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TABLE 1.—*Distribution and zonal ranges of Ordovician graptolites in scattered collections from the Post River Formation (part), Terra Cotta Mountains, Alaska*

[Collection numbers (vertical) are arranged within graptolite zones and are not necessarily in stratigraphic sequence. Distribution and zonal ranges of Ordovician graptolites from the measured section are shown in table 2. See plate 2 for collection sites. r = rare; f = frequent; c = common; a = abundant; x = present]

Unit	Post River Formation (part)																																	
Unit (member)	Lower siltstone member			Mudstone member				Upper siltstone member				Graptolite Canyon Member																						
Graptolite zone	Adelograptus			?T. approximatus	Tetragraptus fruticosus			Biostratigraphic break; Oncograptus				Paraglossograptus tentaculatus				Diplograptus? decoratus (lower)				Climacograptus bicornis														Climacograptus tubuliferus
Collection number / Graptolites:	69ACn482	70ACn501	70ACn491	69ACn331	69ACn502[1]	69ACn332	70ACn312[2]	70ACn743	70ACn521	70ACn82[3]	70ACn132[4]	69ACn391	70ACn192	69ACn321	70ACn81	70ACn72	70ACn71	70ACn301[5]	70ACn175[6]	70ACn212, float	69ACn335[7]	69ACn351[7]	69ACn412[8]	70ACn51[9]	70ACn62[9]	70ACn121[10]	70ACn201, float	70ACn411[7]	70ACn231[11]	70ACn182[12]	70ACn183[12]	70ACn291[12]	70ACn292[11]	70ACn142[13]
Araneograptus? murrayi (Hall)	x																																	
Adelograptus? aff. A. antiquus (T.S. Hall)		x																																
? sp.			x																															
Temnograptus? sp.		x																																
Tetragraptus amii Elles and Wood														f																				
approximatus (Nicholson)				x																														
fruticosus (Hall)						x	x																											
quadribrachiatus (Hall)					f		x						x	f	c																			
cf. T. quadribrachiatus (Hall)						x																												
serra (Brongniart)															r																			
Didymograptus cf. D. ensjoensis Monsen					r																													
cf. D. filiformis Tullberg															f																			
cf. D. serratulus (Hall)																																	r	
sp. (extensiform)							x								f				x															
? sp.								x				r				r																		
?Apiograptus ?crudus (Harris and Thomas)								x																										
? sp.													x																					
Pseudotrigonograptus sp.										x																								
Isograptus caduceus? nanus (Ruedemann)															r																			
cf. I. forcipiformis (Ruedemann)								x																										
cf. I. victoriae divergens Harris										x	x																							
cf. I. victoriae maximodivergens Harris									x																									
sp. A								x																										
sp. B															r																			
sp. C											x																							
sp.								x					x																					
Pseudisograptus cf. P. jiangxiensis (Yu and Fang)								x																										
manubriatus janus Cooper and Ni										x																								
Brachiograptus etaformis Harris and Keble												c	x																					
Cryptograptus? inutilis (Hall)															r																			
sp.												r																						
Cryptograptus cf. C. hopkinsoni (Nicholson)														r																				
schaeferi Lapworth																c	f		x															
cf. C. schaeferi Lapworth																		r																
tricornis (Carruthers)																					f	f	f		f			f		f			f	
cf. C. tricornis (Carruthers)														r						x														
Paraglossograptus tentaculatus (Hall)														r																				
Glyptograptus cf. G. euglyphus (Lapworth)																				x					f									
aff. G. tenuissimus Ross and Berry																										r								
cf. G. teretiusculus (Hisinger)																f			x															
sp.														c			r					r						r						
? sp.													x									f	r						r	r				
Pterograptus cf. P. elegans Holm																r		f	x															
Phyllograptus cf. P. angustifolius magnificus Ruedemannn																			x															
nobilis Harris and Keble																r	a	f																
n. sp.																r																		
Large caryocarid																r		f	x															
Glossograptus ciliatus Emmons (narrow form)																f																		
ciliatus Emmons																	c	r	x			c	f		r	r								
cf. G. ciliatus Emmons																														r				
Climacograptus bicornis bicornis (Hall)																						a	c	r	f	c	r	c		c	r	r	c	
cf. C. b. bicornis (Hall)																				x														
riddellensis Harris																f	r	r																
cf. C. riddellensis Harris																			x															
tubuliferus Lapworth																																		c
sp.																					f					r			r		f			
? sp.																	r																	
Diplograptus? decoratus (Harris and Thomas)																		f																
Nemagraptus sp.																																	r	
? sp.																				x														
Dicranograptus brevicaulis Elles and Wood																								c										
contortus Ruedemann																						r	r							r				
cf. D. furcatus (Hall)																									f									
kirki Ruedemann																					f													
nicholsoni geniculatus Ruedemann and Decker																					c								c			f			
cf. D. n. geniculatus Ruedemann and Decker																						f				r					c			
nicholsoni nicholsoni Hopkinson																										c		c	f	c		a	f	
cf. D. n. nicholsoni Hopkinson																							r		r									
? sp.																				x														
Orthograptus amplexicaulis amplexicaulis (Hall)																																		f
amplexicaulis intermedius (Elles and Wood)																						r					c							
calcaratus acutus (Elles and Wood)																										r							r	
calcaratus cf. subsp. priscus (Elles and Wood)																						r												
cf. O. calcaratus vulgatus (Elles and Wood)																									f						r			
calcaratus subsp. indet.																											f							
cf. O. calcaratus sensu lato																																r		
sp.																						r												
? sp.																					r			r										
Dicellograptus alector Carter																																		r
divaricatus divaricatus (Hall)																																	r	
cf. D. d. divaricatus (Hall)																												r						
divaricatus salopiensis Elles and Wood																						r			r			c						
cf. D. d. salopiensis Elles and Wood																							f										f	
gurleyi gurleyi Lapworth																							r		c									
intortus Lapworth																								c		f								
sp.																							r				r							
Amplexograptus fallax Bulman																						r	c		f	r							f	
n. sp.?																						r												
? sp.																													r					
Lasiograptus costatus Lapworth																																r	r	
sp.																						r												
? sp.																														r				
Pseudoclimacograptus scharenbergi scharenbergi (Lapworth)																									r							r		
cf. P. s. scharenbergi (Lapworth)																						r												
? sp.															r																			
Leptograptus cf. L. validus incisus Elles and Wood																									r									
Hallograptus mucronatus (Hall)																										f								
Corynoides calicularis Nicholson																																f		
? sp.																															r			
Pleurograptus collatus n. sp.																																	r	

[1] Directly overlies lower siltstone member
[2] Approximately 23 m above base of mudstone member
[3] Overturned beds about 30 m above base of member; has dolomite interbeds
[4] About 30 m above base of member
[5] 15 m above base of member
[6] About 30 m below orange dolomite marker beds
[7] Approximately middle of member; 69ACn335 and 69ACn351 are from same horizon
[8] Structurally complex area
[9] Near orange dolomite marker beds
[10] Below a worm-cast bed
[11] Above a worm-cast bed; 70ACn182 and 70ACn183 are from same horizon
[12] This float collection mostly contains elements of the *C. bicornis* Zone but also includes the much younger genus *Pleurograptus*
[13] 15 m below a worm-cast bed

TABLE 2.—*Distribution and zonal ranges of Ordovician and Silurian graptolites in measured section of the Post River Formation (part), Terra Cotta Mountains, Alaska*

[Site of measured section shown on plate 2. r = rare; f = frequent; c = common; a = abundant; x = present]

Age	ORDOVICIAN																																								Silurian
Unit |Post River Formation|																																								
Unit (member)	Mudstone member					Biostratigraphic break; Graptolite Canyon Member (part)																																			
Graptolite zone	? Tetragraptus approximatus			?	T. fruticosus	Diplograptus? decoratus, Lower		Diplograptus? decoratus, Upper					Diplograptus						C. tubuliferus	Climacograptus bicornis												Climacograptus tubuliferus							?		?
Collection number / Graptolites:	69ACn522	69ACn531	69ACn532	69ACn533	69ACn534	69ACn541, float	69ACn542	69ACn543	69ACn543A	69ACn544, float	69ACn545	69ACn546	69ACn547	69ACn548	69ACn549	69ACn549A	69ACn551	69ACn552	69ACn553	69ACn554	69ACn555	69ACn556	69ACn557	69ACn558	69ACn559	69ACn559A	69ACn561	69ACn562	69ACn563	69ACn564	69ACn565	69ACn567	69ACn568	69ACn572	69ACn573	69ACn574	69ACn575	69ACn576	69ACn581	69ACn582	69ACn583
Tetragraptus approximatus (Nicholson)			x																																						
fruticosus (Hall) 3- and 4-branched					a																																			
quadribrachiatus (Hall)	f																																								
cf. T. quadribrachiatus (Hall)		r																																							
cf. T. serra (Brongniart)					r																																			
Goniograptus macer T.S. Hall					r																																			
Phyllograptus cf. P. angustifolius Hall					r																																			
anna Hall					r																																			
Didymograptus cf. D. cognatus Harris and Thomas						c																																		
extensus (Hall)					f																																			
sp. aff. D. robustus norvegicus Berry							f		r																																
? sp.				x				x			r	r		r			r	r				f																				
Pterograptus cf. P. elegans Holm							r																																	
? sp.						r																																		
Glossograptus ciliatus Emmons						c	c																	r		r															
cf. G. ciliatus Emmons											r																														
horridus Ruedemann																							r																	
sp.								x																																	
? sp.																	r	r																							
Cryptograptus schaeferi Lapworth						a	f				r																														
tricornis (Carruthers)																				r	f	c	c	c		r	a		r	r	f										
sp.																r			r																						
? sp.								x																																	
Diplograptus? cf. D.? decoratus (Harris and Thomas)						r			r																																
Amplexograptus fallax Bulman																					a	f	c	c	c			r													
n. sp.																																	c								
? sp.						f																									r							f			
Climacograptus bicornis bicornis (Hall)																				c	f	f	c	c		r	a	a	c	c	a										
cf. C. brevis Elles and Wood									f																																
aff. C. brevis Elles and Wood										r																															
cf. C. brevis strictus (Ruedemann)																																f									
caudatus Lapworth																																r									
cf. C. caudatus Lapworth																																	r								
riddellensis Harris						c	f		f	c	c	r																													
spiniferus Ruedemann																																c									
tubuliferus Lapworth																																			r	f	r	c			
aff. C. tubuliferus Lapworth																																			c						
sp. A															f	c		f																							
sp.																																		r							
? sp.								x									r																						x	x	
Glyptograptus sp. aff. G. dentatus (Brongniart)										f	f	f	f	r																											
euglyphus (Lapworth)						c	r		r								f																								
cf. G. euglyphus (Lapworth)										f	f							f			r																				
shelvensis Bulman						r																																		
sp. A						r																																		
sp. B																								r																	
sp.							f	x		r	r		r	f					r																	f	r				
? sp.															r	r				r														f					x		
Orthograptus amplexicaulis amplexicaulis (Hall)																			r													r				f	f				
cf. O. a. amplexicaulis (Hall)																																						r			
amplexicaulis intermedius (Elles and Wood)																											a	f													
cf. O. amplexicaulis pauperatus (Elles and Wood)																																			r						
calcaratus acutus (Elles and Wood)																								f																	
calcaratus cf. subsp. acutus (Elles and Wood)																						r																			
cf. O. calcaratus priscus (Elles and Wood)						f	r					r																													
calcaratus vulgatus (Elles and Wood)																							r				r	r													
cf. O. calcaratus sensu lato																																		r	r						
sp. aff. O. calcaratus (Lapworth)																										r				r											
cf. O. pageanus Elles and Wood																																r									
? sp. A																																				f	?	f			
n. sp.?																r		r																		r					
sp.																															r										
? sp.																														r			r	r							
Pseudoclimacograptus scharenbergi scharenbergi (Lapworth)								f				r																			r										
sp.						r																	r																		
Reteograptus geinitzianus Hall									r					r		r		r																							
sp.							r																																	
Kalpinograptus cf. K. ovatus (T.S. Hall)													r																											
Dicellograptus alector Carter																																				f					
bispiralis (Ruedemann)													r			f																									
cf. D. caduceus Lapworth													r																											
divaricatus divaricatus (Hall)																					r																				
cf. D. divaricatus rigidus Lapworth															r																									
divaricatus salopiensis Elles and Wood													f			c					r	f					c														
cf. D. d. salopiensis Elles and Wood															f					f						r															
aff. D. flexuosus Lapworth													f																											
gurleyi gurleyi Lapworth																							c	f				f													
cf. D. g. gurleyi Lapworth																											r														
intortus Lapworth															r	r	f																									
aff. D. intortus Lapworth													r																											
sextans sextans (Hall)																c																									
cf. D. s. sextans (Hall)																	f																								
vagus Hadding																		c																							
sp. A																																				r	r				
sp.																			r														?	r				r			
Dicranograptus clingani Carruthers																			c																					
contortus Ruedemann																								r				r													
aff. D. contortus Ruedemann																													r												
aff. D. furcatus (Hall)																r																									
cf. D. furcatus exilis Ruedemann															f																										
nicholsoni geniculatus Ruedemann and Decker																															f										
nicholsoni nicholsoni Hopkinson																								f						r											
sp.																				r			r																		
? sp.																																					r				
Corynoides calicularis Nicholson																							r	r				r			f										
? sp.																	r																								
Nemagraptus gracilis gracilis (Hall)																				f																					
sp.																						r																			
? sp.																	r																								
Amphigraptus? sp.																			r																						
Lasiograptus harknessi (Nicholson)																							c	r																	
cf. L. harknessi (Nicholson)																											r														
cf. L. pusillus Ruedemann																					r																				
? sp.																										r															
Hallograptus mucronatus (Hall)																						r																			
Leptograptus cf. L. validus incisus Elles and Wood																							r	r		r															
Monograptus? sp.																																									x

TABLE 3.—*Distribution and zonal ranges of Silurian graptolites in scattered collections from the Post River Formation (part) and the Terra Cotta Mountains Sandstone, Terra Cotta Mountains, Alaska*

[Collection numbers (vertical) are arranged within graptolite zones and are not necessarily in stratigraphic sequence. See plate 2 for collection sites. r = rare; f = frequent; c = common; a = abundant; x = present]

Unit	Post River Formation (part)																							Terra Cotta Mountains Sandstone													Post River Formation (part)				
Unit (member)	Graptolite Canyon Member (part)																Limestone member																								
Graptolite zone	L. acinaces–C. cyphus	Monograptus convolutus		Mixed float*	Monograptus turriculatus					Monograptus spiralis							Cyrtograptus sakmaricus–C. laqueus					Cyrtograptus centrifugus	Cyrtograptus lundgreni		Monograptus digitatus					Approximately Monograptus ludensis						Lower to middle Ludlovian	Middle to upper Llandoverian		Upper Llandoverian	Upper Llandoverian or lower Wenlockian	
Collection number / Graptolites:	70ACn273	70ACn281	69ACn363	70ACn423	70ACn202	70ACn412	70ACn152	70ACn101	70ACn621, float	70ACn35	70ACn34	69ACn341, float	69ACn362	69ACn432	69ACn371	70ACn33	76ACn292	69ACn452	69ACn461	70ACn32	70ACn31	70ACn173	70ACn755	69ACn373, float	70ACn91	70ACn111	69ACn431	70AR7a	70AR8a	69ACn423	70ACn552, float	70ACn652	70AR6b	70AR6g	70AR6h	70ACn22	70ACn232a	70ACn532	69ACn413	69ACn411	70ACn232b
Diplograptus mucroterminatus Churkin and Carter			f																																						
sp.	f																																								
Climacograptus innotatus innotatus Nicholson	r																																								
innotatus obesus Churkin and Carter	r																																								
scalaris (Hisinger)			f																																						
sp.	f																																								
Cystograptus vesiculosus (Nicholson)	a																																								
Pseudoclimacograptus? cf. P.? sculptus Chen and Lin		f	r																																						
Glyptograptus incertus (Elles and Wood)		r		r																																					
cf. G. incertus (Elles and Wood)					f	f	x																																		
tamariscus tamariscus (Nicholson)		r	r																																						
sp.	r																																								
? sp.											r							r																							
Orthograptus insectiformis (Nicholson)			r																																						
sp.	c																																								
Cephalograptus tubulariformis (Nicholson)		r																																							
Petalograptus minor Elles		r																																							
palmeus palmeus (Barrande)						r																																				
praecedens (Bouček and Přibyl)				r																																					
Atavograptus strachani (Hutt and Rickards)	c																																								
Coronograptus cyphus (Lapworth)	a																																								
Lagarograptus cf. L. tenuis (Portlock)	r																																								
Monograptus clingani (Carruthers)		f																																							
convolutus (Hisinger)		r	r																																						
cf. M. decipiens decipiens Törnquist				r																																					
sp. aff. M. decipiens Törnquist																		f																							
sp. aff. M. decipiens or M. planus (Barrande)																																					x	x			
decipiens valens (Přibyl and Münch)				r	r	a	x																																		
delicatulus Elles and Wood				c																																					
digitatus digitatus n. sp. and n. subsp.																									a	f	c	c	a													
digitatus subdigitatus n. sp. and n. subsp.																									r		f	r	f													
exiguus (Nicholson)						r		f																																		
lobiferus (McCoy)		f																																							
cf. M. ludensis (Murchison) sensu Wood																														r	r	x									
cf. M. millipeda (McCoy)				r		r																																			
noyesensis Churkin and Carter			a																																						
cf. M. planus (Barrande)																r																									
priodon (Bronn)																			r																						
cf. M. priodon (Bronn)												x			c		f			x	x																				
sp. aff. M. priodon (Bronn)										r															x															x	x
cf. M. proteus (Barrande)								r																																	
cf. M. rickardsi minor Hutt											r																														
runcinatus runcinatus Lapworth					r	f																																			
sartorius Törnquist				r	c	c																																			
sedgwickii (Portlock)				c																																					
cf. M. sedgwickii (Portlock)									x																															
sidjachenkoi (Obut and Sobolevskaya)		c																																							
spiralis Geinitz						f					r	x	c	r																											
cf. M. spiralis Geinitz															f			f																					r		
turriculatus (Barrande)				r	f	c	x		x																															
cf. M. uncinatus micropoma (Jaekel) sensu Elles and Wood																													r											
undulatus Elles and Wood			f																																						
sp. A						r																																				
sp. B																						x																			
sp.		r	r	r									r					r	r	x				x												r			r		
Monoclimacis cf. M. crenulata sensu Elles and Wood										f	f		f																												
? cf. M.? galaensis (Lapworth)															f																										
vomerina basilica (Lapworth)																			c																						
vomerina vomerina (Nicholson)																		f																							
sp. A													c																												
sp. B												x																													
sp. C																							x																		
sp.			r											r	f							x		x																	
? sp.																r																									
Pristiograptus dubius dubius (Suess)																							x																		
aff. P. dubius (Suess)																														c	a	x		x	x						
cf. P. jaegeri Holland, Rickards, and Warren																																	c	r							
nudus (Lapworth)				c	f																																				
cf. P. nudus (Lapworth)				c					x			x																													
cf. P. pseudodubius (Bouček)																									r	f	r	f	r													
regularis regularis (Törnquist)						f	x																																			
sp. A						f																																				
sp. B						r																																				
sp. C																														r											
sp.								r																																	
? sp.																								x																	
Bohemograptus bohemicus (Barrande)																																				r					
Rastrites cf. R. hybridus Lapworth									x			x																													
linnaei Barrande						f																																				
sp.					r		x																																		
? sp.				f																																					
Barrandeograptus? bornholmensis (Laursen)																						x																			
? sp.						r																																				
Sinodiversograptus? sp.						r																																				
Diversograptus ramosus Manck												x	f																												
Cyrtograptus cf. C. lapworthi Tullberg																			r																						
sp. aff. C. lundgreni Tullberg sensu Lenz																	c																								
cf. C. mancki Bouček																							x	x																	
sakmaricus Koren'																		f	r																						
cf. C. sakmaricus Koren'																	r																								
Retiolites geinitzianus angustidens Elles and Wood												x																													
geinitzianus geinitzianus Barrande												x							r																						
cf. R. g. geinitzianus Barrande														r																											
cf. R. nevadensis Berry and Murphy																														r											
? sp.										r					r			r				x																			
Retiolitid fragments						r																			r			r													
Paraplectograptus? sp.																	r																								
Plectograptus sp.																														r											
Holoretiolites (Balticograptus) cf. H. (B.) lawsoni Holland, Rickards, and Warren																														r											
Spinograptus? sp.																														r											
Gothograptus sp.																									r																

*This mixed float collection can be separated, on the basis of species associations on individual pieces of rock, into three zones. Most of the fauna is of the *Monograptus sedgwickii* Zone and includes *M. delicatulus, M. sedgwickii, Pristiograptus nudus, Rastrites*? sp., and *Glyptograptus incertus*. The *Monograptus convolutus*-Zone fauna (on a single piece of rock) includes *Petalograptus praecedens, Pristiograptus* sp., *P.* cf. *P. nudus*, and *Rastrites*? sp. Two pieces of rock bear a *Monograptus turriculatus*-Zone fauna: *M. turriculatus, M. sartorius, M. decipiens valens, M.* cf. *M. millepeda*, and *Pristiograptus* cf. *P. nudus*

Rock type or elevation of collection sites

Collection No.	Collection setting
70ACn273	Siliceous shale
70ACn281	Shale with silty and limy beds; above 70ACn273
70ACn423	At elevation 4,900 ft; slabs of limestone member cover slope
70ACn202	At elevation 4,300 ft
70ACn412	At elevation 4,500 ft; highly folded
70ACn152	At elevation 4,900 ft
70ACn621	Float directly below limestone member
70ACn35	30–38 m stratigraphically below limestone member
70ACn34	23 m stratigraphically below limestone member
69ACn341	About 15–23 m stratigraphically below limestone member
69ACn362	About 15 m stratigraphically below limestone member
69ACn432	Dark-gray shale
69ACn371	7.5 m stratigraphically below thin-bedded limestone member
70ACn33	Same as 69ACn371
76ACn292	Dark-gray silty shale at base of member; more than 45 m stratigraphically above worm-cast beds
69ACn452	Black shale in crest of small folds overturned to west in area of intense folding and faulting. Stratigraphic position uncertain
69ACn461	Same as 69ACn452
70ACn32	Argillaceous limestone about 6 m below top of 23-m-thick limestone member
70ACn31	Upper 1.5 m of member; about highest beds in Post River Formation
70ACn173	Black shale in Terra Cotta Mountains Sandstone along axis of syncline. Directly overlies limestone member of Post River Formation
70ACn755	Shaly interbeds
69ACn373	Float directly above outcrop of limestone member of Post River Formation
70ACn91	Calcareous sandstone and siltstone, orange-brown weathering. Directly above limestone member of Post River Formation
70ACn111	Fault sliver of fine-grained sandstone; basal part of Terra Cotta Mountains Sandstone
69ACn431	Olive-gray siltstone and fine-grained micaceous sandstone
69ACn423	Dark-gray thin-bedded limestone with soft shale interbeds. Limestone weathers yellowish brown, appears more silty than limestone member of Post River Formation
70ACn552	Argillitic shale with micaceous surfaces, also fine-grained sandstone; upper part of Terra Cotta Mountains Sandstone
70ACn652	Fine-grained micaceous sandstone interbed; upper part of Terra Cotta Mountains Sandstone
70ACn22	Faulted sandstone and siltstone section in Terra Cotta Mountains Sandstone
70ACn232a	Shale in upper part of limestone member of Post River Formation
70ACn532	Black shale in upper part of limestone member of Post River Formation
69ACn413	Black shale in crest of fold in limestone. Stratigraphic position uncertain
69ACn411	Black shale isoclinally folded with thin-bedded limestone. Upper part of Graptolite Canyon Member
70ACn232b	Shale in limestone member of Post River Formation. About 1.5 m stratigraphically above 70ACn232a

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Churkin, Michael, Jr., and Carter, Claire, 1996, Stratigraphy, structure, and graptolites of an Ordovician and Silurian sequence in the Terra Cotta Mountains, Alaska Range, Alaska: U.S. Geological Survey Professional Paper 1555.