Table S1 – Detailed summary of the findings about facial sexual dimorphism across studies

Studies using sparse-landmark approach							
First author, Year	Population/Group	Sample size (F, M)	Age range (mean)	Analysis		Results	
				Material	Methodology, Statistics	Study-specific findings	Common findings
Ferrario et al., 1993 [20]	White Caucasian	108 (51F, 57M)	20-27 yrs	2D photographs	Euclidean Distance Matrix Analysis (EDMA), T-statistics	Sex dimorphism due to the different size and spatial position of similarly shaped facial structures M: rectangular face F: squarer face, upturned nasal tip	M: larger face (length and width), prominent and wider noses, wider mouths F: smaller face
Ferrario et al., 1994 [21]	White Caucasian	76 (36F, 40M)	19-32 yrs (21 yrs)	3D coordinates	Euclidean Distance Matrix Analysis (EDMA), T-statistics	M: face size 6% to 7% bigger	
Celebi et al., 2018 [8]	Italian Egyptian	139 (67F, 72M) 120 (60F, 60M)	18-30 yrs	3D images	Linear measurements, independent t-tests	Italians M: thinner lip vermilions height Egyptians M: deeper labial philtrum and bigger lip dimensions	
Studies using sparse-landmark and spatially dense GMM approaches in 3D							
First author, Year	Population/Group	Sample size (F, M)	Age range (mean)	Analysis		Results	
				Material	Methodology, Statistics	Study-specific findings	Common findings
Velemínská et al., 2022 [33]	Czech	456 (250F, 206M)	14-83 yrs	3D images; Shape	Linear distances, two-way ANOVA	M: protrusion of the labial philtrum	M: larger faces (length and width), supraorbital bossing, deep-set eyes, bigger

						GMMs, per-vertex two-sample t-tests, Color maps		dimensions of the nose, protrusion of the upper lip and chin, and wider mandible F: smaller and rounder face with malar fullness and vertical profile of the forehead
Bannister et al., 2022 [6]	European descendants	1573 (1028F, 545M)	> 20 yrs	3D images	Shape Form	Linear distances, Welch's t-test GMMs, PLSR, color maps	R^2 sex effect on shape: 6% R^2 sex effect on form: 30% M: face size 7.3% bigger, longer upper lip F: upturned nasal tip and narrower nostrils	

Studies using spatially dense GMM approaches in 3D								
First author, Year	Population/Group	Sample size (F, M)	Age range (mean)	Analysis			Results	
				Material		Methodology, Statistics	Study-specific findings	Common findings
Hennessy et al., 2005 [41]	Irish, Scottish, Welsh, English	128 (82F, 46M)	F: 20-59 yrs (32.2 ± 9.2 yrs) M: 22-65 yrs (33.1 ± 9.7 yrs)	3D images	Shape	Hotelling's T^2, color maps	F: upturned nasal tip	M: larger faces (length and width), supraorbital bossing, deep-set eyes, bigger dimensions of the nose, protrusion of the upper lip and chin, and wider mandible F: smaller and rounder face with malar fullness and vertical profile of the forehead
Claes et al., 2014 [25]	European descendants (USA, Brazil), West African (Cape Verde)	592	18-40 yrs	3D images	Shape	BRIM, color maps	R^2 sex effect on shape: 13%	
Mydlová et al., 2015 [18]	Czech	194 (115F, 79M)	20-82 yrs	3D images	Shape Form	Hotelling's T^2, color maps	/	
Matthews et al., 2023 [11]	European descendants	2446 (1223F, 1223M)	18-84 yrs (27.8 yrs)	3D images	Shape	GMMs, PLSR, color maps	M: deeper labial philtrum	

							F: deeper nasolabial folds, upturned nasal tip	
Da Silva et al., 2025 [14]	European descendants	1080 (540F, 540M)	18-40 yrs (26.1 ± 5.3 yrs)	3D images	Shape	GMMs, sex-on-shape regression, color maps	R^2 sex effect on shape: 3.5% R^2 sex effect on shape (non-allometric component): 1.7%	
Our study	Italian	342 (170 F, 172 M)	F: 18-40 yrs (25.7 ± 7.2 yrs) M: 18-40 yrs (23.2 ± 5.8 yrs)	3D images	Shape Form	GMMs, PLSR, color maps	R^2 sex effect on shape: 10.4% R^2 sex effect on form: 24.2% M: face size 5.3% bigger, flatter labiomandibular crease, absence of wider mandible F: wider temples, fuller cheeks extending from the infraorbital region to the buccal and mandibular ones	

M: male; F: female; 2D: two-dimensional; 3D; three-dimensional; GMM: geometric morphometric, PLSR: partial least square regression, BRIM: bootstrapped response-based imputation modeling.