Table S1: samples collected from the sandy ridges of the paleo-delta identified SE of Torre di Fine (first progradation phase, Ph1). The presence of bioclasts coarser than grain size is also indicated.

Core name Depth in m and texture	Sample name	Depth (m from ground surface)	Bioclast content
1A 0–2.00 Fine sand	1A-1	0.80–0.90	Rare fragments of shells (size ≤ 2 mm)
	1A-2	1.00–1.10	Rare fragments of shells (size ≤ 2 mm)
	1A-3	1.20–1.30	Rare fragments of shells (size ≤ 2 mm)
	1A-4	1.50–1.60	Rare fragments of shells (size ≤ 2 mm)
	1A-5	1.90–2.00	Rare fragments of shells (size ≤ 2 mm)
1B 0–1.90 Fine sand	1B-1	0.70–0.80	Absence of bioclasts
	1B-2	1.05–1.15	Absence of bioclasts
	1B-3	1.50–1.60	Absence of bioclasts
	1B-4	1.80–1.90	Quite abundant fragments of shells (size ≤ 1 cm)
1C 0–1.80 Fine sand	1C-1	0.60–0.70	Rare fragments of shells (size ≤ 2 mm)
	1C-2	0.75–0.85	Rare fragments of shells (size ≤ 2 mm)
	1C-3	0.95–1.05	Absence of bioclasts
	1C-4	1.20–1.30	Rare fragments of shells (size ≤ 2 mm)
	1C-5	1.50–1.60	Rare fragments of shells (size ≤ 2 mm)

Table S2: samples collected from the sandy ridges of the second progradation phase (Ph2). The presence of bioclasts coarser than grain size is also indicated.

Core name Depth in m and texture	Sample name	Depth (m from ground surface)	Bioclast content
2A 0–2.00 Fine sand	2A-1	1.10–1.20	Absence of bioclasts
	2A-2	1.30–1.40	Absence of bioclasts
	2A-3	1.60–1.70	Absence of bioclasts
	2A-4	1.75–1.85	Some fragments of shells (size ≤ 5 mm)
2B 0–0.85 Fine sand 0.85–1.50 Clayey silt and silty clay 1.50–2.10 Fine sand			
	2B-1	1.65–1.75	Absence of bioclasts
	2B-2	2.00–2.10	Some fragments of shells (size ≤ 4 mm)
2C 0–0.80 Fine sand 0.80–1.05 Silty clay 1.05–2.30 Fine sand	2C-1	1.30–1.40	Absence of bioclasts
	2C-2	1.60–1.70	Very scarce fragments of shells (size ≤ 1.5 mm)
	2C-3	1.80–1.90	Absence of bioclasts
	2C-4	2.20–2.30	Very scarce fragments of shells (size ≤ 1 cm)
2/3A 0–0.85 Silty clay	2/3A-1	1.35–1.45	Submillimetre-sized fragments of shells

	2/3A-2	1.50–1.60	Millimetre-sized fragments of shells
0.85–2.00 Fine sand	2/3A-3	1.70–1.80	Millimetre-sized fragments of shells

Table S3: samples collected from the sandy ridges of the third progradation phase (Ph3). The presence of bioclasts coarser than grain size is also indicated.

Core name Depth in m and texture	Sample name	Depth (m from ground surface)	Bioclast content
3aA 0–1.80 Fine sand	3aA-1	0.50–0.60	Absence of bioclasts
	3aA-2	0.65–0.75	Absence of bioclasts
	3aA-3	0.85–0.95	Absence of bioclasts
	3aA-4	1.10–1.20	Absence of bioclasts
	3aA-5	1.35–1.45	Absence of bioclasts
3aB 0–0.50 Fine sand 0.50–0.65 Clayey silt 0.65–0.80 Peat 0.80–1.80 Fine sand	3aB-1	0.80–0.90	Absence of bioclasts
	3aB-2	1.00–1.10	Absence of bioclasts
	3aB-3	1.30–1.40	Absence of bioclasts
3aC 0–1.80 Fine sand	3aC-1	0.45–0.55	Absence of bioclasts
	3aC-2	0.70–0.80	Absence of bioclasts
	3aC-3	0.90–1.00	Absence of bioclasts
	3aC-4	1.20–1.30	Absence of bioclasts
3aD 0–0.50 Sandy silt 0.50–0.80 Organic clay 0.80–1.80 Fine sand	3aD-1	0.80–0.90	Scarce fragments of shells (size ≤ 6 mm)
	3aD-2	1.10–1.20	Scarce fragments of shells (size ≤ 6 mm)
	3aD-3	1.30–1.40	Scarce fragments of shells (size ≤ 6 mm)
3bA 0–1.80 Fine sand	3bA-1	0.55–0.65	Scarce fragments of shells (size ≤ 1.5 mm)
	3bA-2	0.75–0.85	Absence of bioclasts
	3bA-3	1.00–1.10	Absence of bioclasts
	3bA-4	1.20–1.30	Scarce submillimetre-sized fragments of shells
	3bA-5	1.40–1.50	Scarce millimetre-sized fragments of shells
	3bA-6	1.65–1.75	Scarce fragments of shells (size ≤ 1 cm)
3bB 0–1.90 Fine sand	3bB-1	0.60–0.70	Absence of bioclasts
	3bB-2	0.85–0.95	Absence of bioclasts
	3bB-3	1.00–1.10	Absence of bioclasts
	3bB-4	1.30–1.40	Absence of bioclasts
3bC 0–1.40 Fine sand	3bC-1	0.55–0.65	Very scarce submillimetre-sized fragments of shells
	3bC-2	0.70–0.80	Very scarce submillimetre-sized fragments of shells
	3bC-3	1.00–1.10	Very scarce submillimetre-sized fragments of shells

Table S4: samples collected from the sandy ridges of the fourth progradation phase (Ph4). The presence of bioclasts coarser than grain size is also indicated.

Core name Depth in m and texture	Sample name	Depth (m from ground surface)	Bioclast content
4A 0–1.90 Fine sand	4A-1	0.65–0.75	Absence of bioclasts
	4A-2	0.90–1.00	Absence of bioclasts
	4A-3	1.15–1.25	Absence of bioclasts
	4A-4	1.30–1.40	Scarce millimetre-sized fragments of shells
	4A-5	1.50–1.60	Rare submillimetre-sized fragments of shells
	4A-6	1.75–1.85	Quite abundant fragments of shells (size ≤ 1 cm)
4B 0–2.00 Fine sand	4B-1	1.0–1.10	Quite abundant fragments of shells (size ≤ 1 cm)
4C 0–1.70 Fine sand	4C-1	1.00–1.10	Quite abundant fragments of shells (size ≤ 1 cm)
	4C-2	1.40–1.50	Abundant fragments of shells (size ≤ 1 cm)
4D 0–1.80 Fine sand	4D-1	0.65–0.75	Absence of bioclasts
	4D-2	0.85–0.95	Fragments of shells (size ≤ 3 mm)
	4D-3	1.00–1.10	Fragments of shells (size ≤ 8 mm)

Table S5: samples collected from the sandy ridges of the fifth progradation phase (Ph5). The presence of bioclasts coarser than grain size is also indicated.

Core name Depth in m and texture	Sample name	Depth (m from ground surface)	Bioclast content
5A 0-2.20 Fine sand	5A-1	0.60–0.70	Absence of bioclasts
	5A-2	1.20–1.30	Rare millimetre-sized fragments of shells
	5A-3	2.10–2.20	Rare millimetre-sized fragments of shells

Table S6: samples collected from the sandy ridges of the paleo-delta identified SE of Torre di Fine (first progradation phase, Ph1). The grain-size parameters (i.e. mean (M_z, Ø units), sorting, skewness, and kurtosis) and their classification are also indicated. Sorting (σ_1): WS = well sorted, MWS = moderately well sorted. Skewness (Sk_1): VPS = very positive skewed, PS = positive skewed, NS = negative skewed. Kurtosis (K_g): EL = extremely leptokurtic, VL = very leptokurtic, M = mesokurtic.

Sample name	Depth (m from ground surface)	Mean (M_z)	Sorting (σ_1)	Skewness (Sk_1)	Kurtosis (K_g)
1A-1	0.80–0.90	2.56	0.53 (MWS)	0.26 (PS)	1.82 (VL)
1A-2	1.00–1.10	2.48	0.52 (MWS)	0.32 (VPS)	4.31 (EL)
1A-3	1.20–1.30	2.56	0.50 (WS)	0.37 (VPS)	3.05 (EL)
1A-4	1.50–1.60	2.49	0.40 (WS)	0.19 (PS)	1.59 (VL)
1A-5	1.90–2.00	2.47	0.42 (WS)	0.13 (PS)	1.71 (VL)
1B-1	0.70–0.80	2.57	0.49 (WS)	0.26 (PS)	1.90 (VL)
1B-2	1.05–1.15	2.61	0.56 (MWS)	0.37 (VPS)	2.19 (VL)
1B-3	1.50–1.60	2.50	0.53 (MWS)	0.25 (PS)	2.37 (VL)
1B-4	1.80–1.90	2.24	0.37 (WS)	−0.11 (NS)	0.94 (M)
1C-1	0.60–0.70	2.72	0.56 (MWS)	0.44 (VPS)	2.70 (VL)
1C-2	0.75–0.85	2.68	0.49 (WS)	0.34 (VPS)	2.23 (VL)
1C-3	0.95–1.05	2.68	0.54 (MWS)	0.11 (PS)	2.14 (VL)
1C-4	1.20–1.30	2.72	0.50 (MWS)	0.30 (PS)	2.47 (VL)

| 1C-5 | 1.50–1.60 | 2.80 | 0.51 (MWS) | 0.31 (VPS) | 2.22 (VL) |

Table S7: samples collected from the sandy ridges of the second progradation phase (Ph2). The grain-size parameters (i.e. mean (Mz, Ø units), sorting, skewness, and kurtosis) and their classification are also indicated. Sorting (σ_1): WS = well sorted, MWS = moderately well sorted, MS = moderately sorted. Skewness (Sk$_1$): VPS = very positive skewed, PS = positive skewed, nS = near symmetrical, NS = negative skewed. Kurtosis (K$_g$): VL = very leptokurtic, L = leptokurtic, M = mesokurtic.

Sample name	Depth (m from ground surface)	Mean (M$_z$)	Sorting (σ_1)	Skewness (Sk$_1$)	Kurtosis (K$_g$)
2A-1	1.1 –1.20	2.82	0.75 (MS)	0.35 (VPS)	1.34 (L)
2A-2	1.30–1.40	2.65	0.49 (WS)	0.07 (nS)	1.57 (VL)
2A-3	1.60–1.70	2.6	0.47 (WS)	0.05 (nS)	1.36 (L)
2A-4	1.75–1.85	2.42	0.63 (MWS)	−0.05(nS)	1.25 (L)
2B-1	1.65–1.75	3.89	0.72 (MS)	−0.07 (nS)	0.92 (M)
2B-2	2.00–2.10	2.79	0.68 (MWS)	0.43 (VPS)	1.59 (VL)
2C-1	1.30–1.40	2.48	0.46 (WS)	0.10 (PS)	1.49 (L)
2C-2	1.60–1.70	2.41	0.40 (WS)	−0.10 (NS)	1.26 (L)
2C-3	1.80–1.90	2.63	0.46 (WS)	0.07 (nS)	1.95 (VL)
2C-4	2.20–2.30	2.64	0.46 (WS)	−0.06 (nS)	1.35 (L)
2/3A-1	1.35–1.45	2.64	0.57 (MWS)	−0.05 (nS)	1.65 (VL)
2/3A-2	1.50–1.60	2.58	0.56 (MWS)	−0.04 (nS)	1.45 (L)
2/3A-3	1.70–1.80	2.55	0.48 (WS)	−0.07 (nS)	1.21 (L)

Table S8: samples collected from the sandy ridges of the third progradation phase (Ph3). The grain-size parameters (i.e. mean (Mz, Ø units), sorting, skewness, and kurtosis) and their classification are also indicated. Sorting (σ_1): VWS = very well sorted, WS = well sorted, MWS = moderately well sorted. Skewness (Sk$_1$): VPS = very positive skewed, PS = positive skewed, nS = near symmetrical, NS = negative skewed. Kurtosis (K$_g$): EL = extremely leptokurtic, VL = very leptokurtic, L = leptokurtic, M = mesokurtic.

Sample name	Depth (m from ground surface)	Mean (M$_z$)	Sorting (σ_1)	Skewness (Sk$_1$)	Kurtosis (K$_g$)
3aA-1	0.50–0.60	2.57	0.53 (MWS)	0.14 (PS)	2.08 (VL)
3aA-2	0.65–0.75	2.54	0.38 (WS)	0.23 (PS)	3.57 (EL)
3aA-3	0.85–0.95	2.55	0.34 (VWS)	−0.10 (NS)	1.19 (L)
3aA-4	1.10–1.20	2.49	0.35 (WS)	−0.10 (NS)	0.93 (M)
3aA-5	1.35–1.45	2.57	0.36 (WS)	−0.04 (nS)	1.17 (L)
3aB-1	0.80–0.90	2.58	0.49 (WS)	0.31 (VPS)	2.03 (VL)
3aB-2	1.00–1.10	2.47	0.30 (VWS)	−0.07 (nS)	1.54 (VL)
3aB-3	1.30–1.40	2.52	0.34 (VWS)	−0.12 (NS)	1.16 (L)
3aC-1	0.45 –0.55	2.56	0.33 (VWS)	0.09 (nS)	1.54 (VL)
3aC-2	0.70–0.80	2.57	0.33 (VWS)	−0.01 (nS)	1.09 (M)
3aC-3	0.90–1.00	2.57	0.26 (VWS)	−0.01 (nS)	1.07 (M)
3aC-4	1.20–1.30	2.46	0.28 (VWS)	−0.10 (NS)	0.97 (M)
3aD-1	0.80–0.90	2.48	0.43 (WS)	0.20 (PS)	2.83 (VL)
3aD-2	1.10–1.20	2.49	0.34 (VWS)	0.06 (nS)	1.19 (L)
3aD-3	1.30–1.40	2.49	0.31 (VWS)	−0.03 (nS)	1.19 (L)
3bA-1	0.55–0.65	2.49	0.52 (MWS)	0.17 (PS)	1.90 (VL)
3bA-2	0.75–0.85	2.54	0.40 (WS)	0.13 (PS)	1.39 (L)
3bA-3	1.00–1.10	2.65	0.36 (WS)	0.15 (PS)	1.37 (L)
3bA-4	1.20–1.30	2.60	0.35 (WS)	0.01 (nS)	1.29 (L)
3bA-5	1.40–1.50	2.72	0.35 (WS)	0.15 (PS)	1.38 (L)

3bA-6	1.65–1.75	2.66	0.51 (MWS)	−0.03 (nS)	1.46 (L)
3bB-1	0.60–0.70	2.71	0.59 (MWS)	0.06 (nS)	2.33 (VL)
3bB-2	0.85–0.95	2.72	0.50 (MWS)	0.27 (PS)	2.41 (VL)
3bB-3	1.00–1.10	2.74	0.53 (MWS)	0.28 (PS)	2.10 (VL)
3bB-4	1.30–1.40	2.66	0.34 (VWS)	0.26 (PS)	1.86 (VL)
3bC-1	0.55–0.65	2.64	0.38 (WS)	0.24 (PS)	2.21(VL)
3bC-2	0.70–0.80	2.63	0.28 (VWS)	0.16 (PS)	1.48 (L)
3bC-3	1.00–1.10	2.50	0.31 (VWS)	−0.01 (nS)	0.99 (M)

Table S9: samples collected from the sandy ridges of the fourth progradation phase (Ph4). The grain-size parameters (i.e. mean (M_Z, Ø units), sorting, skewness, and kurtosis) and their classification are also indicated. Sorting (σ_1): VWS = very well sorted, WS = well sorted, MWS = moderately well sorted. Skewness (Sk_1): VPS = very positive skewed, PS = positive skewed, nS = near symmetrical, NS = negative skewed. Kurtosis (K_g): EL = extremely leptokurtic, VL = very leptokurtic, L = leptokurtic.

Sample name	Depth (m from ground surface)	Mean (M_z)	Sorting (σ_1)	Skewness (Sk_1)	Kurtosis (K_g)
4A-1	0.65–0.75	2.52	0.34 (VWS)	0.01 (nS)	1.47 (L)
4A-2	0.90–1.00	2.50	0.50 (MWS)	0.26 (PS)	2.69 (VL)
4A-3	1.15–1.25	2.59	0.50 (MWS)	0.27 (PS)	2.41 (VL)
4A-4	1.30–1.40	2.47	0.46 (WS)	0.18 (PS)	2.18 (VL)
4A-5	1.50–1.60	2.52	0.39 (WS)	0.03 (nS)	1.40 (L)
4A-6	1.75–1.85	2.45	0.34 (VWS)	−0.16 (NS)	1.52 (VL)
4B-1	1.00–1.10	2.57	0.56 (MWS)	0.17 (PS)	2.02 (VL)
4C-1	1.00–1.10	2.56	0.57 (MWS)	0.20 (PS)	1.69 (VL)
4C-2	1.40–1.50	2.60	0.56 (MWS)	0.18 (PS)	2.34 (VL)
4D-1	0.65–0.75	2.60	0.52 (MWS)	0.46 (VPS)	3.27 (EL)
4D-2	0.85–0.95	2.50	0.38 (WS)	0.04 (nS)	1.84 (VL)
4D-3	1.00–1.10	2.49	0.33 (VWS)	−0.09 (nS)	1.76 (VL)

Table S10: samples collected from the sandy ridges of the fifth progradation phase (Ph5). The grain-size parameters (i.e. mean (M_Z, Ø units), sorting, skewness, and kurtosis) and their classification are also indicated. Sorting (σ_1): WS = well sorted, MWS = moderately well sorted. Skewness (Sk_1): VPS = very positive skewed. Kurtosis (K_g): VL = very leptokurtic.

Sample name	Depth (m from ground surface)	Mean (M_z)	Sorting (σ_1)	Skewness (Sk_1)	Kurtosis (K_g)
5A-1	0.60–0.70	2.57	0.46 (WS)	0.43 (VPS)	2.74 (VL)
5A-2	1.20–1.30	2.69	0.68 (MWS)	0.40 (VPS)	1.81 (VL)
5A-3	2.10–2.20	2.66	0.60 (MWS)	0.37 (VPS)	1.91 (VL)