

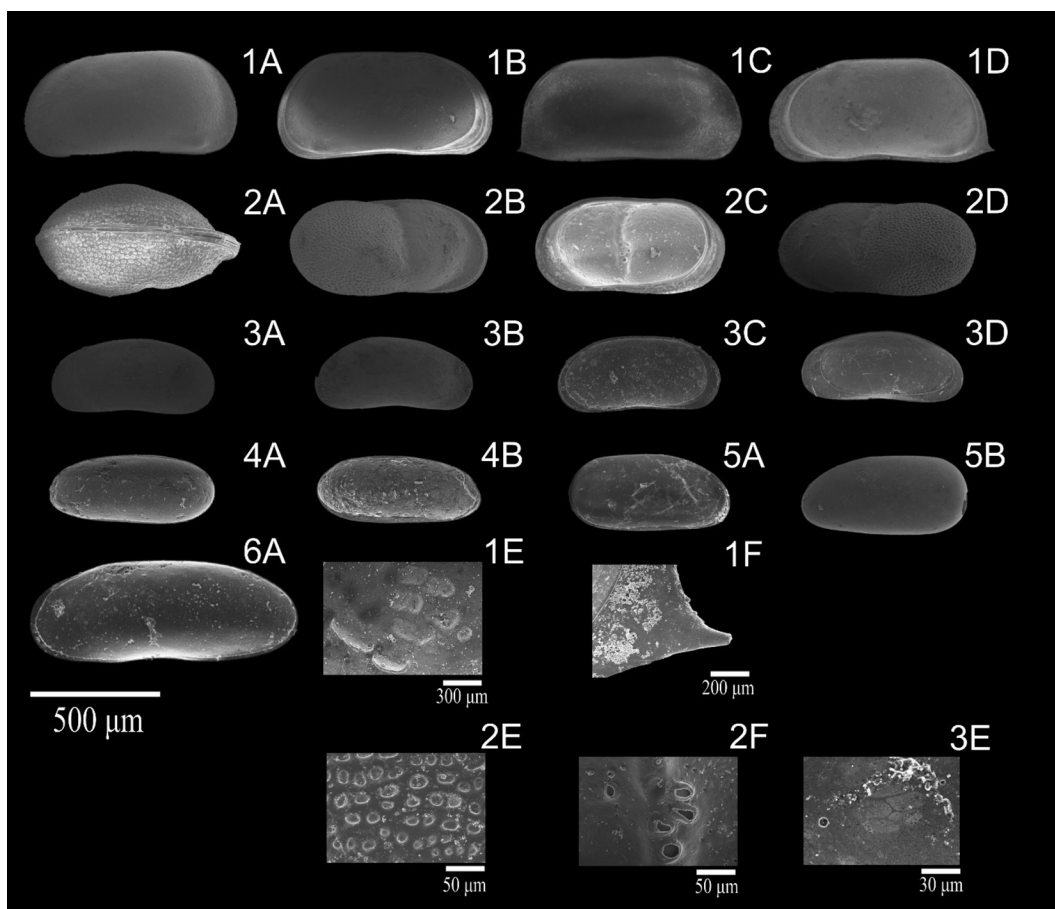
DIGITAL APPENDIX 1
Ostracode relative abundances from the study lakes in southern Mexico

Region	Lake	ID	CUN	CPE	CYA	CBR	CVI	CIL	DST	EUC	HPU	POP	POT	PAN	SMA	STR	SIN	VES	KEY	CPD
Highlands	Yatalush	YAL2	0	0	0	0	17	0	2	0	0	0	0	5	0	0	0	0	6	17
	Peñasquito	PEÑA2	0	0	0	0	7	8	23	0	0	0	0	2	0	0	0	0	3	0
	Esmeralda	ESM2	0	0	0	0	18	4	8	0	0	0	0	7	0	0	0	0	0	5
	Liquidambar	LIQ1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	Balanatic	BAL1	0	0	0	0	36	0	1	0	0	0	0	2	0	0	0	0	4	0
	Yax-há	YAXL1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
Mid-altitudes	Ocotilito	OCOT1	0	0	0	0	0	10	6	0	0	0	3	1	0	0	0	0	0	0
	Ocotilito	OCOT3	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
	+Amarillo	AMA2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	+Lacandón	LAC1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	+Lacandón	LAC2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Nahá	NAH1	0	0	4	0	257	263	148	0	55	0	19	64	0	50	0	384	78	0
	Nahá	NAH4	3	0	0	0	31	116	34	0	0	0	0	6	0	27	0	0	0	0
	Nahá	NAH2	4	0	146	0	0	2	0	0	0	0	0	942	0	0	0	0	0	0
	Metzabok	MET2	0	0	66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Metzabok	MET1	0	0	1	0	24	167	68	0	0	0	0	11	0	5	0	484	345	0
	T'zi BaNá	TZ12	0	0	88	0	104	1	0	0	0	0	0	0	0	0	0	0	159	0
Lowlands*	Yaxhá	YAX1	0	2	0	0	3	3	0	0	0	6	0	1	0	0	0	0	0	0
	Yaxhá	YAX2	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Macanché	MAC1	0	236	0	2	52	52	4	0	0	14	0	20	0	0	4	0	0	0
	Macanché	MAC2	0	3	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0
	Oquevix	OQU1	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pond Oquevix	TUM1	0	0	0	2	0	0	0	0	2	0	0	0	0.09	0	0	0	0	0
	Las Pozas	POZ1	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0
	Subín river	SUB1	0.03	0	0	0	1	1	0	0	0	0	0	0	0.01	0	0	0	0	0
	+San Diego	DIE1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	+San Diego	DIE2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	La Gloria	GLO1	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0
	Sacpuy	SAC1	0	16	0	0	4	0	2	0	16	16	0	0	0	0	0	0	0	0
	Sacpuy	SAC2	0	7	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0

DIGITAL APPENDIX 1 (Continued)

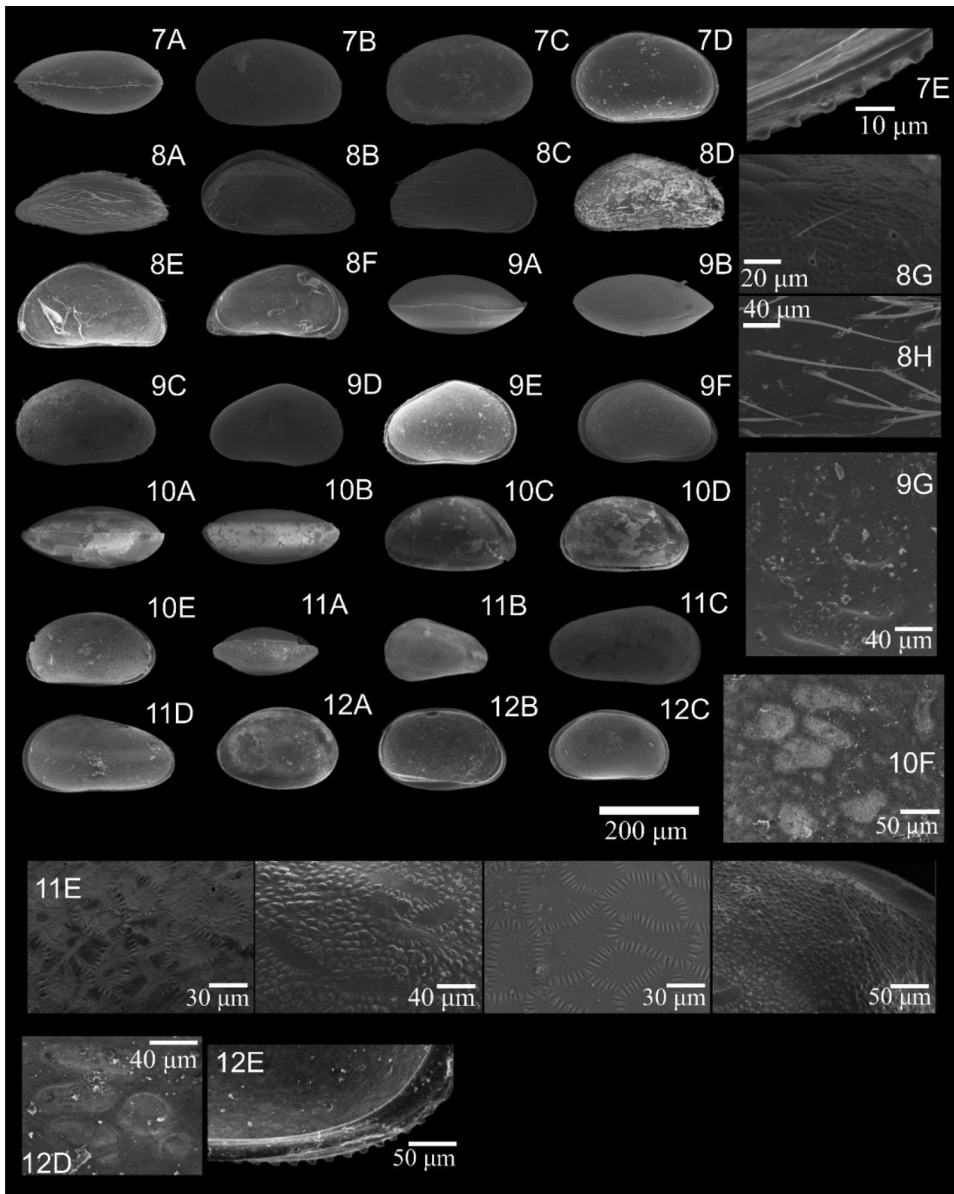
Region	Lake	ID	CUN	CPE	CYA	CBR	CVI	CIL	DST	EUC	HPU	POP	POT	PAN	SMA	STR	SIN	VES	KEY	CPD
	El Rosario	ROS1	0	35	0	0	146	148	9	1	93	0	1	11	0	0	0	0	0	0
	Petén Itzá	PI1	0	7	0	0	144	29	5	0	112	63	0	12	0	0	6	0	0	0
	Petén Itzá	PI4	0	4	0	0	107	37	0	0	0	81	0	112	0	0	44	0	0	0
	Petén Itzá	PI5	0	95	0	0	20	9	3	0	0	10	0	19	0	0	1	0	0	0
	Petén Itzá	PI6	0	2	0	0	12	37	2	0	0	44	0	12	0	0	0	0	0	0
	Petén Itzá	PI7	0	231	0	0	16	38	2	0	0	47	0	14	0	0	0	0	0	0
	Petén Itzá	PI8	0	0	0	0	2	27	1	0	0	22	0	2	0	0	0	0	0	0
	Petén Itzá	PI9	0	3	0	0	3	21	0	0	0	47	0	6	0	0	0	0	0	0
	Petén Itzá	PI10	0	5	0	0	3	22	1	0	2	50	0	6	0	0	1	0	0	0
	Petén Itzá	PI11	0	5	0	0	5	96	2	0	0	17	0	16	0	0	0	0	0	0
	Petén Itzá	PI24	0	970	0	0	8	42	4	0	0	12	0	14	0	0	0	0	0	0
	Petén Itzá	PI12	0	57	0	0	3	18	0	0	0	5	0	3	0	0	0	0	0	0
	Petén Itzá	PI13	0	2	0	0	0	2	0	0	0	1	0	1	0	0	0	0	0	0
	Petén Itzá	PI15	0	275	0	0	17	21	4	0	0	114	0	54	0	0	0	0	0	0
	Petén Itzá	PI16	0	50	0	0	6	2	0	0	0	39	0	13	0	0	0	0	0	0
	Petén Itzá	PI17	0	67	0	0	1	4	1	0	0	5	0	10	0	0	0	0	0	0
	Petén Itzá	PI2	0	229	0	0	4	2	0	0	0	2	0	2	0	0	0	0	0	0
	Petexbatún	PET1	0	2	0	0	0	1	1	0	2	4	0	0	0	0	1	0	0	0
	Petexbatún	PET5	0	9	0	0	0	0	0	0	1	6	0	0	0	0	0	0	0	0
	Petexbatún	PET2	0	19	0	0	1	1	0	0	1	1	0	2	0	0	8	0	0	0
	Salpetén	SAL1	0	731	0	0	153	6	0	0	29	158	0	52	0	0	1	0	0	0
	Salpetén	SAL4	0	160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Salpetén	SAL2	0	610	0	0	26	12	0	0	0	5	0	16	0	0	2	0	0	0
	Ixlú river	IXL1	0	0	0	0	2	0	4	0	0	0	0	0	0.18	0	0	0	0	0
	Perdida	PER1	0	0	0	0	9	0	0	0	0	2	0	2	0	0	0	0	0	0
	Perdida	PER2	0	0	0	0	2	27	1	0	1	7	0	0	0	0	0	0	0	0

*Information modified from Pérez *et al.* (2010, 2012). *Sediment samples not included in the analysis. For species IDs and full names see Table 3.



DIGITAL APPENDIX 2

SEM pictures of ostracodes from lakes of the Lacandón forest and Montebello. The abbreviations used for descriptions of the valves are: Cp (carapace), dv (dorsal view), ev (external view), iv (internal view), LV (left valve), and RV (right valve). *Chlamydotheca unispinosa* (1A) LV, ev; (1B) LV, iv; (1C) RV, ev; (1D) RV, iv; (1E) muscle scars and spines on RV, iv. *Cytheridella ilosvayi* (2A) Cp, dv; (2B) RV, ev; (2C) RV, iv; (2D) LV, ev; (2E) ornamentation on RV, ev; (2F) muscle scars on RV, iv. *Pseudocandona antilliana* (3A) LV, ev; (3B) RV, ev; (3C) LV, iv; (3D) RV, ev; (3E) muscle scars on RV, iv. *Darwinula stevensoni* (4A) LV, ev; (4B) LV, iv. *Vestalenula* sp. (5A) right Cp, ev; (5B) left Cp, ev. *Stenocypris major* (6A) LV, iv.



DIGITAL APPENDIX 3

SEM pictures of ostracodes from lakes of the Lacandón forest and Montebello. The abbreviations used for descriptions of the valves are: Cp (carapace), dv (dorsal view), vv (ventral view), ev (external view), iv (internal view), LV (left valve), and RV (right valve).

Keysercypria sp. (7A) dv Cp; (7B) RV, ev; (7C) LV, ev; (7D) LV, iv; (7E) anterior margin serrated on LV, iv. *Potamocypris* sp. (8A) dv Cp; (8B) right Cp, IV; (8C) LV, ev; (8D) RV, ev; (8E) LV, iv; (8F) RV, iv; (8G) muscle scars on right Cp; (8H) pores and setae on right Cp. *Cypridopsis* sp. (9A) vv Cp; (9B) dv Cp; (9C) RV, ev; (9D) LV, ev; (9E) RV, iv; (9F) LV, iv; (9G) muscle scars on LV, iv. *Cyprididae*. (10A) vv Cp; (10B) dv Cp; (10C) right Cp; (10D) left Cp; (10E) RV, iv; (10F) muscle scars on RV, iv. *Strandesia* sp. (11A) dv Cp; (11B) RV, ev; (11C) LV, ev; (11D) LV, iv; (11E) ornamentation on right Cp. *Cypria* sp. (12A) left Cp; (12B) LV, iv; (12C) RV, iv; (12D) muscle scars; (12E) posterior margin serrated on RV, iv.