices are some of the most important data required for establishing fair local and national fisher prices and export levies, and it is important for countries and researchers to increase efforts to collect such information. Data from exporters who report on the prices they receive from importers are currently unreliable and need to be improved.

National and local buying prices

Data are available from a variety of sources on local prices for beche-de-mer. Care must be taken as the most commonly available information pertains to price lists provided by traders or established by government, which is unlikely to reflect actual prices paid to fishers.

Table 3 presents a summary of the available information; some key features of these data and the supporting studies are:

- Grading may be by size or quality, and variations in this limit comparability across countries.
- PNG reports in several cases that grade is based foremost on size.
- Reprocessing by buyers is common, and an extreme case of this is Fiji where 76% of fishers sell raw product.
- There is evidence that buyers pay little regard to minimum legal-size limits to the extent that some price lists show prices for undersized animals.
- In Fiji, the price received by fishers may be 25–50% of what traders receive after on-selling to exporters, and 10% or less of importer prices paid in Hong Kong.
- In in Malaita, Solomon Islands, the prices received by fishers are frequently less than half the value provided in buyer price lists.

Table 2. Importer prices reported (USD per kilo).

Common name	Scientific name	China/Hong Kong 2015 ¹			Hong Kong 2017 ²		
		Avg	Min	Max	Buyer 1	Buyer 2	Buyer 2 (prices paid)
Amberfish	<i>Thelenota anax</i>	45	21	68			
Black teatfish	<i>Holothuria whitmaei</i>	148	72	186			
Blackfish	<i>Actinopyga miliaris</i>	96	41	145			
Brown sandfish	<i>Bohadschia vitiensis</i>	38	29	52			
Chalkfish	<i>Bohadschia similis</i>	17	10	26			
Curryfish	<i>Stichopus herrmanni</i>	97	57	145			
Deep water redfish	<i>Actinopyga echinites</i>	103	52	166			
Deepwater blackfish	<i>Actinopyga palauensis</i>	113	62	166			
Elephant trunkfish	<i>Holothuria fuscopunctata</i>	28	7	83			
Flowerfish	<i>Pearsonothuria graeffei</i>	46	8	83			
Golden sandfish	<i>Holothuria lessoni</i>	103					
Greenfish	<i>Stichopus chloronotus</i>	110	57	152			
Lollyfish	<i>Holothuria atra</i>	18	16	41			
Peanutfish	<i>Stichopus horrens</i>	124	31	155			
Pinkfish	<i>Holothuria edulis</i>	13	13	41			
Prickly redfish	<i>Thelenota ananas</i>	94	26	166			
Sandfish	<i>Holothuria scabra</i>	83	52	103	103	167	
Snakefish	<i>Holothuria coluber</i>	36	31	42			
Stonefish	<i>Actinopyga lecanora</i>	68	51	166			
Surf redfish	<i>Actinopyga mauritiana</i>	68	36	124			
Tigerfish	<i>Bohadschia argus</i>	45	31	62			
White teatfish	<i>Holothuria fuscogilva</i>	183	83	228	90	142	

Sandfish (<200g)	180
Sandfish (>200g)	200
Whiteteat (<300g)	95
Whiteteat (300–500g)	128
Whiteteat (>500g)	140

¹ Mangubhai et al. 2016 data reported by exporters in Fiji, February 2015

² Peter Waldie. The Nature Conservancy. Unpublished data. Eight buyers were surveyed in Hong Kong and only two made tentative offers to offer good-quality, sustainably harvested product. Buyer 2 supplies premium hotel chains and, thus, offered higher prices. The remaining buyers were not willing to match even the lower prices offered by Buyer 1.

Table 3. Local prices in USD per kilo of grade A product, where graded.

Common name	Scientific name	FAO code	Fiji ¹	Fiji ¹	Vanuatu ⁴	PNG ²	PNG ³	PNG ⁷		PNG ⁸		PNG ⁹		Solomon Islands ⁵			Solomon Islands ⁶		
			2015 (trader)	2015 (fisher)	2015	2017 (NIP)	2017 (MBP)	2018 (price list) (MBP)		2018 (price list) (MBP)		2018 (price list) (NIP)		2018 (6 Honiara traders' price lists - Grade A)			2018 (Fisher sales - Malaita. Grade A)		
			Average	Average	Average	Best price	Best grade	Small	Large	Small	Large	Min	Max	Avg	Min	Max	Avg	Min	Max
Amberfish	<i>Thelenota anax</i>	HLX	6	3	3	6			3	3	6	9		7	5	9			
Black teatfish	<i>Holothuria whitmaei</i>	JDG	24	13	26	40		12	23	20	65	31	49	30	26	32	12	7	26
Blackfish	<i>Actinopyga miliaris</i>	KUQ		8	10		22		22			22		28	24	32	20	13	26
Brown curryfish	<i>Stichopus vastus</i>	JPW												16	8	32			
Brown sandfish	<i>Bohadschia vitiensis</i>	BDV	6	5	8	9		8	9	3	11	12	15	12	9	13	11	3	20
Burying blackfish	<i>Actinopyga spinea</i>	YGS												5	3	6			
Chalkfish	<i>Bohadschia similis</i>	BDX?	8	8	7	5			2		6	12		7	7	7	15	3	33
Curryfish	<i>Stichopus herrmanni</i>	JNG	19	7	9	28	25	12	25	9	22	34		29	15	34	12	7	14
Deep water redfish	<i>Actinopyga echinites</i>	KUE	13	12										5	5	5			
Deepwater blackfish	<i>Actinopyga palauensis</i>	YGP	23	5	30					11	25			26	26	26			
Dragonfish (Peanutfish in SI)*	<i>Stichopus horrens*</i>	KUN		6	7									37	28	58	31	3	52
Elephant trunkfish	<i>Holothuria fuscopunctata</i>	HOZ	23		1	3			2		2	6		5	4	6		7	7
Eye-spot curryfish	<i>Stichopus ocellatus</i>	JPT																	
Flowerfish	<i>Pearsonothuria graeffei</i>	EHV	7	1	4							5		3	2	3		3	3
Golden sandfish	<i>Holothuria lessoni</i>	JCO				55	23					62		13	13	13			
Greenfish	<i>Stichopus chloronotus</i>	JCC	43	11	13	29	15	15			32	37		38	32	45	13	3	28
Lemonfish/candyfish	<i>Thelenota rubralineata</i>	JDZ												3	3	4	3	3	20
Lollyfish	<i>Holothuria atra</i>	HFA	3	5	3	5		2	2	1	6	12		6	4	10	3	2	33
Pinkfish	<i>Holothuria edulis</i>	HFE	3	2										4	2	6			
Prickly redfish	<i>Thelenota ananas</i>	TFQ	28	15	17	32	19	11		18	34	37		34	26	42	19	3	46
Red snakefish	<i>Holothuria flavomaculata</i>	JCI												7	7	7		3	3
Sandfish	<i>Holothuria scabra</i>	HFC	29	6	30	65	34	12	34	11	92	62	111	28	19	34	18	3	39
Snakefish	<i>Holothuria coluber</i>	HHW	6	4	3	7						5	9	6	5	6	7	5	20
Stonefish	<i>Actinopyga lecanora</i>	YVV	18	8	3	34	25	9	25	11	28	31		34	26	45	19	13	52
Surf redfish	<i>Actinopyga mauritiana</i>	KUY	18	3	21	31	20	6	20	20	26	18	31	35	26	45	22	3	39
Tigerfish	<i>Bohadschia argus</i>	KUW		3	22		9		9	5	12	12	15	14	9	23		6	19
Tigertail fish	<i>Holothuria hilla</i>	JCK															5	5	5
White teatfish	<i>Holothuria fuscogilva</i>	HFF	51	49	57	49	37	14	37	12	68	62	111	48	41	71	12	3	39

¹ Mangubhai et al. 2016. Average onselling price for a. traders (i.e. to exporters) and b. fishers to middlemen or traders. Reprocessing occurs up the value chain. 76% of fishers sell raw product.

² Kinch J. Papua New Guinea National Fisheries Authority. pers. comm. New Ireland, Best trader price.

³ Kinch J. Papua New Guinea National Fisheries Authority. pers. comm. Kiwali, Milne Bay.

⁴ Using DW conversion ratios from Carleton et al. 2013 applied to Table 9, which records wet weight prices from Leopold et al. 2016.

⁵ Solomon Islands Ministry of Fisheries and Marine Resources compilation of trader price lists.

⁶ van der Ploeg J. pers. comm. Prices actually paid to fishers. Lau Lagoon and Langalanga Lagoon. Worldfish, Solomon Islands. Average of grade A prices paid but minimum and maximum figures are across all grades.

⁷ Kinch J. Papua New Guinea National Fisheries Authority. pers. comm. Kiwali Exports, Alotau, Milne Bay Province, Papua New Guinea. Very large white teatfish are priced at USD 49 kg⁻¹. Very small < 10 cm sandfish are priced at USD 6.1 kg⁻¹. Where a single price is given without specifying size by the buyer, it is entered in the table as 'large'.

⁸ Kinch J. Papua New Guinea National Fisheries Authority. pers. comm. Asia Pac Ltd, Alotau Milne Bay Province, Papua New Guinea. Maximum prices are for G1, large or super-large and minimum prices are for small or G2.

⁹ Hair C. pers. comm. New Ireland, trader price.

* May include other *Stichopus* species of the same group such as *S. monotuberculatus*, *S. naso* or *S. vastus*.

Governments and researchers need to better understand prices actually paid to fishers as it is unclear whether buyers are underpaying or fishers are selling low grade produce but, there are indications of major discrepancies between prices paid to fishers and buyer price lists or importer prices.

Online availability

This report and the data in Excel spreadsheet format are available online at: <https://coastfish.spc.int/en/component/content/article/497>

Acknowledgements

Thanks are due to the traders and researchers who made information available, and without which this compendium would not be possible: Jeff Kinch, Ian Bertram, Cathy Hair, Rickson Lis, Johann van der Ploeg, Sangeeta Mangubhai, Rosalie Masu, Peter Waldie, Michael Fabinyi, Hampus Eriksson and Steve Purcell.

References

- Carleton C., Hambrey J., Govan H. and Medley P. 2013. Effective management of sea cucumber fisheries and the beche-de-mer trade in Melanesia: Bringing the industry under rational control. A report prepared by Nautilus Consultants on behalf of the Secretariat of the Pacific Community. Noumea, New Caledonia: Secretariat of the Pacific Community. 55 p. Available at: <http://purl.org/spc/digilib/doc/3e9e2>
- Dumestre M. 2017. Biological and economic characteristics associated with the body size of commercially important Aspidochirotide sea cucumbers. (Thesis). University of Hong Kong, Pokfulam, Hong Kong Special Administrative Region.
- Fabinyi M. 2015. Fieldwork report from Hong Kong SAR and Mainland China. 15 September 2015.
- Fabinyi M., Barclay K. and Eriksson H. 2017. Chinese trader perceptions on sourcing and consumption of endangered seafood. *Frontiers in Marine Science* 4:181.
- Léopold M. 2016. Evaluating harvest and management strategies for sea cucumber fisheries in Vanuatu. Projects No 4860A1 (BICH2MER) and No CS14-3007-101 (BICHLAMAR). IRD, Noumea. 64 p. Available at: http://umr-entropie.ird.nc/application/files/7614/7150/3919/Leopold2016_Evaluating_harvest_and_management_strategies_for_sea_cucumber_fisheries_in_Vanuatu_low.pdf
- Mangubhai S., Nand Y., Ram R., Fox M., Tabunakawai-Vakalalabure M. and Vodivodi T. 2016. Value chain analysis of the wild caught sea cucumber fishery in Fiji. Report No. 02/16. Suva, Fiji: Wildlife Conservation Society and Fiji Department of Fisheries. 66 p.
- Purcell S.W. 2014. Value, market preferences and trade of beche-de-mer from Pacific Island sea cucumbers. *PLoS ONE* 9(4): e95075. Available at: <https://doi.org/10.1371/journal.pone.0095075>
- Purcell S.W., Williamson D.H. and Ngaluafé P. 2018. Chinese market prices of beche-de-mer: Implications for fisheries and aquaculture. *Marine Policy* 91:58–65. Available at: <http://bit.ly/2tY0Zc8>

This work was done as part of the support provided to the Melanesian Spearhead Group of countries through the Pacific Community implemented coastal component of the World Bank-funded Pacific Regional Oceanscape Programme coordinated by the Pacific Islands Forum Fisheries Agency.

