Supporting Information

Table S1. Species names, locality data, locality codes, number of shells used in the geometric morphometric analysis, number of dissected (Diss) and sequenced (#DNA) individuals and GenBank accession numbers for the *Corrosella* populations included in the molecular analyses.

Species	Locality	Code	#Shells	#Diss	#DNA	GenBank accession # COI/16S/28S
Outgroup						
Mercuria similis (Draparnaud, 1805)	Ullal Baltasar, Amposta, Tarragona, Spain (40.6709, 0.5869)				1	JX081888 Delicado et al., 2013 JX081990 Delicado et al., 2013 JX081779 Delicado et al., 2013
Peringia ulvae (Pennant, 1777)	Bahia de O Grove, Pontevedra, Spain (42.48, -8.85)				1	JX081889 Delicado et al., 2013 JX081991 Delicado et al., 2013 JX081780 Delicado et al., 2013
Pseudamnicola subproductus (Paladilhe, 1869)	Ullal Baltasar, Amposta, Tarragona, Spain (40.6709, 0.5869)				2	JX081886-87 Delicado et al., 2013 JX081988-89 Delicado et al., 2013 JX081777-78 Delicado et al., 2013
Ingroup						
Corrosella andalusica (Delicado, Machordom & Ramos, 2012)	La Salud Spring, Albanchez de Mágina, Jaén, Spain (type locality) (37.7802, -3.4688)	Sal	14	7	1	JF312223 Delicado et al., 2012 JX081893 Delicado et al., 2013 JX081682 Delicado et al., 2013
	Eduardo Spring, Alcaucín, Málaga, Spain (36.9168, -4.0919)	Edu	14	2	1	JX081805 Delicado et al., 2013 JX081894 Delicado et al., 2013 JX081683 Delicado et al., 2013
	El Piojo Spring, Almedinilla, Córdoba, Spain (37.4333, -4.0862)	Pio	1	-	1	JX081806 Delicado et al., 2013 JX081895 Delicado et al., 2013 JX081684 Delicado et al., 2013
C. astierii (Dupuy, 1851)	Source d' Argens, Brue-Auriac, France (43.5187, 5.9071)	Arg	15	6	3	JQ067672-74 Delicado & Ramos, 2012 JX081890-92 Delicado et al., 2013 JX081679-81 Delicado et al., 2013
C. atlasensis Boulaassafer, Ghamizi & Delicado, 2021	Sidi Mimoun Spring, near Awa Lake, Ifrane, Morocco (type locality) (33.6543, -4.9669)	Sdm	3	3	1	MW385546 Boulaassafer et al., 2021 MW398858 Boulaassafer et al., 2021 MW398843 Boulaassafer et al., 2021

Species	Locality	Code	#Shells	#Diss	#DNA	GenBank accession # COI/16S/28S
***C. ballestae* sp. nov.**	Gordo Spring near Játar, Granada, Spain (type locality) (36.9308, -3.9166)	Jat	10	8	3	JX081807-09 Delicado et al., 2013 JX081896-98 Delicado et al., 2013 JX081685-87 Delicado et al., 2013
C. bareai (Delicado, Machordom & Ramos, 2012)	Spring in Ermita de las Santas, Collados de la Sagra, Granada, Spain (type locality) (37.4333, -4.0862)	San	32	10	4	JF312225–26 Delicado et al., 2012; JX081810–11 Delicado et al., 2013 JX081899–902 Delicado et al., 2013 JX081688–91 Delicado et al., 2013
	Agüerillo Spring, Castril, Granada, Spain (37.8296, -2.8093)	Agu	6	2	1	JX081812 Delicado et al., 2013 JX081903 Delicado et al., 2013 JX081692 Delicado et al., 2013
	El Laude Spring, Castril, Granada, Spain (37.8327, -2.8052)	Lau	11	4	1	JX081813 Delicado et al., 2013 JX081904 Delicado et al., 2013 JX081693 Delicado et al., 2013
	Fuente Nuevas Spring, Castril, Granada, Spain (37.7866, -2.8690)	Nue	9	4	2	JX081814-15 Delicado et al., 2013 JX081905-06 Delicado et al., 2013 JX081694-95 Delicado et al., 2013
	Siete Fuentes Spring, Cuenca, Jaén, Spain (37.7398, -2.9716)	Sie	12	2	1	JX081816 Delicado et al., 2013 JX081907 Delicado et al., 2013 JX081696 Delicado et al., 2013
	La Plata Spring, Riopar, Albacete, Spain (38.4875, -2.3244)	Pla	17	8	3	JX081817-19 Delicado et al., 2013 JX081908-10 Delicado et al., 2013 JX081697-99 Delicado et al., 2013
C. collingi (Boeters, Girardi & Knebelsberger, 2015)	Pozo Azul Spring, Covanera, Burgos, Spain (type locality) (42.7396, -3.7976)	Poz	13	9	3	JX081873-75 Delicado et al., 2013 JX081975-77 Delicado et al., 2013 JX081764-66 Delicado et al., 2013
	Stream in Tubilleja, Burgos, Spain (42.8535, -3.7149)	Tub	10	4	1	JX081878 Delicado et al., 2013 JX081980 Delicado et al., 2013 JX081769 Delicado et al., 2013
	La Toba Spring, Tubilla del agua, Burgos, Spain (42.7087, -3.8046)	Tob	10	5	1	JX081876 Delicado et al., 2013 JX081978 Delicado et al., 2013 JX081767 Delicado et al., 2013

Species	Locality	Code	#Shells	#Diss	#DNA	GenBank accession # COI/16S/28S
	Valdeménez Stream, Sedano, Burgos, Spain (42.7163, -3.8007)	Vld	-	-	1	JX081877 Delicado et al., 2013 JX081979 Delicado et al., 2013 JX081768 Delicado et al., 2013
C. falkneri Boeters, 1970	La Armada Spring, Orce, Granada, Spain (37.7314, -2.4764)	Arm	24	8	3	JF312224; Delicado et al., 2012; JX081820–21 Delicado et al., 2013 JX081911-13 Delicado et al., 2013 JX081700-02 Delicado et al., 2013
	Palo Spring, Orce, Granada, Spain (37.7263, -2.4876)	Pal	14	7	1	JX081822 Delicado et al., 2013 JX081914 Delicado et al., 2013 JX081703 Delicado et al., 2013
	Tubos Spring, Castril, Granada, Spain (37.8188, -2.7676)	Cas	-	-	1	JX081823 Delicado et al., 2013 JX081915 Delicado et al., 2013 JX081704 Delicado et al., 2013
	Dos Caños Spring, Castril, Granada, Spain (37.8191, -2.7686)	Dos	5	4	2	JX081824-25 Delicado et al., 2013 JX081916-17 Delicado et al., 2013 JX081705-06 Delicado et al., 2013
	La Errá Spring, La Dehesa, Albacete, Spain (38.3273, -2.1730)	Deh	11	4	2	JX081826-27 Delicado et al., 2013 JX081918-19 Delicado et al., 2013 JX081707-08 Delicado et al., 2013
C. herreroi (Bench, 1993)	Nogales Spring, Benafer, Castellón, Spain (39.9300, -0.5736)	Nog	19	8	3	JQ067675-77 Delicado & Ramos, 2012 JX081920-22 Delicado et al., 2013 JX081709-11 Delicado et al., 2013
	Curso Spring, Navajas, Castellón, Spain (39.8738, -0.5011)	Cur	6	4	3	JX081828-30 Delicado et al., 2013 JX081923-25 Delicado et al., 2013 JX081712-14 Delicado et al., 2013
	San Miguel Spring, Viver, Castellón, Spain (39.9254, -0.6119)	SMi	6	4	2	JX081831-32 Delicado et al., 2013 JX081926-27 Delicado et al., 2013 JX081715-16 Delicado et al., 2013
C. hinzi (Boeters, 1986)	Balsa de Vargas Spring, Borja, Zaragoza, Spain (41.8253, -1.5525)	Var	17	8	3	JX081833-35 Delicado et al., 2013 JX081928-30 Delicado et al., 2013 JX081717-19 Delicado et al., 2013

Species	Locality	Code	#Shells	#Diss	#DNA	GenBank accession # COI/16S/28S
	Cazuelas Spring, Borja, Zaragoza, Spain (41.8225, -1.5502)	Caz	17	5	2	JX081836-37 Delicado et al., 2013 JX081931-32 Delicado et al., 2013 JX081720-21 Delicado et al., 2013
	Spring of river park in Calamocha, Teruel, Spain (40.9261, -1.2989)	Cal	2	6	1	JX081838 Delicado et al., 2013 JX081933 Delicado et al., 2013 JX081722 Delicado et al., 2013
	Prado Spring, Caminreal, Teruel, Spain (40.8452, -1.3343)	Cam	1	-	2	JX081839-40 Delicado et al., 2013 JX081934-35 Delicado et al., 2013 JX081723-24 Delicado et al., 2013
C. iruritai (Delicado, Machordom & Ramos, 2012)	Don Pedro Spring, Loja, Granada, Spain (type locality) (37.1777, -4.1331)	DPe	17	8	3	JF312221-22 Delicado et al., 2012; JX081841 Delicado et al., 2013 JX081936-38 Delicado et al., 2013 JX081725-27 Delicado et al., 2013
C. luisi (Boeters, 1984)	La Gitana Spring, La Peza, Granada, Spain (type locality) (37.2690, -3.2930)	Git	26	8	3	JF312220 Delicado et al., 2012; JX081842–43 Delicado et al., 2013 JX081939-41 Delicado et al., 2013 JX081728-30 Delicado et al., 2013
	Polvorista Stream, Quéntar, Granada, Spain (37.2532, -3.3933)	Pol	16	2	1	JX081844 Delicado et al., 2013 JX081942 Delicado et al., 2013 JX081731 Delicado et al., 2013
	La Teja Spring, Sierra de Huétor, Granada, Spain (37.2664, -3.5085)	Tej	-	-	2	JX081845-46 Delicado et al., 2013 JX081943-44 Delicado et al., 2013 JX081732-33 Delicado et al., 2013
C. mahouchii Boulaassafer, Ghamizi & Delicado, 2021	Tizerdiouin Spring, Timdghasse, 40 km S-E of Khenifra, Morocco (type locality) (32.6823, -5.5410)	Tiz	16	4	2	MW385537-38 Boulaassafer et al., 2021 MW398849-50 Boulaassafer et al., 2021 MW398836-37 Boulaassafer et al., 2021
C. manueli (Delicado, Machordom & Ramos, 2012)	Garganta Stream, Nava de San Pedro, Jaén, Spain (type locality) (37.8964, -2.8940)	Gar	29	11	2	JF312227-28 Delicado et al., 2012 JX081945-46 Delicado et al., 2013 JX081734-35 Delicado et al., 2013
	El Valle Stream, La Iruela, Jaén, Spain (37.9198, -2.9559)	Val	21	6	2	JX081847-48 Delicado et al., 2013 JX081947-48 Delicado et al., 2013 JX081736-37 Delicado et al., 2013

Species	Locality	Code	#Shells	#Diss	#DNA	GenBank accession # COI/16S/28S
	El Céfano Spring, La Iruela, Jaén, Spain (37.9298, -2.9759)	Cef	5	2	1	JX081849 Delicado et al., 2013 JX081949 Delicado et al., 2013 JX081738 Delicado et al., 2013
	San Isidro Ditch, Cazorla, Jaén, Spain (37.9123, -3.0033)	Isi	-	-	2	JX081850-51 Delicado et al., 2013 JX081950-51 Delicado et al., 2013 JX081739-40 Delicado et al., 2013
C. marisolae (Delicado, Machordom & Ramos, 2012)	Pilar del Mono Spring, Dúrcal, Granada, Spain (type locality) (37.0031, -3.5722)	PMo	30	10	2	JF312218-19 Delicado et al., 2012 JX081952-53 Delicado et al., 2013 JX081741-42 Delicado et al., 2013
	Palmones Spring, Padul, Granada, Spain (37.0258, -3.6112)	Pad	1	-	2	JX081852-53 Delicado et al., 2013 JX081954-55 Delicado et al., 2013 JX081743-44 Delicado et al., 2013
C. marocana (Pallary, 1922)	Lahjar Spring, N-E Mogador, Essaouira, Morocco (31.6460, -9.5850)	Lah	17	6	2	MW385535-36 Boulaassafer et al., 2021 MW398847-48 Boulaassafer et al., 2021 MW398834-35 Boulaassafer et al., 2021
C. navasiana (Fagot, 1907)	Fonnueva Spring, Bulbuente, Zaragoza, Spain (type locality) (41.8183, -1.3873)	Fon	25	17	8	JX081854-61 Delicado et al., 2013 JX081956-63 Delicado et al., 2013 JX081745-52 Delicado et al., 2013
	Ojos de Cimballa Wetland, Zaragoza, Spain (41.1003, -1.7785)	Cim	15	6	1	JX081862 Delicado et al., 2013 JX081964 Delicado et al., 2013 JX081753 Delicado et al., 2013
	Spring in Mesones, Zaragoza, Spain (41.5517, -1.5362)	Mes	-	-	1	JX081863 Delicado et al., 2013 JX081965 Delicado et al., 2013 JX081754 Delicado et al., 2013
	Espejo Lake, Nuévalos, Zaragoza, Spain (41.1975, -1.7881)	Esp	12	2	1	JX081864 Delicado et al., 2013 JX081966 Delicado et al., 2013 JX081755 Delicado et al., 2013
	Tinte Spring, Medinaceli, Soria, Spain (41.1592, -2.4271)	Tin	10	3	1	JX081865 Delicado et al., 2013 JX081967 Delicado et al., 2013 JX081756 Delicado et al., 2013

Species	Locality	Code	#Shells	#Diss	#DNA	GenBank accession # COI/16S/28S
	Spring in Arbujuelo, Soria, Spain (41.1361, -2.3790)	Arb	16	4	1	JX081866 Delicado et al., 2013 JX081968 Delicado et al., 2013 JX081757 Delicado et al., 2013
	Canalejas Spring, Somolinos, Guadalajara, Spain (41.2577, -3.0710)	Can	10	5	1	JX081868 Delicado et al., 2013 JX081970 Delicado et al., 2013 JX081759 Delicado et al., 2013
	Manadero River, Somolinos, Guadalajara, Spain (41.2570, -3.0741)	Bor	10	4	1	JX081869 Delicado et al., 2013 JX081971 Delicado et al., 2013 JX081760 Delicado et al., 2013
	Dulce River, Cabrera, Guadalajara, Spain (41.0077, -2.6763)	Dul	9	4	1	JX081870 Delicado et al., 2013 JX081972 Delicado et al., 2013 JX081761 Delicado et al., 2013
	Tía Perra Spring, El Hosquillo, Cuenca, Spain (40.3709, -2.0054)	Tia	20	6	2	JX081871-72 Delicado et al., 2013 JX081973-74 Delicado et al., 2013 JX081762-63 Delicado et al., 2013
	Stream in Valtubilla, Sedano, Burgos, Spain (42.7268, -3.7529)	Vat	14	6	1	JX081879 Delicado et al., 2013 JX081981 Delicado et al., 2013 JX081770 Delicado et al., 2013
C. nechadae Boulaassafer, Ghamizi & Delicado, 2021	Regrag Spring, 44 km S-E of Fes, Morocco (type locality) (33.7798, -4.7321)	Reg	12	9	2	MW385533-34 Boulaassafer et al., 2021 MW398845-46 Boulaassafer et al., 2021 MW398832-33 Boulaassafer et al., 2021
	Tadoute Spring, 70 km N-E of Fes, Morocco (33.5114, -4.5282)	Tad	-	4	1	MW385547 Boulaassafer et al., 2021 MW398859 Boulaassafer et al., 2021 MW398844 Boulaassafer et al., 2021
C. pallaryi (Ghamizi, Vala & Bouka, 1997)	Chebouka Spring, near Miaami Lake, Middle Atlas, Morocco (type locality) (32.8994, -5.3794)	Chs	14	4	1	MW385545 Boulaassafer et al., 2021 MW398857 Boulaassafer et al., 2021 -
	Spring near the Chebouka River and Miaami Lake, Middle Atlas, Morocco (32.8994, -5.3794)	Sch	13	3	2	MW385543-44 Boulaassafer et al., 2021 MW398855-56 Boulaassafer et al., 2021 MW398841-42 Boulaassafer et al., 2021

Species	Locality	Code	#Shells	#Diss	#DNA	GenBank accession # COI/16S/28S
	Ait Alla Spring, 5 km S-W of Miaami Lake, Middle Atlas, Morocco (32.8806, -5.4183)	Aal	14	3	2	MW385541-42 Boulaassafer et al., 2021 MW398853-54 Boulaassafer et al., 2021 MW398839-40 Boulaassafer et al., 2021
C. segoviana (Talaván Serna & Talaván Gómez, 2019)	A spring next to the Sanctuary Virgen de la Fuencisla, Segovia, Spain (type locality) (40.9562, -4.1359)	VFu	30	9	2	PQ772829-30 Present study PQ775536-37 Present study PQ775538-39 Present study
C. tajoensis (Boeters, Girardi & Knebelsberger, 2015)	María Spring, Ontígola, Toledo, Spain (39.9979, -3.5774)	Mar	15	5	3	JX081880-82 Delicado et al., 2013 JX081982-84 Delicado et al., 2013 JX081774-76 Delicado et al., 2013
	A ditch in Borox, Toledo, Spain (40.0571, -3.7388)	Box	25	5	3	JX081883-85 Delicado et al., 2013 JX081985-87 Delicado et al., 2013 JX081774-76 Delicado et al., 2013
	Spring in Peralejos de las Truchas, Guadalajara, Spain (40.6113, -1.9615)	Per	15	6	1	JX081867 Delicado et al., 2013 JX081969 Delicado et al., 2013 JX081758 Delicado et al., 2013
C. valladolensis valladolensis (Boeters, Girardi & Knebelsberger, 2015)	Aceña Spring, Quintanilla de Onésimo, Valladolid, Spain (41.6279, -4.3623)	Arc	7	4	2	PQ772831-32 Present study - PQ775540-41 Present study
C. wakrimi Boulaassafer, Ghamizi & Delicado, 2021	A spring in Douar Assoul, near Khenifra, Middle Atlas, Morocco (32.9317, -5.5402)	Asl	6	5	2	MW385539-40 Boulaassafer et al., 2021 MW398851-52 Boulaassafer et al., 2021 MW398838 Boulaassafer et al., 2021

Table S2. Quantitative variables (and abbreviations) recorded on the shell and genitalia.

Module
Shell
1. Shell length minus length of body whorl (SL-LBW) 2. Aperture height (AH) 3. Shell length (including protoconch: SL) 4. Ratio shell length (SL) / width (SW) 5. Width of the body whorl (WBW) 6. Aperture length (AL) 7. Aperture width (AW) 8. Width of the penultimate whorl (WPW)
Female genitalia
9. Pallial oviduct length (PoL) 10. Pallial oviduct width (PoW) 11. Albumen gland length (AgL) 12. Capsule gland length (CgL) 13. Length of the distal seminal receptacle (SRL) 14. Distance between Bursa and SR 15. Length of the bursa copulatrix (BcL) 16. Width of the bursa copulatrix (BcW) 17. Length of the bursal duct (dBCL)
Male genitalia
18. Prostate gland length (PrL) 19. Prostate gland width (PrW) 20. Penis length (PL) 21. Penis width (PW) 22. Head length/Penis length

Table S3. Genetic distance matrix (uncorrected distances in percentage) based on the amplified COI fragment for *Corrosella* species included in this study. Intraspecific genetic divergence is shown along the diagonal.

Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1-*C. navasiana*	0.35																					
2-*C. collingi*	2.0	0.05																				
3-*C. segoviana*	0.3	2.0	0.15																			
4-*C. tajoensis*	1.7	2.0	1.6	0.30																		
5-*C. valladolensis*	0.4	2.1	0.4	1.7	0																	
6-*C. ballestae* sp. nov.	12.1	12.1	12.1	11.5	12.1	0																
7-*C. bareai*	9.0	8.9	9.0	8.3	9.1	9.6	2.54															
8-*C. pallaryi*	10.6	10.5	10.6	10.0	10.7	9.6	8.7	1.16														
9-*C. andalusica*	10.3	10.5	10.3	9.9	10.4	7.0	9.2	9.8	2.84													
10-*C. astierii*	8.8	8.5	8.8	8.3	8.9	10.2	8.0	8.3	9.3	0.10												
11-*C. falkneri*	9.4	9.1	9.5	9.3	9.6	9.2	8.4	9.1	8.7	8.9	1.44											
12-*C. wakrimi*	10.4	10.8	10.4	9.8	10.5	9.1	8.9	4.3	9.8	8.4	9.3	0										
13-*C. hinzi*	8.7	9.2	8.8	8.6	8.8	10.0	8.8	9.8	9.0	9.6	8.4	9.4	0.47									
14-*C. herreroi*	6.3	6.2	6.3	5.9	6.5	12.0	8.1	10.0	10.5	7.4	8.9	10.1	9.1	0.17								
15-*C. iruritai*	9.9	9.9	10.0	9.7	10.0	6.5	8.0	8.4	5.5	8.0	7.8	8.0	8.8	9.4	0.10							
16-*C. manueli*	9.3	9.2	9.3	8.7	9.5	10.6	6.7	9.6	10.1	9.5	8.7	9.8	9.3	9.1	9.4	2.08						
17-*C. luisi*	11.7	12.0	11.7	11.1	11.8	7.1	10.1	10.2	7.0	10.6	10.0	10.3	10.7	11.9	6.6	11.4	0.61					
18-*C. marocana*	10.0	9.8	10.0	9.4	10.0	9.0	8.5	8.2	8.5	8.8	8.1	7.5	8.7	9.4	7.1	9.3	9.1	0.15				
19-*C. marisolae*	11.5	11.6	11.5	10.7	11.6	7.6	9.8	10.6	6.7	10.3	9.5	11.1	10.2	10.7	6.5	10.3	6.2	8.2	0.59			
20-*C. nechadae*	9.9	9.7	9.9	9.7	10.0	9.4	8.4	8.8	8.4	6.8	8.3	8.9	9.3	9.2	7.3	9.1	9.0	6.7	8.6	0.30		
21-*C. atlasensis*	9.7	9.1	9.7	9.2	9.7	9.0	8.0	7.5	8.9	8.1	8.6	8.1	8.9	9.2	8.1	9.0	8.9	7.1	8.8	8.2	N.D.	
22-*C. mahouchii*	10.4	10.8	10.4	10.5	10.5	10.1	10.1	5.4	9.5	9.6	10.1	5.6	10.2	10.0	9.0	10.8	9.5	8.1	10.2	8.6	7.8	0