

Calcarean Sponges From Upper Paleozoic, Taciba Formation, Paraná Basin, South of Brazil

João Pedro Saldanha e Lucas Del Mouro

saldanhajpedro@gmail.com, lucas.delmouro@gmail.com

Universidade Federal de Santa Catarina



PORÍFEROS



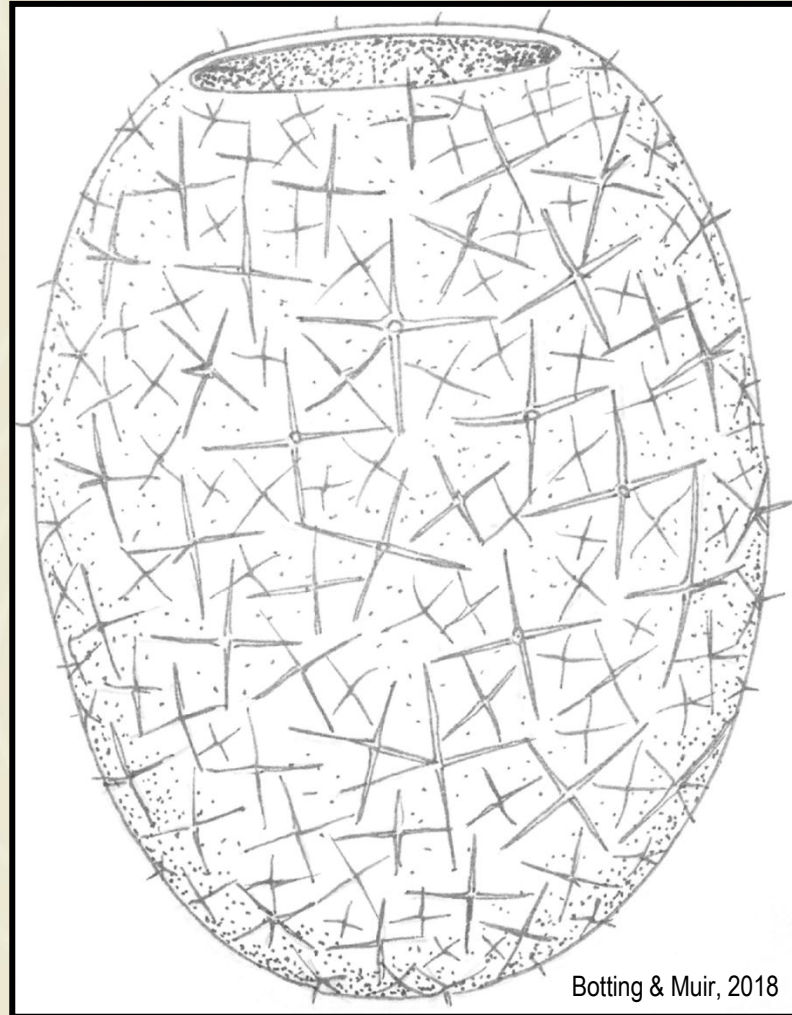
PORÍFEROS

- Cryogeniano-Ediacarano/
Cambriano inferior



PORÍFEROS

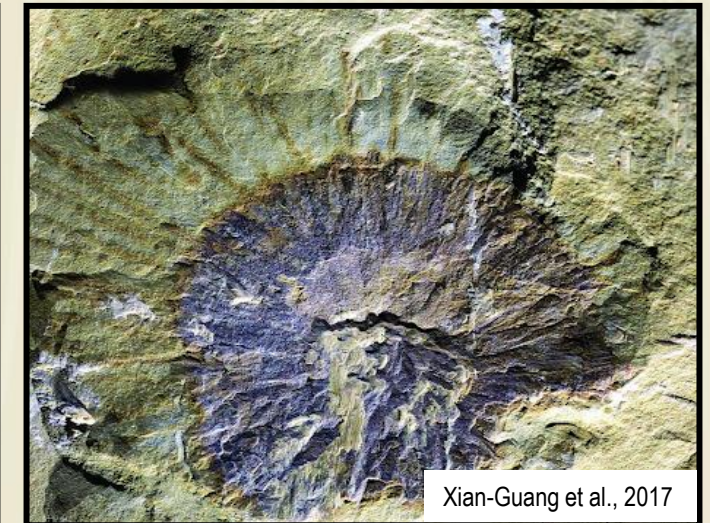
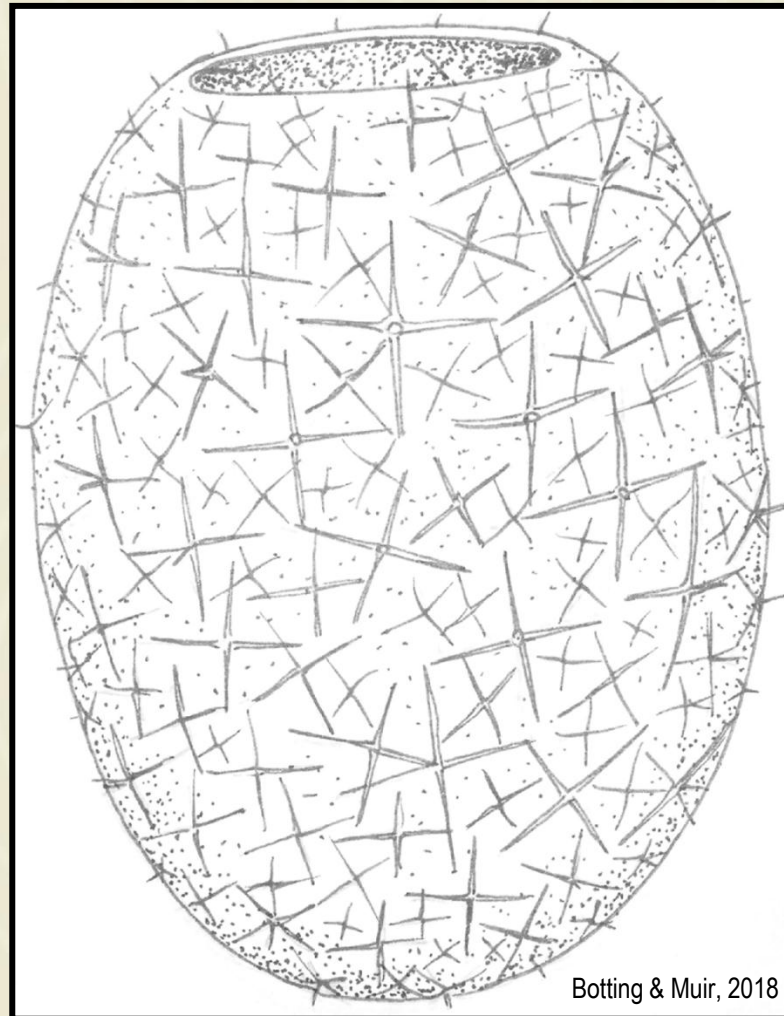
- Cryogeniano-Ediacarano/
Cambriano inferior



Botting & Muir, 2018

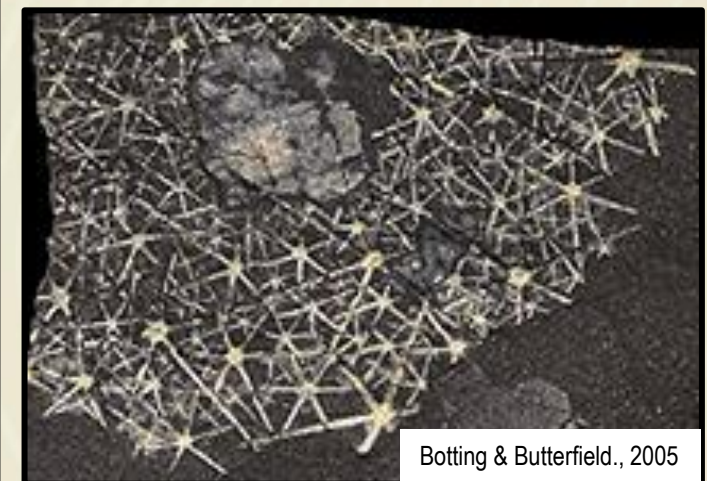
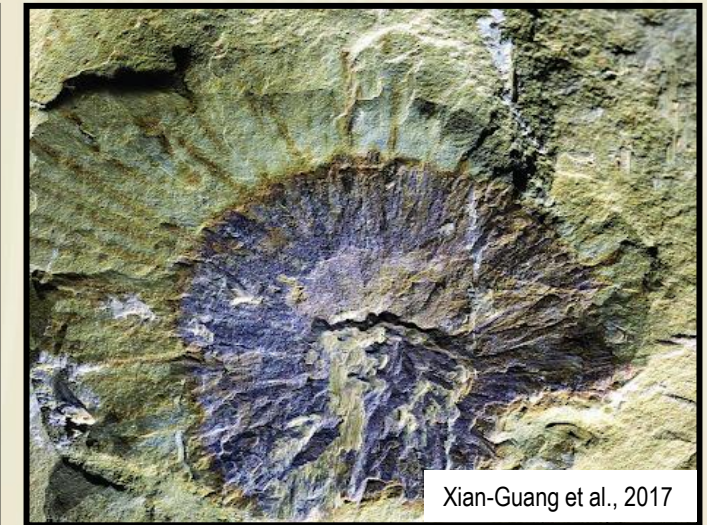
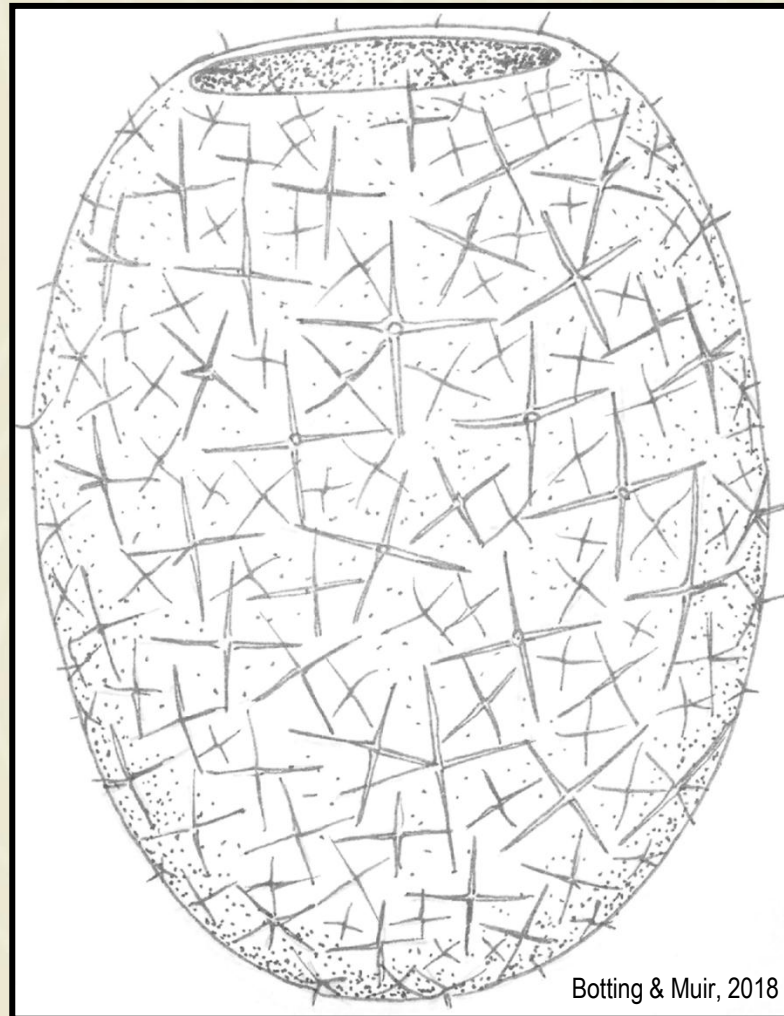
PORÍFEROS

- Cryogeniano-Ediacarano/
Cambriano inferior
- Chengjiang (China)
Choia xiaolantianensis



PORÍFEROS

- Cryogeniano-Ediacarano/
Cambriano inferior
- Chengjiang (China)
Choia xiaolantianensis
- Burgess Shale (Canadá)
Eifellia globosa

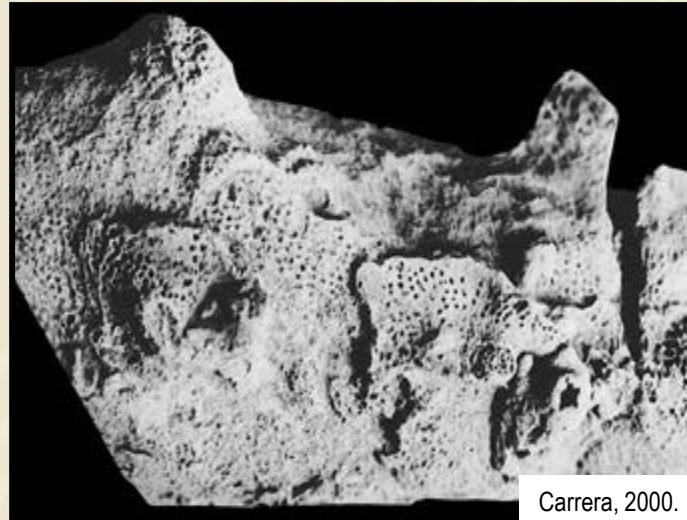


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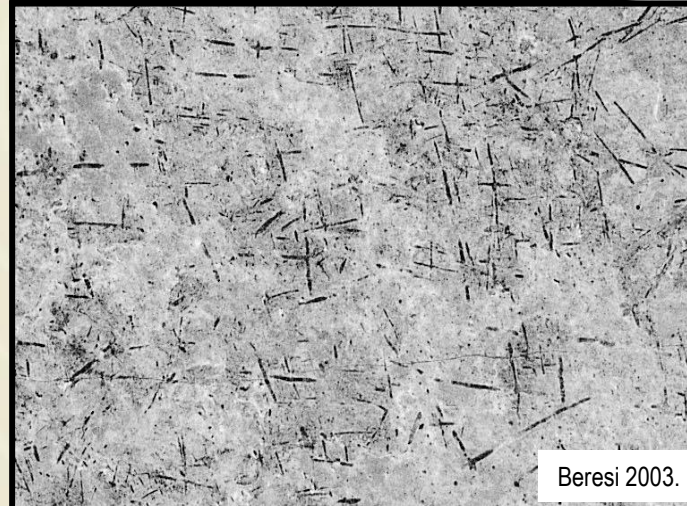
- Precordillera terrane (Argentina)

Rhopalocoelia tenuis
Diagonella sp.

Ordoviciano



Carrera, 2000.



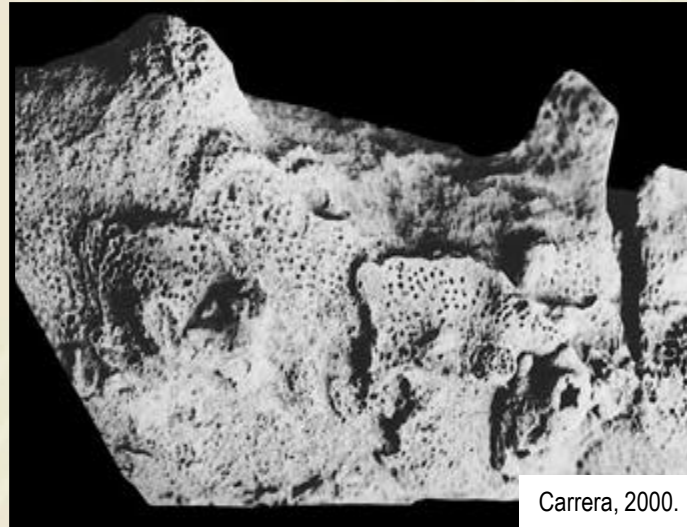
Beresi 2003.

PORÍFEROS

- Precordillera terrane (Argentina)

Rhopalocoelia tenuis
Diagonella sp.

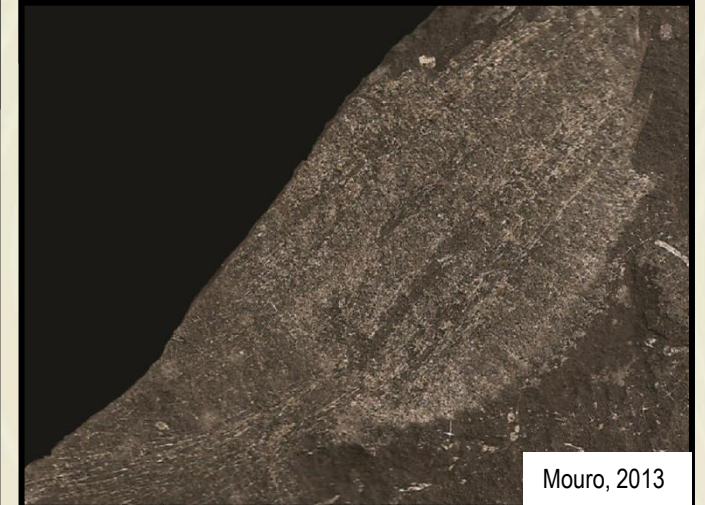
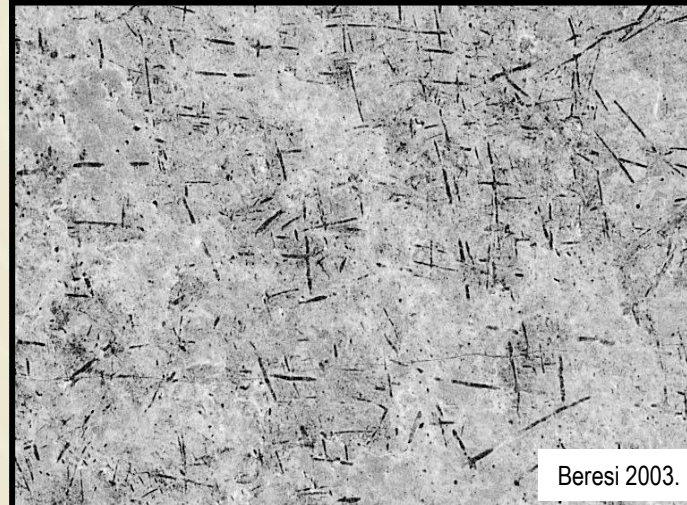
Ordoviciano



- Afloramento Campáleo (Brasil)

Microhemidiscia greinerti
Reticulosa indet.

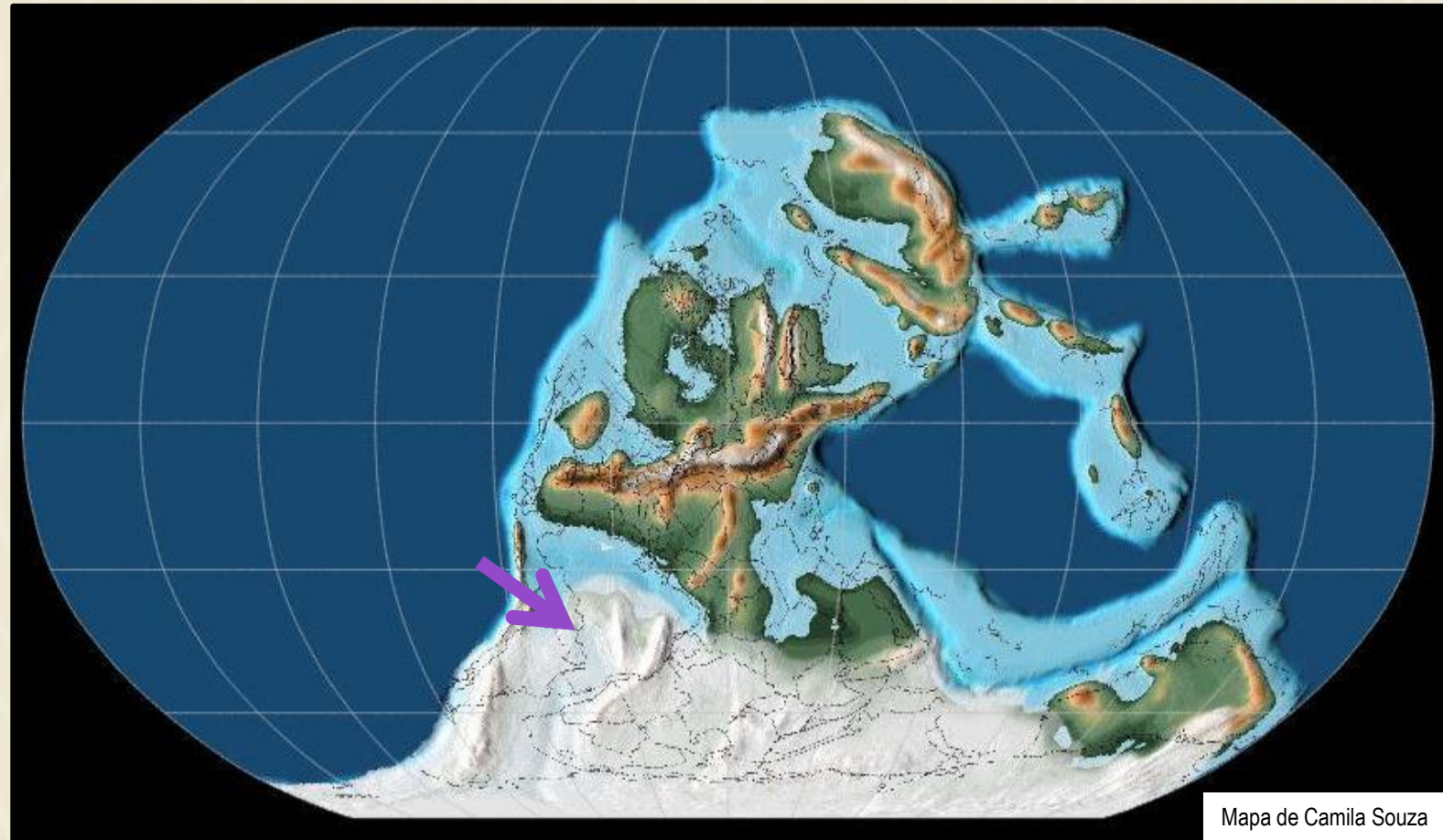
Carbonífero-Permiano



GEOLOGIA REGIONAL

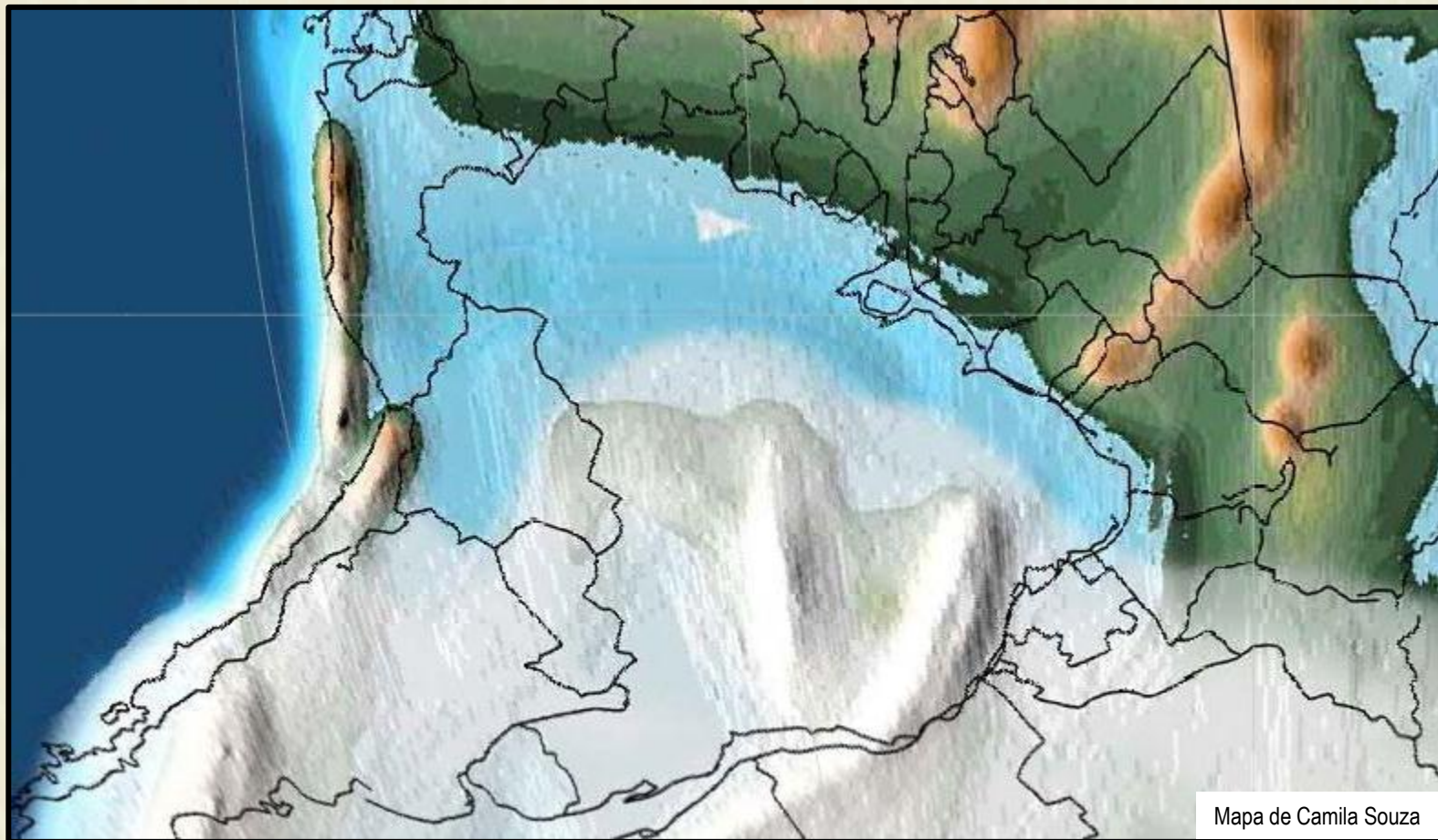


GEOLOGIA REGIONAL



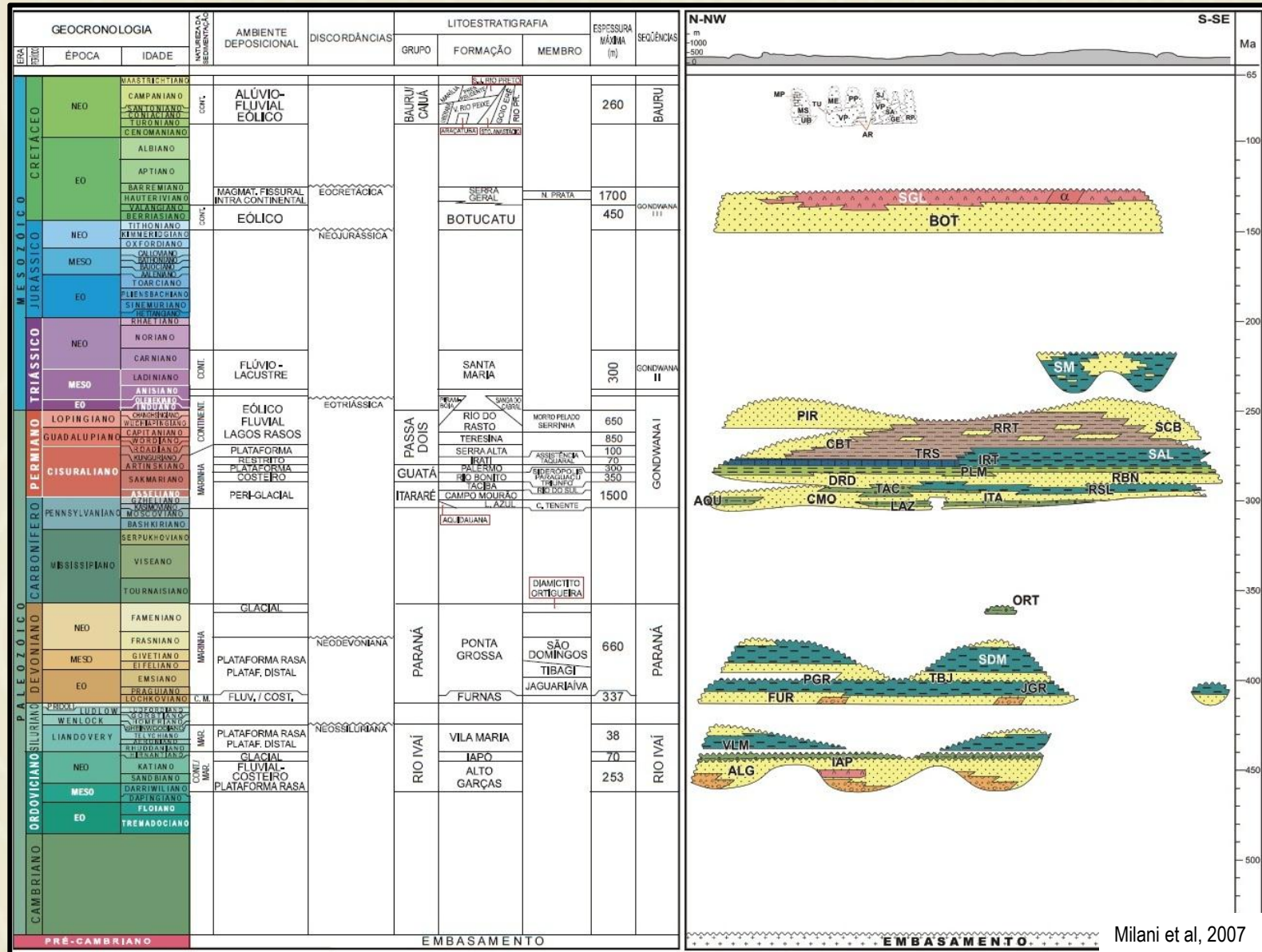
GEOLOGIA REGIONAL

- Bacia do Paraná



GEOLOGIA REGIONAL

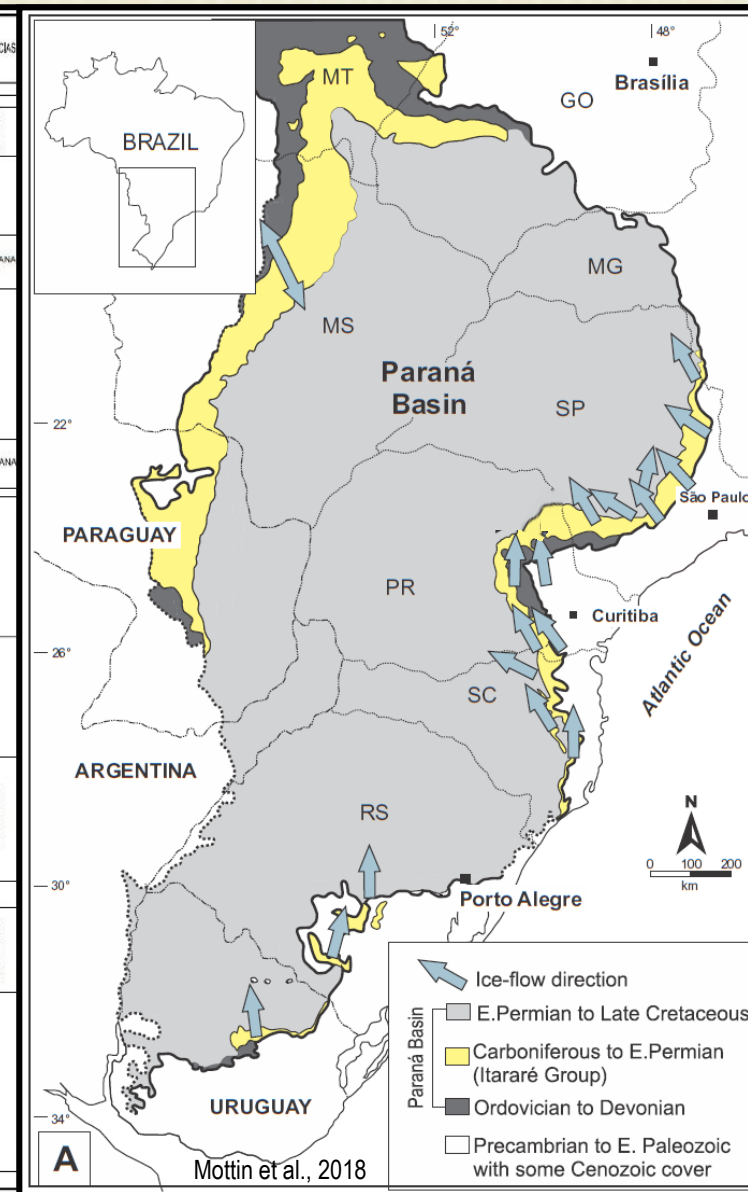
- Bacia do Paraná
- Gondwana I (Milani, 1997)



GEOLOGIA REGIONAL

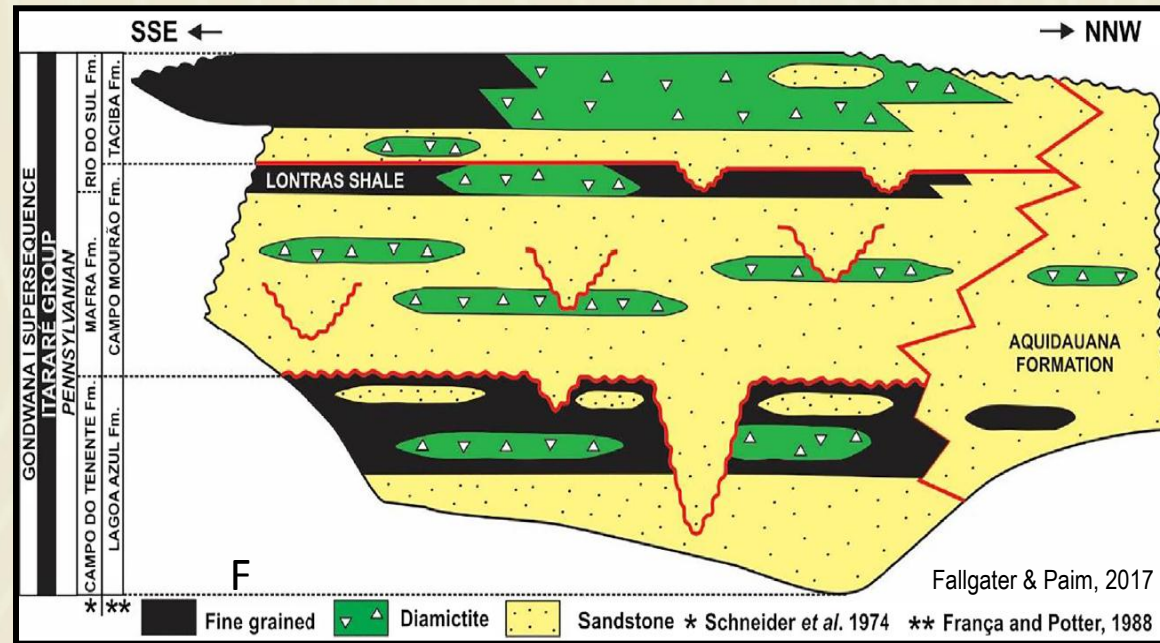
- Bacia do Paraná
- Gondwana I (Milani, 1997)
- Grupo Itararé (Schneider et al. 1974; França & Potter, 1988)

GEOCRONOLOGIA			AMBIENTE DEPOSICIONAL	DISCORDÂNCIAS	LITOESTRATIGRAFIA			ESPESSURA MÁXIMA (m)	SEQÜÊNCIAS
ERA	PERÍODO	IDADE			GRUPO	FORMAÇÃO	MEMBRO		
MESOZOICO	CRETACEO	NEO	MAASTRICHTIANO CAMPIANIANO SANTONIANO TITONIANO CENOMANIANO	CONT.	ALÚVIO-FLUVIAL EÓLICO	BAURU CAUÁ			



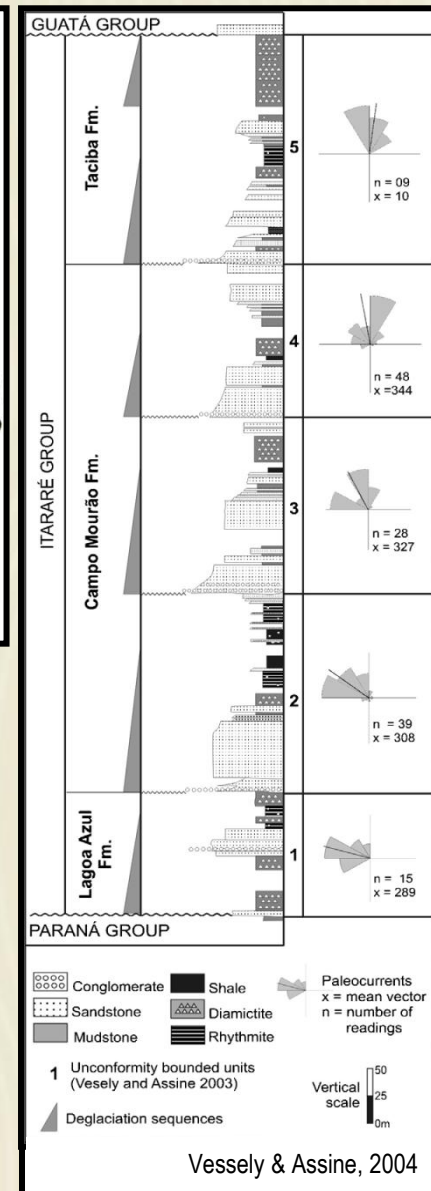
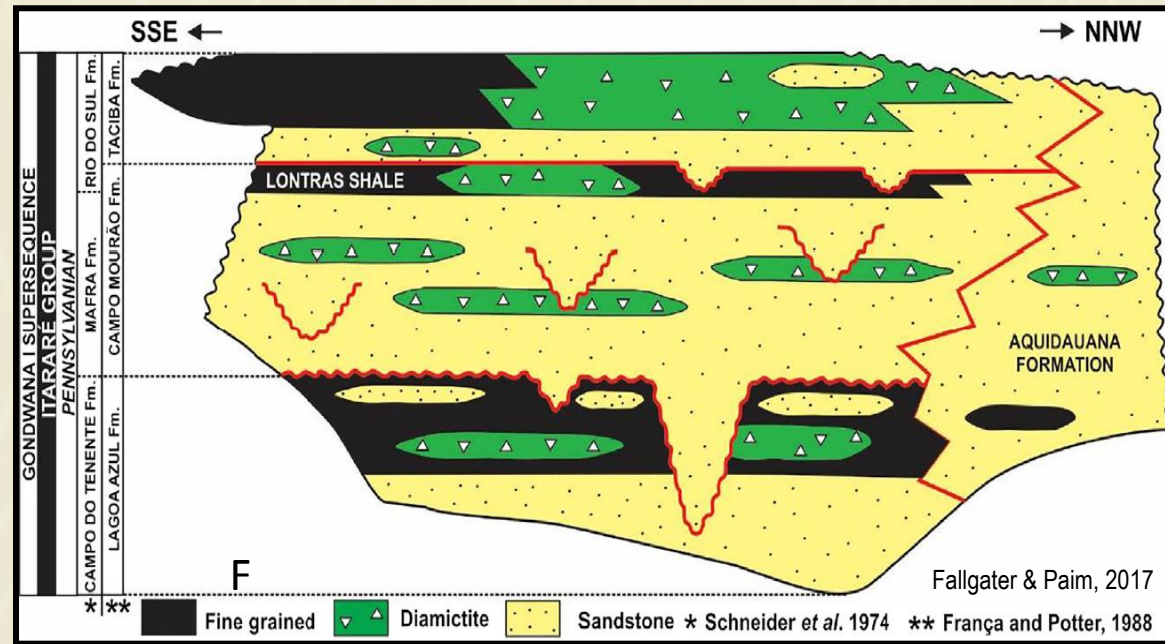
GEOLOGIA REGIONAL

- Bacia do Paraná
- Gondwana I (Milani, 1997)
- Grupo Itararé
(Schneider et al. 1974;
França & Potter, 1988)



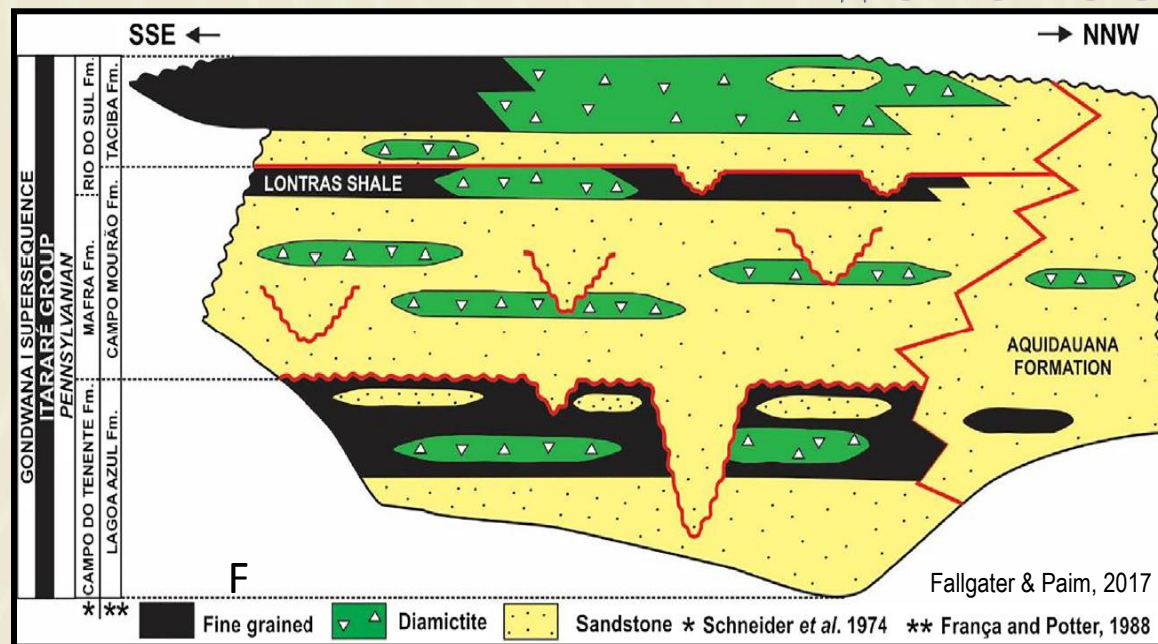
GEOLOGIA REGIONAL

- Bacia do Paraná
- Gondwana I (Milani, 1997)
- Grupo Itararé
(Schneider et al. 1974;
França & Potter, 1988)
- Formação Taciba

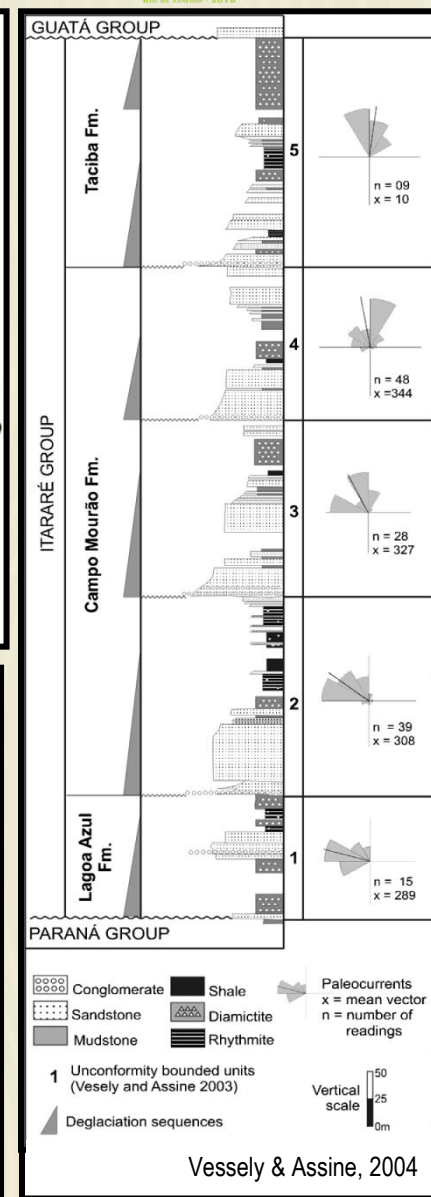


GEOLOGIA REGIONAL

- Bacia do Paraná
- Gondwana I (Milani, 1997)
- Grupo Itararé
(Schneider et al. 1974;
França & Potter, 1988)
- Formação Taciba
- Bashkiriano superior ao
Moscoviano superior
(Souza, 2006;
Cagliari et al., 2016;
Buso et al., 2017)

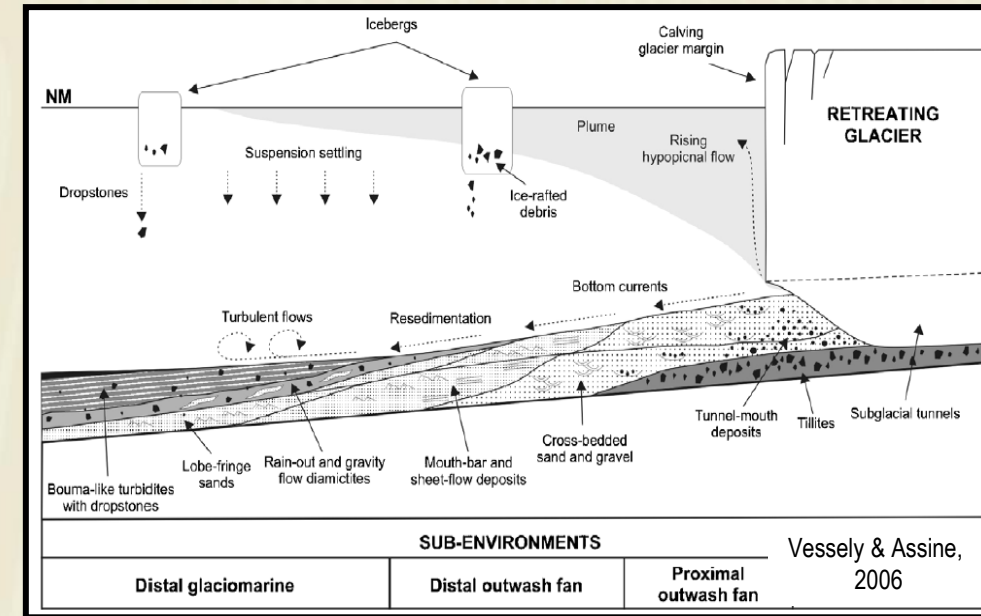


UPPER CARBONIFEROUS	Pensylvanian	Itararé Group	Formation	Member
			Taciba	Rio do Sul
				Chapéu do Sol
				Rio Segredo
			Campo Mourão	Lontras Shale
				Diamictites, Sandstones
			Lagoa Azul	Tarabai
				Cuiabá Paulista
Buso et al., 2017				



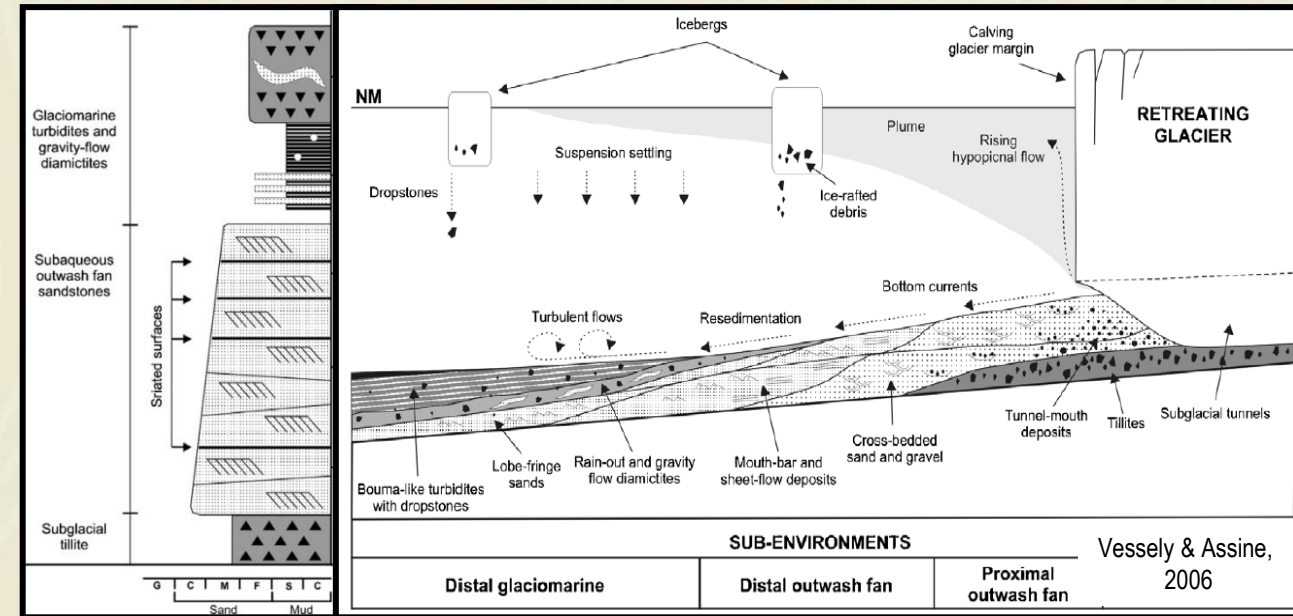
GEOLOGIA REGIONAL

- Depósitos glacio-marinhos



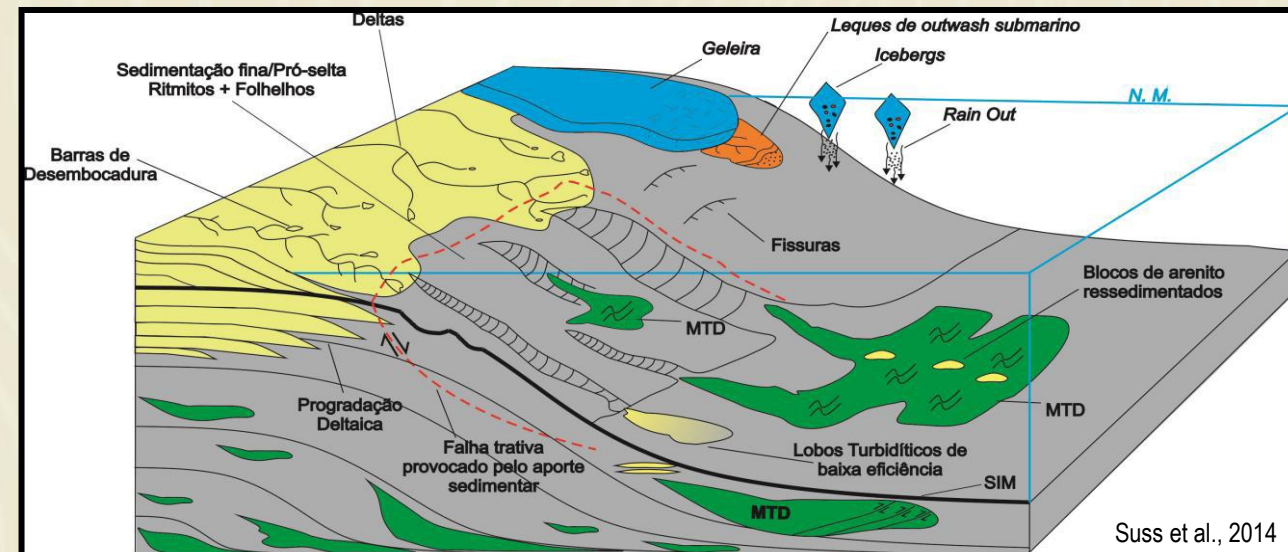
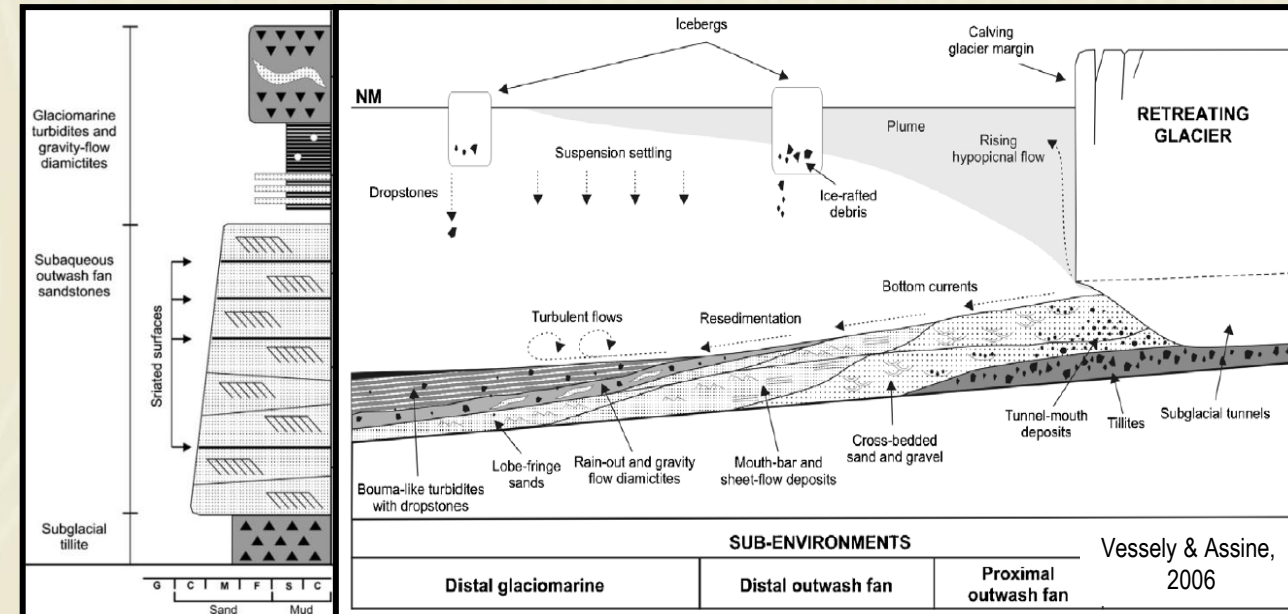
GEOLOGIA REGIONAL

- Depósitos glacio-marinhos
- Diamictitos, arenitos, turbiditos, ritmitos, siltitos, folhelhos



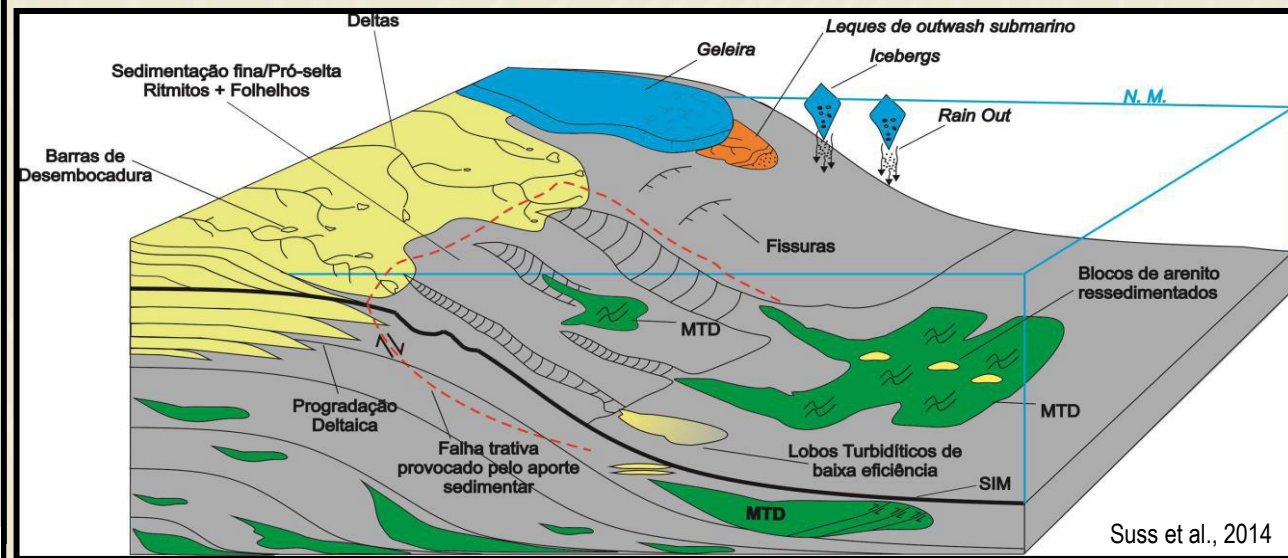
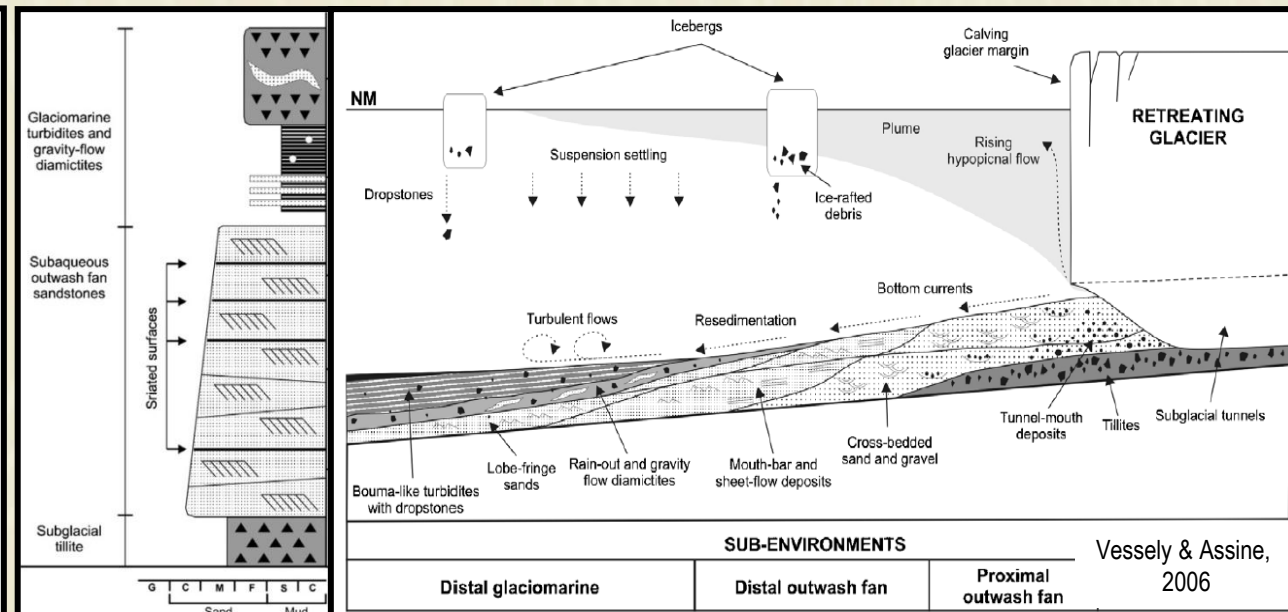
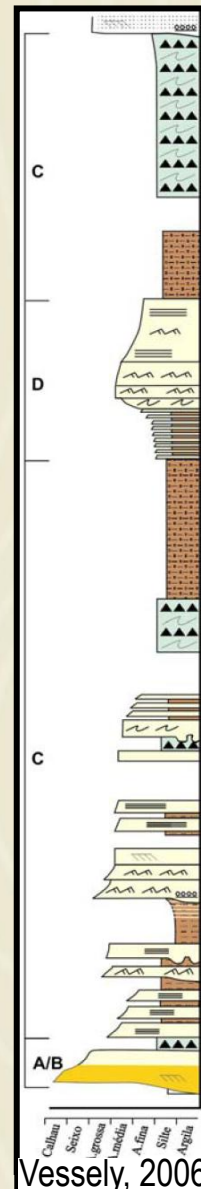
GEOLOGIA REGIONAL

- Depósitos glacio-marinhos
- Diamictitos, arenitos, turbiditos, ritmitos, siltitos, folhelhos
- Tratos de Sistemas Transgressivo/Glacio-isostático



GEOLOGIA REGIONAL

- Depósitos glacio-marinhos
- Diamictitos, arenitos, turbiditos, ritmitos, siltitos, folhelhos
- Tratos de Sistemas Transgressivo/Glacio-isostático
- Sh, Sr, Sp, Sm, Fl, Fld, Rg, Dms, Dmm.



LOCALIZAÇÃO

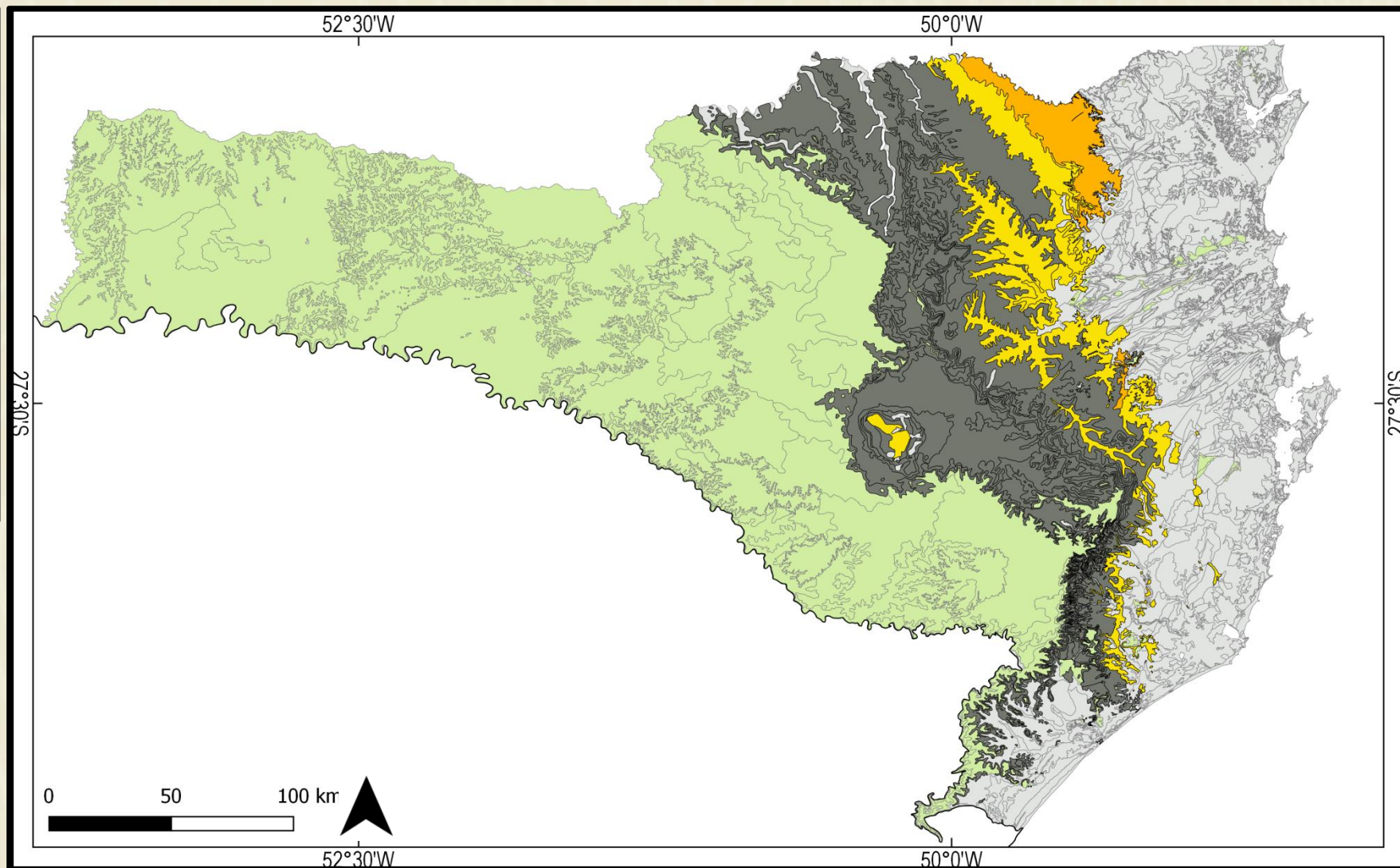


LOCALIZAÇÃO



Legenda

- Bacia do Paraná
- Fm. Taciba
- Fm. Campo Mourão
- Grupo Serra Geral
- Escudo Catarinense

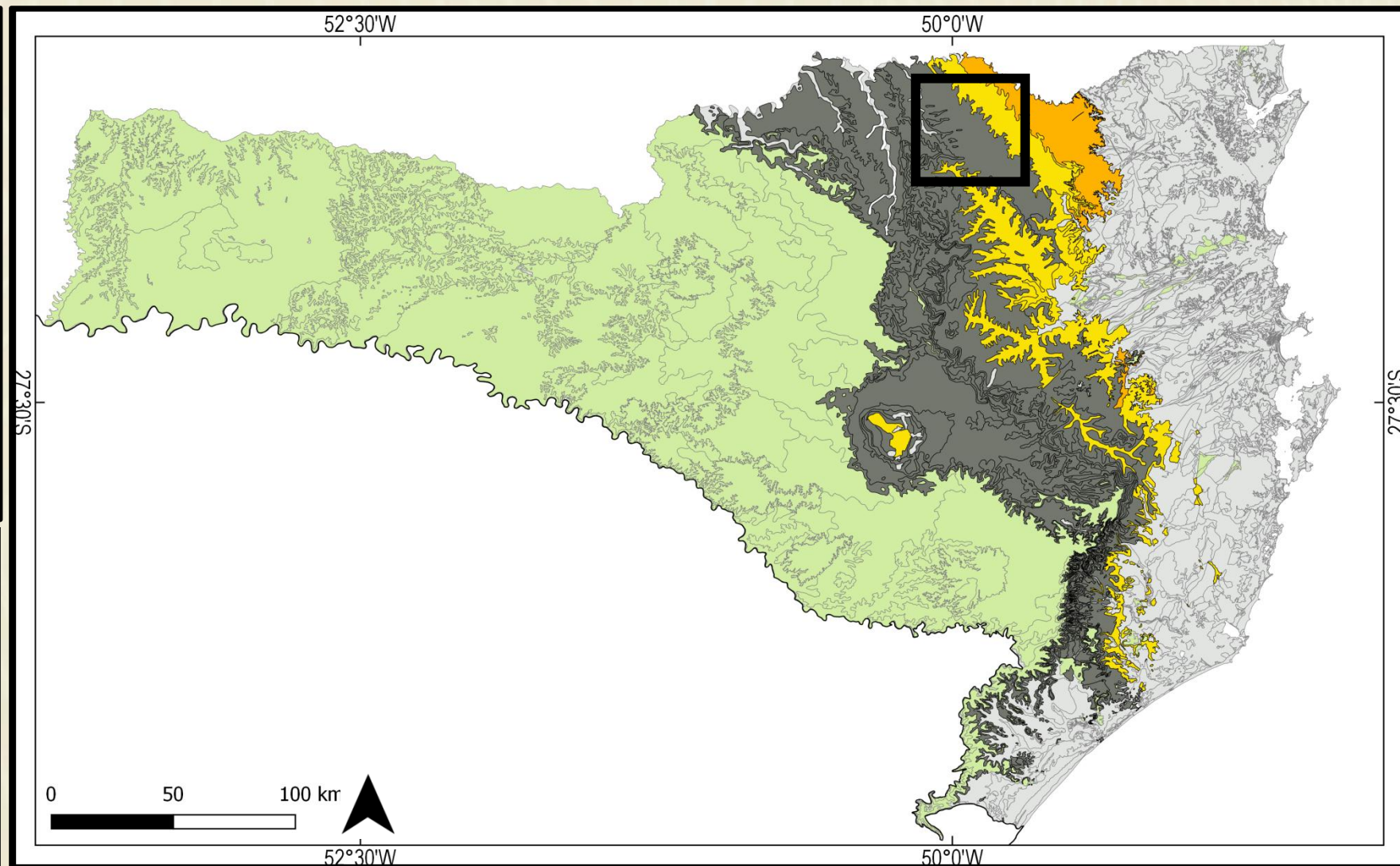


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- Grupo Serra Geral
- Escudo Catarinense

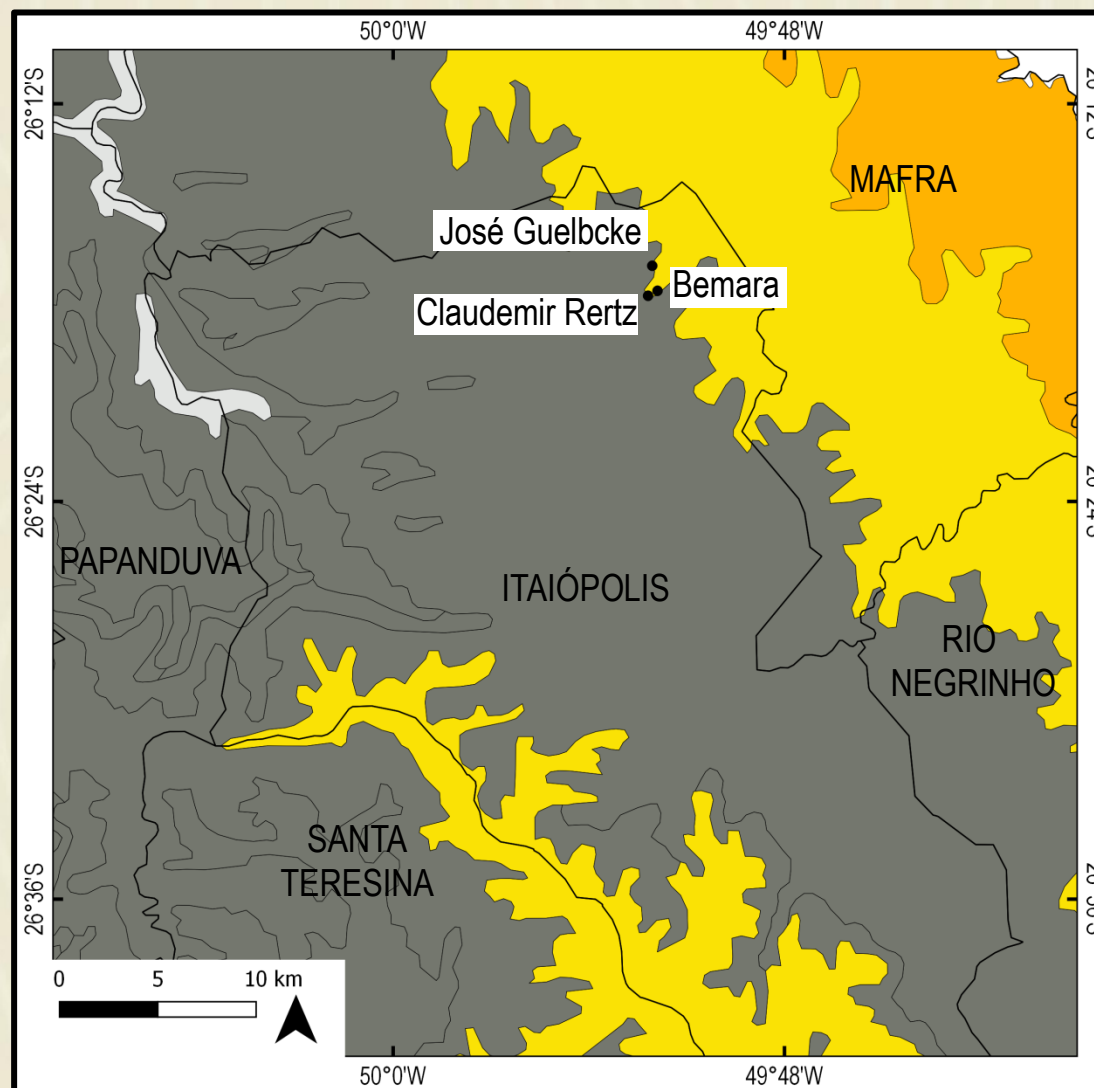


LOCALIZAÇÃO



Legenda

- Bacia do Paraná
- Fm. Taciba
- Fm. Campo Mourão
- Grupo Serra Geral
- Escudo Catarinense



- Três afloramentos no município de Itaiópolis –SC
- As pedreiras: Bemara, Claudemir Rertz e José Guelbcke

LOCALIZAÇÃO

- Bemara

(613340.95 / 7091257.51)

SIRGAS 2000, UTM 22S



LOCALIZAÇÃO

- Bemara
(613340.95 / 7091257.51)
- Claudemir Rertz
(613059.00 / 7092649.00)

SIRGAS 2000, UTM 22S



LOCALIZAÇÃO

- Bemara
(613340.95 / 7091257.51)
- Claudemir Rertz
(613059.00 / 7092649.00)
- José Guelbcke
(612880.00 / 7091030.00)

SIRGAS 2000, UTM 22S



RESULTADOS



RESULTADOS

- 190 amostras
- Composição: Calcária



RESULTADOS

- 190 amostras
- Composição: Calcária



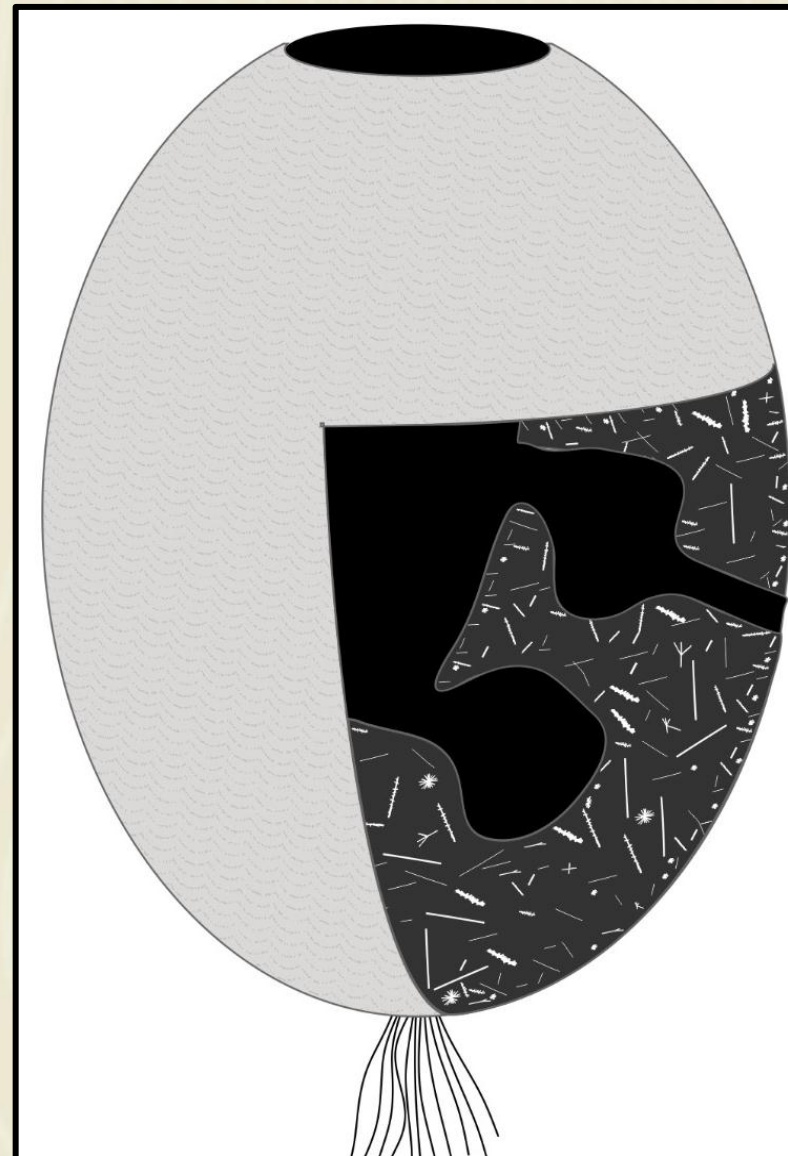
RESULTADOS

- 190 amostras
- Composição: Calcária
- Comprimento: 4-13 cm
- Altura: 7-17 cm



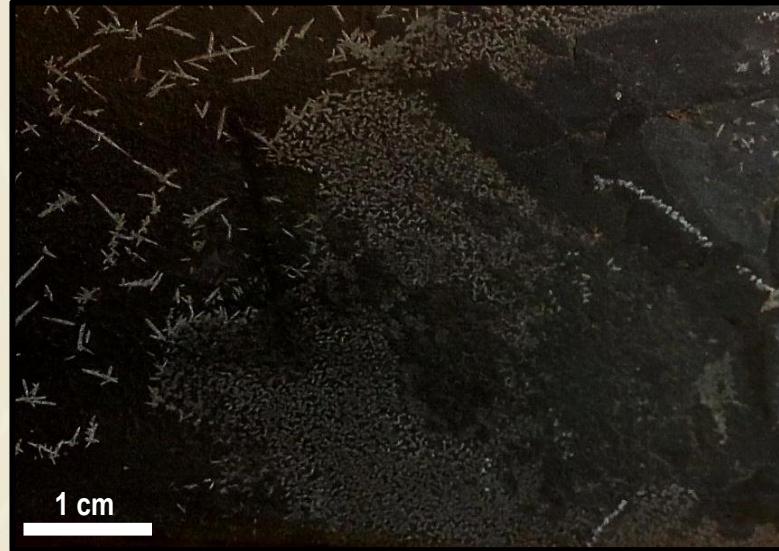
RESULTADOS

- 190 amostras
- Composição: Calcária
- Comprimento: 4-13 cm
- Altura: 7-17 cm
- Forma: cilíndrica/esférica
- Câmaras



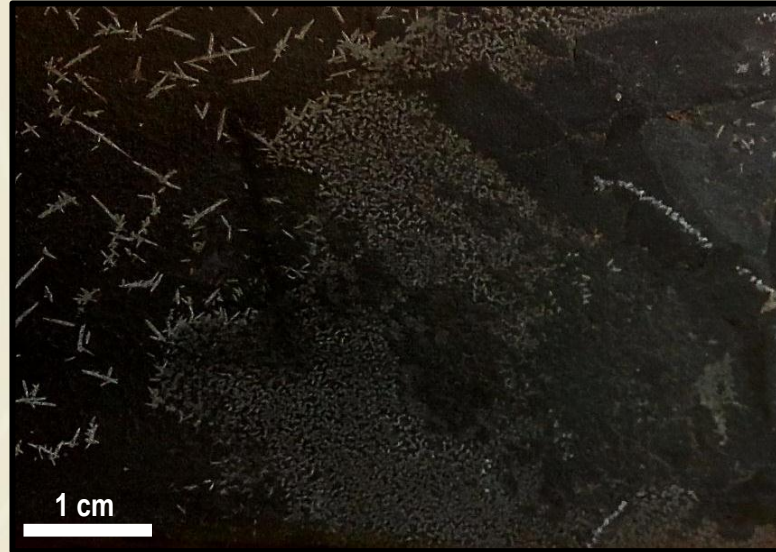
RESULTADOS

- Estágios ontogenéticos variados



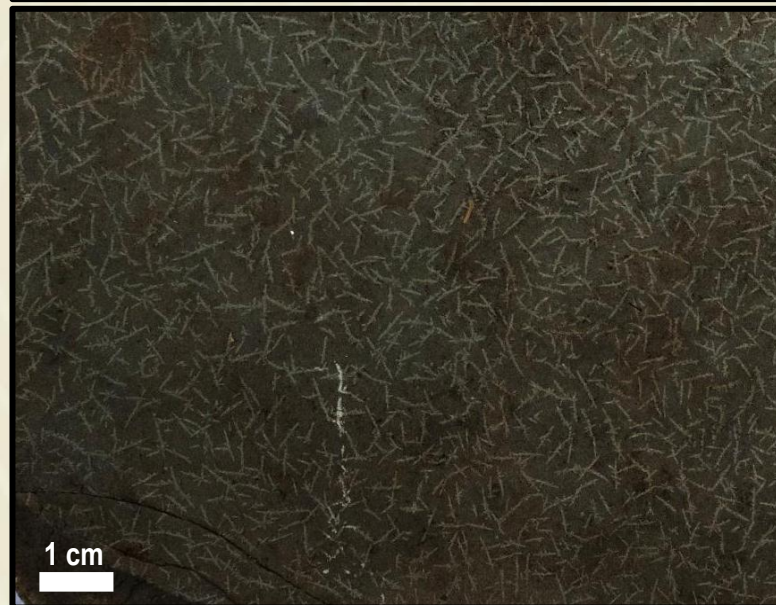
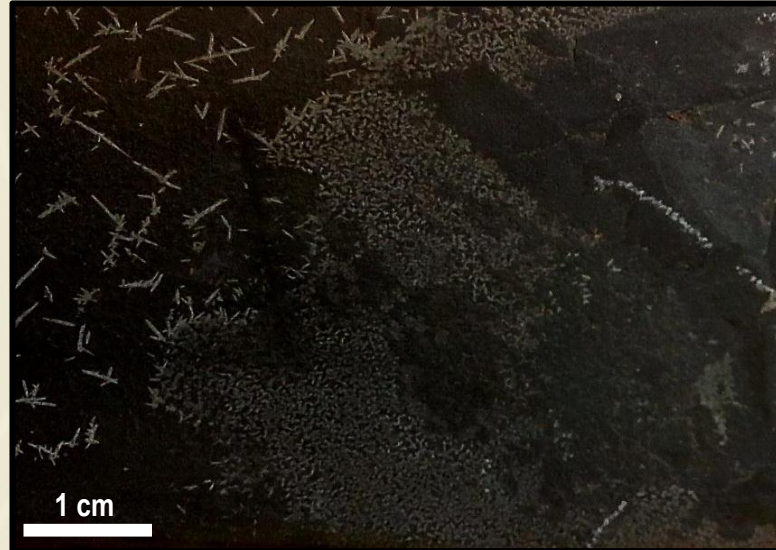
RESULTADOS

- Estágios ontogenéticos variados
- Várias formas de preservação



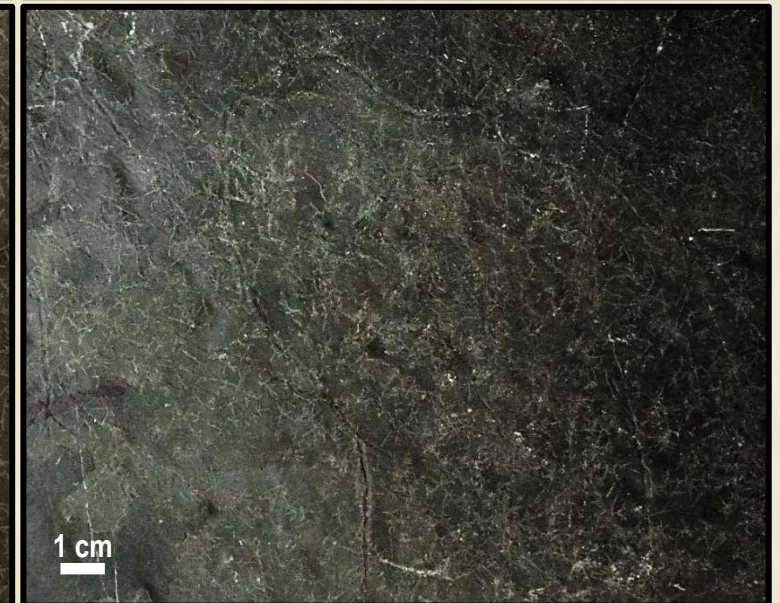
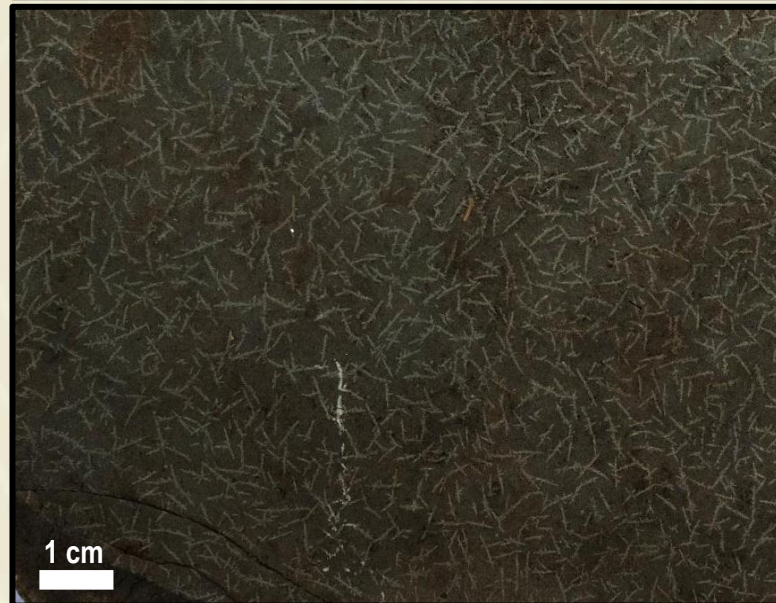
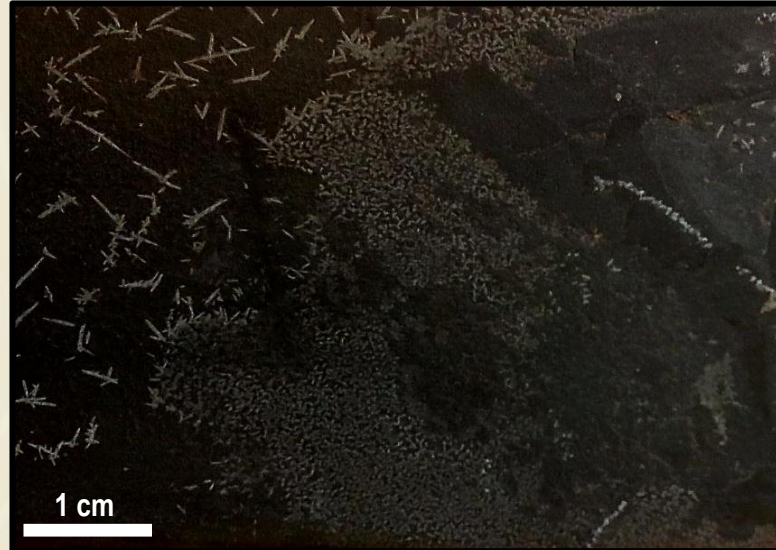
RESULTADOS

- Estágios ontogenéticos variados
- Várias formas de preservação
- Espículas embebidas em espongina



RESULTADOS

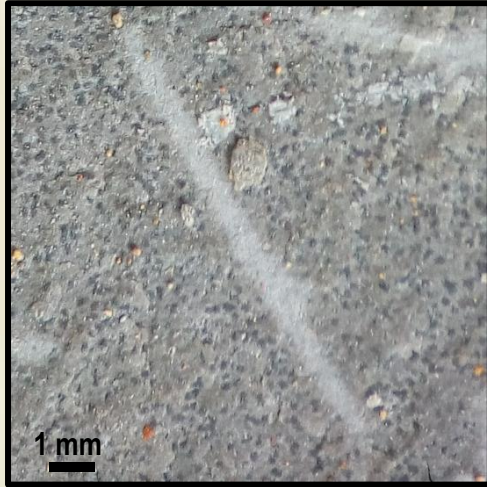
- Estágios ontogenéticos variados
- Várias formas de preservação
- Espículas embebidas em espongina
- icnofósseis



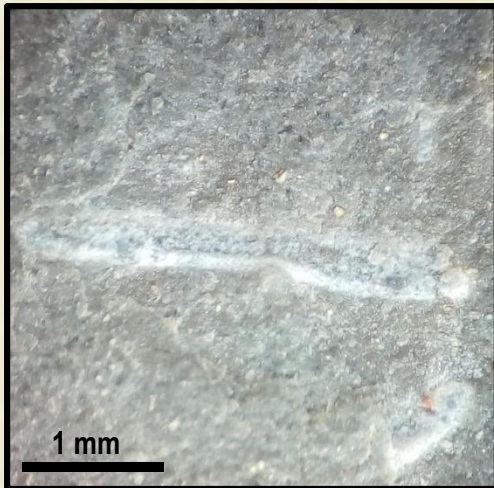
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MEGASCLERAS

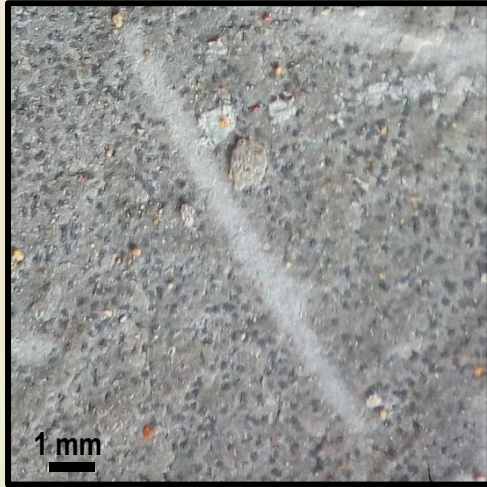


Oxea (0,21-10,06 mm)



Oxea (0,21-10,06 mm)

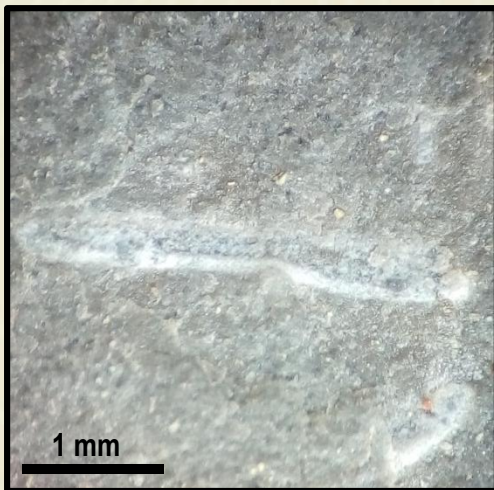
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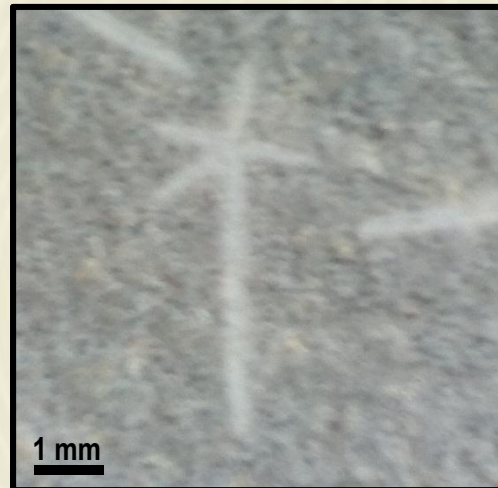
Oxea (0,21-10,06 mm)



Pentactina (0,92-9,90 mm)

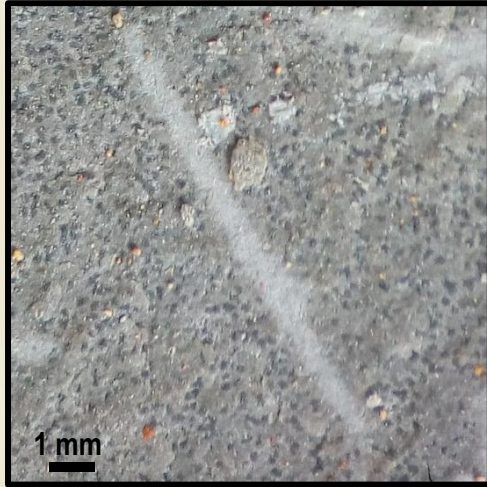


Oxea (0,21-10,06 mm)



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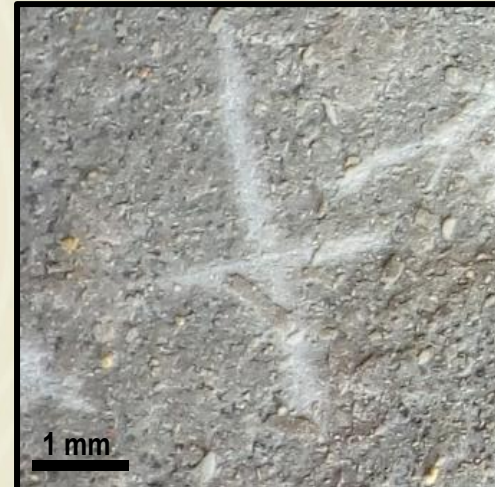
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Oxea (0,21-10,06 mm)



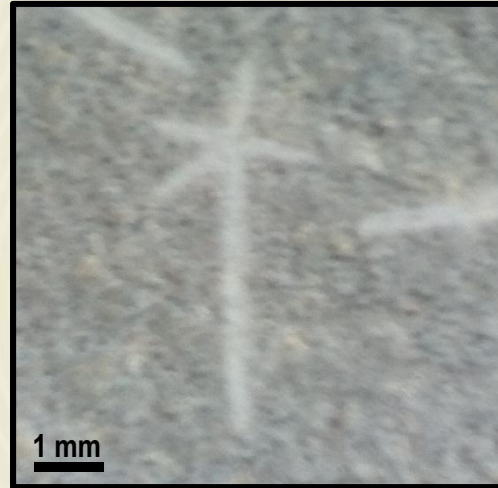
Pentactina (0,92-9,90 mm)



Tetractina (0,52-5,31 mm)



Oxea (0,21-10,06 mm)

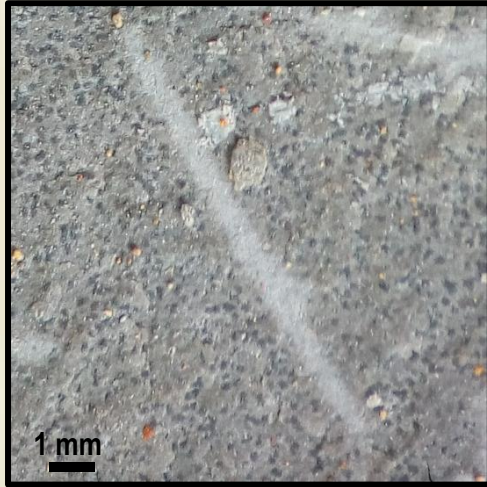


Pentactina (0,92-9,90 mm)



Triaene (0,53-4,38 mm)

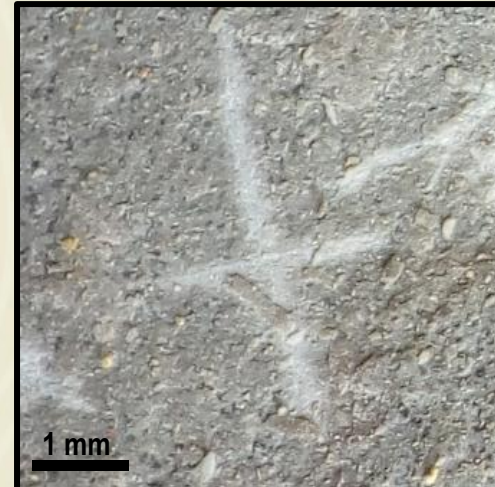
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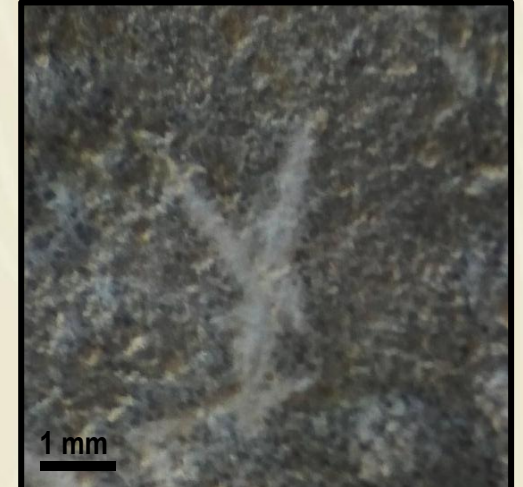
Oxea (0,21-10,06 mm)



Pentactina (0,92-9,90 mm)



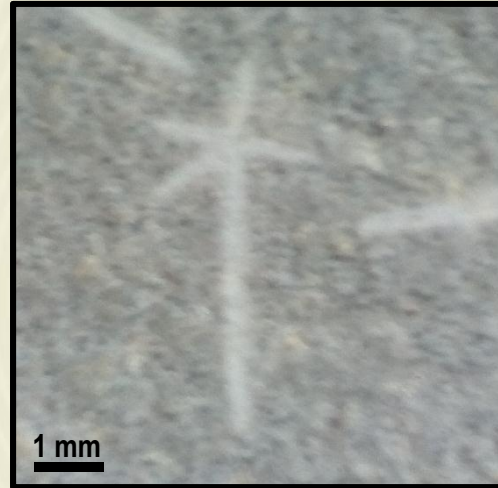
Tetractina (0,52-5,31 mm)



Triactina (0,42-5,69 mm)



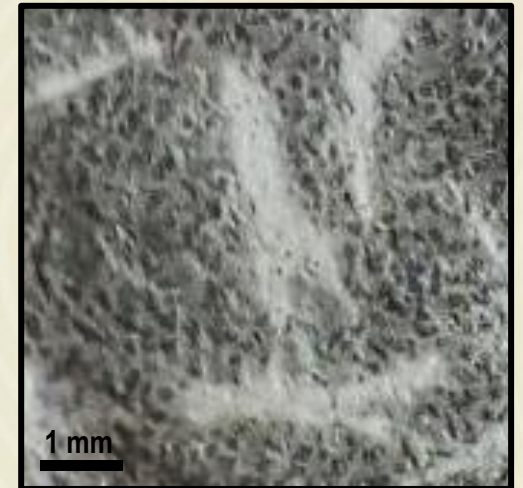
Oxea (0,21-10,06 mm)



Pentactina (0,92-9,90 mm)

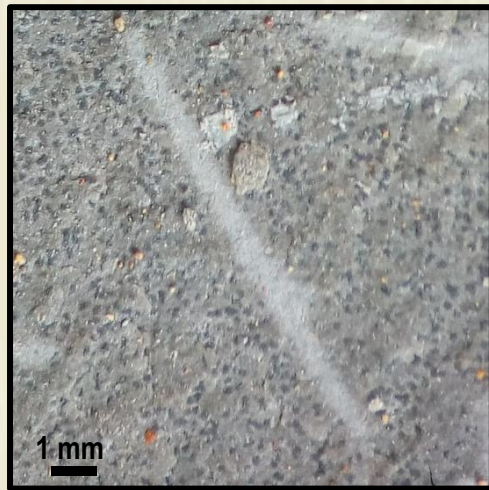


Triaene (0,53-4,38 mm)



Turning fork (0,97-4,48 mm)

MEGASCLERAS



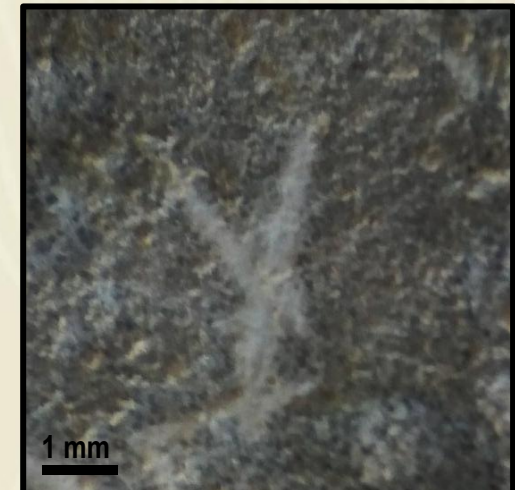
Oxea (0,21-10,06 mm)



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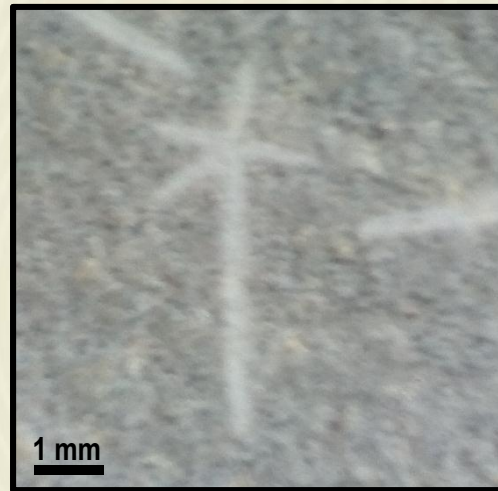
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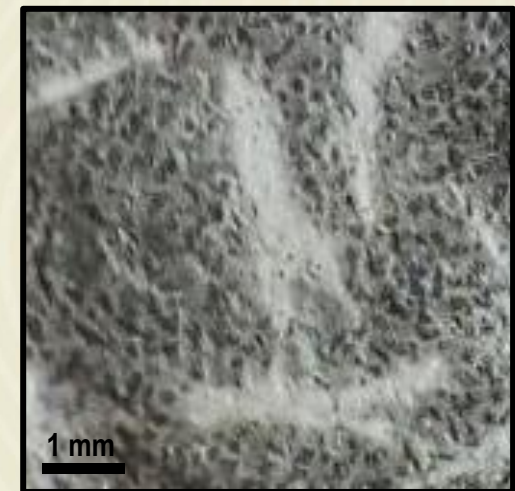
Oxea (0,21-10,06 mm)



Pentactina (0,92-9,90 mm)



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Turning fork (0,97-4,48 mm)

MICROSCLERAS



MICROSCLERAS



Oxyaster (0,13-10,25 mm)

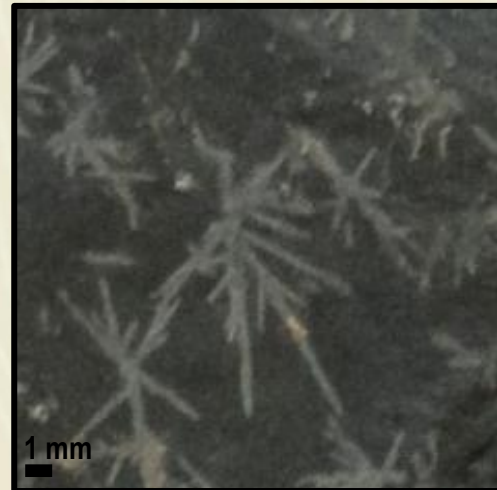


Oxyaster (0,13-10,25 mm)

MICROSCLERAS



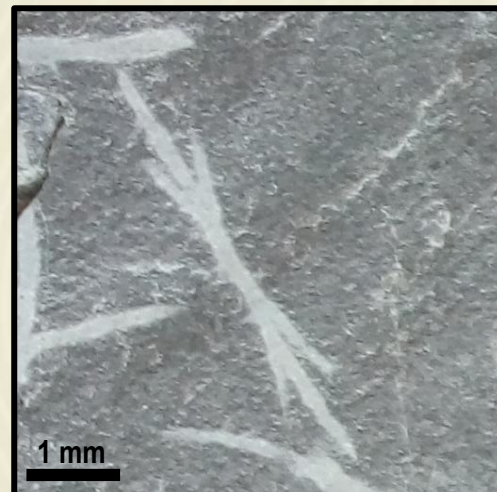
Oxyaster (0,13-10,25 mm)



Oxyhexaster (9,70-11,88 mm)



Oxyaster (0,13-10,25 mm)

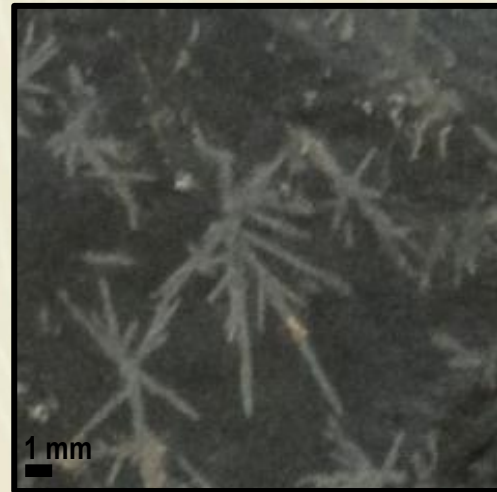


Aster multi ray (0,33-3,13 mm)

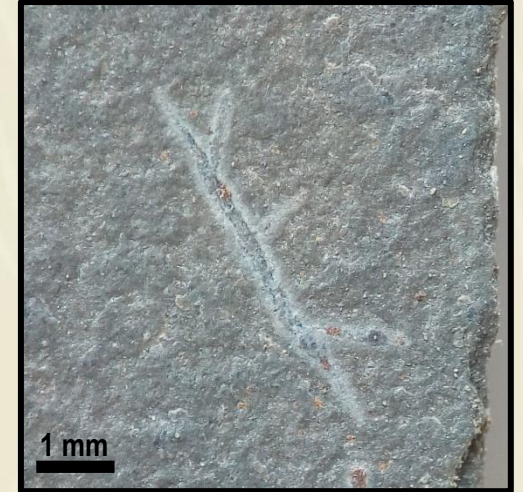
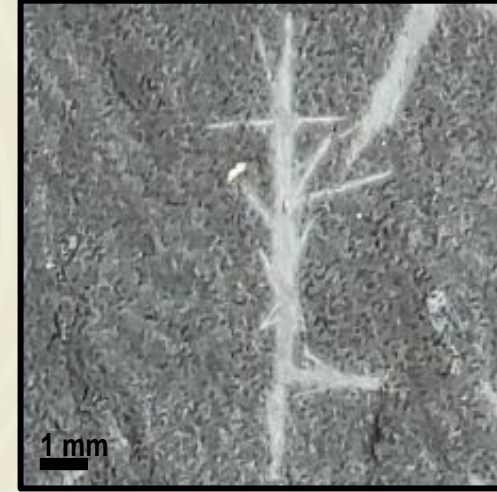
MICROSCLERAS



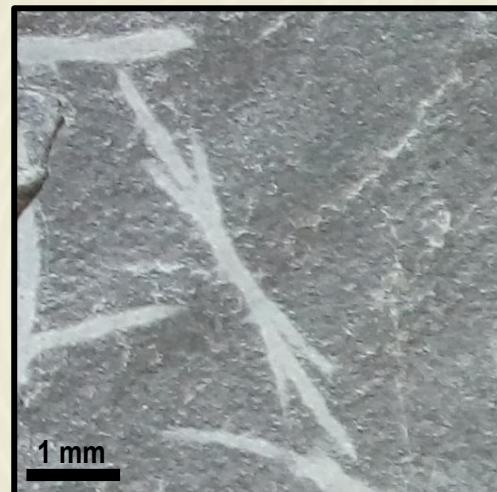
Oxyaster (0,13-10,25 mm)



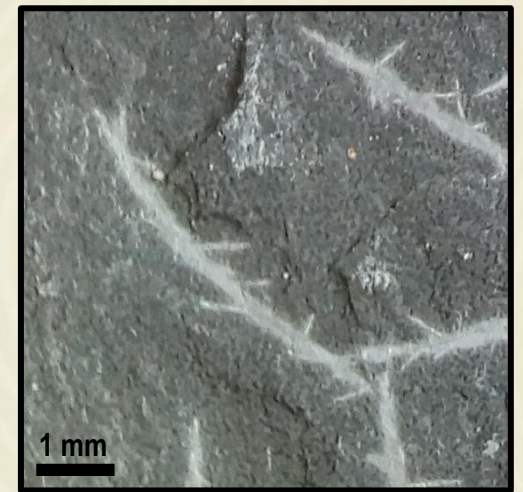
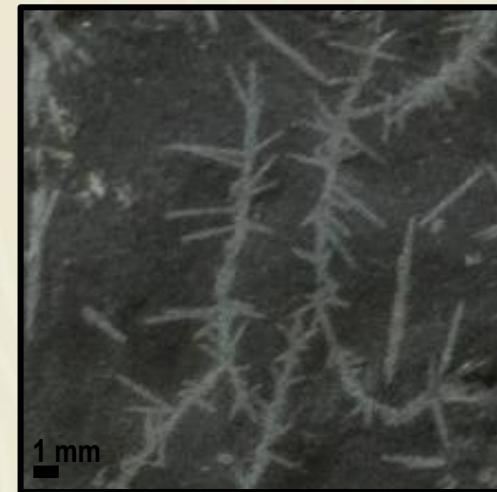
Oxyhexaster (9,70-11,88 mm)



Oxyaster (0,13-10,25 mm)



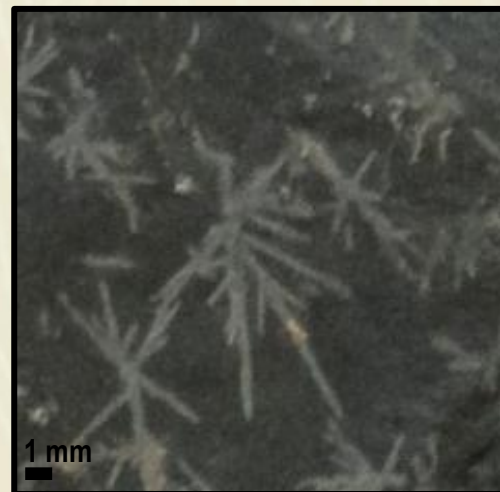
Aster multi ray (0,33-3,13 mm)



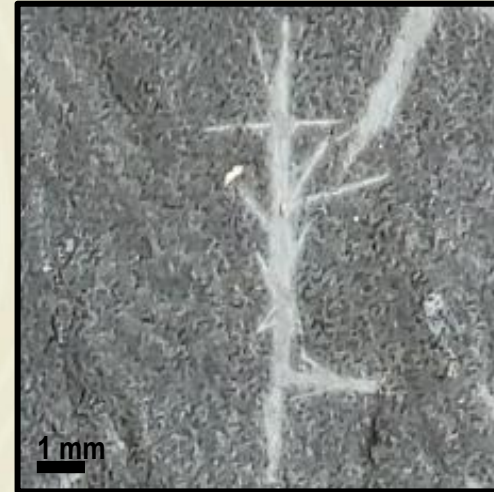
MICROSCLERAS



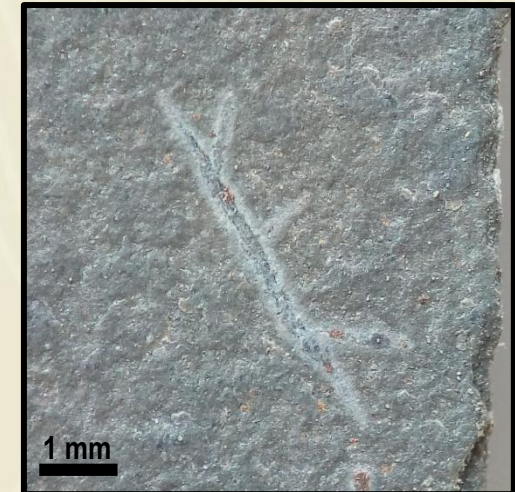
Oxyaster (0,13-10,25 mm)



Oxyhexaster (9,70-11,88 mm)



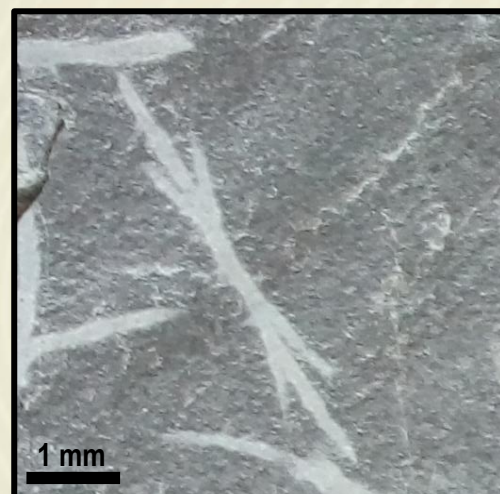
Sanidaster-like (0,52-14,93 mm)



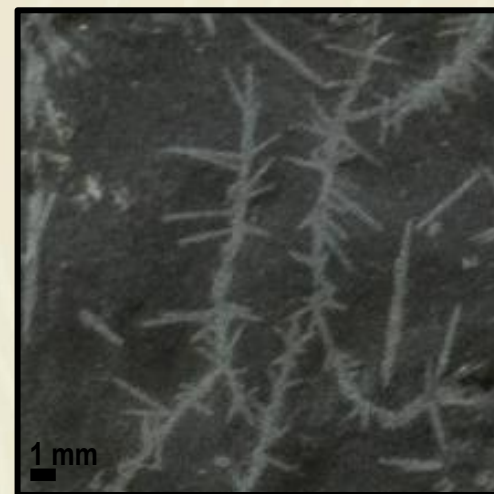
Sanidaster-like (0,52-14,93 mm)



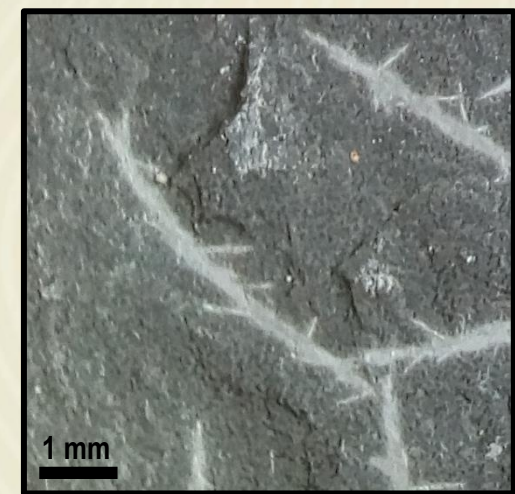
Oxyaster (0,13-10,25 mm)



Aster multi ray (0,33-3,13 mm)



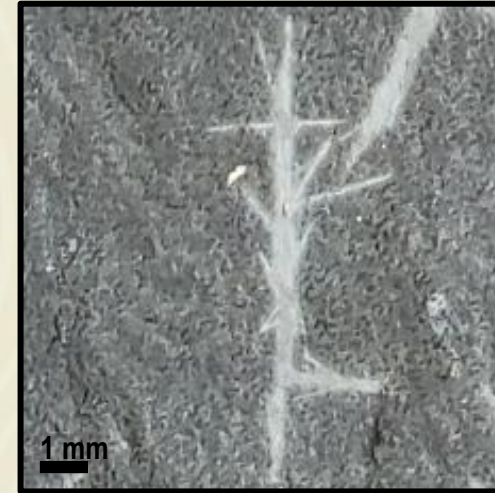
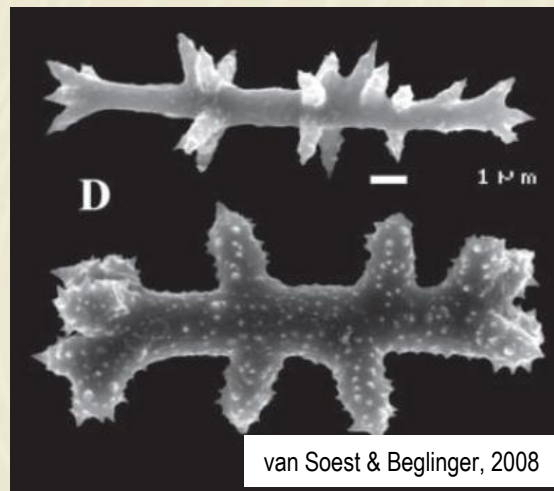
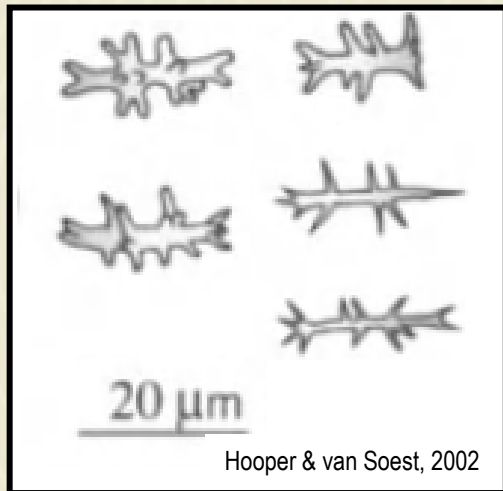
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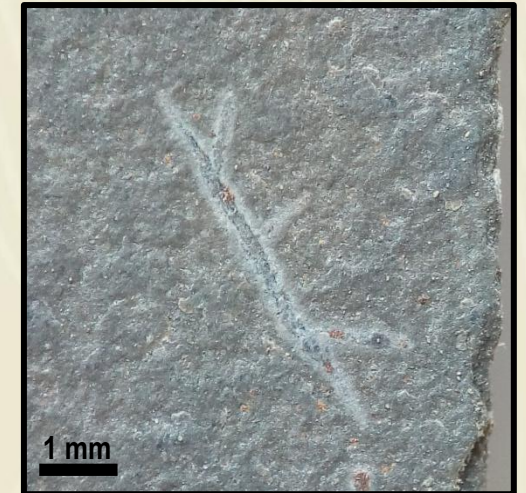
Sanidaster-like (0,52-14,93 mm)

SANIDASTER

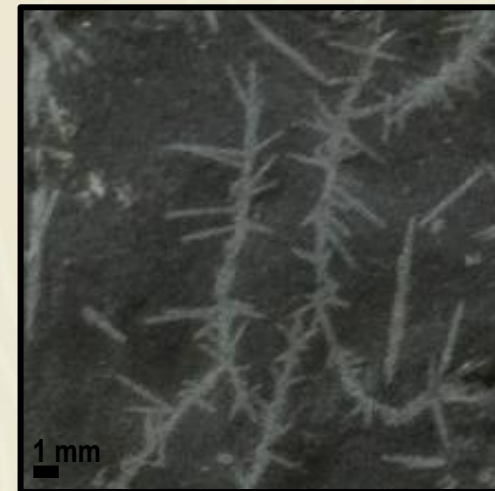
- Microsclera de Demospongea (silicosa)
- Família Ancorinidae
- Encontrada desde o Jurássico
- De 0,008 a 0,02 milímetros



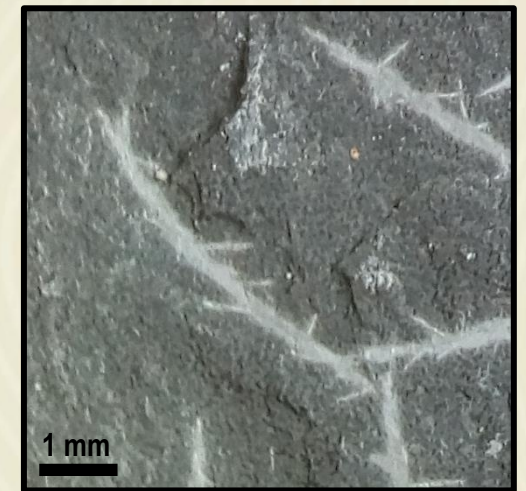
Sanidaster-like (0,52-14,93 mm)



Sanidaster-like (0,52-14,93 mm)



Sanidaster-like (0,52-14,93 mm)



Sanidaster-like (0,52-14,93 mm)

DISCUSSÃO



DISCUSSÃO

	SANIDASTER	SANIDASTER-LIKE
Composição	Silicosa	Calcária
Classe	Demospongea	Calcareia
Idade	Jurássico-recente	Carbonífero-Permiano
Tamanho (mm)	0,008 – 0,02	0,52-14,93

DISCUSSÃO

- As formas e tamanho de espículas dependem do ambiente (hidrodinâmica, luz e turbidez)

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DISCUSSÃO

- As formas e tamanho de espículas dependem do ambiente (hidrodinâmica, luz e turbidez)
- Microscleras vieram de megascleras modificadas que secundariamente foram reduzidas (Botting & Muir, 2018)

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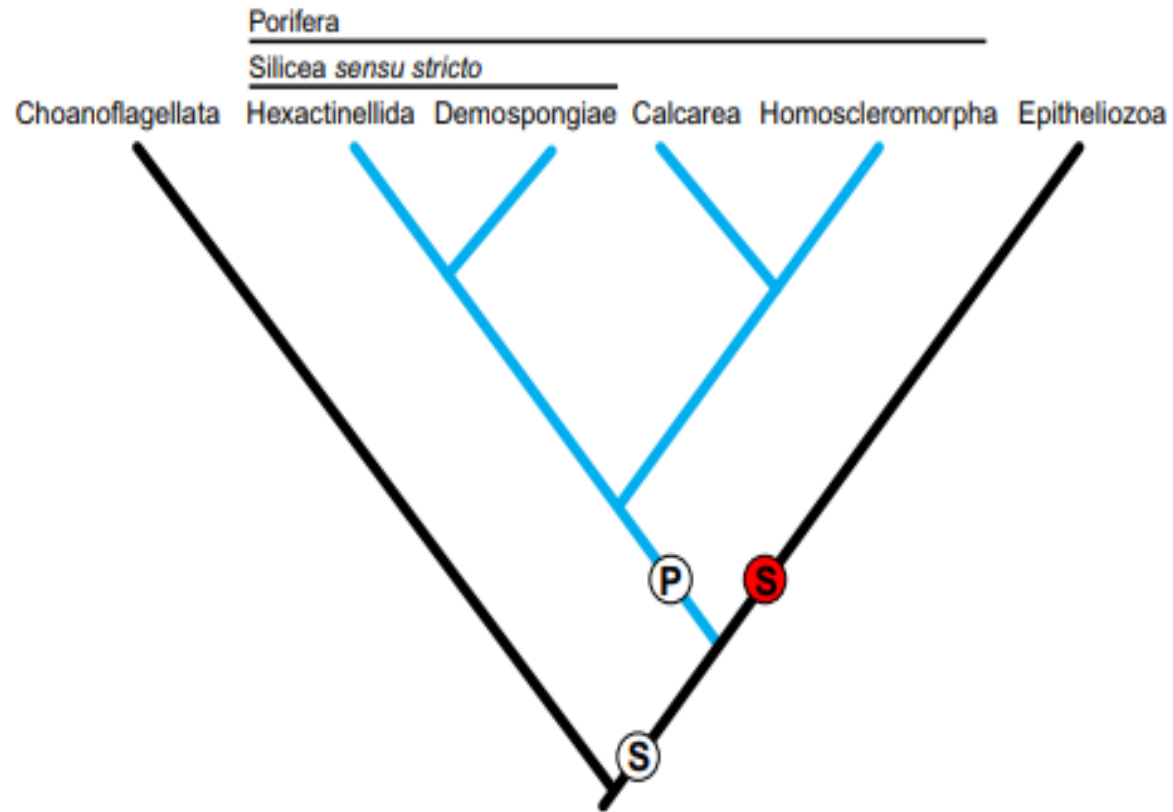
- A variedade de espículas e a presença do novo morfotipo Sanidaster-like impedem uma classificação mais precisa

DISCUSSÃO

- Espículas turning-fork e triactina evidenciam a classificação para a classe Calcarea
- Primeiro corpo completo de Calcarea do Brasil
- Ambiente marinho da Formação Taciba

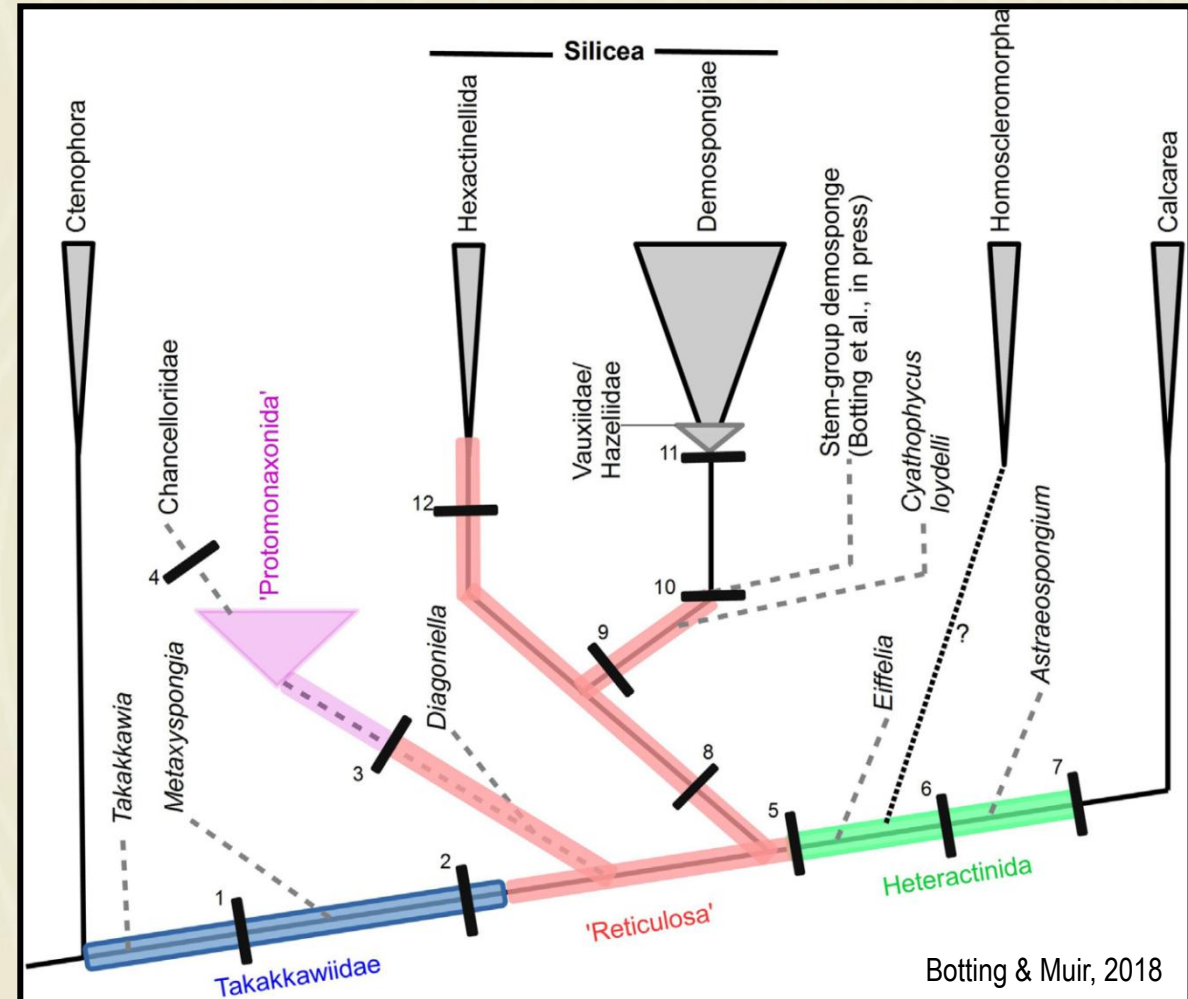
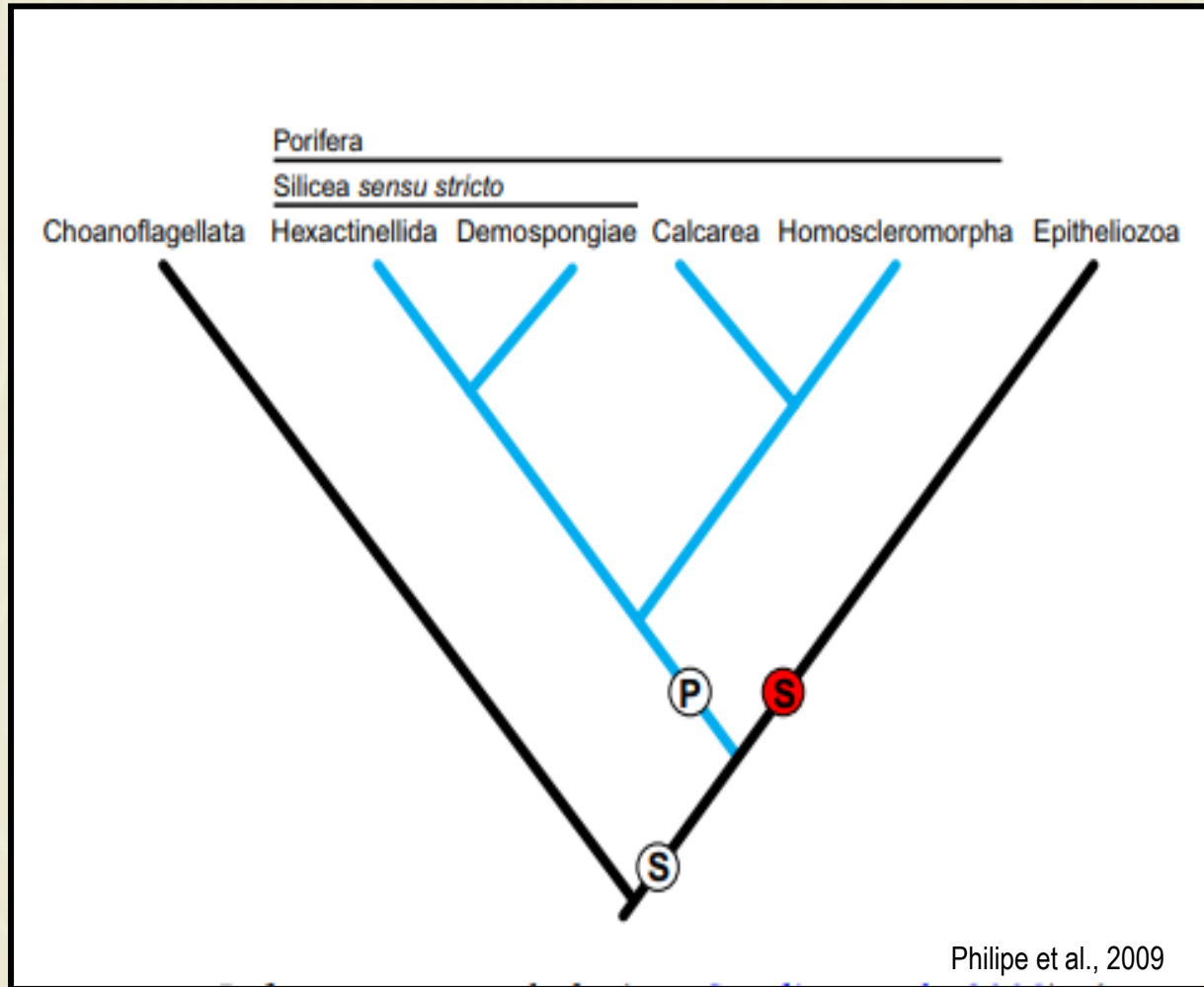


DISCUSSÃO



Philippe et al., 2009

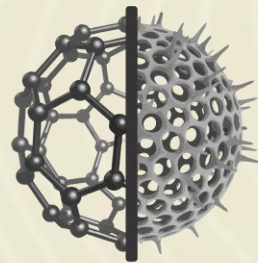
DISCUSSÃO



Muito obrigado!



UNIVERSIDADE FEDERAL
DE SANTA CATARINA



Laboratório de
Geoquímica - UFSC



PETROBRAS



PFRH-PB240-UFSC

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