

SUPPLEMENTARY MATERIAL

Resurrection of Indian-Ocean humbug damselfish, *Dascyllus abudafur* (Forsskål) from synonymy with its Pacific-Ocean sibling, *Dascyllus aruanus* (L.)

Philippe Borsa*, Andrianus Sembiring, Cécile Fauvelot, Wei-Jen Chen

* Correspondence: philippe.borsa@ird.fr; philippeborsa@gmail.com

Tables S1-S5 and Figs. S1-S7 here appended.

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Table S1 List of humbug damselfish (*Dascyllus abudafur* and *D. aruanus*) samples used in this article, with frequency of mitochondrial haplotype (either “Indian” or “Pacific”). Samples listed according to geographic location, from West to East. *ATP6/8* ATP synthetase 6, 8 gene; *CO1* cytochrome-oxidase 1 gene; *CR* control region; *cytb* cytochrome b gene; *N*, sample size

Region, Location	Site	<i>N</i>	Marker	Haplotype frequency		Reference
				Indian	Pacific	
Indian Ocean						
Red Sea	Gulf of Aqaba	15	<i>cytb</i>	100%	-	Liu et al. (2014)
Zanzibar	-	1	<i>CR</i>	100%	-	present work
Kenya	-	1	<i>ATP6/8</i>	100%	-	McCafferty et al (2002)
Mozambique Channel	Europa I.	15	<i>cytb</i>	100%	-	Liu et al. (2014)
Mozambique Channel	Juan de Nova I.	5	<i>cytb</i>	100%	-	Liu et al. (2014)
Madagascar	Toliara	12	<i>cytb</i>	100%	-	Liu et al. (2014)
Mozambique Channel	Nosy Be	3	<i>CO1</i>	100%	-	Hubert et al. (2012)
Mozambique Channel	Glorieuses Is.	5	<i>cytb</i>	100%	-	Liu et al. (2014)
Mozambique Channel	Glorieuses Is.	3	<i>CR</i>	100%	-	present work
Mascarene Islands	Reunion I.	2	<i>ATP6/8</i>	100%	-	McCafferty et al. (2002)
Mascarene Islands	Reunion I.	4	<i>CO1</i>	100%	-	Hubert et al. (2012)
Maldives archipelago	-	2	<i>ATP6/8</i>	100%	-	McCafferty et al. (2002)
Coral Triangle						
Thailand	-	2	<i>ATP6/8</i>	100%	-	McCafferty et al. (2002)
Java Sea, Indonesia	Karimunjawa Is.	19	<i>CR</i>	100%	-	Raynal et al. (2014)
Lombok Strait, Indonesia	Serangan	5	<i>cytb</i>	20%	80%	present work
South China Sea	Paracels Is.	12	<i>cytb</i>	-	100%	Liu et al. (2014)
Lombok Strait, Indonesia	Gili Is.	21	<i>CR</i>	-	100%	Raynal et al. (2014)
South China Sea	Dongsha I.	16	<i>cytb</i>	-	100%	Liu et al. (2014)
Sulawesi Sea	Semporna, Sabah	23	<i>CR</i>	-	100%	Raynal et al. (2014)
Sulu Sea	Palawan I.	12	<i>CR</i>	-	100%	Raynal et al. (2014)
Sulawesi Sea	Tawi-Tawi I.	46	<i>CR</i>	-	100%	Raynal et al. (2014)
Flores Sea, Indonesia	Komodo I.	33	<i>CR</i>	-	100%	Raynal et al. (2014)
Taiwan	Houbihu	27	<i>cytb</i>	-	100%	Liu et al. (2014)
Tomimi Bay	Togian Is.	18	<i>CR</i>	-	100%	Raynal et al. (2014)
Sibuyan Sea, Philippines	Romblon	36	<i>CR</i>	-	100%	Raynal et al. (2014)
Sulu Sea	Guimeras	10	<i>CR</i>	-	100%	Raynal et al. (2014)
Bohol Sea, Philippines	Siquijor	20	<i>CR</i>	-	100%	Raynal et al. (2014)
Banda Sea, Indonesia	Wakatobi	17	<i>CR</i>	-	100%	Raynal et al. (2014)
Cebu Strait, Philippines	Caohagan I., Lapu-Lapu	32	<i>cytb</i>	-	100%	Liu et al. (2014)
Cebu Strait, Philippines	Olango	42	<i>CR</i>	-	100%	Raynal et al. (2014)
Philippine Sea	Sorsogon	21	<i>CR</i>	-	100%	Raynal et al. (2014)
Bohol Sea, Philippines	Camiguin	18	<i>CR</i>	-	100%	Raynal et al. (2014)
Philippines	-	1	<i>ATP6/8</i>	-	100%	McCafferty et al. (2002)
Philippines	-	5	<i>CR</i>	-	100%	present work
Sulawesi Sea	Manado	16	<i>CR</i>	-	100%	Raynal et al. (2014)
Sulawesi Sea	General Santos	16	<i>CR</i>	-	100%	Raynal et al. (2014)
Davao Gulf, Philippines	Davao	13	<i>CR</i>	-	100%	Raynal et al. (2014)
Philippine Sea	Dinagat	20	<i>CR</i>	-	100%	Raynal et al. (2014)
Raja Ampat, West Papua	Pulau Fam	33	<i>cytb</i>	-	100%	Liu et al. (2014)
Pacific Ocean						
Ryukyu archipelago	Sesoko I.	25	<i>cytb</i>	-	100%	Liu et al. (2014)
Japan	-	2	<i>ATP6/8</i>	-	100%	McCafferty et al. (2002)
Guam	-	2	<i>ATP6/8</i>	-	100%	McCafferty et al. (2002)
Guam	-	1	<i>CR</i>	-	100%	present work
New Guinea	-	2	<i>ATP6/8</i>	-	100%	McCafferty et al. (2002)
Bismarck Sea, Papua New Guinea	Madang	6	<i>cytb</i>	-	100%	present work
New Caledonia	-	2	<i>ATP6/8</i>	-	100%	McCafferty et al. (2002)
New Caledonia	SW Lagoon	38	<i>cytb</i>	-	100%	Liu et al. (2014)
Fiji	-	2	<i>CR</i>	-	100%	present work
Society Islands	Moorea I.	2	<i>ATP6/8</i>	-	100%	McCafferty et al. (2002)
Society Islands	Moorea I.	4	<i>CO1</i>	-	100%	Hubert et al. (2012)
Society Islands	Moorea I.	25	<i>cytb</i>	-	100%	Liu et al. (2014)
Society Islands	Moorea I.	10	<i>CR</i>	-	100%	Fauvelot et al. (2003)
Society Islands	Tetiaroa I.	8	<i>CR</i>	-	100%	Fauvelot et al. (2003)
Tuamotu Archipelago	Rangiroa Atoll	10	<i>CR</i>	-	100%	Fauvelot et al. (2003)
Tuamotu Archipelago	Takapoto Atoll	7	<i>CR</i>	-	100%	Fauvelot et al. (2003)
Gambier Archipelago	Marutea Atoll	10	<i>CR</i>	-	100%	Fauvelot et al. (2003)

Table S2 *Dascyllus abudafur* and *D. aruanus*. Differences in pigmentation of caudal fin, from photographs of specimens in public repositories, internet sites, and on Figs. S1-S7 here appended. Intensity of pigmentation of the basis of caudal fin was encoded from 3 (blackish) to 0 (no pigmentation). **BOLD** Barcode of Life Database (<http://www.barcodinglife.com/>), accessed 18 March 2014; *FishBase* (<http://www.fishbase.org/>), accessed 18 March 2014; *shaded* individuals that also have been sequenced at the mitochondrial locus

Individual no.	Origin	Source	Intensity of pigmentation			
			0	1	2	3
Daaru-u0	Red Sea	Randall 1997b				x
Daaru-u4	Jordan, Red Sea	FishBase			x	
-	Jeddah, Red Sea	http://www.oceanfootage.com/			x	
-	Jeddah, Red Sea	http://www.oceanfootage.com/				x
-	Jeddah, Red Sea	http://www.oceanfootage.com/				x
-	Jeddah, Red Sea	http://www.oceanfootage.com/				x
Daaru-u1	Mozambique, Mozamb. Channel	FishBase				x
Europa 1	Europa I., Mozamb. Channel	Fig. S1				x
Europa 2	Europa I., Mozamb. Channel	Fig. S1				x
Europa 3	Europa I., Mozamb. Channel	Fig. S1				x
Europa 4	Europa I., Mozamb. Channel	Fig. S1				x
Europa 5	Europa I., Mozamb. Channel	Fig. S1				x
Europa 6	Europa I., Mozamb. Channel	Fig. S1			x	
Europa 7	Europa I., Mozamb. Channel	Fig. S1			x	
Europa 8	Europa I., Mozamb. Channel	Fig. S1			x	
Europa 9	Europa I., Mozamb. Channel	Fig. S1			x	
Europa 10	Europa I., Mozamb. Channel	Fig. S1		x		
Europa 11	Europa I., Mozamb. Channel	Fig. S1		x		
Europa 12	Europa I., Mozamb. Channel	Fig. S1			x	
Europa 13	Europa I., Mozamb. Channel	Fig. S1				x
Europa 14	Europa I., Mozamb. Channel	Fig. S1				x
Europa 15	Europa I., Mozamb. Channel	Fig. S1				x
JdN 1	Juan de Nova I., Mozamb. Channel	Fig. S2				x
JdN 2	Juan de Nova I., Mozamb. Channel	Fig. S2				x
JdN 3	Juan de Nova I., Mozamb. Channel	Fig. S2				x
JdN 4	Juan de Nova I., Mozamb. Channel	Fig. S2				x
JdN 5	Juan de Nova I., Mozamb. Channel	Fig. S2				x
NBE 187	Nosy Be, Mozamb. Channel	BOLD				x
NBE 188	Nosy Be, Mozamb. Channel	BOLD				x
NBE 189	Nosy Be, Mozamb. Channel	BOLD				x
REU 0004-01	Reunion, Mascarene Is.	BOLD				x
REU 0004-02	Reunion, Mascarene Is.	BOLD				x
REU 2764	Reunion, Mascarene Is.	BOLD			x	
REU 2765	Reunion, Mascarene Is.	BOLD			x	
Daaru-u5	Mauritius, Mascarene Is.	FishBase			x	
Daaru-u6	Mauritius, Mascarene Is.	FishBase			x	
-	Maldives	http://www.travelswithhok.com				x
-	Maldives	http://www.travelswithhok.com				x
-	Maldives	http://www.travelswithhok.com				x
-	Maldives	http://www.travelswithhok.com				x
-	Maldives	http://www.travelswithhok.com				x
-	Maldives	http://www.travelswithhok.com			x	
-	Maldives	http://www.travelswithhok.com			x	
-	Maldives	http://www.travelswithhok.com			x	
-	Maldives	http://www.travelswithhok.com			x	
Bali 1	Singaraja, Bali	Fig. S2			x	
Bali 2	Singaraja, Bali	Fig. S2				x
Bali 3	Singaraja, Bali	Fig. S2				x
IBRC 11.01.08	Serangan, western Lombok Strait	Fig. S6		x		
IBRC 11.01.14	Serangan, western Lombok Strait	Fig. S6				x
IBRC 11.01.22	Serangan, western Lombok Strait	Fig. S6		x		
IBRC 11.01.27	Serangan, western Lombok Strait	Fig. S6		x		
IBRC 11.01.28	Serangan, western Lombok Strait	Fig. S6	x			
Lombok 1	Gili Gede, eastern Lombok Strait	Fig. S7	x			
Lombok 2	Gili Gede, eastern Lombok Strait	Fig. S7	x			
Lombok 3	Gili Gede, eastern Lombok Strait	Fig. S7	x			

Table S2 (continued)

Individual no.	Origin	Source	Intensity of pigmentation			
			0	1	2	3
Lombok 4	Gili Gede, eastern Lombok Strait	Fig. S7	x			
Lombok 5	Gili Gede, eastern Lombok Strait	Fig. S7	x			
Lombok 6	Gili Gede, eastern Lombok Strait	Fig. S7	x			
Lombok 7	Gili Gede, eastern Lombok Strait	Fig. S7	x			
Lombok 8	Gili Gede, eastern Lombok Strait	Fig. S7	x			
Lombok 9	Gili Gede, eastern Lombok Strait	Fig. S7	x			
Lombok 10	Gili Gede, eastern Lombok Strait	Fig. S7	x			
Lombok 11	Gili Gede, eastern Lombok Strait	Fig. S7			x	
Lombok 12	Gili Gede, eastern Lombok Strait	Fig. S7	x			
Lombok 13	Gili Layar, eastern Lombok Strait	Fig. S7	x			
Lombok 14	Gili Layar, eastern Lombok Strait	Fig. S7	x			
Lombok 15	Gili Layar, eastern Lombok Strait	Fig. S7	x			
Lombok 16	Gili Layar, eastern Lombok Strait	Fig. S7	x			
Lombok 17	Gili Layar, eastern Lombok Strait	Fig. S7	x			
Lombok 18	Gili Layar, eastern Lombok Strait	Fig. S7	x			
-	Komodo I., Flores Sea	http://www.sfups.org/	x			
-	Komodo I., Flores Sea	http://www.sfups.org/	x			
-	Komodo I., Flores Sea	http://www.sfups.org/	x			
-	Komodo I., Flores Sea	http://www.sfups.org/	x			
-	Komodo I., Flores Sea	http://www.sfups.org/	x			
-	Komodo I., Flores Sea	http://www.sfups.org/	x			
-	Komodo I., Flores Sea	http://www.sfups.org/	x			
-	Komodo I., Flores Sea	http://www.sfups.org/	x			
042913-06	Dongsha., South China Sea	Fig. S2	x			
WJC2243	Dongsha., South China Sea	Fig. S2	x			
DS 1	Dongsha., South China Sea	Fig. S4	x			
DS 2	Dongsha., South China Sea	Fig. S4	x			
DS 3	Dongsha., South China Sea	Fig. S4	x			
HLC-10828	Philippines	BOLD	x			
HLC-10829	Philippines	BOLD	x			
HLC-10830	Philippines	BOLD		x		
HLC-10831	Philippines	BOLD		x		
Daaru-u2	Palawan, Philippines	FishBase	x			
Daaru-u3	Philippines	Randall (1997a)		x		
LL 1	Lapu-Lapu I., Philippines	Fig. S4	x			
LL 2	Lapu-Lapu I., Philippines	Fig. S4	x			
LL 3	Lapu-Lapu I., Philippines	Fig. S4	x			
LL 4	Lapu-Lapu I., Philippines	Fig. S4	x			
LL 5	Lapu-Lapu I., Philippines	Fig. S4	x			
-	Pulau Pef, Raja Ampat, West Papua	http://faroutphotos.com	x			
Sayonek 1	Pulau Sayonek, Raja Ampat	Fig. 2B	x			
Fam 1	Pulau Fam, Raja Ampat, West Papua	Fig. S3		x		
Fam 2	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 3	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 4	Pulau Fam, Raja Ampat, West Papua	Fig. S3		x		
Fam 5	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 6	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 7	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 8	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 9	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 10	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 11	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 12	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 13	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 14	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 15	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 16	Pulau Fam, Raja Ampat, West Papua	Fig. S3		x		
Fam 17	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 18	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 19	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 20	Pulau Fam, Raja Ampat, West Papua	Fig. S3		x		
Fam 21	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 22	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 23	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			

Individual	Origin	Source	Intensity of pigmentation			
			0	1	2	3
Fam 24	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Table S2 (continued)						
Individual no.	Origin	Source	0	1	2	3
Fam 25	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 26	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 27	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 28	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 29	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 30	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 31	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 32	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
Fam 33	Pulau Fam, Raja Ampat, West Papua	Fig. S3	x			
PR161-1	Madang, Bismarck Sea	Fig S2	x			
PR161-2	Madang, Bismarck Sea	Fig S2	x			
PR161-3	Madang, Bismarck Sea	Fig S2	x			
PR161-4	Madang, Bismarck Sea	Fig S2	x			
-	Chuuk	Allen and Erdmann (2012)	x			
-	Yap	http://reefguide.org/	x			
-	Lord Howe I.	Randall (2005)	x			
-	New Caledonia	Laboute and Grandperrin (2000)	x			
-	New Caledonia	Laboute and Grandperrin (2000)	x			
-	New Caledonia	Laboute and Grandperrin (2000)	x			
-	New Caledonia	Laboute and Grandperrin (2000)	x			
-	New Caledonia	Laboute and Grandperrin (2000)	x			
-	New Caledonia	Laboute and Grandperrin (2000)	x			
-	New Caledonia	Laboute and Grandperrin (2000)	x			
-	New Caledonia	Laboute and Grandperrin (2000)	x			
-	New Caledonia	Laboute and Grandperrin (2000)	x			
-	New Caledonia	Laboute and Grandperrin (2000)	x			
-	New Caledonia	Laboute and Grandperrin (2000)	x			
-	New Caledonia	Laboute and Grandperrin (2000)	x			
Poé 1	Poé, New Caledonia	Fig. S4	x			
Poé 2	Poé, New Caledonia	Fig. S4	x			
Poé 3	Poé, New Caledonia	Fig. S4	x			
Poé 4	Poé, New Caledonia	Fig. S4	x			
Poé 5	Poé, New Caledonia	Fig. S4	x			
Poé 6	Poé, New Caledonia	Fig. S4	x			
Poé 7	Poé, New Caledonia	Fig. S4	x			
Poé 8	Poé, New Caledonia	Fig. S4	x			
Poé 9	Poé, New Caledonia	Fig. S4	x			
Poé 10	Poé, New Caledonia	Fig. S4	x			
SWLagoon 1	SW lagoon, New Caledonia	Fig. S5	x			
SWLagoon 2	SW lagoon, New Caledonia	Fig. S5	x			
SWLagoon 3	SW lagoon, New Caledonia	Fig. S5	x			
SWLagoon 4	SW lagoon, New Caledonia	Fig. S5	x			
SWLagoon 5	SW lagoon, New Caledonia	Fig. S5	x			
SWLagoon 6	SW lagoon, New Caledonia	Fig. S5	x			
SWLagoon 7	SW lagoon, New Caledonia	Fig. S5	x			
SWLagoon 8	SW lagoon, New Caledonia	Fig. S5	x			
SWLagoon 9	SW lagoon, New Caledonia	Fig. S5	x			
SWLagoon 10	SW lagoon, New Caledonia	Fig. S5	x			
Muaivuso 1	Viti Levu, Fiji	Fig. S4		x		
Muaivuso 2	Viti Levu, Fiji	Fig. S4	x			
Muaivuso 3	Viti Levu, Fiji	Fig. S4	x			
Muaivuso 4	Viti Levu, Fiji	Fig. S4	x			
MBIO 556_1	Moorea, Society Is.	BOLD	x			

Table S3 Humbug damselfish, *Dascyllus abudafur* and *D. aruanus*. Cytochrome *b* gene haplotype frequency per sample. *Abbreviations for samples* as in Liu et al. (2014); *other abbreviations*: BA Singaraja, Bali Sea; MA Madang, Bismarck Sea; N sample size; n frequency of haplotype in total sample. Samples listed according to geographic location, from West to East

GENBANK no.	Sample															n
	RS	EU	JN	MD	GL	PI	DS	TW	LL	SK	RA	MA	NC	SI		
KF754784	6															6
KF754787	4															4
KF754776	1															1
KF754780	1															1
KF754783	1															1
KF754785	1															1
KF754786	1															1
KF754778		3	1	1												5
KF754782		2	2	3												7
KF754788		2		2												4
KF754791		2		1	1											4
KF754793		2		1												3
KF754781		1	1	1	1											4
KF754792		1														1
KF754794		1	1													2
KF754795		1		1												2
KF754779				1												1
KF754789				1												1
KF754775					1											1
KF754777					1											1
KF754790					1											1
KF754774						6	6	15	13	10	10		1			61
KF754757						2										2
KF754763						2	1	1								4
KF754741						1										1
KF754742						1	1	3	5	6	13	3	8			40
KF754748							4	1	3	5	1	1	11			26
KF754750							1	4	2		2	2				11
KF754759							1		1	1						3
KF754767							1									1
KF754768							1									1
KF754746								1								1
KF754749								1								1
KF754766								1			1					2
KF754747									1							1
KF754751									1							1
KF754754									1							1
KF754758									1							1
KF754769									1				1	2		4
KF754770									1							1
KF754771									1							1
KF754772									1							1
KF754740										1						1
KF754762										1						1
KF754773										1						1
KF754764											2					2
KF754765											1					1
KF754737											1					1
KF754736											1					1
KF754755											1					1
KF754756													6			6
KF754738													4			4
KF754739													1			1
KF754743													1			1
KF754744													1			1
KF754745													1			1
KF754735													1			1
KF754752													1			1
KF754753													1			1
KF754733														19		19
KF754761														2		2
KF754734														1		1
KF754760														1		1
N	15	15	5	12	5	12	16	27	32	25	33	6	38	25		266

Table S4 Partial cytochrome-*b* gene sequences (in FASTA format) of 5 humbug damselfish individuals from Serangan, western Lombok Strait

Sequence

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TAATCGCCCAGATCCTCACAGGCCTCTTTCTCGCCATAACATTATACATCAGATATCGCCAC
AGCTTTCTCTCCGTAACCCACATCTGCCGAGATGTCAACTACGGATGACTTATCCGGAAT
ATACACGCTAACGGCGCATCCTTCTTTATCTGCATCTACCTCCACATCGGACGA GGAC
TCTACTACGGCTCATTCCCTTCACAAAGAGACATGAAACGTAGGAGTAATCCTCCTCCTCTT
AGTAATAATAACAGCTTTCTGAGGCTACGTGCTTCCCTGAGGCCAAATATCCCTCTGAGG
TGCCACCGTAATCACAACCTCCTATCAGCCTTCCCTACGTCCGTTGATTCCCTAGTCCAAT
GAATCTGAGGGGGCTTCTCAGTAGACAATGCCACTCTCACCCGATTCTTTGCC TTCCACTT
CCTTTTTCCCTTTGTAATTGTAGCCATAACCCTCGTTCACTTATCTTCCCTCCACGAAACTG
GATCAAAACAACCCAACTGGCCTAACTCGGATGCAGACAAAATCTCCTTCCACCCTTATTT
CTCCTACAAGGACATCCTCGGCTTTGCAGTCTGCTACTAGCACTAATTTCACTAGCACTA
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TAATCGCCCAGATCCTCACAGGCCTCTTTCTCGCCATAACATTATACATCAGATATCGCCACA
GCTTTCTCTCCGTAACCCACATCTGCCGAGATGTCAACTACGGATGACTTATCCGGAATA
TACACGCTAACGGCGCATCCTTCTTTATCTGCATCTACCTCCACATCGGACGA GGACT
CTACTACGGCTCATTCCCTTCACAAAGAGACATGAAACGTAGGAGTAATCCTCCTCCTCTTA
GTAATGATAACAGCTTTCTGAGGCTACGTGCTTCCCTGAGGCCAAATATCCCTCTGAGGT
GCCACGTAATCACAACCTCCTGTCAGCCTTCCCTACGTCCGTTGATTCCCTAGTCCAAT
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CCTTTTTCCCTTTGTAATTGTAGCCATAACCCTCGTTCACTTATCTTCCCTCACGAAACTG
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CTCCTACAAGGACATCCTCGGCTTTGCAGTCTGCTACTAGCACTAATTTCACTAGCACTA
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CACCTCAC-----

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AATCGCCCAGATCCTCACAGGCCTCTTTCTCGCCATAACATTATACATCAGATATCGCCACA
GCTTTCTCTCCGTAACCCACATCTGCCGAGATGTCAACTACGGATGACTTATCCGGAATA
TACACGCTAACGGCGCATCCTTCTTTATCTGCATCTACCTCCACATCGGACGA GGACT
CTACTACGGCTCATTCCCTTCACAAAGAGACATGAAACGTAGGAGTAATCCTCCTCCTCTTA
GTAATGATAACAGCTTTCTGAGGCTACGTGCTTCCCTGAGGCCAAATATCCCTCTGAGGT
GCCACGTAATCACAACCTCCTGTCAGCCTTCCCTACGTCCGTTGATTCCCTAGTCCAAT
GAATCTGAGGGGGCTTCTCAGTAGACAATGCCACTCTCACCCGATTCTTTGCCCTTCCACTT
CCTTTTTCCCTTTGTAATTGTAGCCATAACCCTCGTTCACTTATCTTCCCTCCACGAAACTG
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CACCTCAC-----

>IBRC 110128_Serangan
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AATCGCCCAGATCCTCACAGGCCTCTTTCTCGCCATAACATTATACATCAGATATCGCCACA
GCTTTCTCTCCGTAACCCACATCTGCCGAGATGTCAACTACGGATGACTTATCCGGAATA
TACACGCTAACGGCGCATCCTTCTTTATCTGCATCTACCTCCACATCGGACGA GGACT
CTACTACGGCTCATTCCCTTCACAAAGAGACATGAAACGTAGGAGTAATCCTCCTCCTCTTA
GTAATGATAACAGCTTTCTGAGGCTACGTGCTTCCCTGAGGCCAAATATCCCTCTGAGGT
GCCACGTAATCACAACCTCCTGTCAGCCTTCCCTACGTCCGTTGATTCCCTAGTCCAAT
GAATCTGAGGGGGCTTCTCAGTAGACAATGCCACTCTCACCCGATTCTTTGCCCTTCCACTT
CCTTTTTCCCTTTGTAATTGTAGCCATAACCCTCGTTCACTTATCTTCCCTCCACGAAACTG
GATCAAAACAACCCAACTGGCCTAACTCGGATGCAGACAAAATCTCCTTCCACCCTTATTT
CTCCTACAAGGACATCCTCGGCTTTGCAGTCTGCTACTAGCACTAATTTCACTAGCACTA
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CACCTCAC-----

>IBRC 110108_Serangan
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AATCGCCCAGATCCTCACAGGCCTCTTTCTCGCCATAACATTATACATCAGATATCGCCACA
GCTTTCTCTCCGTAACCCACATCTGCCGAGATGTCAACTACGGATGACTTATCCGGAATA
TACACGCTAACGGCGCATCCTTCTTTATCTGCATCTACCTCCACATCGGACGA GGACT
CTACTACGGCTCATTCCCTTCACAAAGAGACATGAAACGTAGGAGTAATCCTCCTCCTCTTA
GTAATGATAACAGCTTTCTGAGGCTACGTGCTTCCCTGAGGCCAAATATCCCTCTGAGGT
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CCTTTTTCCCTTTGTAATTGTAGCCATAACCCTCGTTCACTTATCTTCCCTCCACGAAACTG
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CTCCTACAAGGACATCCTCGGCTTTGCAGTCTGCTACTAGCACTAATTTCACTAGCACTA
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CACCTCAC-----

CCTTTTCCCTTTGTAATTGTAGCCATAACCCTCGTTCACCTTATCTTCCTCCACGAACTG
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CTCCTACAAGGACATCCTCGGCTTTGCAGTCCTGCTACTAGCACTAATTTCACTAGCACTA
TTCGCCCCAATCTTCTCGGAGACCCCGACAACCTTCATCCCCGCTAACCCCATGGTGACAC
CACCTCAC-----

Table S5 Partial control-region sequences (in FASTA format) of humbug damselfish, *Dascyllus abudafur* and *D. aruanus*

Species, Sequence
<p><i>Dascyllus abudafur</i> >DZA2 (Zanzibar)</p> <p>GATATAACTAACATTAATTCTTGGTGCTTTAAATAGTTTATAGTATTTAAAAATGTGATTTA AAAATGTGAATCTTACAACCTCAACACCTGTTT-GTAGCATTATCCCATAAGCTTGCACCGCT ACGTGCATATATGTACATTCACCATAAATCTATATTTAACCATATCATAGAATATTTCAAGTAC ATGATTTCAAACCTTTAACTAATATTAAAGTCAAGGATATACTTGTTTTGAAACATTCACCT GAATAAAAGGTACATAAACCTCTACATGTGTCAAAAAGCTAAGCGGGTACAGGTAAAAATTT AAGATTCAACTGTACATACTCATGGGTCCAGATATACCAAGTATTCAGTACCTCTGCAAG TCATATGTTTAAATACAGTAAGA</p> <p>>G lor1 (Glorieuses Islands)</p> <p>GACATAACTAACATTAATTCTTAGTGCTATAAATAGTTTATAGTATTTAAAAATGTGATTTA AAAATGTGAATCTTACAACCTCAACACCTGTTT-GTAGCATTATCCCATAAGCTTGCACCGCT ACGTGCATATATGTACATTCACCATAAATCTATATTTAACCATATCATAGATATTTAAGTACA TGATTTCAAAGCTTTAACTAATACCAAAGTCAAAGGACATACTTGTTTTGAAACATTCACCT GAATAAAAGCACATAAACCTCTACATGTATCAAAAAGTAAAGCGGGTACAATTTAAAGATTTA AGATTTAACCGTTACATACTCATGGGTTCAGATATACCAAGTATTCAGTACCTCTGCAAGT CATATGTTTAAATACAGTAAGAGCCCAGCATCAGTTGATTCCCTGAATGTCCACAGTTCTTGA TGGTCAAGGACAGAATAA</p> <p>>G lor2 (Glorieuses Islands)</p> <p>GACATAACTAACATTAATTCTTAGTGCTATAAATAGTTTATAGTATTTAAAAATGTGATTTA AAAATGTGAATCTTACAACCTCAACACCTGTTT-GTAGCATTATCCCATAAGCTTGCACCGCT ACGTGCATATATGTACATTCACCATAAATCTATATTTAACCATATCATAGATATTTCAAGTACA TGATTTCAAAGCTTTAACTAATACCAAAGTCAA-GGATATACTTGTTTTGAAACATTCACCT AATAAAAGTACATAAACCTCTACATGTGTCAAAAAGTAAAGCGGGTACAAGTAAAGATTTA AGATTTCAACTGTTACATACTCATGAGTTCAGATATACCAAGTATTCAGTACCTCTGCAAGT CATATGTTTAAATACAGTAAGAGCCCAGCATCAGTTGATTCCCTAAATGTCCATAGTTCTTGA TGGTCAAGGACAGAATAA</p> <p>>Glor3 (Glorieuses Islands)</p> <p>GACATAACTAACATTAATTCTTAGTGCTATAAATAGTTTATAGTATTTAAAAATGTGATTTA AAAATATGAAATCTTACAACCTCAACACCTGTTT-GTAGCATTATTTCCATAAGCTTGCACCGCT ACGTGCATATATGTACATTCACCATAAATCTATATTTAACCATATCATGGGTACTCAAGTAC ATGATTTCAAACCTTTGACTAATATTAAAGTCAA-GGATATACTTGTTTTAAAGCATTTCACCT GAATAAAAGTACATAAACCTCTGCATGTGTCAAAAAGGTAAGCGGGTACAACGAAGATTT AAGATTCAGTTGTTACATACTCATGGGTCCAGATATACCAAGTACTCAGTACCTCTGCAAG TCACATGTTTAAATACAGTAAGAGCCCAGCATCAGTTGATTTCTAAATGTCCACGGTTCTTG ATGGTCAAGGACAGAATAA</p> <p><i>Dascyllus aruanus</i> >Phil5 (Philippines)</p> <p>-----TACAACCTCAACACCTG TTTTGTAGCATTATCCATAAAGCTTGCACCTTCTACGTGCATATATGTATATTCACCATGAAT CTATATTAACCATATCATGGATATTCGAGGTACATGACTTCAAGTCTTAAACCAATCTTAAAAAT CAA-GGATATACTTGTTTTAAAGCATTTCACCTAAATAAAAAGTACATGAACCCCTACATGTGT CAAAAGGTAAGCGGGCACAAGTAAAAATTTAAGACTCAACCCTTACATACTCATGGGTCT AGATATACCAAGTATTCAGTACCTCTGCAAGTACATGTTTAAATACAGTAAGAGCCCAGCA TCAGTTGATTTCTAAA-----</p> <p>>Phil11 (Philippines)</p> <p>-----TACAACCTCAACAC-TG TTTTGTAGCATTATTCATAAAGCTTGCACCTTCTACGTGCATATATGTATATTCACCATAAAT CTATATTAACCATATCATGGATATTCGAGGTACATGACTTCAAGTCTTAAACCAATCTTAAAAAT CAA-GGATATGCTTGTTCAAAAGCATTTCACCTAAATAAAAAGTACATAAAACCCCTACATGTG TCGAAAAGGTAACGAGTACAAGTAAAAATTTAAGATTTAACCCTTACATACTCATGAGTTC AGATATACCAAGTACTCAGCACCTCTGCAAGCCATATGTTTAAATACAGTAAGAGCCCAGCA TCAGTTGATTTCTAAA-----</p> <p>>Phil12 (Philippines)</p> <p>-----TACAACCTCAACACCTG TTTTGTAGCATTATTCATAAAGCTTGCACCTTCTACGTGCATATATGTATATTCACCATGAAT CTATATTAACCATATCATGGATATTCGAGGTACATGACTTCAAGTCTTAAACCAATCTTAAAAAT CAA-GGATATACTTGTTTTAAAGCATTTCACCTAAATAAAAAGTACATAAAACCCCTACATGTG CAAAAGGTAAGCAGGCACAAGTAAAAATTTA AAAACTCAACCCTTACATACTCATGAGTCCA GATATACCAAGTATTCATAACCTCTGCAAGTACATGTTTAAATACAGTAAGAGCCCAGCAT CAGTTGATTTCTAAA-----</p> <p>>Phil13 (Philippines)</p> <p>-----TACAACCTCAACACCTG TTTTGTAGCATTATTCATAAAGCTTGCACCTTCTACGTGCATATATGTATATTCACCATGAAT CTATATTAACCATATCATGGATATTCGAGGTACATGACTTCAAGTCTTAAACCAATCTTAAAAAT CAA-GGATATACTTGTTTTAAAGCATTTCACCTAAATAAAAAGTACATAAAACCCCTACATGTG CAAAAGGTAAGCAGGCACAAGTAAAAATTTA AAAACTCAACCCTTACATACTCATGAGTCCA GATATACCAAGTATTCATAACCTCTGCAAGTACATGTTTAAATACAGTAAGAGCCCAGCAT CAGTTGATTTCTAAA-----</p> <p>>Phil20 (Philippines)</p> <p>-----TACAACCTCAACACCTG TTTTGTAGCATTATTCATAAAGCTTGCACCTTCTACGTGCATATATGTATATTCACCATGAAT CTATATTAACCATATCATGGATATTCGAGGTACATGACTTCAAGTCTTAAACCAATCTTAAAAAT TCAA-GGATATACTTGTTTTAAAGCATTTCACCTAAATAAAAAGTACATAAAACCCCTACATGTA TCAAAAAGGTAAGCAGGCACAAGTAAAGAAATTTAAGACTCAACCCTTACATACTCATGAGTTC AAGATATACCAAGTATTCAGTACCTCTGCAAGTACATGTTTAAATACAGTAAGAGCCCAGC ATCAGTTGATTTCTAAA-----</p> <p>>Guam17 (Guam)</p> <p>-----TACAACCTCAACACCTG TTTTGTAGCATTATTCATAAAGCTTGCACCTTCTACGTGCATATATGTATATTCACCATGAAT CTATATTAACCATATCATGGATATTCGAGGTACATGACTTCAAGCTTAAATTAATCTTAAAAAT</p>

CAA-GGATATACTTGTTTTAAAGCATTACCTAAATAANAGTACATAAACCCCTACTTGTGC
CAAAAGGTAAGCGGGTACAAGTAAGAATTTAAGACTTAACCGTTACATACTCATGAGTCC
AGATATAACCAAGCACTCAGCACCTCTGCAAGTCACATGTTTAATACAGTAAGAGCCCAGCA
TCAGTTGATTTCTAAA-----

>Fiji14 (Fiji Islands)

-----TACAACCTCAACACCTG
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CTATATTAACCATATCATGGATATTCGAGTACATGATTTCAAGCTTCAACTAATTCTAAAAAT
TAA-GGGCATACTTGTTTTAAAGCATTACCTAAATAAAAAGTACATAAACCCCTACATGTGT
CAAAAGGTAAGCAAGGACAAGTAAAAATTTAAGACTCAACCGTTACATACTCAGGAGTCC
AGATATAACCAAGTATTCAGTACCTCTGCAAGTCACATGTTTAATACAGTAAGAGCCCAGCA
TCAGTTGATTTCTAAA-----

>Fiji18 (Fiji Islands)

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TCAAAAAGGTAAGCAGGCACAAGTAAAAATTTAAGATTCAACCGTTACATACTCACAAGTCC
AGATATAACCAAGTATTCAAATACCTCTGCAAGTCACATGTTTAATACAGTAAGAGCCCAGCA
TCAGTTGATTTCTAAA-----



Fig. S1 *Dascyllus abudafur*. Individuals no Europa 1-15 from Europa Island, Mozambique Channel, 06 April 2011 (WJC).

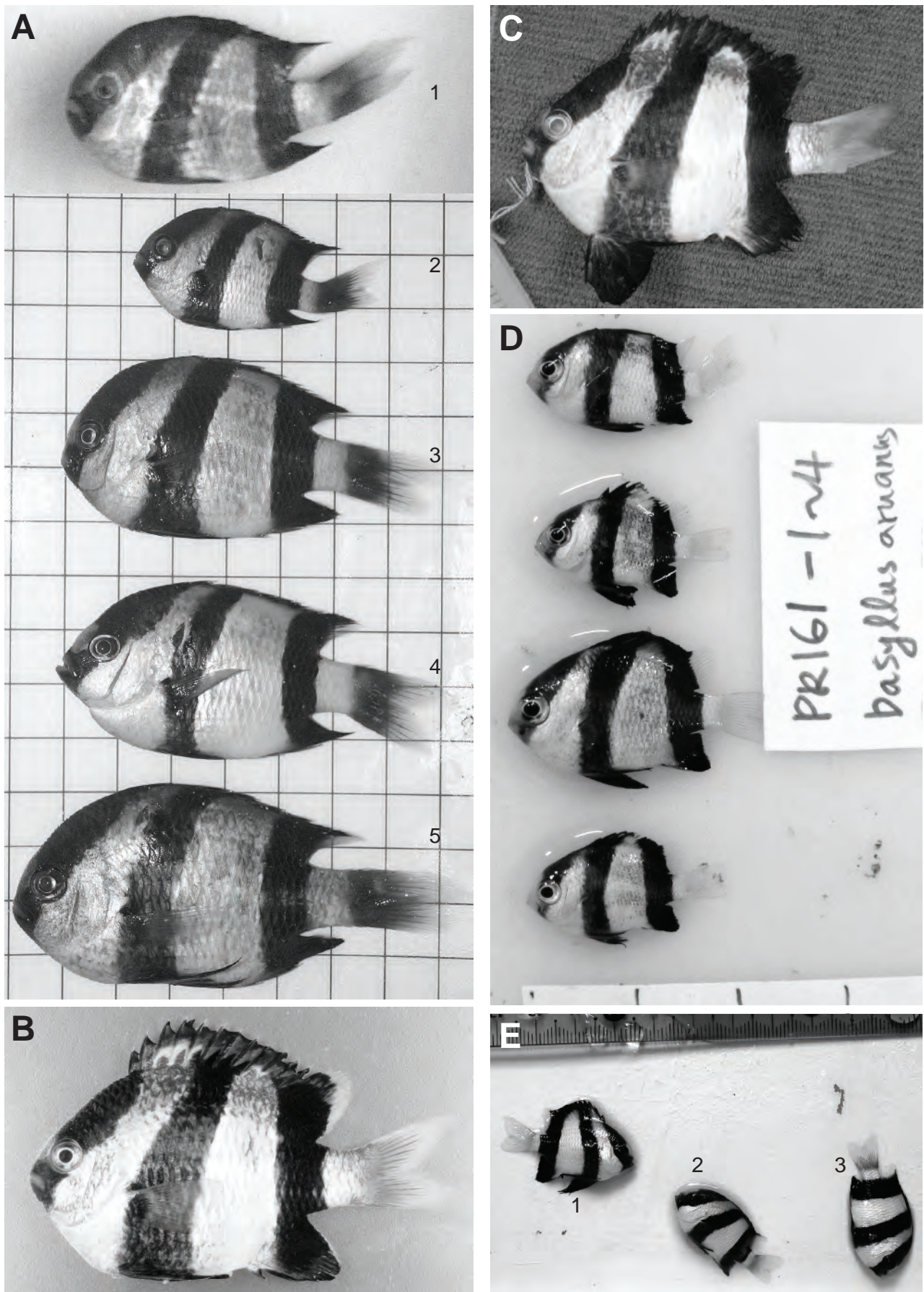


Fig. S2 Humbug damselfish. **A** *Dascyllus abudafur*, individuals nos. JdN 1-5 from Juan de Nova Island, Mozambique Channel, 11-12 April 2011 (PB, WJC). **B** *Dascyllus aruanus*, individual no. 042913-06 from Dongsha, South China Sea, 29 April 2013 (WJC). **C** *Dascyllus aruanus*, individual no. WJC2243 from Dongsha, South China Sea, 09 May 2013 (WJC). **D** *Dascyllus aruanus*, individuals nos. PR161-1 to 4 from Madang, Bismarck Sea, Papua New Guinea, December 2012 (WJC). **E** *Dascyllus abudafur*, individuals nos. Bali 1-3 from Singaraja, Bali Island, April 2014 (PB, AS).



Fig. S3 *Dascyllus aruanus*. Individuals nos. Fam 1-33 from Pulau Fam, Raja Ampat, West Papua, 02 December 2007 (PB).

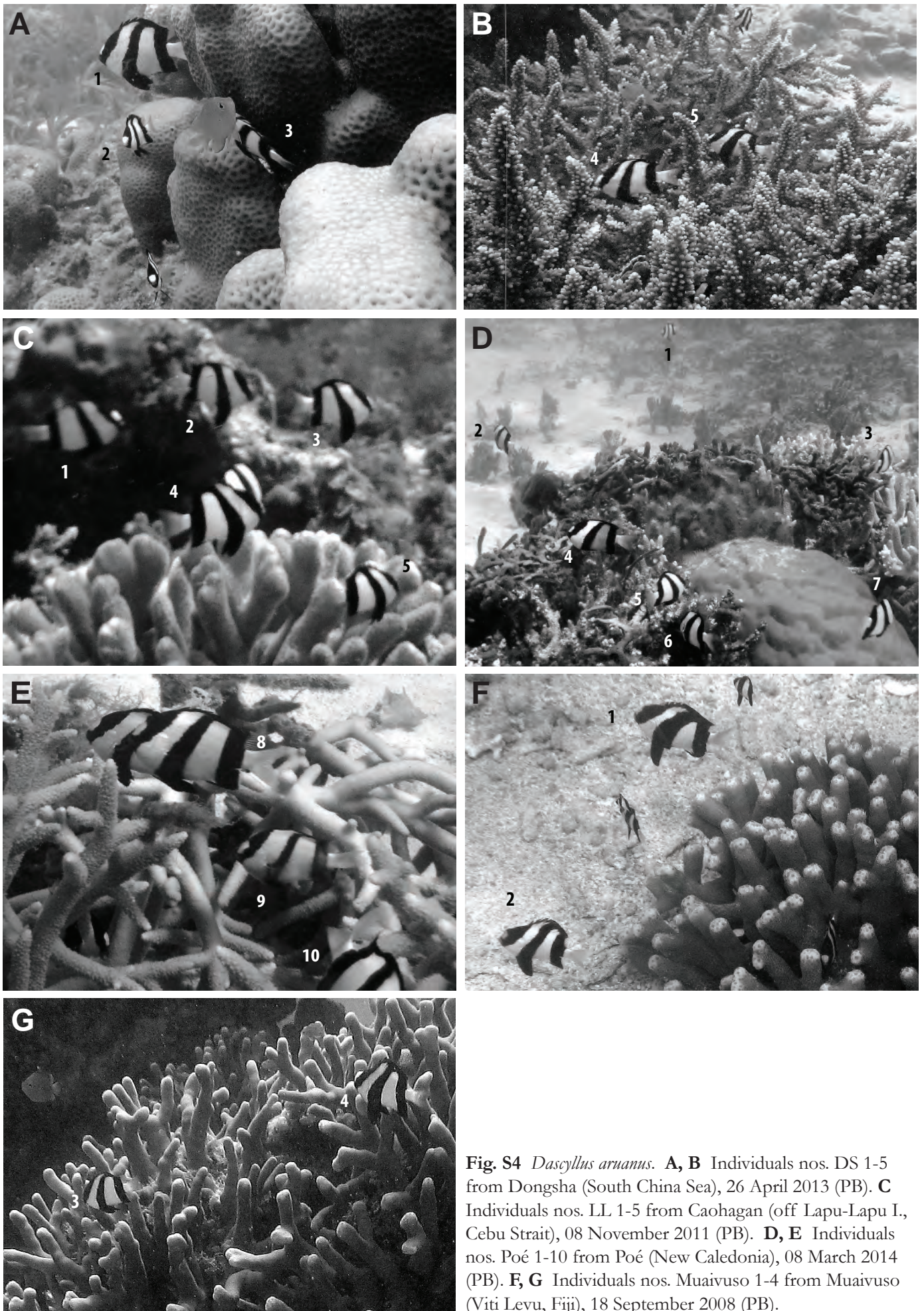


Fig. S4 *Dascyllus aruanus*. **A, B** Individuals nos. DS 1-5 from Dongsha (South China Sea), 26 April 2013 (PB). **C** Individuals nos. LL 1-5 from Caohagan (off Lapu-Lapu I., Cebu Strait), 08 November 2011 (PB). **D, E** Individuals nos. Poé 1-10 from Poé (New Caledonia), 08 March 2014 (PB). **F, G** Individuals nos. Muaiivuso 1-4 from Muaiivuso (Viti Levu, Fiji), 18 September 2008 (PB).



Fig. S5 *Dascyllus aruanus*. Individuals nos. SWLagoon 1-10 from the southwestern lagoon of New Caledonia. **A** 14 March 2008 (PB). **B** 07 April 2008 (PB).

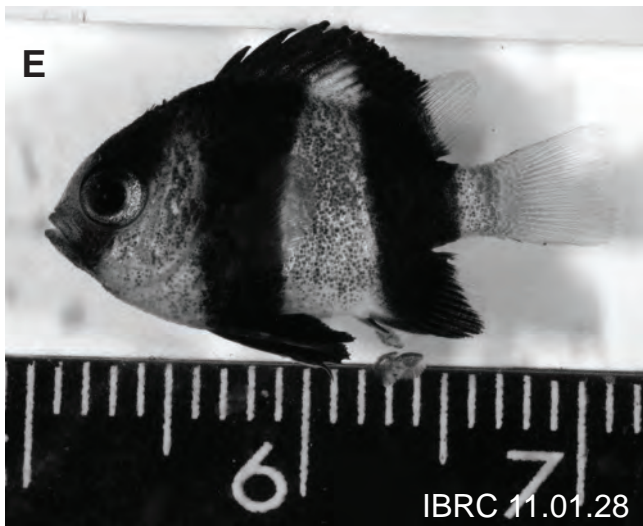
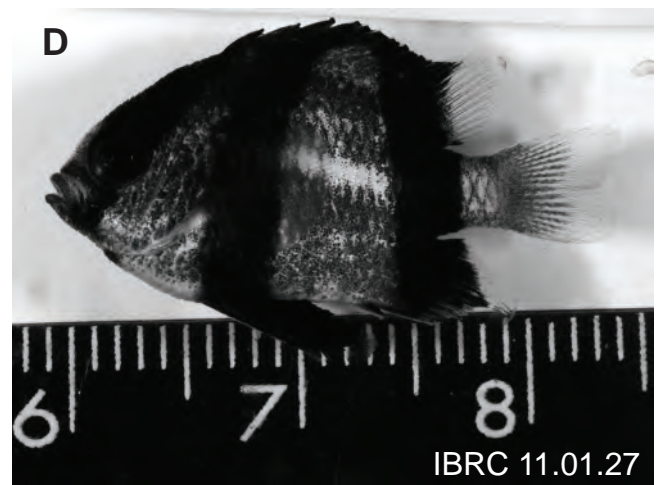
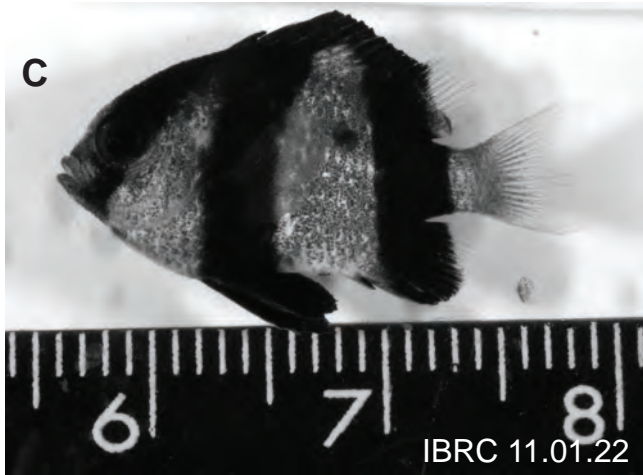
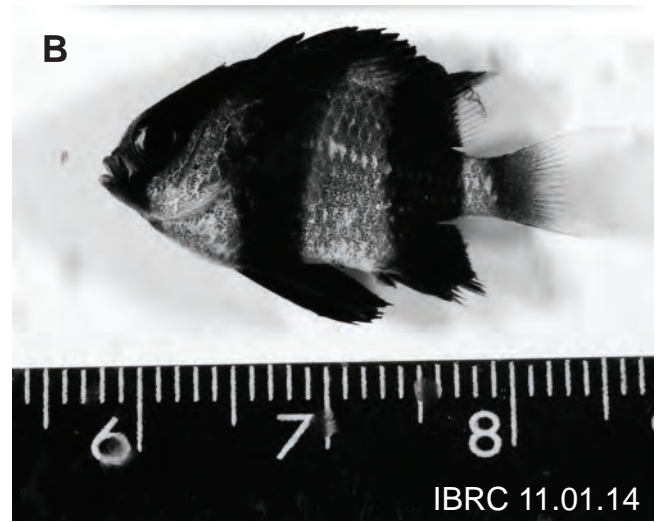
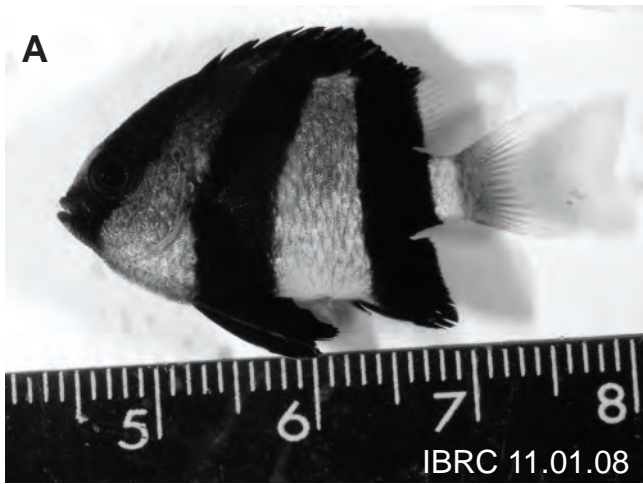


Fig. S6 A-E Humbug damselfish specimens nos. IBRC 11.01.08 14, 22, 27 and 28 from Serangan (south-eastern Bali Island), Lombok Strait, April 2014. Scale in cm (AS).

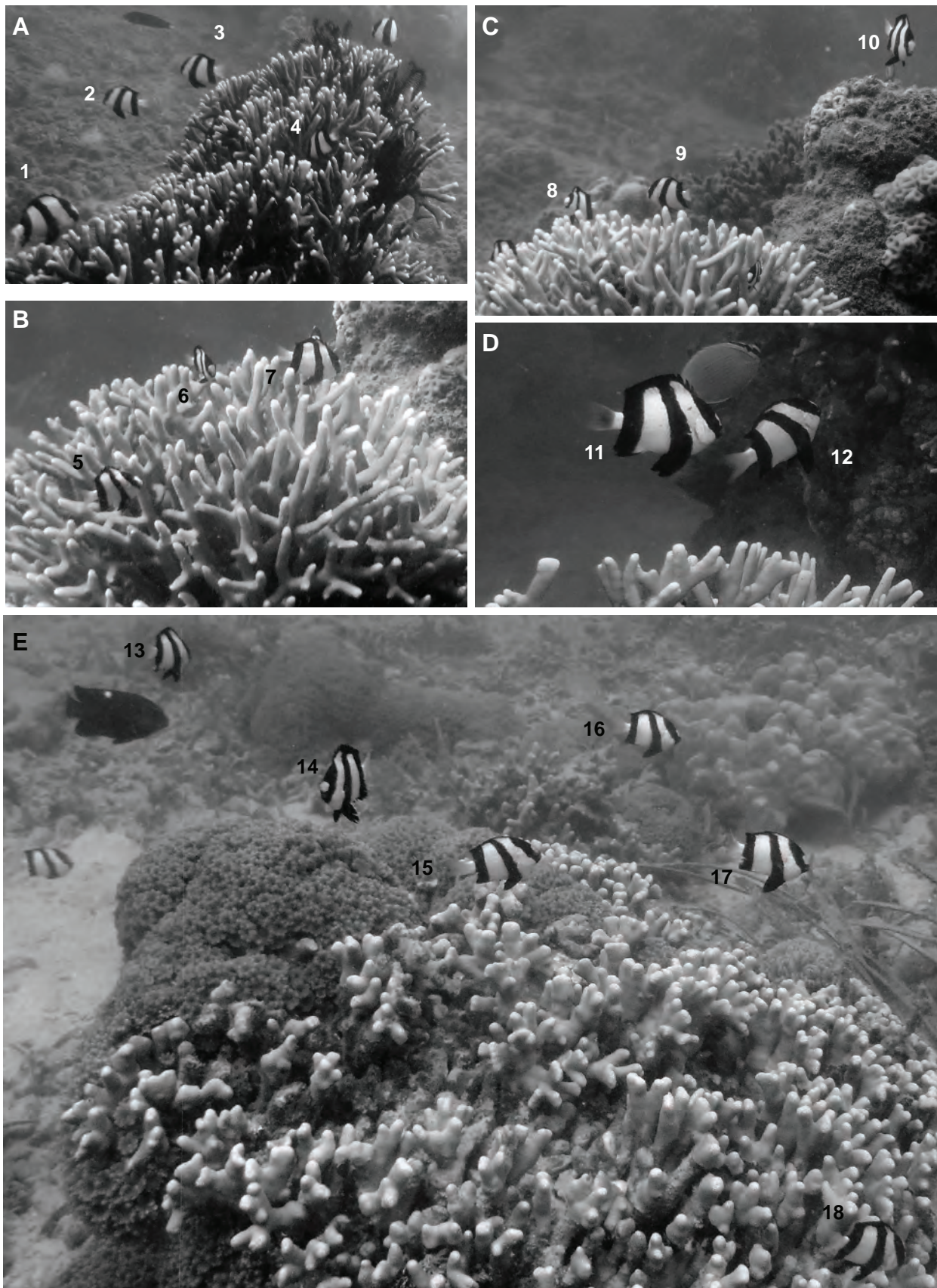


Fig. S7 Humbug damselfish, *Dascyllus abudafur* and *D. aruanus*. Individuals nos. Lombok 1-18 examined for pigmentation patterns (PB). **A-D** Individuals sighted on the fringing reef at the southern tip of Gili Gede ($08^{\circ}46'S$ $115^{\circ}56'E$), 06 August 2014. **E** Individuals sighted on the reef off southeastern Gili Layar ($08^{\circ}44'S$ $115^{\circ}55'E$), 07 August 2014.