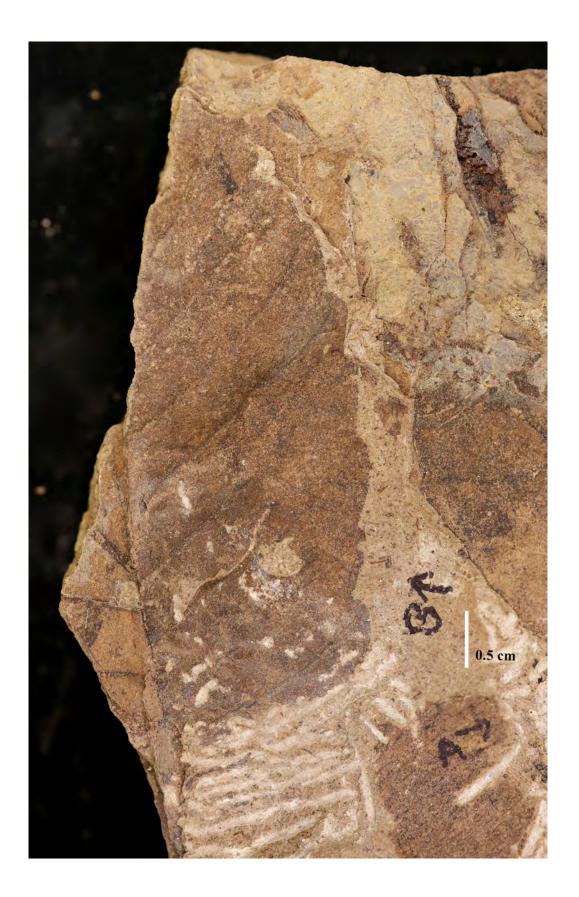
				NAM			1
SENERAL EXEMPLAR LOC.	MAJOR GROUP HB-1704	DIC INFERE		1518A	Betulaceae	ORGAN TYPE	Leaf
	-		EU	IJIOA	OTHERS LOC.		
	IC FEATURES OF MOR				althe adds of the		
	he teeth distinguish						-
	pecimens found wit				of teeth. Also, the	spacing of MQI:	-
<u> </u>	he teeth is irregular	with approximate	ary 4 teeth/ch	n.			
EAF ATTACHMEN	-		AND PETIO	LE FEATU	RES		
LEAF ATTACHM	-		L	EAFLET OR	GANIZATION:	Not Pre	served
LEAF ARRANGEM	ENT: Not Prese	erved		LEAFLET A	TTACHMENT:	n)
LEAF ORGANIZAT	Not Not	Preserved		PETIOLE AT	TACHMENT.:	Not Pres	served
BLADE	SIZE: M	icrophyll		PE	TIOLE BASE:	Not Pres	served
BLADE SH	IAPE:	Ovate		PETIC	DLE GLANDS:.	Nor	ne
BLADE RATIO	L:W: 2:1			PETIOL	E X-SECTION:	Not Pres	served
LOBAT		Unlobed		N	ARGIN TYPE	Sem	ate
BASE ASYMME	TRY: Sy	mmetrical		MEDIAL	SYMMETRY:	Asymetrical	-
BASE SHAPE:	Not Preserved	APEX SHA	PE: Not p	reserved	Special M	argin Features:	
BASE ANGLE:	Not Preserved	APEX ANG	LE: Not p	reserved	Termina	l apex features:	Not Preserv
RIMARY & SECO	NDARY VEIN FEAT	TURES			NAKED BASAL VEIN	IS: Not	Preserved
PRIMARY VENA		Pinnate		N° E	BASAL VEINS: 1	Interio	or 2° Absen
MAJOR 2° Frame	work: C	raspedodromous		MIN	OR-2° Course:		
MAJOR 2° Attach	ment: Decum	ent	MAJOR	2° VEIN AN	GLE: Smoot	nly increasing to	oward base
MAJOR 2° SPAG	CING:	Irregular			AGROPHIC VEIN	IS:	Absent
				R-2° VEIN			
INTER-2° proximal cou	irse:		LE	NGTH:			
INTER-2° distal cour	se:		INTER-2°	FREQUENCY	<i>r</i> :		
ERTIARY VEIN FI	EATURES						
INTERCOST		ercurrent - straight		Р	ERIMARGINAL VEIN	IS:	None
EPIMEDIAL 3°:	Not pre				ANGLE TO 1°:	Acute to	
		preserved		EXTERIO	R 3° COURSE:	Not pres	
EXMEDIAL COU		preserved			STAL 3° VARIABILIT		onsistent
OURTH & HIGHE							
OURTH & HIGHEN 4° VEIN FA	-	ite percurrent		EINLETS -F/E	- M/o	Not Preserve	ad
5° VEIN FA					BRANCHING:		~
			1 1 1			n.p Not Pre	served
MARGINAL VENAT	TION: Well developed	Preserved		r.c.v.S IEI	RMINATIONS:	Not Pre	301700
	•	•					
OOTH FEATURES							
ORDERS OF TE		No TEETH/c			ETH GLANDULARI	ry: Non-sp	ecific glandula
TOOTH SH		T001	H SPACING:	Irregular			
PRINCIPAL	-		NUS SHAPE:	Rounded			
ACCE	SSORY VEIN COURS	E:		PR	RINCIPAL VEIN TERI	vi.: Marg	inal, at apex



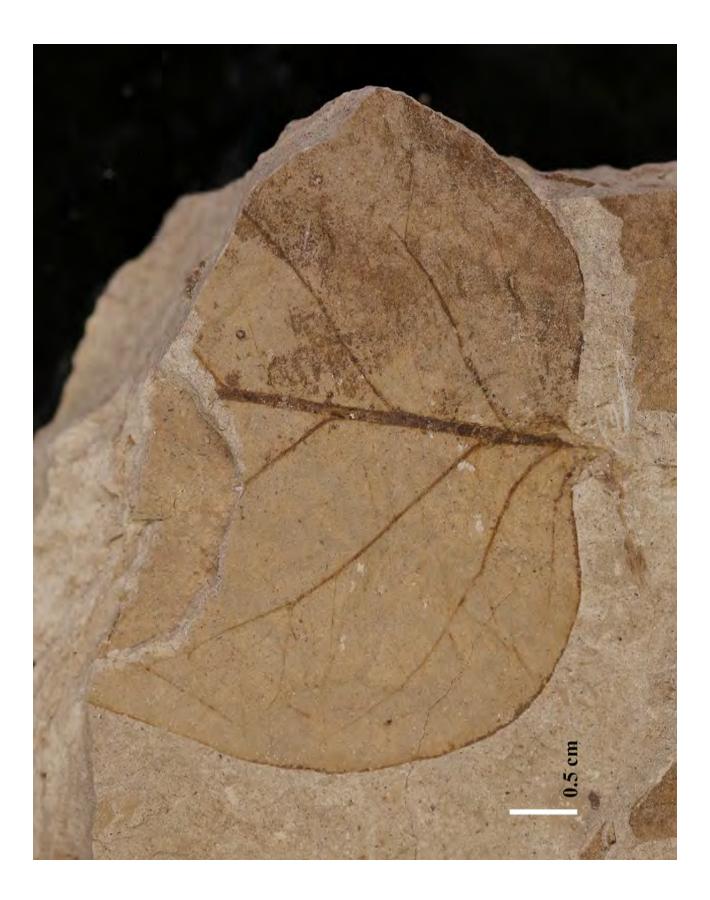
MORPHOTYP				NAME	AV	errhoites a	
GENERAL	MAJOR GROUP	DIC	NFERED FA	MILY		ORGAN TYPE	
EXEMPLAR LOC.	HB	EXEM	PLAR	1701-79, 1706-39 or	THERS LOC.		
DIAGNOSTIC	FEATURES OF MOR	RPHOTYPE					
Ba	se of midvein thic	k and decre	ases in thi	ckness as you move t	owards the ape	x.	
Mi	dvein at base is 2	c thicker tha	n at the ap	ex. The base is also a	asymetrical inte	ersecondary	
ve	ins and the preser	vation is lac	cking.			MQI:	
EAF ATTACHMENT	, ORGANIZATIO	N, SIZE, SH	APE AND	PETIOLE FEATURES			
LEAF ATTACHME				LEAFLET ORGAN		Not Pres	erved
LEAF ARRANGEME	NT: Not Prese	erved		LEAFLET ATTAC	HMENT:	np	
LEAF ORGANIZATI		Preserved		PETIOLE ATTAC		Not Pres	
BLADE SI		nyll-Mesophy	1		LE BASE:	Not Pres	
BLADE SHA		Elliptic		PETIOLE		NP	
BLADE RATIO L				PETIOLE X-S		NP	
LOBATI		Unlobed				Untoot	
BASE ASYMMET		th asymmetri		MEDIAL SYN		symetrical	
BASE SHAPE:	Convex		SHAPE:	Rounded		rgin Features:	Not Preserve
BASE ANGLE:	Acute		ANGLE:	Obtuse		apex features:	
BROE ANOLEN	710410			001000	T CT TIMU	upex reatures	
PRIMARY & SECON	DARY VEIN FEAT	TURES		NAK	ED BASAL VEINS	i:/	Absent
PRIMARY VENATION	ON:	Pinnate		N° BASA	L VEINS: 1	Interio	r 2 ^{er} Absen
MAJOR 2° Framewo	ork: Simp	le brochidod	romous	MINOR-2	° Course:	Semicrasped	lodromous
MAJOR 2° Attachmo	ent: Decum	ent		MAJOR 2° VEIN ANGLE:	Abruptly	increasing to	ward base
MAJOR 2° SPACI	NG:	Irregular			GROPHIC VEINS	i:/	Absent
INTER-2° proximal cours	5 0'			INTER-2° VEIN LENGTH:			
-							
INTER-2° distal course	2			NTER-2° FREQUENCY:			
FERTIARY VEIN FE	ATURES						
INTERCOSTAL	. 3°: Alterna	te percurren	t	PERIN	ARGINAL VEINS	:	None
EPIMEDIAL 3°:	Not pre	served		INTER-3° ANG	LE TO 1°:	Not Pres	erved
ADMEDIAL COUR	SE: Not	preserved		EXTERIOR 3°	COURSE:	Not Pres	erved
EXMEDIAL COUR	SE: Not	Preserved		INTERCOSTA	L 3° VARIABILITY	': Not	Preserved
OURTH & HIGHER	ORDER VEIN FE	ATURES					
4° VEIN FABI		Preserved		VEINLETS -F/E/V/s:		Not Preserve	d
5° VEIN FABI				TYPE OF F.E.V. BRA		n.p	
MARGINAL VENATION		Preserved		F.E.V.s TERMIN		Not Pres	erved
	ON: Not Preserved				AF RANK:		
TOOTH FEATURES		.					
ORDERS OF TEE			ETH/cm:		GLANDULARITY		
TOOTH SHA			тоотн SP	· · · · · · · · · · · · · · · · · · ·			
PRINCIPAL VE	-		SINUS	-			
ACCES	SORY VEIN COURS	=:		PRINCI	PAL VEIN TERM		
NOTES					_		



GENERAL	MAJOR GRO	DUP DIC	INFERED F	AMILY				DRGAN TYPE	
EXEMPLAR LOC.	Hanna Basin	ı, WY 🔤 I	EXEMPLAR	17	10-20	OTHERS LO	C.	-	
DIAGNOS	TIC FEATURES O	F MORPHOT	YPE						
	Large crenate t	teeth with th	ick 2° vein tha	t terminat	es in the a	pex			
	of the tooth. Or	nly one orde	er of teeth and	1 tooth/cm	n. This dis	tinguishes it	apart fro	om other	
	crenate toothed	leaves from	m this basin.					MQI:	
EAF ATTACHME	NT. ORGANIZ	ATION. SIZ	E. SHAPE AN		E FEATU	RES			
	-	t Preserved				GANIZATION:		Not Pres	erved
LEAF ARRANGE		t Preserved			LEAFLET A	TTACHMENT:		np	
LEAF ORGANIZA		Not Preser	rved			TACHMENT.:		Not Pres	
		licrophyll-Not		-		ETIOLE BASE:		Not Pres	
BLADE S		Ovate				DLE GLANDS:.		Not Pres	
BLADE RATI		1.5:1				E X-SECTION:		Not Pres	
	TION:		lobed					Crena	
BASE ASYMM		Not Preser				L SYMMETRY:	Not P	reserved	
BASE SHAPE:	Not Preserv		APEX SHAPE:	Not p	reserved				Not Preserve
BASE ANGLE:	Not Preserv		APEX ANGLE:		reserved		-	ex features:	
PRIMARY & SECO						NAKED BASAL	-		Preserved
PRIMARY VEN			nnate			BASAL VEINS:	1	Interio	r 2 ^{er} Absen
MAJOR 2° Fram			lodromous			OR-2° Course:			
MAJOR 2° Attac		Decurrent		MAJOR	2° VEIN AN			ncreasing to	
MAJOR 2° SP		Re	egular	INTER	-2° VEIN	AGROPHIC	VEINS:		bsent
INTER-2° proximal co	ourse:				IGTH:				
INTER-2° distal cou				INTED 2º I	REQUENC	v.			
				INTER-2 I	REQUENC				
FERTIARY VEIN F									
INTERCOS		ed opp/alt p				PERIMARGINAL	. VEINS:		None
EPIMEDIAL 3°:	N	lot preserved				ANGLE TO 1°:		Acute to r	nidvein
ADMEDIAL CO		Not Preser				R 3° COURSE:		Not Pres	
EXMEDIAL CO	URSE:	Not Preser	ved		INTERCO	OSTAL 3º VARIA	ABILITY:	Not	Preserved
OURTH & HIGHE	R ORDER VEI	N FEATUR	ES						
4° VEIN F	ABRIC:	Not Preser	ved	VE	INLETS -F/E	E/V/s:	N	lot Preserve	d
5° VEIN F	ABRIC: Not	t Preserved		ТҮР	E OF F.E.V.	BRANCHING:		n.p	
MARGINAL VEN	TION:	Not Preser	ved		F.E.V.s TEI	RMINATIONS:		Not Pres	erved
AREOL	ATION: Not Pres	erved				LEAF RANK:			
OOTH FEATURE	s								
ORDERS OF T			No TEETH/cm:	1	TE	EETH GLANDU	LARITY:	Not	Preserved
			тоотн з		Regular				
		-		_					
тоотн s	VEIN: Pres	ent	SINIIS	SHAPF	ROUTION				
TOOTH S PRINCIPAL	VEIN: Pres		SINUS Not Preserve	SHAPE: _	Rounded	RINCIPAL VEIN	TERM.:	Marqii	nal, at apex



MORPHOTYPE	HB	171	NAME			
GENERAL M	AJOR GROUP DIC	INFERED FA	MILY		ORGAN TYPE	Leaf
EXEMPLAR LOC. Han	na Basin 1706 E	XEMPLAR	1706-42 OTHERS	S LOC.	-	
DIAGNOSTIC FE	ATURES OF MORPHOTY	PE		-		
Thick	ened margin but not er	ough preserv	ed to claim a perimarginal v	ein.		
Also	the base is wide obtu	se and concav	ve, and the intercostal 3 are	chevroned.		
					MQI:	
LEAF ATTACHMENT, O	RGANIZATION, SIZE	, SHAPE AND	PETIOLE FEATURES			
LEAF ATTACHMENT:		*	LEAFLET ORGANIZATIO	DN:	Not Pres	erved
LEAF ARRANGEMENT:	Not Preserved		LEAFLET ATTACHME	NT:	np	
LEAF ORGANIZATION:	Not Preserv	ed	PETIOLE ATTACHMEN	IT.:	Not Pres	erved
BLADE SIZE:	Notophyl		PETIOLE BA	SE:	Not Pres	erved
BLADE SHAPE:	Ovate		PETIOLE GLANI	DS: .	Not Pres	erved
BLADE RATIO L:W:	1:1		PETIOLE X-SECTIO	ON:	Not Pres	erved
LOBATION:	Not Pre	served	MARGIN T	/PE	Untoot	hed
BASE ASYMMETRY:	Symmetric	al	MEDIAL SYMMET	RY: Symr	netrical	
BASE SHAPE:	Concave	APEX SHAPE:	Not preserved	Special Margi	in Features:	Not Preserved
BASE ANGLE:	Nide obtuse	APEX ANGLE:	Not preserved	Terminal ap	ex features:	Not Preserved
PRIMARY & SECONDA	RY VEIN FEATURES		NAKED BA	SAL VEINS:	ļ	bsent
PRIMARY VENATION:	Pinr	nate	N° BASAL VEI	NS: 1	Interio	r 2 [∞] Absent
MAJOR 2° Framework:	Simple broch	idodromous	MINOR-2° Cour	'se:	Not Pres	erved
MAJOR 2° Attachment:	Decurrent		MAJOR 2° VEIN ANGLE:	Smoothly i	ncreasing to	ward base
MAJOR 2° SPACING:	Irreg	jular	AGROF	HIC VEINS:	ł	bsent
INTER-2° proximal course:			INTER-2° VEIN LENGTH:	-		
INTER-2 proximal course:						
INTER-2° distal course:			NTER-2° FREQUENCY:			
TERTIARY VEIN FEATU	JRES					
INTERCOSTAL 3°:	Opposite percurrent	- chevroned	PERIMARGI	NAL VEINS:	Not	Preserved
EPIMEDIAL 3°:	Not preserved		INTER-3° ANGLE TO	1°:	Not Pres	erved
ADMEDIAL COURSE:	Not Preserv	ed	EXTERIOR 3° COUR		Not Pres	erved
EXMEDIAL COURSE:	Not Preserv	ed	INTERCOSTAL 3° V	ARIABILITY:	Not	Preserved
FOURTH & HIGHER OR	DER VEIN FEATURE	S				
4° VEIN FABRIC:	Not Preserv	ed	VEINLETS -F/E/V/s:	N	lot Preserve	d
5° VEIN FABRIC:	Not Preserved		TYPE OF F.E.V. BRANCHI	NG:	n.p	
MARGINAL VENATION:	Not Preserv	ed	F.E.V.s TERMINATIO	NS:	Not Pres	erved
AREOLATION:	Not Preserved		LEAF RAI	NK:		
TOOTH FEATURES						
ORDERS OF TEETH:	N	lo TEETH/cm:	TEETH GLAI			
TOOTH SHAPE:		TOOTH SI	PACING:			
PRINCIPAL VEIN:		SINUS	SHAPE:			
ACCESSO	RY VEIN COURSE:		PRINCIPAL V	EIN TERM.:		
NOTES						
Specimen 1706_42 was u	sed to make this morph	osheet				



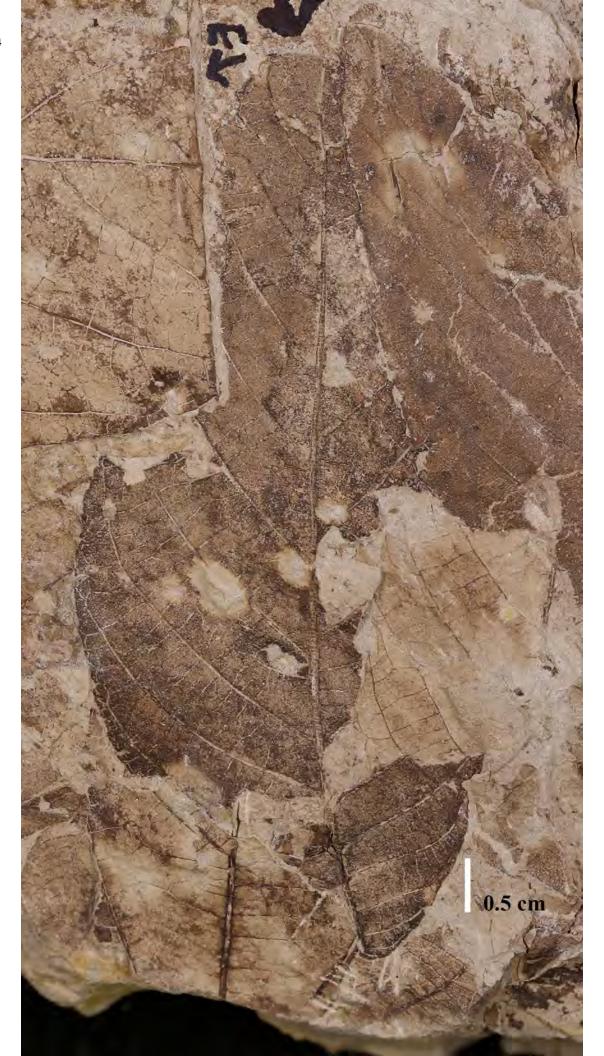
MORPHOTY		HB172	NAM			
GENERAL	MAJOR GROUP	DIC INFERED	FAMILY		ORGAN TYPE	Leaf
EXEMPLAR LOC.	Hanna Basin WY	EXEMPLAR	1701-1	OTHERS LOC.		
DIAGNOST	IC FEATURES OF MOR	RPHOTYPE	Cordate base.			
<u>-</u>	Thickened midvein a	at base and decreas	es towards apex. Ba	se is 3x thicker tha	n apex.	
<u> </u>	Higher order veins a	re not preserved. S	Second degree veins a	are very distinct wit	th a sharp	
<u>i</u>	ncrease toward the	base of the leaf.			MQI:	
EAF ATTACHMEN	NT, ORGANIZATIO	N, SIZE, SHAPE AI	ND PETIOLE FEATU	RES		
LEAF ATTACHN	IENT: Petiola	ate	LEAFLET OR	GANIZATION:	Not Preserve	əd
LEAF ARRANGEN	IENT: Not Prese	erved	LEAFLET AT	TTACHMENT:	np	
LEAF ORGANIZA	TION: Not	Preserved	PETIOLE AT	TACHMENT.:	Not Preserv	ed
BLADE	SIZE: Nanop	hyll-Notophyll	PE	TIOLE BASE:	Not Preserv	ed
BLADE SI		Oblong	PETIO	LE GLANDS:.	NP	
BLADE RATIO	D L:W: 1.5:1	1	PETIOLE	E X-SECTION:	NP	
LOBA	TION:	Unlobed	N	ARGIN TYPE	Serrate	
BASE ASYMM	ETRY: Sy	rmmetrical	MEDIAL	. SYMMETRY: Syr	nmetrical	
BASE SHAPE:	Cordate	APEX SHAPE	Not preserved	Special Mar	gin Features: No	ot Preserv
BASE ANGLE:	Wide obtuse	APEX ANGLE	Not preserved	 Terminal a	pex features: No	ot Preserve
RIMARY & SECO	NDARY VEIN FEAT	TURES		NAKED BASAL VEINS	: Abse	ent
PRIMARY VENA		Pinnate		BASAL VEINS: 1	Interior 2°	
MAJOR 2° Frame		nicraspedodromous		OR-2° Course:	_	,
MAJOR 2° Attach		-	MAJOR 2° VEIN ANG		increasing toward	base
MAJOR 2° SPA		Regular		AGROPHIC VEINS		
			INTER-2° VEIN			
INTER-2° proximal co	urse:		LENGTH:			
INTER-2° distal cou	'se:		INTER-2° FREQUENCY	ſ:		
ERTIARY VEIN F	EATURES					
INTERCOST	AL 3°: Opposite p	ercurrent - straight	P	ERIMARGINAL VEINS	. Non	e
EPIMEDIAL 3°:	Opposite p	percurrent	– INTER-3° A	ANGLE TO 1º:	Acute to midv	ein
		e to midvein	EXTERIO	R 3° COURSE:	Absent	
EXMEDIAL CO		asiflexed		STAL 3° VARIABILITY		xmedially
OURTH & HIGHE	R ORDER VEIN FE	ATURES				
4° VEIN FA		Preserved	VEINLETS -F/E	/V/s:	Not Preserved	
5° VEIN FA	BRIC: Not Press	erved	TYPE OF F.E.V.	BRANCHING:	n.p	
MARGINAL VENA		Preserved		RMINATIONS:	Not Preserve	əd
	TION: Not Preserved		-	LEAF RANK:		
OOTH FEATURES			-			
ORDERS OF TI		No TEETH/cm	: 1 те	ETH GLANDULARITY	Not Pres	served
тоотн si			SPACING: Not Preserved			
			JS SHAPE: Angular			
		SINC	Aliguidi			
PRINCIPAL		E: Not Preser	ved DD	INCIPAL VEIN TEPM	Marginal on p	roximal fla
PRINCIPAL	ESSORY VEIN COURS	E: Not Preser	ved PR	RINCIPAL VEIN TERM.	: Marginal, on p	roximal fla



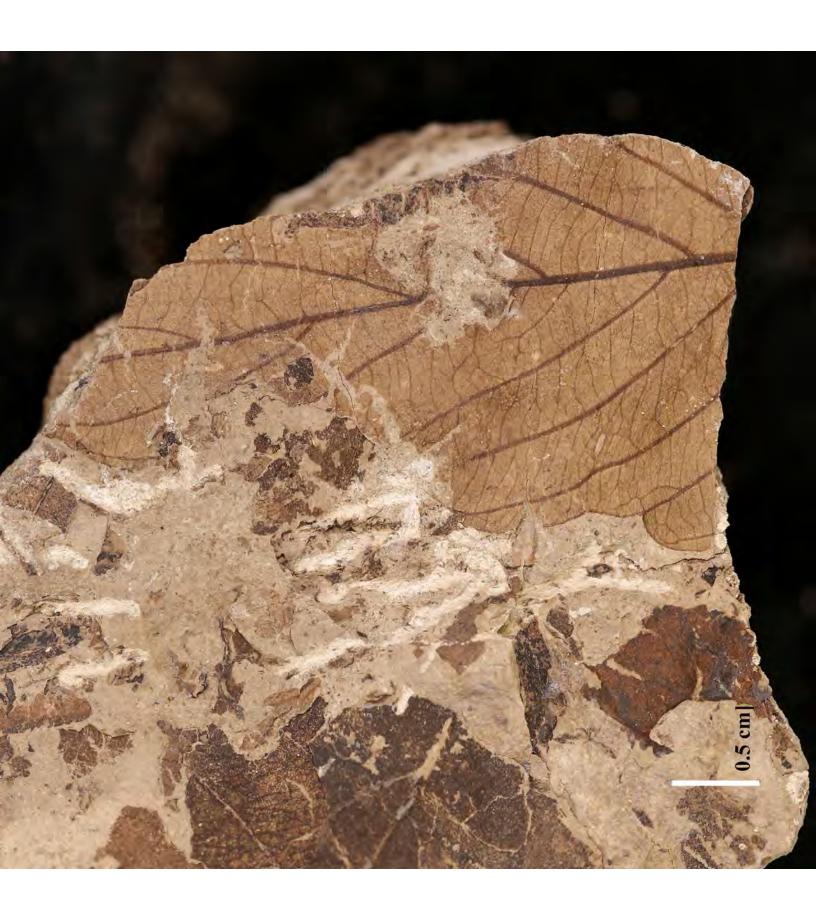
MORPHOTYPE	HB173	NAME
GENERAL M	AJOR GROUP DIC INI	FERED FAMILY ORGAN TYPE Leaf
EXEMPLAR LOC. Har	nna Basin, WY EXEMPL	LAR 1712-1 OTHERS LOC.
DIAGNOSTIC FE	ATURES OF MORPHOTYPE	3° veins perpendicular to midvein at the base but becomes acute to
midve	in towards the apex. Beauti	ifully looped agrophic veins and very consistant, closely
space	ed 3° veins at the base. Last	tly this morphotype has an asymmetrical basal insertion.
		MQI:
	PGANIZATION SIZE SHA	APE AND PETIOLE FEATURES
LEAF ATTACHMENT:		LEAFLET ORGANIZATION: Not Preserved
LEAF ARRANGEMENT:		LEAFLET ONORMIZATION. NOT TOSSIVOU
LEAF ORGANIZATION:		PETIOLE ATTACHMENT: Not Preserved
BLADE SIZE:		
BLADE SHAPE:		PETIOLE GLANDS: Not Preserved
BLADE RATIO L:W:	i	PETIOLE X-SECTION: Not Preserved
LOBATION:		MARGIN TYPE Untoothed
BASE ASYMMETRY:		
BASE SHAPE:		SHAPE: Not preserved Special Margin Features: Not Preserved
BASE ANGLE:		ANGLE: Not preserved Terminal apex features: Not Preserved
PRIMARY & SECONDA	RY VEIN FEATURES	NAKED BASAL VEINS: Absent
PRIMARY VENATION:	Basal actinodron	nous N° BASAL VEINS: 3 Interior 2 ^{ac} Absent
MAJOR 2° Framework:	Eucamptodrom	OUS MINOR-2° Course:
MAJOR 2° Attachment:	Decurrent	MAJOR 2° VEIN ANGLE: Smoothly increasing toward base
MAJOR 2° SPACING:	Decreasing proxi	
INTER-2° proximal course:		INTER-2° VEIN LENGTH:
-		
INTER-2° distal course:		INTER-2° FREQUENCY:
TERTIARY VEIN FEATU	JRES	
INTERCOSTAL 3°:	Mixed opp/alt percurrer	nt PERIMARGINAL VEINS: None
EPIMEDIAL 3°:	Opposite percurrent	INTER-3° ANGLE TO 1°: Perpendicular to midvein
ADMEDIAL COURSE:	Perpendicular to midve	
EXMEDIAL COURSE:	Basiflexed	INTERCOSTAL 3° VARIABILITY: Inconsistent
FOURTH & HIGHER OR	DER VEIN FEATURES	
4° VEIN FABRIC:	Not Preserved	VEINLETS -F/E/V/s: Not Preserved
5° VEIN FABRIC:	Not Preserved	TYPE OF F.E.V. BRANCHING: n.p
MARGINAL VENATION:	Not Preserved	F.E.V.s TERMINATIONS: Not Preserved
AREOLATION:	Not Preserved	LEAF RANK:
TOOTH FEATURES		
ORDERS OF TEETH:	No TEE	ETH/cm: TEETH GLANDULARITY:
TOOTH SHAPE:		
PRINCIPAL VEIN:		SINUS SHAPE:
	RY VEIN COURSE:	PRINCIPAL VEIN TERM.:
NOTES		
Morphotype sheet complet	ed with specimens: 17012-1,	1704-80 and 1710-214



MORPHOTYP		HB174		NAME			
GENERAL	MAJOR GROUP	DIC INFERE	FAMILY			ORGAN TYPE	Leaf
EXEMPLAR LOC.	Hanna Basin, WY	EXEMPLAR	1710-6A	, 1710-13В <mark>отн</mark>	IERS LOC.		
DIAGNOSTIC	FEATURES OF MOR	РНОТҮРЕ	Crenate t	eeth with only o	ne order of teeth	n and 5 teeth	/cm. This is
dif	ferent from Fagops	ophyllum which o	nly has 1 to	oth/cm. 2° vein	s spacing is reg	ular howev	
the	e veins are more co	ompressed at the	base and a	bex. This is a m	orphological fea	ature that is	
un	like any other mor	ohotype within the	basin. The	base is also co	rdate.	MQI:	
EAF ATTACHMENT			ND PETIO	LE FEATURES			
LEAF ATTACHME	NT: Not Prese	rved	L	EAFLET ORGANIZ		Not Prese	erved
LEAF ARRANGEME	NT: Not Prese	rved		LEAFLET ATTACH		np	
LEAF ORGANIZATI	ON: Not F	Preserved		PETIOLE ATTACH	MENT.:	Not Prese	erved
BLADE SI	ze: Nanoph	yll-Mesophyll		PETIOLE	BASE:	Not Prese	erved
BLADE SHA	PE:	Ovate		PETIOLE GL	ANDS:	Not Prese	erved
BLADE RATIO L	.:w: 2:1			PETIOLE X-SE	CTION:	Not Prese	erved
LOBATI	ON:	Unlobed		MARGI	N TYPE	Crena	te
BASE ASYMMET	RY: Syr	nmetrical		MEDIAL SYM	METRY: Sym	netrical	
BASE SHAPE:	Cordate	APEX SHAP	E: Not p	reserved	Special Marg	in Features:	Not Preserv
BASE ANGLE:	Obtuse	APEX ANGL	E: Not p	reserved	Terminal ap	ex features:	Not Preserv
RIMARY & SECONI	DARY VEIN FEAT	URES		NAKEI	D BASAL VEINS:	A	bsent
PRIMARY VENATION	ON:	Pinnate	_	N° BASAL	VEINS: 1	Interior	2º: Abser
MAJOR 2° Framewo	ork: El	Icamptodromous		MINOR-2°	Course:		
MAJOR 2° Attachme	ent: Decurre	nt	MAJOR	2° VEIN ANGLE:	Smoothly i	ncreasing to	ward base
MAJOR 2° SPACI	NG:	Regular		AG	ROPHIC VEINS:	Α	bsent
INTER 2º movimal agus				R-2° VEIN NGTH:	-		
INTER-2° proximal cours	se:						
INTER-2° distal course	2		INTER-2°	FREQUENCY:			
ERTIARY VEIN FE							
INTERCOSTAL	. 3°: Opposite pe	rcurrent - straight	_		RGINAL VEINS:		lone
EPIMEDIAL 3°:	Opposite p	ercurrent		INTER-3° ANGLE	E TO 1°:	Acute to m	idvein
ADMEDIAL COUR		cular to midvein		EXTERIOR 3° CO		Loope	
EXMEDIAL COUR	SE: Ba	siflexed		INTERCOSTAL	3° VARIABILITY:	Сог	nsistent
OURTH & HIGHER	ORDER VEIN FEA	TURES					
4° VEIN FABI	RIC: Not I	Preserved	VE	INLETS -F/E/V/s:	N	lot Preserved	t
5° VEIN FABI	RIC: Not Prese	rved	ТҮР	E OF F.E.V. BRAN	CHING:	n.p	
MARGINAL VENATION	ON: Not I	Preserved		F.E.V.s TERMINA	TIONS:	Not Prese	erved
AREOLATI	ON: Not Preserved			LEAF	RANK:		
TOOTH FEATURES							
ORDERS OF TEE	тн: 1	No TEETH/cr	n: <u>5</u>	TEETH O	GLANDULARITY:	Not F	reserved
TOOTH SHA	PE: cv/rt	тоотн	SPACING:	Regular			
PRINCIPAL VE	EIN: Absent	SIN	US SHAPE:	Rounded			
ACCES	SORY VEIN COURSE	E Looped	±	PRINCIP	AL VEIN TERM.:	Not F	Preserved
NOTES							



EXEMPLAR LOC. LAS1703 EXEMPLAR 1703-2, 1704-111A OTHERS LOC. LAS 1704 DIAGNOSTIC FRATURES OF MORPHOTYPE 2" veins are regularly spaced throughout the leaf, while the high order veins at the apex and base are rarely preserved. Unlike Fagopsophyllum, this species has seriate teeth with 2 orders and averages 4 teeth/cm. MGI: EAF ATTACHMENT, ORGANIZATION, SIZE, SHAPE AND PETIOLE FEATURES MGI: MGI: LEAF ATTACHMENT, ORGANIZATION, SIZE, SHAPE AND PETIOLE FEATURES Not Preserved LEAF ATTACHMENT, ONO Preserved PETIOLE ATTACHMENT: Not Preserved BLADE SIZE: Morphyl/Notophyl PETIOLE ATTACHMENT: Not Preserved BLADE SIZE: Mot Preserved PETIOLE CLANDS: NP BLADE RATIO LW: 2:1 PETIOLE ASECTION: NP BLADE RATIO LW: 2:1 PETIOLE SUBLE STOME: NOT Preserved BASE ASYMMETRY: Not Preserved MEDIAL SYMMETRY: Not Preserved BASE ASIGLE: Obtuse APEX ANGLE: Action to Not Preserved BASE ASIGLE: Obtuse APEX ANGLE: Not Preserved BASE ASIGLE: Obtuse APEX ANGLE: Not Preserved	ENERAL	MAJOR GROUP	DIC INFERED	FAMILY		(DRGAN TYPE	Leaf
order veins at the apex and base are rarely preserved. Unlike Fagoposphyllum, this species has sorrate teeth with 2 orders and averages 4 teeth/cm. MQI:			EXEMPLAR	1703-2,	1704-111A OTHERS LO			6 1704
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FOURTH & HIGHER ORDER VEIN FEATURES 4° VEIN FABRIC: Opposite percurrent 5° VEIN FABRIC: Regular reticulate 5° VEIN FABRIC: Regular reticulate TYPE OF F.E.V. BRANCHING: n.p MARGINAL VENATION: Not Preserved AREOLATION: Moderately developed COOTH FEATURES ORDERS OF TEETH: 2 No TEETH/cm: 4 TOOTH SHAPE: cv/rt PRINCIPAL VEIN: Present	ADMEDIAL COUR				EXTERIOR 3° COURSE:		Absen	it
4° VEIN FABRIC: Opposite percurrent VEINLETS -F/E/V/s: Not Preserved 5° VEIN FABRIC: Regular reticulate TYPE OF F.E.V. BRANCHING: n.p MARGINAL VENATION: Not Preserved F.E.V.S TERMINATIONS: Not Preserved AREOLATION: Moderately developed LEAF RANK: TOOTH FEATURES ORDERS OF TEETH: 2 No TEETH/cm: 4 TEETH GLANDULARITY: None TOOTH SHAPE: CV/ft TOOTH SPACING: Regular TOOTH SPACING: Regular PRINCIPAL VEIN: Present SINUS SHAPE: Angular Angular	EXMEDIAL COUR	SE: Ba	asiflexed		INTERCOSTAL 3° VARIA	BILITY:	Increasin	g proximally
5° VEIN FABRIC: Regular reticulate TYPE OF F.E.V. BRANCHING: n.p MARGINAL VENATION: Not Preserved F.E.V.S TERMINATIONS: Not Preserved AREOLATION: Moderately developed LEAF RANK: Not Preserved COOTH FEATURES ORDERS OF TEETH: 2 No TEETH/cm: 4 TEETH GLANDULARITY: None TOOTH SHAPE: cv/rt TOOTH SPACING: Regular Present SINUS SHAPE: Angular			ATURES					
MARGINAL VENATION: Not Preserved F.E.V.s TERMINATIONS: Not Preserved AREOLATION: Moderately developed LEAF RANK: TOOTH FEATURES ORDERS OF TEETH: 2 No TEETH/cm: 4 TEETH GLANDULARITY: None TOOTH SHAPE: cv/rt TOOTH SPACING: Regular PRINCIPAL VEIN: Present SINUS SHAPE: Angular					· · · · · ·	N	lot Preserved	
AREOLATION: Moderately developed LEAF RANK: TOOTH FEATURES ORDERS OF TEETH: 2 No TEETH/cm: 4 TEETH GLANDULARITY: None TOOTH SHAPE: cv/rt TOOTH SPACING: Regular PRINCIPAL VEIN: Present SINUS SHAPE: Angular	5° VEIN FAB			TYF	E OF F.E.V. BRANCHING:			
TOOTH FEATURES ORDERS OF TEETH: 2 No TEETH/cm: 4 TEETH GLANDULARITY: None TOOTH SHAPE: CV/rt TOOTH SPACING: Regular PRINCIPAL VEIN: Present SINUS SHAPE: Angular				_	-		Not Prese	rved
ORDERS OF TEETH: 2 No TEETH/cm: 4 TEETH GLANDULARITY: None TOOTH SHAPE: cv/rt TOOTH SPACING: Regular PRINCIPAL VEIN: Present SINUS SHAPE: Angular		DN: Moderately dev	veloped		LEAF RANK:			
TOOTH SHAPE: cv/rt TOOTH SPACING: Regular PRINCIPAL VEIN: Present SINUS SHAPE: Angular	OOTH FEATURES							
PRINCIPAL VEIN: Present SINUS SHAPE: Angular	ORDERS OF TEE	TH: <u>2</u>	No TEETH/cm	n: <u>4</u>	TEETH GLANDU		N	lone
	TOOTH SHA	PE: cv/rt	тоотн	SPACING:	Regular			
ACCESSORY VEIN COURSE: Absent PRINCIPAL VEIN TERM.: Marginal, at apex								
	ACCES	SORY VEIN COURS	E: Absent	t	PRINCIPAL VEIN	TERM.:	Margina	al, at apex



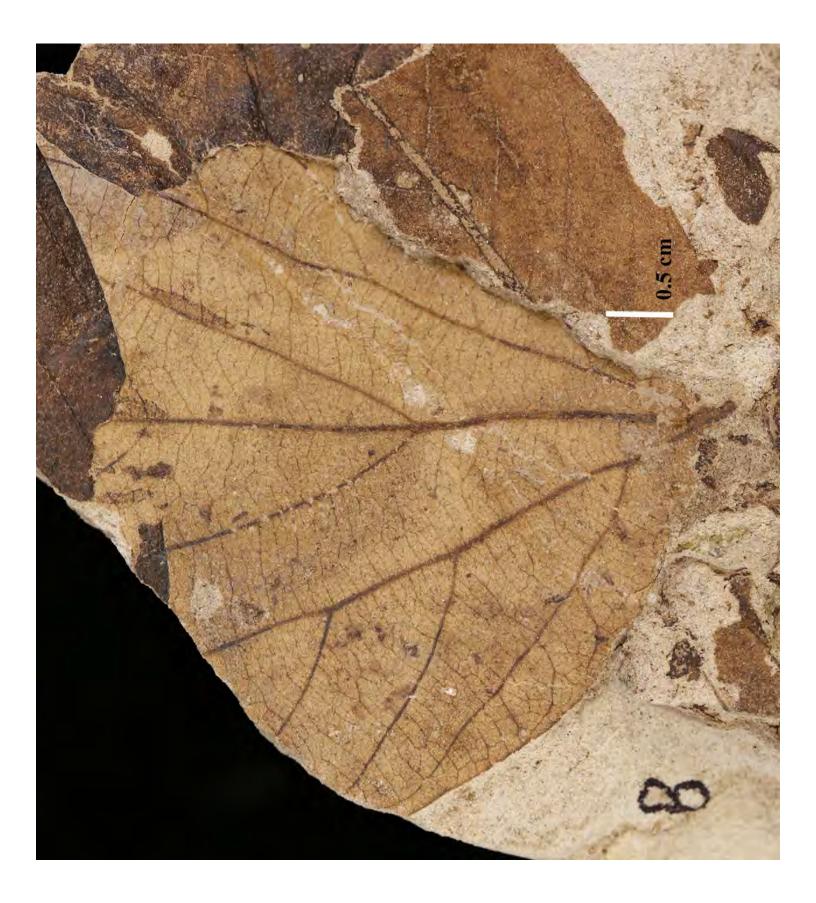
MORPHOTYPE	HB176	NAME
GENERAL MA	AJOR GROUP DIC INFERED	FAMILY ORGAN TYPE Leaf
	na Basin, WY EXEMPLAR	1704-1, 1704-76 OTHERS LOC.
DIAGNOSTIC FEA		2° veination is mixed! The framework is both
eucam	ptodromous and simply brochido	dromous as you move from the base of the leaf to the
	When preserved, apex has a ver	
	• • •	MQI:
	RGANIZATION, SIZE, SHAPE AI	
LEAF ATTACHMENT:	Not Preserved	LEAFLET ORGANIZATION: Not Preserved
LEAF ARRANGEMENT:	Not Preserved	
-	Not Preserved	·
LEAF ORGANIZATION: BLADE SIZE:	Microphyll-Mesohyll	_ PETIOLE ATTACHMENT.: <u>Not Preserved</u> PETIOLE BASE: Not Preserved
BLADE SIZE: BLADE SHAPE:	Not Preserved	PETIOLE BASE: NOL PLESEIVEU PETIOLE GLANDS:. NP
BLADE RATIO L:W:	1.5:1 Unlobed	PETIOLE X-SECTION: NP MARGIN TYPE Untoothed
BASE ASYMMETRY:	Not Preserved	MARGIN TIPE Ontoolined
BASE SHAPE:	Convex APEX SHAPE	
BASE ANGLE:	Obtuse APEX SHAPE	
DAGE ANGLE.		Addito Terminal apex reactives.
PRIMARY & SECONDAR	Y VEIN FEATURES	NAKED BASAL VEINS: Not Preserved
PRIMARY VENATION:	Pinnate	N° BASAL VEINS: 1 Interior 2 ^{ec} Absent
MAJOR 2° Framework:	Mixed framework	MINOR-2° Course:
MAJOR 2° Attachment:	Decurrent	MAJOR 2° VEIN ANGLE: Smoothly increasing toward base
MAJOR 2° SPACING:	Regular	AGROPHIC VEINS: Absent
INTER-2° proximal course:		INTER-2° VEIN
INTER-2° distal course:		INTER-2° FREQUENCY:
TERTIARY VEIN FEATU	RES	
INTERCOSTAL 3°:	Mixed opp/alt percurrent	PERIMARGINAL VEINS: None
EPIMEDIAL 3°:	Mixed opp/alt percurrent	INTER-3° ANGLE TO 1°: Obtuse or perpendicular
ADMEDIAL COURSE:	Acute to midvein	EXTERIOR 3° COURSE: Looped
EXMEDIAL COURSE:	Basiflexed	INTERCOSTAL 3° VARIABILITY: Decreasing exmedially
FOURTH & HIGHER ORI	DER VEIN FEATURES	
4° VEIN FABRIC:	Alternate percurrent	VEINLETS - F/E/V/s: Not Preserved
5° VEIN FABRIC:	Regular reticulate	TYPE OF F.E.V. BRANCHING: n.p
MARGINAL VENATION:	Not Preserved	F.E.V.s TERMINATIONS: Not Preserved
AREOLATION:	Well developed	LEAF RANK:
TOOTH FEATURES		
ORDERS OF TEETH:		: TEETH GLANDULARITY:
TOOTH SHAPE:	No TEETH/cm	SPACING:
PRINCIPAL VEIN:		SPACING:
-	Y VEIN COURSE:	PRINCIPAL VEIN TERM.:
NOTES		
Specimens used for morpho	osheet: 1704-1, 1704-76	
1		



MORPHOTYPE	HB177	NAME
GENERAL MA	AJOR GROUP DIC INFERED F	AMILY ORGAN TYPE Leaf
EXEMPLAR LOC. Han	na Basin, WY EXEMPLAR	1704-9A OTHERS LOC.
DIAGNOSTIC FEA	TURES OF MORPHOTYPE	2° veins have a mixed framework which is unlike any other pinna
leaf for	und at these sites. The frameworl	k is both brochidodromous and eucamptodromous.
		MQI:
LEAF ATTACHMENT. OF	RGANIZATION, SIZE, SHAPE AN	D PETIOLE FEATURES
LEAF ATTACHMENT:	Petiolate	LEAFLET ORGANIZATION: Not Preserved
LEAF ARRANGEMENT:	Not Preserved	LEAFLET ATTACHMENT: np
LEAF ORGANIZATION:	Not Preserved	PETIOLE ATTACHMENT.: Not Preserved
BLADE SIZE:	Notophyll	PETIOLE BASE: Not Preserved
BLADE SHAPE:	Obovate	PETIOLE GLANDS:. NP
BLADE RATIO L:W:	2:1	PETIOLE X-SECTION: NP
LOBATION:	Unlobed	MARGIN TYPE Untoothed
BASE ASYMMETRY:	Symmetrical	MEDIAL SYMMETRY: Symmetrical
BASE SHAPE:	Convex APEX SHAPE:	Straight Special Margin Features: Not Preserve
BASE ANGLE:	Acute APEX ANGLE:	Acute Terminal apex features: Not Preserve
PRIMARY & SECONDAR	Y VEIN FEATURES	NAKED BASAL VEINS: Not Preserved
PRIMARY VENATION:	Pinnate	N° BASAL VEINS: 1 Interior 2 [∞] Absent
MAJOR 2° Framework:	Mixed framework	MINOR-2° Course:
MAJOR 2° Attachment:	Decurrent	MAJOR 2° VEIN ANGLE: Abruptly increasing toward base
MAJOR 2° SPACING:	Regular	AGROPHIC VEINS: Absent
INTER-2° proximal course:		INTER-2° VEIN LENGTH:
INTER-2° distal course:		INTER-2° FREQUENCY:
TERTIARY VEIN FEATU	RES	
INTERCOSTAL 3°:	Opposite percurrent - straight	PERIMARGINAL VEINS: None
EPIMEDIAL 3°:	Opposite percurrent	INTER-3° ANGLE TO 1°: Obtuse to midvein
ADMEDIAL COURSE:	Acute to midvein	EXTERIOR 3° COURSE: Absent
EXMEDIAL COURSE:	Basiflexed	INTERCOSTAL 3° VARIABILITY: Consistent
FOURTH & HIGHER ORD	OFR VEIN FEATURES	
4° VEIN FABRIC:	Not Preserved	VEINLETS -F/E/V/s: Not Preserved
5° VEIN FABRIC:	Not Preserved	TYPE OF F.E.V. BRANCHING: n.p
MARGINAL VENATION:	Not Preserved	F.E.V.s TERMINATIONS: Not Preserved
-	Not Preserved	LEAF RANK:
TOOTH FEATURES		
ORDERS OF TEETH:	No TEETH/cm:	TEETH GLANDULARITY:
TOOTH SHAPE:		SPACING:
PRINCIPAL VEIN:		S SHAPE:
-	Y VEIN COURSE:	PRINCIPAL VEIN TERM.:
NOTES		
worpnosneet completed us	ing specimens: 1704-46, 1704-212 a	anu 1704-9A



MORPHOTYF		HB178	NAME			
GENERAL	MAJOR GROUP	DIC INFERED	FAMILY Mor	aceae	ORGAN TYPE	Leaf
EXEMPLAR LOC.	Hanna Basin, WY	EXEMPLAR	EC1508_1, 1701_17B	THERS LOC.		
DIAGNOSTI	C FEATURES OF MOR	PHOTYPE	3° veins are closely sp	aced and alter	nate between n	nixed opp/alt
pe	ercurrent. The vein	s located in the mi	ddle of the leaf are domin	nated by opposi	te purcurrent	
a	nd become alternate	e toward the exteri	or of the leaf. 2° veins ar	e eucamptoron	ous which is	
<u></u>	nlike other morphot	ypes with mixed fa	meworks and the base is	s symmetrical.	MQI:	
	T. ORGANIZATION	N. SIZE, SHAPE A	ND PETIOLE FEATURE	s		
			LEAFLET ORGAN		Not Pres	erved
LEAF ARRANGEMI					np	
LEAF ORGANIZAT		Preserved	PETIOLE ATTA		Not Pres	erved
BLADE S		nyll-Mesophyll	—	DLE BASE:	Not Pres	
BLADE SH		Ovate	_	GLANDS:.	NP	
BLADE RATIO			PETIOLE X-		NP	
LOBAT		Unlobed			Untoot	
BASE ASYMME		mmetrical	MEDIAL SY		ymmetrical	
BASE SHAPE:	Concave	APEX SHAPE		·	argin Features:	Not Preserv
BASE ANGLE:	Acute	APEX ANGLE		-	apex features:	Not Preserv
PRIMARY & SECON	IDARY VEIN FEAT	URES	NA	KED BASAL VEIN	S: A	bsent
PRIMARY VENAT	ION: Ba	sal actinodromous	N° BAS	AL VEINS: 3	Interio	r 2º Abser
MAJOR 2° Framew	vork: El	ucamptodromous	MINOR-	2° Course:	 Semicrasped	odromous
MAJOR 2° Attachn	nent: Decurre	ent	MAJOR 2° VEIN ANGLE	• <u> </u>	Uniform	
MAJOR 2° SPAC	ING: Dec	creasing proximally		AGROPHIC VEIN	s: S	Simple
INTER-2° proximal cou	rse:		INTER-2° VEIN LENGTH:			
INTER-2° distal cours			- INTER-2° FREQUENCY:			
FERTIARY VEIN FE	ATURES					
INTERCOSTA	L 3°: Mixed op	p/alt percurrent	PERI	MARGINAL VEIN	S:	None
EPIMEDIAL 3°:	Opposite p	ercurrent	INTER-3° ANG	BLE TO 1º:	Perpendicular	to midvein
ADMEDIAL COU	RSE: Perpendia	cular to midvein	EXTERIOR 3°	COURSE:	Terminating at	the margin
EXMEDIAL COU	RSE: Ba	siflexed	INTERCOST	AL 3° VARIABILIT	Y: Decreasi	ng exmedially
FOURTH & HIGHER	ORDER VEIN FE	ATURES				
4° VEIN FAE	BRIC: Alternat	te percurrent	VEINLETS -F/E/V/s		Not Preserve	d
5° VEIN FAE	BRIC: Irregular ret	iculate	TYPE OF F.E.V. BR	ANCHING:	n.p	
MARGINAL VENAT	ION: Not	Preserved	F.E.V.s TERMI	NATIONS:	Not Pres	erved
AREOLAT	ION: Poorty develop	ed	LE	AF RANK:		
FOOTH FEATURES						
ORDERS OF TEI	ETH:	No TEETH/cm	: TEET	H GLANDULARIT	Y:	
тоотн SH	APE:	тоотн	SPACING:			
PRINCIPAL V			JS SHAPE:			
ACCE	SSORY VEIN COURSE	l:	PRINC	IPAL VEIN TERM	l.:	
NOTES						



MORPHOTYPE		HB179	NAME			
GENERAL M	AJOR GROUP		ΕΔΜΙΙ Υ		DRGAN TYPE	Leaf
EXEMPLAR LOC.	LAS 1714	EXEMPLAR	1713-14 OTHERS I			LAS 1715
	ATURES OF MORP		2° framework is strongly broch			
			like any other morphotype at the			
			i° vein fabric is freely ramifying			
Luouy	, 110 2000 10 003				MQI:	
LEAF ATTACHMENT, O		· · · · · · · · · · · · · · · · · · ·			Not Deserve	
LEAF ATTACHMENT:			LEAFLET ORGANIZATION	-	Not Prese	Ned
LEAF ARRANGEMENT:			LEAFLET ATTACHMENT		np	
LEAF ORGANIZATION:		eserved	PETIOLE ATTACHMENT		Not Prese	
BLADE SIZE:		II-Notophyll	PETIOLE BASE		Not Prese	
BLADE SHAPE:	-	vate	PETIOLE GLANDS		Not Prese	
BLADE RATIO L:W:			PETIOLE X-SECTION		Not Prese	
LOBATION:		Unlobed	MARGIN TYP		Untoothe	əd
BASE ASYMMETRY:		asymmetrical	MEDIAL SYMMETRY	: Asyr	netrical	
BASE SHAPE:	Concave	APEX SHAPE:		-	n Features:	Sinuous
BASE ANGLE:	ot Preserved	APEX ANGLE:	Acute T	erminal ape	ex features:	Not Preserved
PRIMARY & SECONDA	RY VEIN FEATU	IRES	NAKED BASA	AL VEINS:	Ab	sent
PRIMARY VENATION:		Pinnate	N° BASAL VEINS	- 1	Interior	2 ^{er} Absent
MAJOR 2° Framework:	Simple	brochidodromous	MINOR-2° Course	e		
MAJOR 2° Attachment:	Decurren	t	MAJOR 2° VEIN ANGLE:	Smoothly d	ecreasing tow	ard base
MAJOR 2° SPACING:	Gradually	increasing proxima		IC VEINS:	Ab	sent
INTER-2° proximal course:			INTER-2° VEIN LENGTH:			
INTER-2° distal course:			INTER-2° FREQUENCY:			
TERTIARY VEIN FEATU INTERCOSTAL 3°:		urrent sinusus			Not Dr	reserved
EPIMEDIAL 3°:		current - sinuous	PERIMARGIN/ - INTER-3° ANGLE TO 1'	-	Acute to mi	
ADMEDIAL COURSE:	Opposite per	reserved	EXTERIOR 3° COURSE		Not Prese	
EXMEDIAL COURSE:		flexed	INTERCOSTAL 3° VAR			reserved
FOURTH & HIGHER OR						
4° VEIN FABRIC:		percurrent	VEINLETS -F/E/V/s:		lot Preserved	
5° VEIN FABRIC:		<u> </u>	TYPE OF F.E.V. BRANCHING		n.p	
MARGINAL VENATION:		reserved	F.E.V.s TERMINATIONS		Not Prese	rved
AREOLATION:	Poorty develope	1	LEAF RANK			
TOOTH FEATURES						
ORDERS OF TEETH:		No TEETH/cm:	TEETH GLAND			
TOOTH SHAPE:		тоотн	SPACING:			
PRINCIPAL VEIN:		SINU	S SHAPE:			
ACCESSO	RY VEIN COURSE:		PRINCIPAL VEI	N TERM.:		
NOTES						
Specimens used to comple	to morphoshoot:		0 and 1712 14			
Specimens used to comple	te morphosneet.	1/01-9/, 1/13-100	10 anu 17 13-14			



MORPHOTYPE	HB1	80	NAME			
GENERAL MA	JOR GROUP DIC	INFERED FA	мшү		ORGAN TYPE	Leaf
		EMPLAR		HERS LOC.	· –	6 1713
		= V	Veakly brochidodromous			
			e to midvein. Also the 2			
	ses proximally and is a			spacing grad	ually	
mercu	ses proximally and is a				MQI:	
					· · · ·	
LEAF ATTACHMENT, OF	· · ·	SHAPE AND				
LEAF ATTACHMENT:	Petiolate	_	LEAFLET ORGANIZ		Not Prese	rved
LEAF ARRANGEMENT:	Not Preserved	_	LEAFLET ATTACH	IMENT:	np	
LEAF ORGANIZATION:	Not Preserve	·	PETIOLE ATTACH		Not Prese	
BLADE SIZE:	Microphyll-Mesor	onyil	PETIOLI		Not Prese	
BLADE SHAPE:	Ovate		PETIOLE GI	LANDS:.	Not Prese	
BLADE RATIO L:W:	2:1	<u> </u>	PETIOLE X-SE		Not Prese	
LOBATION:	Unlob	ed	MARGI	N TYPE	Untooth	ed
BASE ASYMMETRY:	Symmetrical		MEDIAL SYM	METRY: Sym	metrical	
BASE SHAPE:	Convex AI	PEX SHAPE:	Not preserved	Special Marg	in Features:	Not Preserved
BASE ANGLE:	Acute Al	PEX ANGLE:	Not preserved	Terminal ap	ex features:	Not Preserved
PRIMARY & SECONDAR	Y VEIN FEATURES		NAKE	D BASAL VEINS:		reserved
PRIMARY VENATION:	Pinna	ite	N° BASAL	VEINS: 1	Interior	2º: Absent
MAJOR 2° Framework:	Mixed fram	nework	MINOR-2°	Course:		
MAJOR 2° Attachment:	Decurrent	_	MAJOR 2° VEIN ANGLE:	Smoothly	increasing tov	vard base
MAJOR 2° SPACING:	Gradually increas	sing proximally		ROPHIC VEINS:	A	osent
INTER-2° proximal course:			INTER-2° VEIN LENGTH:			
INTER-2° distal course:						
TERTIARY VEIN FEATU	RES					
INTERCOSTAL 3°:	Opposite percurrent	- straight	PERIM	ARGINAL VEINS:	Not P	reserved
EPIMEDIAL 3°:	Opposite percurrent		INTER-3° ANGLI	E TO 1°:	Obtuse to n	nidvein
ADMEDIAL COURSE:	Not Preserved		EXTERIOR 3° C	OURSE:	Not Prese	
EXMEDIAL COURSE:	Not Preserved	d	INTERCOSTAL	3° VARIABILITY:	Cor	sistent
FOURTH & HIGHER OR	ER VEIN FEATURES					
4° VEIN FABRIC:	Not Preserved	d	VEINLETS -F/E/V/s:		Not Preserved	l
5° VEIN FABRIC:	Not Preserved		TYPE OF F.E.V. BRAN		n.p	
MARGINAL VENATION:	Not Preserved	4	F.E.V.s TERMINA		Not Prese	rved
-	Not Preserved	<u> </u>		RANK:		
TOOTH FEATURES						
ORDERS OF TEETH:	No	TEETH/cm:		GLANDULARITY:		
TOOTH SHAPE:		TOOTH SP				
PRINCIPAL VEIN:		SINUS	SHAPE:			
ACCESSOR	Y VEIN COURSE:		PRINCIP	AL VEIN TERM.:		
NOTES						
Specimen used to complete	e morphosheet is: 1701-4	15				



MORPHOTY	PE	HB181		NAM				
GENERAL	MAJOR GROUP		IFERED FAMIL	Y		ORG	AN TYPE	Leaf
EXEMPLAR LOC.	1704	EXEMP	PLAR	1704-13C	OTHERS LOC			
DIAGNOST	IC FEATURES OF M	ORPHOTYPE	Very	/ poorly prese	rved however, i	nteresting	morphology	!
<u>-</u>	4 primary veins pro	eserved and a	grophic vein	s however no o	other features a	re preserv	/ed.	
<u> </u>	Due to the primary	veins, this lea	of can not be	put in any othe	r morphospeci	es.		
-							MQI:	
	NT. ORGANIZATI	ON, SIZE, SH	APE AND PE		IRES			
					RGANIZATION:		Not Preserve	d
LEAF ARRANGE					ATTACHMENT:		np	-
LEAF ORGANIZA		t Preserved			TTACHMENT.:		Not Preserve	h
BLADE		Notophyll			PETIOLE BASE:		Not Preserve	
BLADE S	-	ot Preserved			OLE GLANDS:.		Not Preserve	
BLADE RATIO					LE X-SECTION:		Not Preserve	
	TION: NOL PTE	Not Preserv	ed		MARGIN TYPE		Untoothed	
BASE ASYMM		ot Preserved			L SYMMETRY:	Not Prese		
BASE SHAPE:	Not Preserved		SHAPE:	Not preserved				t Preserv
BASE SHAPE:	Not Preserved			Not preserved		al Margin Fo ninal apex fo		t Preserv
DAGE ANGLE.	Not i leserved		ANGEL		Terr			1103011
RIMARY & SECO	NDARY VEIN FE	ATURES			NAKED BASAL	VEINS:	Not Pres	erved
PRIMARY VENA	· · · · · · · · · · · · · · · · · · ·	ome kind of Pa	almate	<u> </u>	BASAL VEINS:	4	Interior 2°	NP
MAJOR 2° Frame	work: Se	emicraspedodro	omous	MII	NOR-2° Course:		Not Preserve	d
MAJOR 2° Attack	iment: Decu	ment	M	AJOR 2° VEIN AN	IGLE:	Not	Preserved	
MAJOR 2° SPA		Not Preserve		INTER-2° VEIN	AGROPHIC	VEINS:	Simp	e
INTER-2° proximal co	urse:			LENGTH:				
-								
INTER-2° distal cou			INTE	ER-2° FREQUENC	j Y:			
ERTIARY VEIN F								
INTERCOST		ot Preserved					Not Pres	
EPIMEDIAL 3°:		reserved			' ANGLE TO 1°:		Not Preserve	
ADMEDIAL CO		ot Preserved			DR 3° COURSE: OSTAL 3° VARIAI		Not Preserve	
EXMEDIAL CO	URSE: NO	ot Preserved			OSTALS VARIAN		Not Pres	ervea
OURTH & HIGHE	R ORDER VEIN F	EATURES						
4° VEIN FA	ABRIC: No	ot Preserved		VEINLETS -F	/E/V/s:	Not	Preserved	
5° VEIN FA	ABRIC: Not Pre	served		TYPE OF F.E.V	. BRANCHING:	n	.р	
MARGINAL VENA	TION: No	ot Preserved		F.E.V.s TE	ERMINATIONS:		Not Preserve	d
AREOLA	TION: Not Preserve	d			LEAF RANK:			
OOTH FEATURE	6							
ORDERS OF T		No TE	ETH/cm:	т	EETH GLANDUL	ARITY:		
тоотн s	HAPE:		TOOTH SPAC	ING:				
PRINCIPAL	VEIN:		SINUS SH	APE:				
	ESSORY VEIN COUR	SE:		-	RINCIPAL VEIN	TERM.:		
A00								
NOTES								



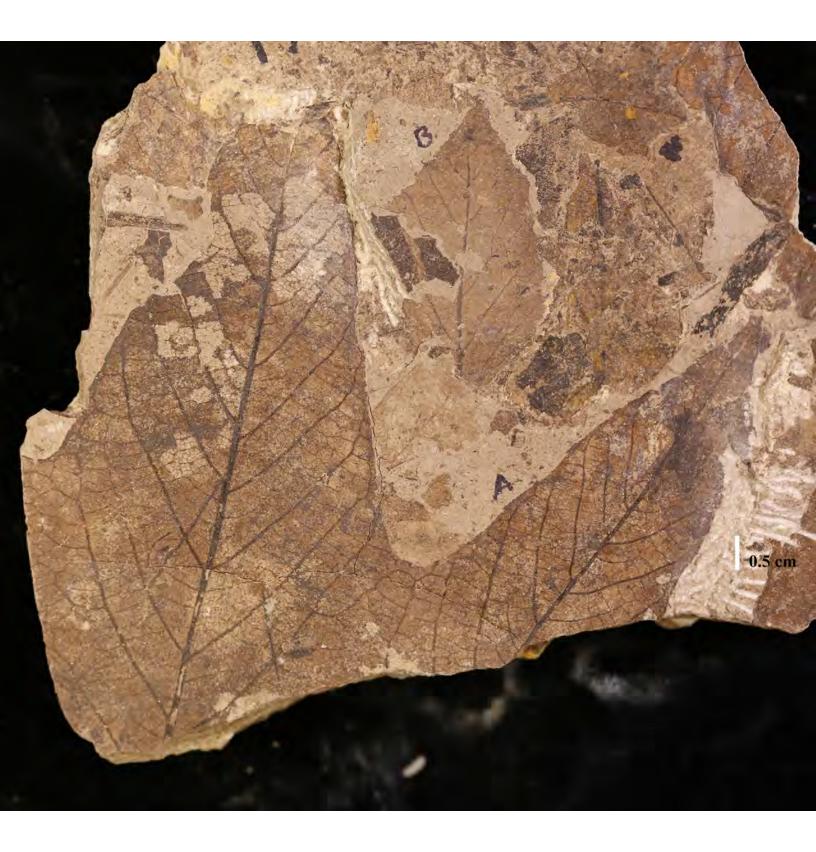
MORPHOTYPE		HB182	NAME			
GENERAL	AJOR GROUP				ORGAN TYPE	Leaf
EXEMPLAR LOC.	1710	EXEMPLAR	1710-26 отн	IERS LOC.		
DIAGNOSTIC FE	ATURES OF MORPH	ЮТҮРЕ	Very regularly spaced 2°	veins with con	sistent acut	e angels and the
frame	ework is eucampto	odromous. The ac	ute angel measures at 30°			
					MQI:	
LEAF ATTACHMENT, O	DRGANIZATION,	SIZE, SHAPE AN	D PETIOLE FEATURES		-	
LEAF ATTACHMENT	Not Preserv	ed	LEAFLET ORGANIZ	ATION:	Not Pres	erved
LEAF ARRANGEMENT	Not Preserv	ed	LEAFLET ATTACH	MENT:	np	
LEAF ORGANIZATION	Not Pre	eserved	PETIOLE ATTACH	MENT.:	Not Pres	erved
BLADE SIZE	: Microphyl	-Mesophyll	PETIOLE	BASE:	Not Pres	erved
BLADE SHAPE	:0	rate	PETIOLE GL	ANDS:.	Not Pres	erved
BLADE RATIO L:W	: 2:1		PETIOLE X-SE	CTION:	Not Pres	erved
LOBATION	:	Unlobed	MARGI		Untoot	hed
BASE ASYMMETRY	Not Pr	eserved	MEDIAL SYMM	AETRY: Sym	metrical	
	Not Preserved	APEX SHAPE:	Acuminate	Special Marg	-	Not Preserved
BASE ANGLE:	Not Preserved	APEX ANGLE:	Acute	Terminal ap	ex features:	Not Preserved
PRIMARY & SECONDA	RY VEIN FEATU		-	BASAL VEINS:		Preserved
PRIMARY VENATION		Pinnate	N° BASAL		Interio	r 2 ^{er} Absent
MAJOR 2° Framework		amptodromous	MINOR-2°			
MAJOR 2° Attachment			MAJOR 2° VEIN ANGLE:		ncreasing to	
MAJOR 2° SPACING		Regular	AG	ROPHIC VEINS:	A	bsent
INTER-2° proximal course:			LENGTH:			
INTER-2° distal course:			INTER-2° FREQUENCY:			
TERTIARY VEIN FEAT	URES					
INTERCOSTAL 3°	Mixed opp/a	alt percurrent	PERIMA	RGINAL VEINS:	Not I	Preserved
EPIMEDIAL 3°:	Mixed opp/alt p	ercurrent	INTER-3° ANGLE	TO 1°:	Acute to n	nidvein
ADMEDIAL COURSE	Perpendicul	ar to midvein	EXTERIOR 3° CO	DURSE:	Not Pres	erved
EXMEDIAL COURSE	: Basi	flexed	INTERCOSTAL	3° VARIABILITY:	Co	nsistent
FOURTH & HIGHER OF	RDER VEIN FEAT	URES				
4° VEIN FABRIC	: Mixed p	ercurrent	VEINLETS -F/E/V/s:	1	Not Preserve	d
5° VEIN FABRIC	Regular reticu	late	TYPE OF F.E.V. BRAN	CHING:	n.p	
MARGINAL VENATION	: Not Pr	eserved	F.E.V.s TERMINA	TIONS:	Not Pres	erved
AREOLATION	· Well developed		LEAF	RANK:		
TOOTH FEATURES						
ORDERS OF TEETH	:	No TEETH/cm:	TEETH C	LANDULARITY:		
TOOTH SHAPE	:	тоотн з	SPACING:	-		
PRINCIPAL VEIN	:	SINU	S SHAPE:			
ACCESSO	RY VEIN COURSE:		PRINCIP	AL VEIN TERM.:		
NOTES						
Specimens used to compl	ete morphotype she	eet: 1710-6B and 7	1710-207			
			-			



GENERAL	MAJOR GROUP	DIC INFERED	FAMILY		ORGAN TYPE	Leaf
EXEMPLAR LOC.	LAS 1701	EXEMPLAR	1704-47A	OTHERS LOC.	LA	S 1706
DIAGNOSTI	C FEATURES OF MOR	РНОТУРЕ	Thick petiole and mi		es in width ar	oically.
м	idevein at base is 2	x thicker than at a	pex. Unlike Averrhoite	s, HB183 doesn't h	ave intersec	
29	veins and the pres	ervation on this m	orphotype is superior	to Averrhoites. Th	e 2° framewo	
is	weakly brochidod	omous with irregu	lar spacing throughout	the leaf.	MQI:	
EAF ATTACHMEN	T, ORGANIZATIO	N, SIZE, SHAPE A	ND PETIOLE FEATUR	RES		
LEAF ATTACHMI	ENT: Petiola	te	LEAFLET ORG	ANIZATION:	Not Pres	erved
LEAF ARRANGEMI	ENT: Not Prese	erved	LEAFLET AT	TACHMENT:	np	
LEAF ORGANIZAT	ION: Not I	Preserved	PETIOLE AT	FACHMENT.:	Not Pres	erved
BLADE S	NIZE: Microph	yll-Mesophyll	PE	TIOLE BASE:	Not Pres	erved
BLADE SH	APE:	Elliptic	PETIO	LE GLANDS:.	Not Pres	erved
BLADE RATIO	L:W: 2:1		PETIOLE	X-SECTION:	Not Pres	erved
LOBAT	ION:	Unlobed	M	ARGIN TYPE	Untoot	hed
BASE ASYMME	TRY: Basal wid	th asymmetrical	MEDIAL	SYMMETRY: Sy	mmetrical	
BASE SHAPE:	Concave	APEX SHAPE	: Not preserved	Special Ma	rgin Features:	Not Preserve
BASE ANGLE:	Acute	APEX ANGLE	Not preserved	Terminal a	apex features:	Not Preserve
PRIMARY & SECON	IDARY VEIN FEAT	URES	N	IAKED BASAL VEINS	: Not I	Preserved
PRIMARY VENAT	ION:	Pinnate	N° B	ASAL VEINS: 1	Interio	r 2 [∞] Absen
MAJOR 2° Framew	vork: Simp	le brochidodromous	MINC	R-2° Course:		
MAJOR 2° Attachn	nent: Decurre	ent	MAJOR 2° VEIN ANG	iLE:	Inconsistent	
MAJOR 2° SPAC	ING:	Irregular		AGROPHIC VEINS	: <u> </u>	bsent
INTER-2° proximal cou	rso.		INTER-2° VEIN LENGTH:			
-			_			
INTER-2° distal cours	e:		INTER-2° FREQUENCY:		;	
ERTIARY VEIN FE						
INTERCOSTA		ercurrent - convex		RIMARGINAL VEINS		None
EPIMEDIAL 3°:	Opposite p			NGLE TO 1°:	Acute to n	
ADMEDIAL COU		to midvein	_		Terminating at	
EXMEDIAL COU	RSE: Ba	siflexed	INTERCOS	STAL 3° VARIABILITY	· Inco	onsistent
OURTH & HIGHER	ORDER VEIN FE	ATURES				
4° VEIN FAE	RIC: Not	Preserved	VEINLETS -F/E/	V/s:	Not Preserve	d
5° VEIN FAE	RIC: Not Prese	arved	TYPE OF F.E.V. I	BRANCHING:	n.p	
MARGINAL VENAT	ION: Not	Preserved	F.E.V.s TER	MINATIONS:	Not Pres	erved
AREOLAT	ION: Not Preserved			LEAF RANK:		
OOTH FEATURES						
ORDERS OF TEI	ETH:	No TEETH/cn	n: TEI	ETH GLANDULARITY	:	
тоотн SH	APE:	тоотн	SPACING:			
PRINCIPAL V	EIN:	SIN	US SHAPE:			
ACCE	SSORY VEIN COURSI		PRI	NCIPAL VEIN TERM.		



GENERAL	MAJOR GROUP	DIC	INFERED		DI	atanaceae		DRGAN TYPE		Leaf
EXEMPLAR LOC.	1703			-	A, 1703-1	OTHERS LO		DRGAN TYPE		Leai
	FEATURES OF MOR	_			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		-			
	toothed, palmate I			trical has	a This is th	ne only naim	ate lobe	d leaf we		
	ve across stratigr									
	creases proximal		volo: Agrop				induity ve	MQI:		
								-		
EAF ATTACHMENT	ORGANIZATIO		SHAPE AN			RES				
	-					ANIZATION:		Not Pres	served	
LEAF ARRANGEME				-		TACHMENT:		np		
LEAF ORGANIZATI		Preserve	ed			TACHMENT .:		Not Pres		
BLADE SI		yll-Macro		-		TIOLE BASE:		Not Pres		
BLADE SHA		de elliptic		-	PETIO	LE GLANDS:.		NP	•	
BLADE RATIO L				_	PETIOLE	X-SECTION:		NP	•	
LOBATI	ON: F	Palmatel	y lobed		M	ARGIN TYPE		Untoot	hed	
BASE ASYMMET	RY: Sy	mmetrica	I		MEDIAL	SYMMETRY:	Sym	netrical		
BASE SHAPE:	Concave	A	PEX SHAPE:	Not p	reserved	Spee	cial Margi	in Features:	Not I	Preserve
BASE ANGLE:	Obtuse	A	PEX ANGLE	Not p	reserved	Tei	rminal ap	ex features:	Not I	Preserve
PRIMARY & SECONI	DARY VEIN FEAT	TURES			N	AKED BASAL	VEINS:		Absent	
PRIMARY VENATION			tinodromous			ASAL VEINS:	3	Interio		Presen
MAJOR 2° Framewo		· · · · ·	lodromous		MING	DR-2° Course:				
MAJOR 2° Attachm	ent: Decum	ent .		MAJOR	2° VEIN ANG	ile: Sr	noothly d	ecreasing to	oward	base
MAJOR 2° SPACI	NG: Gradua	lly increa	sing proxima	ally		AGROPHIC	VEINS:	1	Absent	
	Demond.				R-2° VEIN		-500	(-+ 00	
INTER-2° proximal cours	se: Perpendi	cular to r	niavein	- LEI	NGTH:		<507	6 of subjace	ent Z*	
INTER-2° distal course	erpendie	cular to n	najor 2°	INTER-2°	FREQUENCY		>1 pe	er intercosta	l area	
FERTIARY VEIN FE	ATURES									
INTERCOSTAL	. 3°: Mixed op	p/alt per	current	_	PE	ERIMARGINAL	VEINS:		None	
EPIMEDIAL 3°:	Opposite p	ercurren	t	_	INTER-3° A	NGLE TO 1º:		Obtuse to	midvei	in
ADMEDIAL COUR	se: Obtus	e to mid	vein	_		3° COURSE:		Not Pres	served	
EXMEDIAL COUR	SE: Ba	asiflexed			INTERCOS	STAL 3° VARI	ABILITY:	Co	onsiste	nt
FOURTH & HIGHER	ORDER VEIN FE	ATURES	5							
4° VEIN FABI	RIC: Alterna	te percu	rrent	VE	INLETS -F/E/	V/s:	N	lot Preserve	d	
5° VEIN FABI	RIC: Regular ref	iculate		ТҮР	E OF F.E.V. I	BRANCHING:		n.p		
MARGINAL VENATI	DN: Not	Preserve	be	_	F.E.V.s TER	MINATIONS:		Not Pres	served	
AREOLATI	ON: Moderately de	veloped		_		LEAF RANK:				
FOOTH FEATURES										
ORDERS OF TEE	TH:	N	o TEETH/cm:		TE	ETH GLANDU	LARITY:			
тоотн Sha	PE:		тоотн	SPACING:			-			
PRINCIPAL VE	EIN:	_	SINU	S SHAPE:						
ACCES	SORY VEIN COURS	E:			PRI	INCIPAL VEIN	TERM.:			



GENERAL	MA	JOR GROUP		FAMILY	I	Platanaceae		ORGAN TYPE	Leaf
EXEMPLAR LOC.		LAS1701	EXEMPLAR	170	1-62B	OTHERS LO	с.		
DIAGNOST	TIC FEA	TURES OF MORI	PHOTYPE	Serrate t	eeth that r	resemble hook	s with n	ion-specific	glands.
_	Teeth	only have one o	order and approxi	mately 2 te	eth/cm.				
-			e is concave-con	vex. Palma	te versior	n of Platanites	is supra		
-	actino	dromous						MQI:	
	NT, OF	RGANIZATION	I, SIZE, SHAPE A	ND PETIO		URES			
LEAF ATTACH	MENT:	Petiolat	e	L	EAFLET O	RGANIZATION:		Not Pres	erved
LEAF ARRANGE	MENT:	Not Prese	rved			ATTACHMENT:		np	
LEAF ORGANIZA	TION:	Not P	reserved		PETIOLE A	ATTACHMENT.:		Not Pres	erved
BLADE	SIZE:	Microphy	yl l-Mes ophyll		P	PETIOLE BASE:		Not Pres	erved
BLADE S	HAPE:	C	Dvate		PETI	IOLE GLANDS:.		Not Pres	erved
BLADE RATIO	0 L:W:	2:1			PETIO	LE X-SECTION:		Not Pres	erved
LOBA	TION:		Unlobed			MARGIN TYPE		Serra	ite
BASE ASYMM	ETRY:	Syn	nmetrical		MEDIA	AL SYMMETRY:	Sym	metrical	
BASE SHAPE:	Cor	ncave-convex	APEX SHAPE	E: Acu	iminate	Spec	al Marg	in Features:	Not Preserve
BASE ANGLE:		Acute	APEX ANGL	E: A	cute	Ter	minal ap	ex features:	Not Preserve
PRIMARY & SECO	NDAR	Y VEIN FEAT	URES			NAKED BASAL	VEINS	4	bsent
PRIMARY VENA			asal actinodromou	s	N°	BASAL VEINS:	1	Interio	
MAJOR 2° Frame	ework:		aspedodromous		мп	NOR-2° Course:		Craspedoc	
MAJOR 2° Attack	- nment:	Decurre		MAJOR	2° VEIN AN	NGLE:		Inconsisten	
MAJOR 2° SPA	CING:		Regular			AGROPHIC	VEINS:		Simple
	-				R-2° VEIN		-		
INTER-2° proximal co	ourse:			LEI	NGTH:				
INTER-2° distal cou	rse:			INTER-2°	FREQUENC	CY:			
FERTIARY VEIN F	EATU	RES							
INTERCOST			rcurrent - convex			PERIMARGINAL	VEINS:		None
EPIMEDIAL 3°:	-	Opposite pe				° ANGLE TO 1°:	-	Obtuse to	
ADMEDIAL CO	URSE:		ular to midvein		EXTERIO	OR 3° COURSE:		Loop	ed
EXMEDIAL CO	URSE:		siflexed		INTERC	OSTAL 3º VARIA	BILITY:		nsistent
			TUDES						
FOURTH & HIGHE 4° VEIN F/			percurrent	VE	EINLETS -F			Not Preserve	d
5° VEIN F	-	Irregular retio		_		/E/V/S. /. BRANCHING:		n.p	u
MARGINAL VENA	-	•	Preserved	116		ERMINATIONS:		Not Pres	enved
	-	Moderately dev			F.E.V.S 1	LEAF RANK:		NULFIES	erveu
		moderately det							
FOOTH FEATURES				_					
ORDERS OF T	-	1	No TEETH/cn			FEETH GLANDU	LARITY:	Non-spe	cific glandula
TOOTH S	HAPE:	cc/rt	_	I SPACING:	Regular				
				US SHAPE:	Rounded	a			
PRINCIPAL	-	Present	_	-		RINCIPAL VEIN			nal, at apex



GENERAL	MAJ	OR GROUP	DIC	INFERED	FAMILY		Platanaceae		ORGAN TYPE		Leaf
EXEMPLAR LOC.	L	AS1706	EX	EMPLAR	170	06-40C	OTHERS L	.oc.	L	AS170 ⁻	1
DIAGNOST	TIC FEAT	URES OF MOR	рнотур	E	Serrate t	eeth that	resemble hoo	oks with r	ion-specific	gland	s.
<u>.</u>	Teeth on	ly have one	order an	nd approxin	nately 2 tee	eth/cm. \	When base is	preserve	d, it is		
<u>-</u>	concave	-convex.									
-									MQI:		
	NT, ORG	GANIZATION	N, SIZE,	SHAPE A	ND PETIO	LE FEAT	URES				
LEAF ATTACH	MENT:	Petiola	te		L	EAFLET C	RGANIZATION	:	Not Pres	erved	
LEAF ARRANGE	MENT:	Not Prese	erved			LEAFLET	ATTACHMENT	-	np		
LEAF ORGANIZA	TION:	Not F	Preserve	ed		PETIOLE	ATTACHMENT.		Not Pres	erved	
BLADE	SIZE:	М	icrophyll				PETIOLE BASE	:	Not Pres	erved	
BLADE S	HAPE:		Ovate			PET	IOLE GLANDS:	·	Not Pres	erved	
BLADE RATIO	0 L:W:	2:1				PETIC	DLE X-SECTION	·	Not Pres	erved	
LOBA	TION:		Uniol	bed			MARGIN TYPI	E	Serra	ite	
BASE ASYMM	ETRY:	Syı	mmetrica	I		MEDI	AL SYMMETRY	Sym	metrical		
BASE SHAPE:	Conc	ave-convex	A	PEX SHAPE	: Acu	minate	Sp	ecial Marg	in Features:	Not F	reserve
BASE ANGLE:		Acute	А	PEX ANGLE	: A	cute	т	erminal ap	ex features:	Not F	Preserve
PRIMARY & SECO	NDARY	VEIN FEAT	URES				NAKED BASA			bsent	
PRIMARY VENA			Pinna	ate		N	° BASAL VEINS		, Interio		Absen
MAJOR 2° Frame		C	raspedo			м	INOR-2° Course	•			
MAJOR 2° Attack	ment:	Decurre			MAJOR	2° VEIN A	NGLE:		Inconsisten	t	
MAJOR 2° SPA	CING:		Regu	Jlar			AGROPH	C VEINS:	-	bsent	
						R-2° VEIN					
INTER-2° proximal co	ourse:				LEI	NGTH:					
INTER-2° distal cou	rse:				INTER-2°	FREQUEN	CY:				
TERTIARY VEIN F	EATUR	ES									
INTERCOST	TAL 3°:	Opposite pe	ercurrent	- convex			PERIMARGINA	L VEINS:		None	
EPIMEDIAL 3°:		Opposite p	ercurren	t	_	INTER-3	3° ANGLE TO 1°	•	Obtuse to	midvei	n
ADMEDIAL CO	URSE:	Perpendi	cular to n	nidvein	_	EXTER	IOR 3° COURSE	:	Loop	ed	
EXMEDIAL CO	URSE:	Ba	asiflexed			INTER	COSTAL 3° VAR	IABILITY:	Co	nsister	nt
FOURTH & HIGHE		R VFIN FF4	ATURES	•							
4° VEIN FA			percurre		VE	INLETS -	F/E/V/s:		Not Preserve	d	
5° VEIN FA		Irregular ret	•		_		V. BRANCHING		n.p	-	
MARGINAL VENA		· ·	Preserve	d			ERMINATIONS		Not Pres	erved	
		loderately dev		-	_		LEAF RANK				
		1		. TEET!!!	:: 2		TEETU 01 401-		Non-spe	oific cl	andule-
ORDERS OF T		cc/rt	N	o TEETH/cm	SPACING:	Regula	TEETH GLAND	ULARII I	Non-spe	one gi	anuuiar
10018 3		Present			JS SHAPE:	Rounde					
PRINCIPAL		1 1030111		SINC	JU UNAPE:	Touride	<u>~~</u>				
PRINCIPAL		VEIN COURSE	F. <u>St</u>	raight or co	ncave		PRINCIPAL VEI		Marri	nal, at :	aney



SENERAL	MAJOR GROUP	INFERED F		ochodendraceae	ORG	AN TYPE	Leaf
XEMPLAR LOC.	HB1706	EXEMPLAR	1706-10	OTHERS LOC			
DIAGNOSTI	C FEATURES OF MORP	НОТҮРЕ					
<u></u>	ounded teeth starting	approximately hal	f-way up the leaf	margin. Teeth are	regularly	/	
<u>s</u>	paced and consister	nt. Shape can vary	but all leaves are	obovate			
_						MQI:	
EAF ATTACHMEN	T, ORGANIZATION	, SIZE, SHAPE AN	D PETIOLE FEAT	TURES			
LEAF ATTACHMI	ENT: Petiolate)	LEAFLET	ORGANIZATION:		Not Prese	rved
LEAF ARRANGEMI	ENT: Not Preser	ved	LEAFLET	ATTACHMENT:		np	
LEAF ORGANIZAT	ION: Not Pr	reserved	PETIOLE	ATTACHMENT.:		Not Prese	rved
BLADE S	IZE: Nanophy	yll-Notophyll		PETIOLE BASE:		Not Prese	rved
BLADE SH	APE: Ob	ovate	PE	TIOLE GLANDS:.		Not Prese	rved
BLADE RATIO	L:W: 1:1		PETIO	DLE X-SECTION:		Not Prese	rved
LOBAT	ION:	Unlobed		MARGIN TYPE		Crenate	Ð
BASE ASYMME	TRY: Sym	metrical	MED	IAL SYMMETRY:	Symmet	rical	
BASE SHAPE:	Convex	APEX SHAPE:	Straight	Specia	al Margin F	eatures:	Not Preserve
BASE ANGLE:	Acute	APEX ANGLE:	Obtuse	Term	ninal apex f	eatures:	None
		IDES				A L	
		al actinodromous		NAKED BASAL V	2 (EINS:	AD Interior :	osent 2 [∞] Presen
PRIMARY VENAT MAJOR 2° Framew				INOR-2° Course:			
MAJOR 2 Framew		Xadodromous	MAJOR 2° VEIN			Not Prese	rvea
MAJOR 2° Attachn			MAJOR 2 VEIN /			Jniform	
MAJOR 2 SPAC		Regular	INTER-2° VEIN	AGROPHIC V	EIN5:	AU	sent
INTER-2° proximal cou		reserved	LENGTH:		<50% o	f subjacen	t 2º
INTER-2° distal cours		t secondary	INTER-2° FREQUEN	ICY:	>1 ner i	ntercostal a	area
					- por a		
ERTIARY VEIN FE							
		current - straight					reserved
EPIMEDIAL 3°:	Opposite pe		•	3° ANGLE TO 1°:	A	Cute to mi	
		to midvein		IOR 3° COURSE:		Variabl	
EXMEDIAL COU	KOE: Bas	iflexed				Con	sistent
OURTH & HIGHER	ORDER VEIN FEA	TURES					
4° VEIN FAE	RIC: Opposite	e percurrent	VEINLETS -	F/E/V/s:	Not	Preserved	
5° VEIN FAE	RIC: Irregular retic	ulate	TYPE OF F.E.	V. BRANCHING:	n	i.p	
MARGINAL VENAT	ION: Not P	reserved	F.E.V.s	ERMINATIONS:		Not Prese	rved
AREOLAT	ION: Moderately deve	eloped		LEAF RANK:			
OOTH FEATURES							
ORDERS OF TEI	ЕТН: 1	No TEETH/cm:	4	TEETH GLANDULA	ARITY:	N	one
тоотн SH		- ·	PACING: Regula				
100111 311		- SINII	S SHAPE: variabl				
PRINCIPAL V	'EIN: Present	011101					
PRINCIPAL V	EIN: Present SSORY VEIN COURSE:	_		PRINCIPAL VEIN T	ERM.:	Margina	al, at apex



GENERAL	MAJOR GROUP	DIC INFERED	FAMILY	ORGAN TYPE	Leaf
XEMPLAR LOC.	1701	EXEMPLAR	1701-84, 1706-36B OTHERS LO		
DIAGNOSTIC	AGNOSTIC FEATURES OF MORPHOTYP		Similar overall shape to Trocho		nout teeth. In I
of	teeth. Zizvphoides	s has "lobes" within	n the top 1/3 of the leaf, similar to		
			chidodromous and cladodromous		_
Ziz	yphoides has 5 b	asal veins.		MQI:	
EAF ATTACHMENT	, ORGANIZATIO	N, SIZE, SHAPE A	ND PETIOLE FEATURES		
LEAF ATTACHME	NT: Petiola	te	LEAFLET ORGANIZATION:	Not Pre	served
LEAF ARRANGEME	NT: Not Prese	erved	LEAFLET ATTACHMENT:	n	р
LEAF ORGANIZATI	DN: Not I	Preserved	PETIOLE ATTACHMENT.:	Not Pre	served
BLADE SI	ze:M	icrophyll	PETIOLE BASE:	Not Pre	served
BLADE SHA	PE:	Elliptic	PETIOLE GLANDS:.	Not Pre	served
BLADE RATIO L	:W: <u>1:1</u>		PETIOLE X-SECTION:	Not Pre	served
LOBATIO	DN:	Unlobed	MARGIN TYPE	Untoo	othed
BASE ASYMMET	RY: Syi	mmetrical	MEDIAL SYMMETRY:	Symmetrical	_
BASE SHAPE:	Concave	APEX SHAPE	: Straight Spe	ecial Margin Features	Not Preserv
BASE ANGLE:	Obtuse	APEX ANGLE	: Wide obtuse Te	erminal apex features	: None
RIMARY & SECONI	DARY VEIN FEAT	URES	NAKED BASA	L VEINS:	Absent
PRIMARY VENATION	DN: Ba	sal actinodromous	N° BASAL VEINS:	5 Interi	ior 2° Abser
MAJOR 2° Framewo	ork:	vlixed framework	MINOR-2° Course:		
MAJOR 2° Attachmo	ent: Decurre	ent	MAJOR 2° VEIN ANGLE: S	moothly decreasing	toward base
MAJOR 2° SPACII	NG: Dec	creasing proximally		C VEINS:	Absent
INTER-2° proximal cours	ie:		INTER-2° VEIN LENGTH:		
INTER-2° distal course			INTER-2° FREQUENCY:		
ERTIARY VEIN FE	TURES				
INTERCOSTAL	3°: Not	Preserved	PERIMARGINA	L VEINS: Not	t Preserved
EPIMEDIAL 3°:	Not pres	served	INTER-3° ANGLE TO 1°:	Not Pre	served
ADMEDIAL COUR	SE: Not	Preserved	EXTERIOR 3° COURSE:	Not Pre	served
EXMEDIAL COUR	SE: Not	Preserved	INTERCOSTAL 3° VARI	ABILITY: Not	t Preserved
OURTH & HIGHER	ORDER VEIN FEA	ATURES			
4° VEIN FABI		Preserved	VEINLETS -F/E/V/s:	Not Preserv	ved
5° VEIN FABI	Not Prese	erved	TYPE OF F.E.V. BRANCHING:	n.p	
MARGINAL VENATIO		Preserved	F.E.V.s TERMINATIONS:		eserved
AREOLATI	Not Preserved		LEAF RANK:		
OOTH FEATURES					
ORDERS OF TEE	ГН·	No TEETH/cm	: TEETH GLANDU	II ARITY.	
TOOTH SHA			SPACING:		
PRINCIPAL VE		_	JS SHAPE:		
	SORY VEIN COURSI		PRINCIPAL VEIN	TERM.:	
IOTES					

