DISTRIBUTION CHART
RÍO ESLA AREA

Section	Sample	1 Spathognathodus sp. indet.	2 Spathognathodus inclinatus wurmi	3 Pelekysgnathus serrata	4 Icriodus latericrescens latericrescens (sensu Ziegler, 1956)	Icriodus sp. indet. (broken specimens)	5 Neoprioniodina excavata	6 Polygnathus linguiformis linguiformis (with large pulp cavity)	7 Spathognathodus steinhornensis subsp. indet.	8 Icriodus latericrescens bilatericrescens	9 Icriodus curvatus	10 Icriodus nodosus	11 Polygnathus linguiformis linguiformis	12 Spathognathodus steinhornensis steinhornensis	13 Icriodus sp. a	14 Icriodus symmetricus	15 Icriodus cf. I. corniger	16 Icriodus corniger	17 Icriodus latericrescens latericrescens	18 Spathognathodus bipennatus	19 Icriodus expansus	20 Icriodus celaensis	21 Polygnathus varca	22 Icriodus cymbiformis
Section OL (Fig. 12)	OL 11																							
	OL 10																							
	OL 9																							
	OL 8																							
	OL 7																							
	OL 6																							
	OL 5																							
	OL 4																							
	OL 3																							
	OL 2																							
	OL 1																							
	AG 6																							
Section AG (Fig. 11)	AG 5																							
	AG 4a																							
	AG 4																							
Section X (Fig. 10)	X 619																							
	X 618																							
	X 617																							
	X 616					/																		
Section IIf (Fig. 9)	IIf 167																							
	IIf 226																							
	IIf 224																							
	IIf 223																							
	IIf 166																							
	IIf 222																							
	IIf 221																							
	IIf 144					/																		/
	IIf 172					○						·												
Section SAL (Fig. 8)	SAL 1																							
Crémenes Limestone	rup 2																							
	rup 1					·						/												
upper part of La Portilla Formation	22 ca					/						/												/
basal part of La Portilla Formation	31 a					·							○										/	
18 m above base of La Portilla Formation	Vc 212					·							·									/	○	
7 m above base of La Portilla Formation	IVc 74					○					○	·	●						○	/	○	/	/	·
14 m above base of La Portilla Formation	IIIb 102												/										·	
5 m above base of La Portilla Formation	Id 30'					●					/	/	○						●	/	·	■	○	/
	Id 30					●					/	/	●						●	/	/	■	○	·
7 m below top of Santa Lucía Formation	Vc 210					/												·						
top of Santa Lucía Formation	IIe 131a					●											·	/						
5 m below top of Santa Lucía Formation	Ic 20					·												·×?						
7 m below top of Santa Lucía Formation	Ic'187					/												/						
15 m above base of Santa Lucía Formation	Vb 206					○				·j			·				·×?							
40 m below top of La Vid Formation	Vb 204					/											·							
app. 5 m above below-mentioned limestone band	I				○	●				○														
limestone band in the lower part of the predominantly shaly part of the La Vid	19				/	○						/×?			/	/×?								
	ve 1				○	●			·j	○	·×?													
	Ib 10				/	○							·×	○										
12 m above the basal limestones of La Vid Formation	Ib 8					·		/																
Section VIII (Fig. 7)	VIII 30					●											/							
	VIII 20					○											·							
	VIII 19					○											/							
	VIII 6115				/	·						·	/											
	VIII 6114				●	●			/j	/	/	/												
	VIII 12					/		○																
	VIII 11			·j	/	/																		
	VIII 10		/×		·	○	·×?																	
	VIII 9		/×																					
	VIII 1	○×		○		·			·×															

Sample	23 Icriodus alternatus	24 Polygnathus decorosa	25 Polygnathus normalis	26 Icriodus cf. I. alternatus	27 Spathognathodus aculeatus	28 Spathognathodus costatus costatus	29 Spathognathodus costatus spinulicostatus	30 Spathognathodus costatus subsp. indet. (broken specimens)	31 Spathognathodus stabilis	32 Polygnathus longipostica	33 Pseudopolygnathus dentilineata	34 Polygnathus communis communis	35 Polygnathus nodomarginata	36 Polygnathus inornata	37 Pseudopolygnathus multistriata	38 Pseudopolygnathus fusiformis	39 Siphonodella sulcata?	40 Pseudopolygnathus triangula inaequalis	41 Siphonodella? n.sp. a	42 Polygnathus pura subplana	43 Polygnathus communis carina	44 Polygnathus cf. P. communis communis	45 Elictognathus lacerata	46 Siphonodella cooperi	47 Siphonodella obsoleta	Siphonodella sp. indet. (broken specimens)
OL 11																										
OL 10																										
OL 9																										
OL 8																										
OL 7																										
OL 6				·																						
OL 5																										
OL 4																										
OL 3									+					/												
OL 2									+					●												
OL 1							·↑ j×				·↑	/		/×							○	/				/
AG 6						·↑				/↑	○↑	●		○	/				/		○	●	·↑		/	/
AG 5					·×					/	·×?	●		/		j·×?				·↓		/			·×↓	/↓
AG 4a									/	/	·	●		●	·×?											
AG 4					/×			/			●	●														
X 619																										
X 618																										
X 617					·							/														
X 616	○	○																								
IIf 167																										
IIf 226																										
IIf 224								·↑			○↑	●		○				·↑			○	/		/×?	○	○
IIf 223					/				·×?	·×	<×	●		·×?			·			j↓						
IIf 166					·×	·×					○	●	·													
IIf 222					/×	/	·	/			/	●														
IIf 221					/×?	·			·×?	●	/×	/		/×												
IIf 144	○	●		·																						
IIf 172	○	○																								
SAL 1						/							·													
rup 2		·	·																							
rup 1	○	/	·	·																						
22 ca	/	/																								
31 a																										
Vc 212																										
IVc 74																										
IIIb 102																										
Id 30'																										
Id 30																										
Vc 210																										
IIe 131a																										
Ic 20																										
Ic'187																										
Vb 206																										
Vb 204																										
I																										
19																										
ve 1																										
Ib 10																										
Ib 8																										
VIII 30																										
VIII 20																										
VIII 19																										
VIII 6115																										
VIII 6114																										
VIII 12																										
VIII 11																										
VIII 10																										
VIII 9																										
VIII 1																										

Sample	48 Pseudopolygnathus triangula pinnata	49 Gnathodus punctatus	50 Spathognathodus cf. S. strigosus	51 Gnathodus cuneiformis	52 Gnathodus semiglaber	53 Gnathodus typicus	54 Gnathodus cf. G. cuneiformis	55 Gnathodus antetexanus	56 Gnathodus delicatus s.l.	57 Scaliognathus anchoralis	58 Gnathodus commutatus commutatus	59 Gnathodus bilineatus	60 Gnathodus cf. G. girtyi	61 Spathognathodus campbelli	62 Gnathodus commutatus homopunctatus	63 Gnathodus commutatus multinodosus	64 Gnathodus commutatus nodosus	64 Gnathodus commutatus cruciformis	DISTACODIDAE	other PRIONIODIDAE and PRIONIODINIDAE (not recorded for uppermost Devonian and Carboniferous samples)	ZONE OR AGE
OL 11											○	○					/				Upper bilineatus-commutatus nodosus Zone
OL 10											■	■					●	○			
OL 9									○		●	■				/	○				Lower bilineatus-commutatus nodosus Zone
OL 8									·		○	■			○						bilineatus-delicatus s.l. Zone
OL 7								/	■		●	●	/	●	○						Lower bilineatus-delicatus s.l. Zone
OL 6									/		·	/									bilineatus-delicatus s.l. Zone
OL 5		·		/j	○	/			○												anchoralis-bilineatus Interregnum
OL 4				○	●	○	/	●	/												
OL 3				○	○	/		○	·												anchoralis Zone
OL 2			+	○	○	/	○	○		/											
OL 1	○	/		●	○	·			●												
AG 6	○	·		●	○		/		●												anchoralis Zone
AG 5				·×↓		/×↓	·×↓	·×↓													kockeli-dentilineata Zone
AG 4a																					
AG 4																					Middle to Upper costatus Zone
X 619									/j?		·j?										
X 618					/		○	○													anchoralis-bilineatus Interregnum?
X 617																					costatus Zone?
X 616																				+	middle Frasnian
IIf 167				○	○	/		○	/												anchoralis-bilineatus Interregnum
IIf 226				○	○	○	○	○	/												anchoralis Zone
IIf 224	○	/	/	●	○				●												
IIf 223				·↓				·↓	j↓	·											kockeli-dentilineata Zone
IIf 166																					Middle to Upper costatus Zone
IIf 222																				+	
IIf 221																				+	
IIf 144																				+	middle Frasnian
IIf 172																				+	
SAL 1																					Middle to Upper costatus Zone
rup 2																					lowermost Famennian? to upper Frasnian
rup 1																				+	
22 ca																				+	middle Frasnian
31 a																				+	varca Zone s.l.
Vc 212																			○	+	
IVc 74																			/	+	
IIIb 102																				+	
Id 30'																				+	
Id 30																			/	+	
Vc 210																			/	+	corniger Zone
IIe 131a																			/	+	
Ic 20																					
Ic'187																					
Vb 206																			/	+	uppermost Emsian?
Vb 204																					
I																					Conodont-Bereich XI (upper Emsian)
19																			/		
ve 1																			/		
Ib 10																			/		
Ib 8																			/	+	Conodont-Bereich X? (lower Emsian?)
VIII 30																					uppermost Emsian?
VIII 20																			/		
VIII 19																					
VIII 6115																			/		Conodont-Bereich XI (upper Emsian)
VIII 6114																			/		
VIII 12																			/		Conodont-Bereich X? (lower Emsian)
VIII 11																			/	+	Conodont-Bereich IX? (Siegenian)
VIII 10																				+	
VIII 9																				+	
VIII 1																			○	+	lower Siegenian to upper Gedinnian

	SAMPLE	1 Spathognathodus aculeatus	2 Spathognathodus costatus costatus	3 Spathognathodus costatus spinulicostatus	4 Spathognathodus costatus subsp. indet. (broken specimens)	5 Spathognathodus stabilis	6 Spathognathodus strigosus	7 Pseudopolygnathus fusiformis	8 Polygnathus longipostica	9 Polygnathus nodomarginata	10 Polygnathus communis communis	11 Polygnathus inornata	12 Polygnathus cf. P. communis communis	13 Pseudopolygnathus dentilineata	14 Pseudopolygnathus multistriata	15 Polygnathus flabella	16 Siphonodella cooperi	17 Siphonodella isosticha	18 Siphonodella obsoleta	19 Siphonodella? n.sp. a	Siphonodella sp. indet. (broken specimens)	20 Polygnathus pura subplana	21 Polygnathus delicatula	22 Gnathodus cf. G. antetexanus	23 Pseudopolygnathus triangula pinnata	24 Hindeodella segaformis	25 Polygnathus symmetrica	26 Gnathodus punctatus	27 Gnathodus cuneiformis	28 Gnathodus semiglaber	29 Gnathodus antetexanus	30 Gnathodus cf. G. cuneiformis	31 Gnathodus typicus	32 Gnathodus delicatus s.l.	33 Gnathodus commutatus commutatus	34 Gnathodus commutatus homopunctatus	35 Gnathodus bilineatus	36 Gnathodus commutatus multinodosus	37 Spathognathodus campbelli	38 Gnathodus commutatus cruciformis	39 Gnathodus commutatus nodosus	40 Gnathodus girtyi	41 Cavusgnathus unicornis	ZONE
Section OS (Fig. 22)	OS 7																																	·			●				/			Lower bilineatus-commutatus nodosus Zone
	OS 6																																	○	·		/			·	/			
	OS 5																																	/	/		/							bilineatus-delicatus s.l. Zone
	OS 4											· j															·		○	○		○	○	/										anchoralis Zone
	OS 3					+			/ j																○					○	○	/												
	OS 2		· x	· cf		/ ? x			· ?		○																																	Middle to Upper costatus Zone
	OS 1								·	·	○																																	
Section PO (Fig. 20)	PO 6																																	·			●	○						Lower bilineatus-commutatus nodosus Zone
	PO 5																																		/	·	●		○		/	/ j		
	PO 4																															·												
	PO 2																														·													
	PO 1											/																	/	/													anchoralis Zone
	U 12																																		·								·	
	U 11																																	/	·		●	●		/	·	· cf		Lower bilineatus-commutatus nodosus Zone
	U 10																																	●	/	○	/	○	●		·			
Section U (Fig. 19)	U 2											·																		· x		/	/										anchoralis Zone
	U 1b								/		/	/																																kockeli-dentilineata Zone
	U 1	· x			·	/			○		●	/																																kockeli-dentilineata Zone to Upper costatus Zone
	U 1a								/		○			·																														
	U 0				/	·					/	/																																kockeli-dentilineata Zone to Upper costatus Zone
Section FE (Fig. 15)	FE 8																																		/		/				·			
	FE 7																																				/			/	/			bilineatus-commutatus nodosus Zone
	FE 6																																		/		·		/	·				
	FE 5																																	/ j	/		/							bilineatus-delicatus s.l. Zone
	FE 3											/																	/	●	○	○	/	/										anchoralis Zone
	FE 2					+						○													●	· x				/	●	·		· j										
	FE 1	/	·	·	/	/			·		●																																	Middle to Upper costatus Zone
Section MA (Fig. 18)	MA 7																														/	· j ? x		·										
	MA 6																													/		/	/			/								anchoralis-bilineatus Interregnum
	MA 5																												·	○		○												
	MA 4					+						○																		○	○	/												anchoralis Zone
	SJ/H6	· x ↑				· ? x			/		●	●	○	● ↑	○	/ ?	○	/	○	○	●	/ ? x ↑	· x	/			/	●	/		○	○	/										lower anchoralis Zone
	MA 3								· x		○	○		○	· ? x						/	·		·																			
	MA 2					·			· j		○	/	/																															kockeli-dentilineata Zone
	MA 1					· ? x			·		○	/																																
Section RI (Fig. 17)	RI 1																																				/				/			bilineatus-commutatus nodosus Zone
	RI 2																																	/	· j		○							bilineatus-delicatus s.l. Zone
	RI 3																																	/		/								
	RI 4																												/	/			/											anchoralis-bilineatus Interregnum
	RI 6											·													·			·	· ? x	·	·												anchoralis Zone
	RI 7					·					○	/	·																															kockeli-dentilineata Zone
	RI 8						·		·																																			
	RI 9							· j			/																																	
	RI 10								○			○		·																														kockeli-dentilineata Zone

DISTRIBUTION CHART
CENTRAL CANTABRIAN AREA

Enclosure 3, *Distribution chart of the Gildar-Montó area.* H. A. VAN ADRICHEM BOOGAERT - *Leidse Geologische Mededelingen*, deel 39

DISTRIBUTION CHART
GILDAR-MONTO AREA

Section	Sample	1 Icriodus corniger	2 Paltodus sp.	3 Icriodus eslaensis	4 Polygnathus linguiformis linguiformis	5 Polygnathus varca	6 Polygnathus cf. P. robusticostata	7 Polygnathus xyla	8 Polygnathus pennata	9 Polygnathus pseudofoliata	10 polygnathus linguiformis mucronata	11 Icriodus nodosus	12 Icriodus curvatus	13 Icriodus symmetricus	14 Icriodus cymbiformis	15 Icriodus expansus	16 Spathognathodus cf. S. sannemanni sannemanni	17 Polygnathus cristata	18 Schmidtognathus peracuta	19 Polygnathus asymmetrica asymmetrica	20 Polygnathus asymmetrica ovalis	21 Polygnathus dengleri	22 Polygnathus ordinata	23 Polygnathus decorosa	24 Palmatolepis transitans	25 Ancyrodella lobata	26 Ancyrodella curvata
Section POS (Fig. 30)	POS 4																										
	POS 3																										
	POS 2																										
	POS 1																										
Section CU III (Fig. 29)	CU 26																										
	CU 25																										
Section CU II (Fig. 28)	CU 13																										
	CU 0																										
	CU 13a																										
	CU 14																										
	CU 15																										
Section CAL II (Fig. 27)	CAL 14																										
	CAL 13																										
	CAL 12																										
	CAL 10																										
	CAL 9																										
	CAL 8														+												
	CAL 7																										
upper part of Vidrieros Formation	kutt 77																										
lower part of Vidrieros Formation	cal 16																										
Section CU I (Fig. 26)	CU 2											+		+	+									+		·	
	CU 16			●	■	■		·?×		·		/			○												
	CU 3a					/			/									·					·?×	○			
	CU 3				○	/							·?×	·													
Section CAL I (Fig. 25)	CAL 6																							+			○
	CAL 5											+		+	+									+		○	
	CAL 4a			/	○	/									·												
	CAL 4			●	○	○					·				○												
	CAL 4'			●	/	○									○												
middle to upper part of Cardaño Formation	kutt 65													+										+		·	
	kutt 35																							+			/
upper part of Cardaño Formation	cal 15																							+			/
	cu 4																							+			●
middle to lower part of Cardaño Formation	cu 18											/	·		·	/	·×				/?×	·		●			
	cu 6					/			·										·?×	·×	·?j×		·		·		
lower part of Cardaño Formation	cu 5				·							·		·													
Gustalapiedra Formation?	cu 24				·																						
	cu 20			·cf j	○	○	/×	·								·											
Gustalapiedra Formation	kutt 81			/	○	/																					
Abadía Formation (Polentinos Member)	cal 1	·? j	·																								

Section	Sample	27 Ancyrognathus triangularis	28 Ancyrognathus asymmetrica	29 Polygnathus normalis	30 Polygnathus amana	31 Icriodus alternatus	32 Palmatolepis subrecta	33 Palmatolepis unicornis	34 Palmatolepis hassi	35 Palmatolepis minuta minuta	36 Polygnathus cf. P. triphyllata	37 Palmatolepis quadrantinodosa marginifera	38 Polygnathus glabra glabra	39 Polygnathus subserrata	40 Palmatolepis glabra glabra	41 Palmatolepis distorta	42 Palmatolepis glabra pectinata	43 Palmatolepis glabra elongata	44 Palmatolepis perlobata schindewolfi	45 Polygnathus diversa	46 Polygnathus nodocostata nodocostata	47 Polygnathus pennatuloides	48 Spathognathodus amplus	49 Palmatolepis gracilis gracilis	50 Spathognathodus stabilis	51 Spathognathodus strigosus	52 Spathognathodus inornatus
Section POS (Fig. 30)	POS 4																										
	POS 3																										
	POS 2																										
	POS 1																										
Section CU III (Fig. 29)	CU 26																										
	CU 25																										
Section CU II (Fig. 28)	CU 13																							●	○	/	○
	CU 0																								●		■
	CU 13a																							/	/		○
	CU 14																								·		
	CU 15					/						/	○		○	○	/j	●	○	·j	·		/	○		·	
Section CAL II (Fig. 27)	CAL 14																									/	
	CAL 13																								/		●
	CAL 12																							○	○	·	/
	CAL 10																			·							
	CAL 9					+									/	·			/	/	/	·cf	/	○		·	
	CAL 8					+				/		·	○	○					○	·	/	·		●		+	
	CAL 7													·j													
upper part of Vidrieros Formation	kutt 77																							○	●		○
lower part of Vidrieros Formation	cal 16										·			/	·	·					·	/cf					
Section CU I (Fig. 26)	CU 2			+cf			/																				
	CU 16																										
	CU 3a																										
	CU 3																										
Section CAL I (Fig. 25)	CAL 6		/	+	+	/	●		/																		
	CAL 5			+cf																							
	CAL 4a																										
	CAL 4																										
	CAL 4'																										
middle to upper part of Cardaño Formation	kutt 65	/		+cf																							
	kutt 35	·j			+	·	·																				
upper part of Cardaño Formation	cal 15		·		+		○	·																			
	cu 4		●	+	+	/	●																				
middle to lower part of Cardaño Formation	cu 18																										
	cu 6					·cf ?×																					
lower part of Cardaño Formation	cu 5																										
Gustalapiedra Formation?	cu 24																										
	cu 20																										
Gustalapiedra Formation	kutt 81																										
Abadía Formation (Polentinos Member)	cal 1																										

Section	Sample	53 Polygnathus communis communis	54 Spathognathodus jugosus	55 Spathognathodus aculeatus	56 Spathognathodus costatus costatus	57 Spathognathodus costatus spinulicostatus	58 Spathognathodus costatus ultimus	59 Spathognathodus supremus	60 Palmatolepis gracilis sigmoidalis	61 Polygnathus nodomarginata	62 Polygnathus delicatula	63 Polygnathus longipostica	64 Pseudopolygnathus fusiformis	65 Polygnathus inornata	66 Polygnathus cf. P. communis communis	67 Gnathodus cuneiformis	68 Gnathodus typicus	69 Gnathodus delicatus s.l.	70 Gnathodus commutatus commutatus	71 Gnathodus bilineatus	72 Gnathodus commutatus homopunctatus	73 Spathognathodus campbelli	74 Gnathodus commutatus nodosus	75 Gnathodus commutatus cruciformis	76 Gnathodus girtyi	77 Cavusgnathus unicornis	78 Lestognathus beckmanni	ZONE
Section POS (Fig. 30)	POS 4																	/	/	○	○		/			·	·	Lower bilineatus-commutatus nodosus Zone
	POS 3																	○	○	■	○				/			Upper bilineatus-delicatus s.l. Zone
	POS 2																/	●	●	●	○							Lower bilineatus-delicatus s.l. Zone
	POS 1															·	·	○	○	●	○	●						
Section CU III (Fig. 29)	CU 26																		/	/								
	CU 25																		●	■		○	●	○				Upper bilineatus-commutatus nodosus Zone
Section CU II (Fig. 28)	CU 13	/		○	○	●	○			/		○	/															Middle to Upper costatus Zone
	CU 0	■		■	■	●	●			●	·	/																
	CU 13a	/		/		●		·?×																				
	CU 14																											
	CU 15																											quadrantinodosa Zone
Section CAL II (Fig. 27)	CAL 14	●										○		/	/													kockeli-dentilineata Zone
	CAL 13	●		○	○	○				○		○																Middle to Upper costatus Zone
	CAL 12		·																									Lower costatus Zone to Upper styriaca Zone
	CAL 10																											Lower styriaca Zone to quadrantinodosa Zone
	CAL 9																											quadrantinodosa Zone
	CAL 8																											
	CAL 7	/																										Upper quadrantinodosa Zone to Upper crepida Zone
upper part of Vidrieros Formation	kutt 77		/	·					·																			Lower to Middle costatus Zone
lower part of Vidrieros Formation	cal 16	/																										quadrantinodosa Zone
Section CU I (Fig. 26)	CU 2																											Lower triangularis Zone to Upper asymmetrica Zone
	CU 16																											varca Zone s.l.
	CU 3a																											Lower asymmetrica Zone to hermanni-cristata Zone
	CU 3																											varca Zone s.l.
Section CAL I (Fig. 25)	CAL 6																											Upper gigas Zone
	CAL 5																											Lower triangularis Zone to Upper asymmetrica Zone
	CAL 4a																											
	CAL 4																											varca Zone s.l.
	CAL 4'																											
middle to upper part of Cardaño Formation	kutt 65																											Lower triangularis Zone to Upper asymmetrica Zone
	kutt 35																											
upper part of Cardaño Formation	cal 15																											Upper gigas Zone
	cu 4																											
middle to lower part of Cardaño Formation	cu 18																											Lower asymmetrica Zone
	cu 6																											
lower part of Cardaño Formation	cu 5																											
Gustalapiedra Formation?	cu 24																											
	cu 20																											robusticostata Zone?
Gustalapiedra Formation	kutt 81																											varca Zone s.l.
Abadía Formation (Polentinos Member)	cal 1																											corniger Zone?

DISTRIBUTION CHART
CARDAÑO-TRIOLLO AREA

Section	SAMPLE	1 Icriodus corniger	2 Icriodus cymbiformis	Icriodus sp. indet. (broken specimens)	3 Polygnathus linguiformis linguiformis	4 Belodus sp.	5 Icriodus cf. I. obliquimarginatus	6 Polygnathus cf. P. siflis	7 Polygnathus varca	8 Icriodus eslaensis	9 Schmidtognathus hermanni	10 Schmidtognathus peracuta	11 Schmidtognathus wittekindti	12 Polygnathus cristata	13 Polygnathus pennata	14 Ancyrodella rotundiloba rotundiloba	15 Polygnathus cf. P. rugosa	16 Polygnathus dengleri	17 Icriodus nodosus	18 Icriodus expansus	19 Polygnathus decorosa	20 Ancyrodella lobata
Section TR (Fig. 47)	TR 5																					
	TR 11																					
	TR 4a																					
	TR 4'																					
	TR 3																					
	TR 25																					
	TR 24																					
	TR 23																					
	TR 22																					
	TR 21																					
	TR 20																					
	TR 19																					
	TR 17																					
	TR 15																					
	TR 0																					
base of Alba Formation	oj 1																					
Section CAR II (Fig. 46)	CAR 13																					
	CAR 11																					
	CAR 10																					
	CAR 9																					
	CAR 18																					
	CAR 19																					
	CAR 21																					
	CAR 22'																					
	CAR 22																					
Section VID (Fig. 45)	VID 3																					
	VID 2																					
	VID 1		·																			
Section CAR I (Fig. 44)	CAR 25																				+	
	CAR 26		+																		+	
	CAR 27		+																+	· j	+	
	CAR 28			+																		/
	CAR 29		·	○					/						■	○	○	○	/		●	
	CAR 30			○					○	/ cf	· ? j ×	/	· ? j ×	·	/						●	
	CAR 31		·		●				/	·												
	CAR 34		·	○	/		·	/	/													
Abadía Formation (Polentinos Member)	car 35			/		·																
	v 1	/	·	·	· × ?																	

SAMPLE	21 Icriodus symmetricus	22 Icriodus curvatus	23 Polygnathus amana	24 Polygnathus normalis	25 Ancyrodella curvata	26 Ancyrognathus triangularis	27 Palmatolepis subrecta	28 Palmatolepis gigas	29 Icriodus alternatus	30 Ancyrodella buckeyensis	31 Palmatolepis hassi	32 Ancyrognathus asymmetrica	33 Polygnathus nodocostata nodocostata	34 Polygnathus subserrata	35 Palmatolepis gracilis gracilis	36 Polygnathus communis communis	37 Polygnathus cf. P. pennatuloidea	38 Polygnathus diversa	39 Polygnathus glabra glabra	40 Palmatolepis glabra elongata
TR 5																				
TR 11																				
TR 4a																				
TR 4'																				
TR 3																				
TR 25																●				
TR 24																■				
TR 23																/				
TR 22																●				
TR 21																●				
TR 20															●	●				
TR 19															○	●				
TR 17															○	○				
TR 15															·	/				
TR 0															○				· j	
oj 1																				
CAR 13																				
CAR 11																				
CAR 10																				
CAR 9																				
CAR 18																·				
CAR 19																/				
CAR 21																/				
CAR 22'															/					
CAR 22																				
VID 3															·					
VID 2									+				○		/		/	○	○	·
VID 1									○				/	○	○	·				
CAR 25			+	+	○	· ×	○	/			/ j	/								
CAR 26	+		+	+	●	●	○		+	/ j										
CAR 27	+			+	○	○	/	·	+											
CAR 28	+	+	+	+																
CAR 29																				
CAR 30																				
CAR 31																				
CAR 34																				
car 35																				
v 1																				

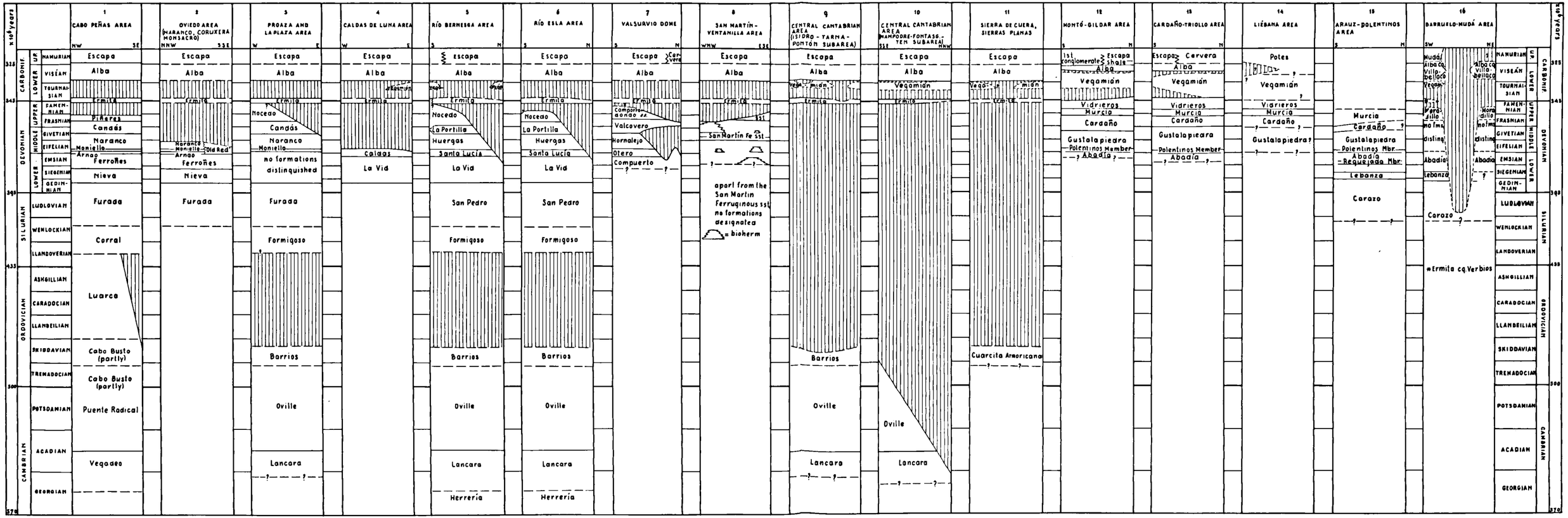
SAMPLE	41 Palmatolepis glabra glabra	42 Palmatolepis minuta minuta	43 Palmatolepis quadrantinodosa marginifera	44 Palmatolepis perlobata schindewolfi	45 Spathognathodus amplus	46 Spathognathodus strigosus	47 Polygnathus glabra bilobata	48 Palmatolepis distorta	49 Palmatolepis perlobata sigmoidea	50 Palmatolepis rugosa ampla	51 Polygnathus ex gr. P. nodocostata	52 Scaphignathus velifera	53 Palmatolepis minuta schleizia	54 Spathognathodus inornatus	55 Spathognathodus aculeatus	56 Spathognathodus costatus costatus	57 Spathognathodus spinulicostatus	58 Spathognathodus costatus subsp. indet. (broken specimens)	59 Spathognathodus stabilis	60 Pseudopolygnathus fusiformis
TR 5																				
TR 11																				
TR 4a																				
TR 4'																				
TR 3																				
TR 25																			/	
TR 24																			/	
TR 23																				
TR 22															○				●	
TR 21															·			·	○	
TR 20														○	●	●	○		○	/
TR 19						/								·	○	●	○		○	/ ? j
TR 17														○	○	/	/	/	/	·
TR 15														○	○	○	·	/	/	
TR 0						/								· ×					·	
oj 1																				
CAR 13																				
CAR 11																				
CAR 10																				
CAR 9																				
CAR 18																				
CAR 19														/	/	·	/			·
CAR 21															/ ? ×	/	/	/	·	
CAR 22'													·							
CAR 22												· × j								
VID 3	/		·	·	/	○	/	/	/	·	○									
VID 2	●	/	/	○	·	+														
VID 1																				
CAR 25																				
CAR 26																				
CAR 27																				
CAR 28																				
CAR 29																				
CAR 30																				
CAR 31																				
CAR 34																				
car 35																				
v 1																				

SAMPLE	61 Polygnathus nodomarginata	62 Polygnathus longiposticus	63 Spathognathodus costatus ultimus	64 Gnathodus kockeli	65 Gnathodus sp. A Collinson, Rexroad & Scott	66 Pseudopolygnathus dentilineatus	67 Pseudopolygnathus multistriata	68 Polygnathus cf. P. obtecta	69 Spathognathodus anteposicornis	70 Polygnathus inornata	71 Polygnathus flabella	72 Gnathodus delicatus s.l.	73 Gnathodus bilineatus	74 Gnathodus commutatus commutatus	75 Gnathodus girtyi	76 Spathognathodus campbelli	77 Gnathodus commutatus homopunctatus	78 Gnathodus commutatus nodosus	79 Gnathodus commutatus multinodosus	80 Gnathodus commutatus cruciformis	ZONE
TR 5													●	·				/	·	·	Upper bilineatus-commutatus nodosus Zone
TR 11													/	·				/			
TR 4a													●	·			/				
TR 4'												■	■	○	/ cf	●	○				Upper bilineatus-delicatus s.l. Zone
TR 3												○	●	○	· cf						
TR 25		○								/											
TR 24	·	○								○	·										
TR 23		/				· × ?		·	· j	· × ?											kockeli-dentilineata Zone
TR 22						/	/														
TR 21				○	○	·															
TR 20	●	/	·																		Middle to Upper costatus Zone
TR 19	○	/																			
TR 17	○	/ cf																			
TR 15	/ cf																				costatus Zone
TR 0																					quadrantinodosa Zone to Upper crepida Zone
oj 1												·	/	·							bilineatus-delicatus s.l. Zone?
CAR 13													●	/		/		○		/	Upper bilineatus-commutatus nodosus Zone
CAR 11												/	●	○	/ j	■	/	○	·	/	Lower bilineatus-commutatus nodosus Zone
CAR 10													/	·							
CAR 9													/	·				·			bilineatus-commutatus nodosus Zone
CAR 18		·								· × ?											kockeli-dentilineata Zone?
CAR 19	·																				Middle to Upper costatus Zone
CAR 21		/																			
CAR 22'																					Lower styriaca Zone to rhomboidea Zone
CAR 22																					velifera Zone
VID 3																					
VID 2																					quadrantinodosa Zone
VID 1																					
CAR 25																					Upper gigas Zone
CAR 26																					gigas Zone
CAR 27																					
CAR 28																					Lower triangularis Zone to Upper asymmetrica Zone
CAR 29																					Lower asymmetrica Zone
CAR 30																					hermanni-cristata Zone
CAR 31																					varca Zone s.l.
CAR 34																					robusticostata Zone
car 35																					
v 1																					corniger Zone

Enclosure 5. Chart showing the relation between the conodont zones and the Devonian and Lower Carboniferous stages.

RELATION BETWEEN THE CONODONT ZONES AND THE DEVONIAN AND LOWER CARBONIFEROUS STAGES

SERIES	STAGE	AMMONOID STUFEN			CONODONT ZONES	AUTHORS
UPPER CARBONIFER.	LOWER NAMURIAN	*Eumorphoceras*	E_2			
			E_1	Upper	*bilineatus-commutatus nodosus* Zone	this paper, with data from BISCHOFF (1957), BÖGER (1962), BUDINGER (1965), COLLINSON *et al.* (1962), VOGES (1959)
LOWER CARBONIFEROUS	VISÉAN	*Goniatites*	cu III γ	Lower		
			cu III α β	Upper	*bilineatus-delicatus* s.l. Zone	
		Pericyclus	cu II δ	Lower		
			cu II β/γ		*anchoralis-bilineatus* Interregnum	VOGES (1959, 1960)
					anchoralis Zone	
	TOURNAISIAN		cu II α	Upper	*Siphonodella crenulata* Zone	
				Lower		
		Gattendorfia	cu I		*Siphonodella-triangula triangula* Zone	
					Siphonodella-triangula inaequalis Zone	
					kockeli-dentilineata Zone	
UPPER DEVONIAN	FAMENNIAN (STRUNIAN)	*Goniociymenia* (*Wocklumeria*)	co XII	Upper	*costatus* Zone	ZIEGLER (1962 b)
				Middle		
			to V	Lower		
				Upper	*styriaca* Zone	
				Middle		
		Platycrymenia	co IV	Lower		
				Upper	*velifera* Zone	
			to III β	Middle		
			α	Lower		
		Cheiloceras	to II β	Upper	*quadrantinodosa* Zone	
				Lower	*rhomboidea* Zone	
			α	Upper	*crepida crepida* Zone	
				Middle		
				Lower		
	FRASNIAN	*Manticoceras*	to I δ	Upper	*triangularis* Zone	
				Middle		
				Lower		
				Upper	*gigas* Zone	
				Lower		
			γ		*Ancyrognathus triangularis* Zone	
			(β) γ	Upper	*asymmetrica* Zone	
			α	Middle		
				Lower		
					hermanni-cristata Zone	ZIEGLER (1966)
MIDDLE DEVONIAN	GIVETIAN				*varca* Zone s.l. (this paper); *transversa* Zone; *varca* Zone; *walliser* Horizon	WITTEKINDT (1966)
					robusticostata Zone	
					eifelia Zone	
	EIFELIAN				*kockeliana* Zone	
					bidentatus Zone	
					corniger Zone	
					Conodont-Bereich XII	
LOWER DEVONIAN	EMSIAN UPPER				Conodont-Bereich XI	WALLISER (1962)
	EMSIAN LOWER				Conodont-Bereich X	
	SIEGENIAN				Conodont-Bereich IX	
	GEDINNIAN				Conodont-Bereich VIII	
			e γ		*woschmidti* Zone	
SILURIAN	UPPER LUDLOVIAN		e β_2		*eosteinhornensis* Zone	WALLISER (1964)



Enclosure 6. Time-stratigraphic correlation chart for the Devonian and Lower Carboniferous of the Cantabrian Mountains.