



Supplement of

Revised taxonomy and early evolution of fasciculiths at the Danian–Selandian transition

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Table S1. Species, specimens, site/section and inventory number of all the specimens investigated in this study. Type materials and images for this study are stored at the Geological and Paleontological Museum (IGF code) and the Department of Earth Sciences of the University of Florence (DST code). Address: Via Giorgio La Pira 4, 50121 Firenze, Italy.

Species	Specimen	Inventory Number	Site/Section/Sample	Inventory Number	
		Specimen N°		Sample N°	
<i>Gomphiolithus magnus</i>	Fig 08 (1)	IGF 104803	1209B 25-1, 142-143	IGF 104803-1	STAB 12
	Fig 08 (2)	IGF 104804	1209B 25-1, 142-143	IGF 104803-1	STAB 12
	Fig 08 (3)	IGF 104805	1209B 25-1, 142-143	IGF 104803-1	STAB 12
	Fig 08 (4)	IGF 104806	Contessa Highway 10.79 m	IGF 104806-1	Smear slide
	Fig 08 (5)	IGF 104807	Bottaccione 10.60 m	IGF 104807-1	Smear slide
	Fig 08 (6)	IGF 104808	Bottaccione 11.38 m	IGF 104808-1	Smear slide
	Fig 08 (7)	IGF 104809	1262C 11-5, 131-132	IGF 104809-1	STAB A - Carl
	Fig 08 (8)	IGF 104810	1262C 11-5, 131-132	IGF 104809-1	STAB A - Carl
	Fig 08 (9)	IGF 104811	1262C 11-5, 131-132	IGF 104809-1	STAB A - Carl
	Fig 08 (10)	IGF 104812	1209B 25-1, 142-143	IGF 104803-1	STAB 12
<i>Gomphiolithus magnicordis</i>	Fig 09 (1)	IGF 104813	1209B 25-1, 142-143	IGF 104803-1	STAB 12
	Fig 09 (2)	IGF 104814	1262C 11-5, 131-132	IGF 104809-1	STAB A - Carl
	Fig 09 (3)	IGF 104815	1209B 25-2, 20-21	IGF 104815-1	Smear slide
	Fig 09 (4)	IGF 104816	1209B 25-1, 142-143	IGF 104803-1	STAB 12
	Fig 09 (5)	IGF 104817	Bottaccione 11.14	IGF 104817-1	Smear slide
	Fig 09 (6)	IGF 104818	1209B 25-1, 142-143	IGF 104803-1	STAB 12
	Fig 09 (7)	IGF 104819	Contessa Highway 10.07 m	IGF 104819-1	Smear slide
<i>Diantholitha alata</i>	Fig 11 (1)	IGF 104820	1209C 14-1, 116-117	IGF 104820-1	STAB 7
	Fig 11 (2)	IGF 104821	1262C 11-2, 56-57	IGF 104821-1	STAB R - Carl
	Fig 11 (3)	IGF 104822	1262C 11-2, 56-57	IGF 104821-1	STAB R - Carl
	Fig 11 (4)	IGF 104823	1262B 20-5, 2-3	IGF 104823-1	Smear slide
	Fig 11 (5)	IGF 104824	1262B 20-5, 5-6	IGF 104824-1	Smear slide
	Fig 11 (6)	IGF 104825	1209C 14-1, 84-85	IGF 104825-1	STAB 2
<i>Diantholitha magnolia</i>	Fig 12 (1)	IGF 104826	1262C 11-2, 56-57	IGF 104826-1	STAB 3
	Fig 12 (2)	IGF 104827	1262C 11-2, 56-57	IGF 104826-1	STAB 3
	Fig 12 (3)	IGF 104828	1209C 14-1, 116-117	IGF 104820-1	STAB 7
	Fig 12 (4)	IGF 104829	1209C 14-1, 116-117	IGF 104820-1	STAB 7
	Fig 12 (5)	IGF 104830	Qreiya +8.3	IGF 104830-1	Smear slide
	Fig 12 (6)	IGF 104831	Qreiya +8.6	IGF 104831-1	Smear slide
	Fig 12 (7)	IGF 104832	Qreiya +8.3	IGF 104832-1	Smear slide
	Fig 12 (8)	IGF 104833	Qreiya +8.3	IGF 104833-1	Smear slide
	Fig 12 (9)	IGF 104834	1262C 11-2, 56-57	IGF 104834-1	STAB C - Carl
	Fig 12 (10)	IGF 104835	1262C 11-2, 56-57	IGF 104834-1	STAB C - Carl
	Fig 12 (11)	IGF 104836	1262C 11-2, 56-57	IGF 104834-1	STAB C - Carl

<i>Diantholitha cf D. mariposa</i>	Fig 9 (8), Fig 12 (12,14)	IGF 104837	1262C 11-2, 56-57	IGF 104837-1	STAB B - Carl
	Fig 12 (13)	IGF 104838	1262C 10-6, 23-24	IGF 104834-1	STAB C - Carl
<i>Diantholitha cf D. mariposa</i>	Fig 09 (9,11,12)	DST A158-7.1 a	Qreiya+7.1	DST A158-7.1	Smear slide
<i>Diantholitha mariposa</i>	Fig 09 (11)	DST A158-7.7 a	Qreiya +7.7	DST A158-7.7	Smear slide
	Fig 09 (12)	DST A158 -9.42 a	Qreiya +9.42	DST A158 - 9.42	Smear slide
<i>Diantholitha pilula</i>	Fig 13 (1)	IGF 104335- Holotype	1209C 14-1, 116-117	IGF 104820-1	STAB 7
	Fig 13 (2)	DST 104822 a	1262C 11-2, 56-57	IGF 104821-1	STAB R - Carl
	Fig 13 (3)	DST 104820 a	1209C 14-1, 116-117	IGF 104820-1	STAB 7
	Fig 13 (4)	IGF 104719 - Paratype	1262C 10-6, 23-24	IGF 104719-1	STAB B - Carl
	Fig 13 (5)	DST 104721 a	1209C 14-2, 50-51	IGF 104721-1	STAB 1
	Fig 13 (6)	DST 104820 b	1209C 14-1, 116-117	IGF 104820-1	STAB 7
	Fig 13 (7)	DST 104721 b	1209C 14-2, 50-51	IGF 104721-1	STAB 1
	Fig 13 (8)	DST 104820c	1209C 14-1, 116-117	IGF 104820-1	STAB 7
<i>Diantholitha toquea</i>	Fig 11 (7)	IGF 104720 - Holotype	1262C 11-2, 56-57	IGF 104720-1	STAB I - Carl
	Fig 11 (8)	IGF 104838	1262C 10-6, 23-24	IGF 104719-1	STAB B - Carl
	Fig 11 (9)	IGF 104721 - Paratype	1209C 14-2, 50-51	IGF 104721-1	STAB 1
	Fig 11 (10)	DST 104721 c	1209C 14-2, 50-51	IGF 104721-1	STAB 1
	Fig 11 (11)	DST 104721 d	1209C 14-2, 50-51	IGF 104721-1	STAB 1
<i>Lithoptychius chowii</i>	Fig 15 (1)	DST 104724 a	1209C 14-1, 56-57	IGF 104724-1	STAB S
	Fig 15 (2)	DST 104729 a	1209C 14-1, 56-57	IGF 104729-1	STAB 13
	Fig 15 (3)	DST 104825 a	1209C 14-1, 84-85	IGF 104825	STAB 2
<i>Lithoptychius collaris</i>	Fig 15 (4)	DST 104820 d	1209C 14-1, 116-117	IGF 104820-1	STAB 7
	Fig 15 (5)	DST 104820 e	1209C 14-1, 116-117	IGF 104820-1	STAB 7
	Fig 15 (6)	DST 104820 f	1209C 14-1, 116-117	IGF 104820-1	STAB 7
<i>Lithoptychius felis</i>	Fig 16 (5)	DST 104729 b	1209C 14-1, 56-57	IGF 104729-1	STAB 13
	Fig 16 (6)	DST-SM-110 a	1262C 10-6, 23-24	DST-SM-110	STAB Q - Carl
	Fig 16 (7)	DST-A171- 12236 a	1209C 14-1, 116-117	DST-A171- 12236	Smear slide
<i>Lithoptychius galeottii</i>	Fig 16 (1)	IGF 104722 - Holotype	1209C 14-1, 56-57	IGF 104724-1	STAB S
	Fig 16 (2)	IGF 104723 - Paratype	1209B 24-5,8-9	IGF 104723-1	STAB10
	Fig 16 (3)	DST-SM-150 a	1267B 29-5,84-85	DST-SM-150	STAB 5 - Carl
<i>Lithoptychius maioranae</i>	Fig 18 (1)	IGF 104725 - Paratype	1209C 14-1, 56-57	IGF 104724-1	STAB S
	Fig 18 (2)	IGF 104724 - Holotype	1209C 14-1, 56-57	IGF 104724-1	STAB S
	Fig 18 (3)	DST 104724 b	1209C 14-1, 56-57	IGF 104724-1	STAB S
<i>Lithoptychius schmitzii</i>	Fig 16 (8)	DST 104825 b	1209C 14-1, 84-85	IGF 104825-1	STAB 2
	Fig 16 (9)	DST-A171- 12243 a	1209C 14-1, 80-81	DST-A171- 12243	Smear slide
	Fig 17 (1)	DST 104825 c	1209C 14-1, 84-85	IGF 104825-1	STAB 2

	Fig 17 (2)	DST 104729 c	1209C 14-1, 56-57	IGF 104729-1	STAB 13
	Fig 17 (3)	DST-SM-150 b	1267B 29-5, 84-85	DST-SM-150	STAB 5 - Carl
	Fig 17 (4)	DST 104825 d	1209C 14-1, 84-85	IGF 104825-1	STAB 2
	Fig 17 (5)	DST-SM-110 b	1262C 10-6, 23-24	DST-SM-110	STAB Q - Carl
	Fig 17 (6)	DST-SM-110 c	1262C 10-6, 23-24	DST-SM-110	STAB Q - Carl
	Fig 17 (7)	DST-SM-150 c	1267B 29-5, 84-85	DST-SM-150	STAB 5 - Carl
	Fig 17 (8)	DST-SM-150 d	1267B 29-5, 84-85	DST-SM-150	STAB 5 - Carl
	Fig 17 (9)	DST-SM-110 d	1262C 10-6, 23-24	DST-SM-110	STAB Q - Carl
	Fig 17 (10)	DST-B110-9151 a	1262C 10-6, 23-24	DST-B110-9151	Smear slide
	Fig 17 (11)	DST-B110-9151 b	1262C 10-6, 23-24	DST-B110-9151	Smear slide
<i>Lithoptychius ulii</i>	Fig 18 (4)	DST 104724 c	1209C 14-1, 56-57	IGF 104724-1	STAB S
	Fig 18(5)	DST 104721 e	1267A 29-1, 60-61	IGF 104721-1	STAB 1
	Fig 18 (6)	DST 104729 d	1209C 14-1, 56-57	IGF 104729-1	STAB 13
	Fig 18 (7)	DST-SM-170	119 37-4, 135-136	DST-SM-170-1	STAB 17
<i>Lithoptychius varolii</i>	Fig 19 (1)	DST 104724 d	1209C 14-1, 56-57	IGF 104724-1	STAB S
	Fig 19 (2)	DST-A171-12248	1209C 14-1, 56-57	DST-A171-12248-1	Smear slide
	Fig 19 (3)	DST-A152-95	Contessa Road 9.50 m	DST-A152-95-1	Smear slide
<i>Tectulithus janii</i>	Fig 19 (4)	DST 104727 a	356Z 23R-1W, 70-71	IGF 104727-1	STAB R
	Fig 19 (5)	DST 104727 b	356Z 23R-1W, 70-71	IGF 104727-1	STAB R
	Fig 19 (6)	DST 104727 c	356Z 23R-1W, 70-71	IGF 104727-1	STAB R
	Fig 19 (7)	DST-SM-155 a	356Z 23R-1W, 70-71	DST-SM-155	STAB 15
	Fig 19 (8)	DST 104723 a	1209B 24-5,8-9	IGF 104723-1	STAB 10
	Fig 19 (9)	DST 104723 b	1209B 24-5,8-9	IGF 104723-1	STAB 10
<i>Tectulithus merloti</i>	Fig 21 (3)	DST-SM-60 a	1262C 10-4,131-132	DST-SM-60	STAB 6
	Fig 21 (4)	DST-SM-140 a	1262C 10-3,74-75	DST-SM-140	STAB 14
	Fig 21 (5)	DST-SM-140 b	1262C 10-3,74-75	DST-SM-140	STAB 14
	Fig 21 (6)	DST-SM-140 c	1262C 10-3,74-75	DST-SM-140	STAB 14
	Fig 21 (7)	DST-SM-160 a	119 37-4, 120-121	DST-SM-160	STAB Z
<i>Tectulithus cf. T. merloti</i>	Fig 21 (2)	DST-SM-160 b	119 37-4,120-121	DST-SM-160	STAB Z
<i>Tectulithus pagodiformis</i>	Fig 22(1)	IGF 104726 - Holotype	356Z 23R-1W, 70-71	IGF 104727-1	STAB R
	Fig 22 (2)	IGF 104727 - Paratype	356Z 23R-1W, 70-71	IGF 104727-1	STAB R
	Fig 22 (3)	DST-SM-155 b	356Z 23R-1W, 70-71	DST-SM-155	STAB 15
<i>Tectulithus cf. T. pagodiformis</i>	Fig 21 (1)	DST 104727 d	356Z 23R-1W, 70-71	IGF 104727-1	STAB R
<i>Tectulithus pileatus</i>	Fig 22 (4)	DST-SM-60 b	1262C 10-4,131-132	DST-SM-60	STAB 6
	Fig 22 (5)	DST-SM-60 c	1262C 10-4,131-132	DST-SM-60	STAB 6
	Fig 22 (6)	DST 104723 c	1209B 24-5,8-9	IGF 104723-1	STAB 10
<i>Tectulithus stegastos</i>	Fig 22 (7)	DST 104724 e	1209C 14-1, 56-57	IGF 104724-1	STAB S
	Fig 22 (8)	DST-SM-158 a	1209B 24-5,8-9	DST-SM-158	STAB V
<i>Tectulithus stonehengei</i>	Fig 23 (1)	DST-SM-60 d	1262C 10-4,131-132	DST-SM-60	STAB 6
	Fig 23 (2)	DST-SM-140 d	1262C 10-3,74-75	DST-SM-140	STAB 14

	Fig 23 (3)	DST 104723 d	1209B 24-5,8-9	IGF 104723	STAB 10
<i>Fasciculithus billii</i>	Fig 23 (4)	DST-SM-60 e	1262C 10-4,131-132	DST-SM-60	STAB 6
	Fig 23 (5)	DST 104723 e	1209B 24-5,8-9	IGF 104723	STAB 10
	Fig 23 (6)	DST-SM-140 e	1262C 10-3, 74-75	DST-SM-140	STAB 14
	Fig 23 (7)	DST-SM-159 a	1262C 10-4,131-132	DST-SM-159	STAB W
<i>Fasciculithus sp. A</i>	Fig 24 (1)	DST-SM-140 f	1262C 10-3,74-75	DST-SM-140	STAB 14
	Fig 24 (2)	DST-SM-140 g	1262C 10-3,74-75	DST-SM-140	STAB 14
	Fig 24 (3)	DST-SM-140 h	1262C 10-3,74-75	DST-SM-140	STAB 14
	Fig 24 (4)	DST-SM-140 i	1262C 10-3,74-75	DST-SM-140	STAB 14
<i>Fasciculithus realeae</i>	Fig 24 (5)	IGF 104728 - Holotype	1209C 14-1, 56-57	IGF 104729-1	STAB 13
	Fig 24 (6)	IGF 104729 - Paratype	1209C 14-1, 56-57	IGF 104724-1	STAB S
	Fig 24 (7)	DST 104724 f	1209C 14-1, 56-57	IGF 104724-1	STAB S
<i>Fasciculithus vertebratoides</i>	Fig 26 (1)	DST 104727 e	356Z 23R-1W, 70-71	IGF 104727-1	STAB R
	Fig 26 (2)	DST 104727 f	356Z 23R-1W, 70-71	IGF 104727-1	STAB R
	Fig 26 (3)	DST-SM-110 e	1262C 10-6, 23-24	DST-SM-110	STAB Q - Carl
	Fig 26 (4)	DST-SM-165 a	119 37-4, 40-41	DST-SM-165	STAB T
	Fig 26 (5)	DST-SM-155 c	356Z 23R-1W, 70-71	DST-SM-155	STAB 15

Table S2. Calcareous nannofossil zonation and reference for the biostratigraphic determination of all the samples investigated in this study.

Site/Section	DEPTH	Calcareous Nannofossil Zonation		References
		Martini, 1971	Okada & Bukry, 1980	
1262C 11-5, 131-132	201.34 (mcd)	NP4	CP3	Monechi et al., 2013
1262C 11-2, 56-57	196.09 (mcd)	NP4	CP3	Monechi et al., 2013
1262B 20-5, 5-6	195.29 (mcd)	NP4	CP3	Monechi et al., 2013
1262B 20-5, 2-3	195.26 (mcd)	NP4	CP3	Monechi et al., 2013
1262C 10-6, 23-24	190.66 (mcd)	NP4	CP3	Monechi et al., 2013
1262C 10-4,131-132	188.74 (mcd)	NP5	CP4	Monechi et al., 2013
1262C 10-3,74-75	186.67 (mcd)	NP5	CP4	Monechi et al., 2013
1267A 29-1, 60-61	297 (mcd)	NP2-NP4		Zachos et al., 2004
1267B 29-5, 84-85	295.04 (mcd)	NP2-NP4		Zachos et al., 2004
1209B 25-1, 142-143	251.25 (rmcd)	NP4	CP3	Bralower, 2005
1209B 25-2, 20-21	251.53 (rmcd)	NP4	CP3	Bralower, 2005
1209C 14-2, 50-51	249.325 (rmcd)	NP4	CP3	Bralower, 2005
1209C 14-1, 116-117	248.384 (rmcd)	NP4	CP3	Bralower, 2005
1209C 14-1, 84-85	248.04 (rmcd)	NP4	CP3	Bralower, 2005
1209C 14-1, 80-81	248 (rmcd)	NP4	CP3	Bralower, 2005
1209C 14-1, 56-57	247.76 (rmcd)	NP4	CP3	Bralower, 2005
1209B 24-5,8-9	244.81 (rmcd)	NP4	CP3	Bralower, 2005
356Z 23R-1W, 70-71	352.2 (mbsf)	NP5	CP4	Perch-Nielsen, 1977
119 37-4, 135-136	667.85 (mbsf)	NP5	CP4	Perch-Nielsen, 1971
119 37-4, 120-121	667.7 (mbsf)	NP5	CP4	Perch-Nielsen, 1971

119 37-4, 40-41	666.9 (mbsf)	NP5	CP4	Perch-Nielsen, 1971
Bottaccione 10.60	10.60m above K/Pg	NP4	CP3	Galeotti et al., 2015
Bottaccione 11.14	11.14 m above K/Pg	NP4	CP3	Galeotti et al., 2015
Bottaccione 11.38	11.38m above K/Pg	NP4	CP3	Galeotti et al., 2015
Contessa Highway 10.63	10.63 m above K/Pg	NP4	CP3	Galeotti et al., 2015
Contessa Highway 11.35	11.35m above K/Pg	NP4	CP3	Galeotti et al., 2015
Contessa Road 9,50	9.50 m above K/Pg	NP4	CP3	Galeotti et al., 2015
Qreiya+7.1	meter 7.1	NP4	CP3	Monechi et al., 2013; Aubry et al., 2012
Qreiya +7.7	meter 7.7	NP4	CP3	Monechi et al., 2013; Aubry et al., 2012
Qreiya +8.3	meter 8.3	NP4	CP3	Monechi et al., 2013; Aubry et al., 2012
Qreiya +8.6	meter 8.6	NP4	CP3	Monechi et al., 2013; Aubry et al., 2012
Qreiya +9.42	meter 9.4	NP4	CP3	Monechi et al., 2013; Aubry et al., 2012

Table S3. Morphometric measurements of *Gomphiolithus* acquired for this study.

<i>Gomphiolithus</i>	Specimen	Sample	Column	
			height (μm)	width (μm)
<i>G. magnus</i>	Fig 8 (1)	1209B 25-1, 142-143	7(7.1)	8(8.2)
	Fig 8 (2)	1209B 25-1, 142-143	5.2	6.5
	Fig 8 (3)	1209B 25-1, 142-143	8.1	9.9
	Fig 8 (4)	Contessa Highway 11,35 m	11.3	12.9
	Fig 8 (5)	Bottaccione 10,60 m	10.7	11.8
	Fig 8 (6)	Bottaccione 11,38 m	9.2	9.7
	Fig 8 (7)	1262C 11-5, 131-132	7.6	9.5
	Fig 8 (8)	1262C 11-5, 131-132	7.4	8.2
	Fig 8 (9)	1262C 11-5, 131-132	5.5	7.4
	Fig 8 (10)	1209B 25-1, 142-143	8.6	10.7
	Fig 8 (11)	1262C 11-5, 131-132	9.3	11.0
<i>G. magnicordis</i>	Fig 9 (3)	1209B 25-2, 20-21	7.8	10.1
	Fig 9 (4)	1209B 25-1, 142-143	7.9	9.6
	Fig 9 (5)	Bottaccione 11,14 m	7.0	8.1
	Fig 9 (6)	1209B 25-1, 142-143	6.5	8.7
	Fig 9 (7)	Contessa Highway 10,63 m	8.0	9.2

Table S4. Morphometric measurements of *Diantholitha* acquired for this study.

<i>Diantholitha</i>	Specimen	Sample	Column		Biretta		Total height (μm)
			height (μm)	width (μm)	height (μm)	width (μm)	
<i>D. alata</i>	Fig 11 (1)	1209C 14-1, 116-117	1.9	6.4	3.7	6.3	5.6

	Fig 11 (2)	1209C 14-1, 84-85	1.5	4.2	4.3	2.2	5.8
	Fig 11 (4)	1262B 20-5, 2-3	2.2	6.8	4.3	7.0	6.5
	Fig 11 (5)	1262B 20-5, 5-6	2.6	8.5	5.1	8.2	7.7
<i>D. magnolia</i>	Fig 12 (1)	1262C 11-2,56-57	2.2	6.1	3.7	6.6	5.9
	Fig 12 (2)	1262C 11-2,56-57	2.0	5.8	3.5	6.4	5.4
	Fig 12 (3)	1209C 14-1, 116-117	2.2	6.5	4.6	7.0	6.8
	Fig 12 (4)	1209C 14-1,116-117	1.3	4.7	3.0	5.2	4.4
	Fig 12 (5)	Qreiya +8,3	2.6	6.4	4.2	6.7	6.8
	Fig 12 (6)	Qreiya +8,6	2.3	6.1	3.4	5.8	5.7
	Fig 12 (7)	Qreiya +8,3	2.4	5.5	3.7	6.3	6.1
	Fig 12 (8)	Qreiya +8,3	2.3	5.4	3.3	5.3	5.6
	Fig 12 (9)	1262C 11-2,56-57	1.7	7.6	3.0	6.2	4.7
<i>Diantholiotha cf D. mariposa</i>	Fig 9 (8)	1209C 14-1,116-117	3.1	6.6	3.2	7.0	6.3
	Fig 9 (9)	Qreiya+7,1m	2.6	6.3	4.5	8.5	7.1
	Fig 9 (10)	Qreiya+7,1m	3.2	7.7	3.2	7.9	6.4
<i>D. mariposa</i>	Fig 9 (11)	Qreiya +7,7m	3.3	6.9	4.1	7.7	7.4
	Fig 9 (12)	Qreiya +9,42m	3.0	6.8	3.8	6.6	6.8
<i>D. pilula</i>	Fig 13 (1)	1209C 14-1, 116-117	2.0	6.0	4.0	7.0	6.0
	Fig 13 (2)	1262C 11-2, 56-57	2.3	6.1	3.9	7.1	6.2
	Fig 13 (3)	1209C 14-1, 116-117	2.1	6.0	4.3	7.6	6.4
	Fig 13 (4)	1262C 11-2, 56-57	1.9	6.3	3.9	6.7	5.9
	Fig 13 (5)	1209C 14-2, 50-51	1.8	9.0	3.8	6.9	5.6
	Fig 13 (6)	1209 14-1, 116-117	2.3	6.2	5.0	7.0	7.3
	Fig 13 (7)	1209C 14-2, 50-51	1.6	4.8	3.4	5.4	5.1
<i>D. toquea</i>	Fig 11 (7)	1262 11-2, 56-57	1.9	4.8	3.8	6.1	5.7
	Fig 11 (9)	1209C 14-2, 50-51	2.0	5.4	4.1	7.3	6.1
	Fig 11 (10)	1209 14-2, 50-51	2.3	6.5	4.6	7.9	6.9
	Fig 11 (11)	1209 14-2, 50-51	2.4	6.9	4.9	8.8	7.3

Table S5. Morphometric measurements of *Lithoptychius* acquired for this study.

Lithoptychius	Specimen	Sample	Column			Collaret		Calyptra		Total height (µm)
			height (µm)	prossimal width (µm)	distal width (µm)	height (µm)	width (µm)	height (µm)	width (µm)	
<i>L. chowii</i>	Fig 15 (1)	1209C 14-1, 56-57	2.5	3.8	4.3	0.7	3.8	1.1	4.3	4.3
	Fig 15 (2)	1209C 14-1, 56-57	2.6	4.8	6.4	0.9	5.6	1.7	4.3	5.2
	Fig 15 (3)	1209C 14-1, 84-85	4.2	5.3	6.6	0.8	5.8	1.5	5.1	6.5
<i>L. collaris</i>	Fig 15 (4)	1209C 14-1, 116-117	2.0	4.6	5.0	1.5	7.3	2.2	4.5	5.7
	Fig 15 (5)	1209C 14-1, 116-117	2.2	4.7	4.9	1.3	6.1	1.8	4.1	5.3
	Fig 15 (6)	1209C 14-1, 116-117	2.1	3.9	4.3	1.0	5.7	1.8	3.4	4.9

<i>L. felis</i>	Fig 16 (5)	1209C 14-1, 56-57	2.6	5.5	5.5	1.0	6.1	1.8	4.7	5.3
	Fig 16 (6)	1262C 10-6, 23-24	2.8	5.1	5.6	0.7	6.2	1.7	4.0	5.2
	Fig 16 (7)	1209C 14-1, 116-117	2.4	4.9	5.0	1.1	6.3	2.0	3.9	5.5
<i>L. galeottii</i>	Fig 16 (1)	1209C 14-1, 56-57	3.1	5.0	6.0	0.5	6.5	2.5	4.3	6.1
	Fig 16 (2)	1209B-24-5, 8-9	4.7	5.8	7.0	0.7	7.2	1.5	5.2	7.0
	Fig 16 (3)	1267B 29-5, 84-85	3.0	5.0	6.0	0.9	6.1	1.7	3.0	5.6
	Fig 16 (4)	1267B 29-5, 84-85	3.6	5.1	6.2	0.8	6.5	2.2	4.8	6.6
<i>L. maioranoae</i>	Fig 18 (1)	1209C 14-1, 56-57	3.0	6.0	6.8	0.5	7.0	1.5	4.3	5.5
	Fig 18 (2)	1209C 14-1, 56-57	2.6	5.6	6.1	0.9	6.6	2.1	4.6	5.6
	Fig 18 (3)	1209C-14-1, 56-57	3.1	5.6	6.8	0.9	7.6	2.1	4.9	6.0
<i>L. schmitzii</i>	Fig 16 (8)	1209C 14-1, 84-85	2.1	4.4	4.8	1.1	6.1	1.6	3.7	4.8
	Fig 16 (9)	1209C 14-1, 80-81	2.1	5.3	5.4	1.4	6.6	1.9	4.2	5.4
	Fig 17 (1)	1209C 14-1, 84-85	2.4	4.9	5.5	1.7	6.2	1.6	3.7	5.8
	Fig 17 (2)	1209C 14-1, 56-57	3.1	4.3	5.1	1.2	5.5	2.0	3.5	6.2
	Fig 17 (5)	1262C 10-6, 23-24	1.6	4.2	4.6	0.9	5.3	1.3	3.1	3.8
	Fig 17 (6)	1262C 10-6, 23-24	1.2	3.9	4.3	0.9	4.9	1.4	3.4	3.5
	Fig 17 (10)	1262C 10-6, 23-24	4.4	6.3	7.1	2.0	8.1	1.6	4.4	8.0
	Fig 17 (11)	1262C 10-6, 23-24	2.6	5.8	6.2	1.1	7.0	1.1	3.0	4.7
<i>L. ulii</i>	Fig 18 (4)	1209C 14-1, 56-57	4.3	5.9	6.2	0.8	5.9	1.2	4.5	6.2
	Fig 18 (5)	1267A 29-1, 60-61	5.5	7.6	8.0	0.8	6.8	1.5	5.7	7.7
	Fig 18 (6)	1209C 14-1, 56-57	4.7	5.7	6.9	0.7	5.7	1.4	4.8	6.7
	Fig 18 (7)	119 37-4, 135-136	4.9	5.5	6.3	0.8	5.7	1.0	3.6	6.6
<i>L. varolii</i>	Fig 19 (1)	1209C 14-1, 56-57	2.3	4.9	5.5	0.8	4.6	1.2	4.4	4.3
	Fig 19 (2)	1209C 14-1, 56-57	1.8	3.7	5.4	0.7	5.6	1.7	5.4	4.1
	Fig 19 (3)	Contessa Road 9,50 m	2.5	4.8	5.0	1.0	5.9	2.3	4.9	5.9

Table S6. Morphometric measurements of *Tectulithus* acquired for this study.

<i>Tectulithus</i>	Specimen	Sample	Column			Tectum		Total height (µm)
			height (µm)	prossimal width (µm)	distal width (µm)	height (µm)	width (µm)	
<i>T. janii</i>	Fig 19 (4)	356Z 23R-1W, 70-71	4.0	3.4	5.3	2.9	7.4	7.0
	Fig 19 (5)	356Z 23R-1W, 70-71	4.5	3.4	5.4	3.2	7.4	7.7

	Fig 19 (6)	356Z 23R-1W, 70-71	3.6	3.0	5.0	2.1	6.7	5.7
	Fig 19 (7)	356Z 23R-1W, 70-71	4.0	3.6	5.2	2.4	7.4	6.5
	Fig 19 (8)	1209B 24-5,8-9	4.4	3.3	4.6	2.7	7.8	7.1
	Fig 19 (9)	1209B 24-5,8-9	3.6	2.6	4.3	2.6	6.9	6.2
<i>Tectulithus</i> cf. <i>T. pagodiformis</i>	Fig 21 (1)	356Z 23R-1, 70-7	4.5	4.9	6.5	1.6	6.0	6.1
<i>Tectulithus</i> cf. <i>T. merloti</i>	Fig 21 (2)	119 37-4,120-121	3.2	4.0	5.0	3.3	7.2	6.5
<i>T. merloti</i>	Fig 21 (3)	1262C 10-4,131-132	4.0	3.3	5.0	2.3	6.3	6.2
	Fig 21 (4)	1262C 10-3,74-75	2.9	3.8	5.0	2.2	6.5	5.0
	Fig 21 (5)	1262C 10-3,74-75	3.3	4.2	5.1	1.9	6.3	5.2
	Fig 21 (6)	1262C 10-3,74-75	3.5	3.6	5.5	2.1	6.7	5.6
	Fig 21 (7)	119 37-4, 120-121	2.7	2.7	4.2	2.1	6.5	4.8
<i>T. pagodiformis</i>	Fig 22 (1)	356Z 23R-1, 70-71	5.4	6.4	7.2	2.0	6.5	7.4
	Fig 22 (2)	356Z 23R-1, 70-72	4.7	4.9	6.1	2.5	5.7	7.2
	Fig 22 (3)	356Z 23R-1, 70-73	5.2	6.1	7.1	2.6	3.9	7.8
<i>T. pileatus</i>	Fig 22 (4)	356Z 23R-1, 70-74	4.5	5.3	7.0	2.4	6.7	7.0
	Fig 22 (5)	1262C 10-4,131-132	4.23	4.71	6.15	2.37	5.73	6.6
	Fig 22 (6)	1209B 24-5, 8-9	4.3	5.1	6.67	2.55	6.2	6.85
<i>T. stegastos</i>	Fig 22 (7)	1209C 14-1, 56-57	3.25	5	5.68	0.56	5.63	3.81
	Fig 22 (8)	1209B 24-5, 8-9	3.3	4.72	5.86	0.9	6.15	4.2
<i>T. stonehengei</i>	Fig 23 (1)	1262C 10-4,131-132	3.5	3.23	4.66	1.61	5.58	5.11
	Fig 23 (2)	1262C 10-3, 74-75	4.14	4.53	5.58	2.25	6.36	6.39
	Fig 23 (3)	1209B 24-5,8-9	3.05	3.51	4.45	1.79	5.84	4.84

Table S7. Morphometric measurements of *Fasciculithus* acquired for this study.

<i>Fasciculithus</i>	Specimen	Sample	Column			Calyptra		Total height (µm)
			height (µm)	prossimal width (µm)	distal width (µm)	height (µm)	width (µm)	
<i>F. billii</i>	Fig 23 (4)	1262C 10-4, 131-132	5.5	5.5	6.8	1.5	3.2	5.5
	Fig 23 (5)	1209B 24-5, 8-9	6.0	6.2	6.9	1.1	3.1	7.0
	Fig 23 (6)	1262C 10-3, 74-75	4.2	5.9	6.8	1.1	3.8	5.5
	Fig 23 (7)	1262C 10-4, 131-132	4.9	4.8	5.7	1.3	3.8	5.1
<i>Fasciculithus</i> sp. A	Fig 25 (1)	1262C 10-3,74-75	5.4	6.7	7.2	1.7	5.4	7.1
	Fig 25 (2)	1262C 10-3,74-75	4.5	5.2	5.8	1.0	4.9	5.9
	Fig 25 (3)	1262C 10-3,74-75	3.9	4.9	5.3	0.9	4.0	4.8
<i>F. realeae</i>	Fig 25 (5)	1209C-14-1, 56-67	4.6	6.4	6.4	1.4	4.7	6.0
	Fig 25 (6)	1209C-14-1, 56-67	4.5	5.9	6.1	1.0	4.5	5.5
	Fig 25 (7)	1209C-14-1, 56-67	5.0	6.0	6.7	0.9	5.7	5.9
<i>F. vertebratoides</i>	Fig 26 (1)	356Z 23R-1W, 70-71	5.2	5.4	6.9	1.5	3.6	6.7
	Fig 26 (2)	356Z 23R-1W, 70-71	4.6	5.8	6.3	1.0	3.6	5.7
	Fig 26 (3)	1262C 10-6, 23-24	4.6	7.6	7.9	2.0	4.6	6.6
	Fig 26 (4)	119 37-4, 40-41	4.8	6.0	6.4	1.3	3.5	6.1
	Fig 26 (5)	356Z 23R-1W, 70-71	4.3	5.8	5.8	1.0	3.0	5.3

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