Rochas carbonáticas: tipos de grãos e classificação (parte 2)

GSA0252-Sedimentologia

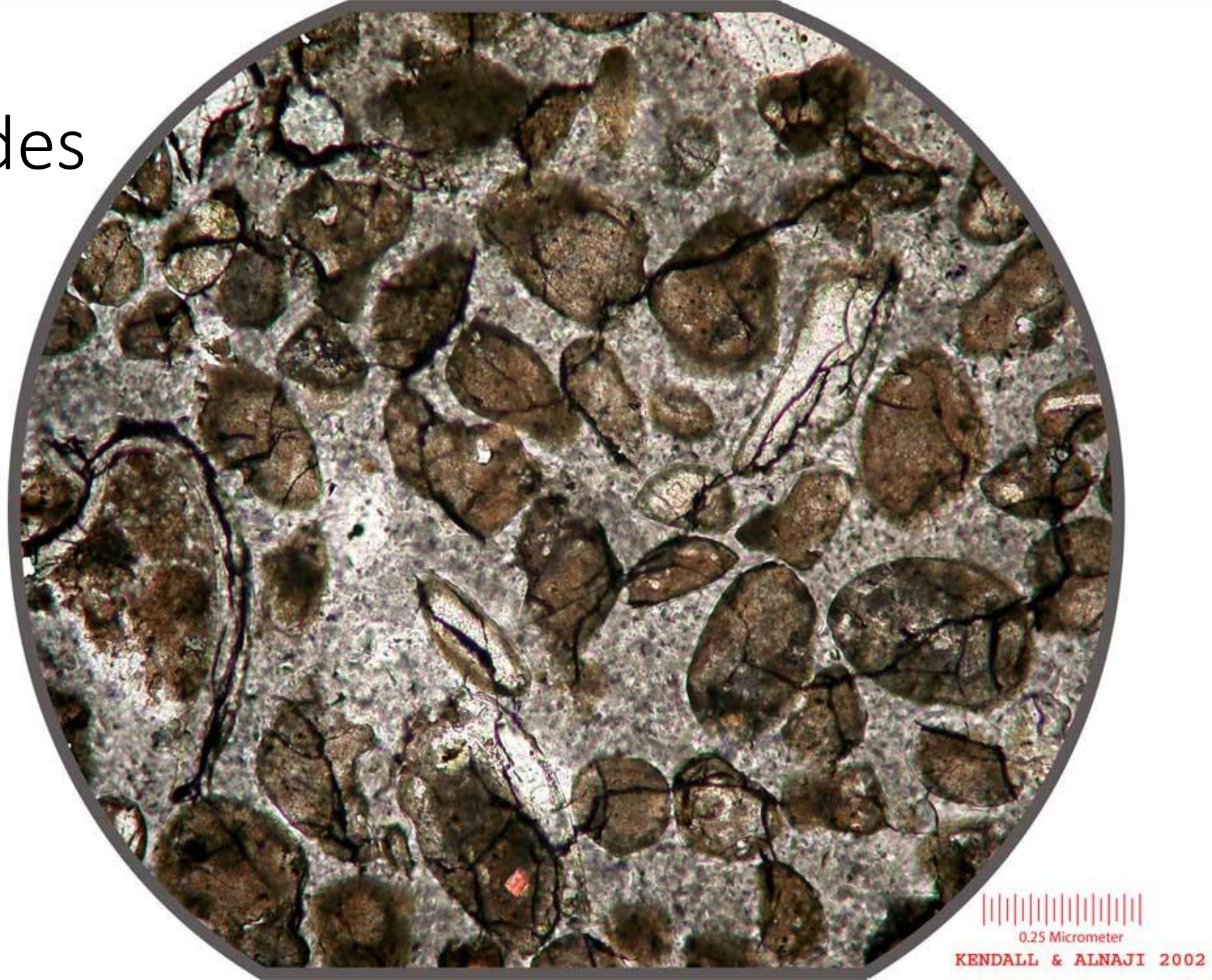
Tipos de grãos carbonáticos

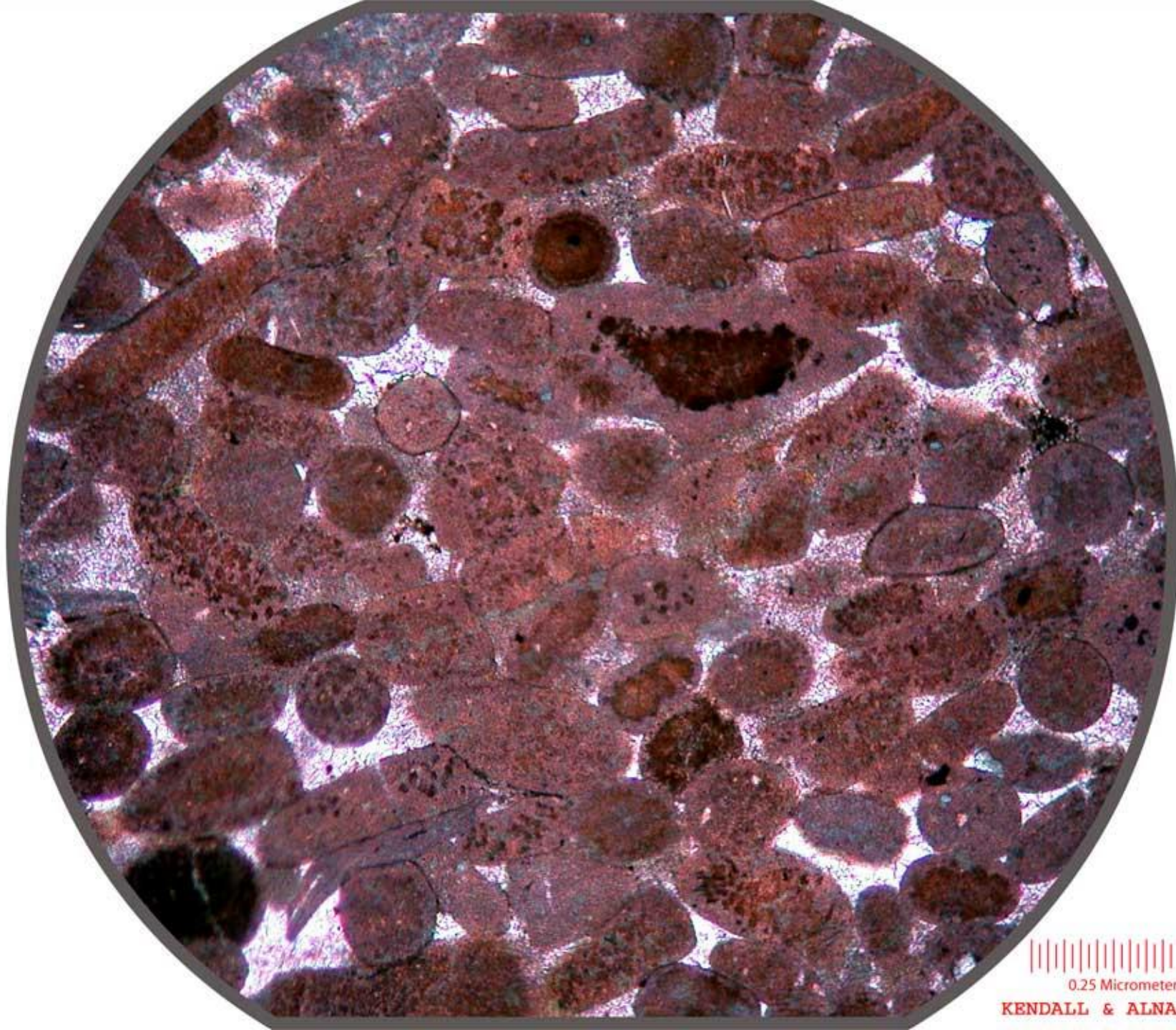
- Pelóides
- Grãos “envelopados”
- Grãos agregados
- Intraclastos
- Grãos esqueletais

PELOIDS		Small micritic grains, commonly without internal structure. Subrounded, spherical, ovoid or irregular in shape. Size between <0.02 and about 1 mm, commonly 0.10 to 0.50 mm.
COATED GRAINS — CORTOIDS		Rounded skleletal grains and other grains covered by a thin micrite envelope. Boundary between the central grain and the envelope indistinct. Size between <1 mm to a few centimeters.
COATED GRAINS — ONCOIDS		Large and small grains consisting of a more or less distinct nucleus (e.g. a fossil) and a thick cortex formed by irregular, non-concentric, partially overlapping micritic laminae. Laminae may exhibit biogenic structures. No tendency to increase sphericity during growth. Size from <1 mm to a few decimeters.
COATED GRAINS — OOIDS		Spherical or ovoid grains, consisting of smooth and regular laminae formed as successive concentric coatings around a nucleus. Laminae may exhibit tangential and radial microfabrics. Size between 0.20 and about 2 mm, commonly between 0.5 and 1 mm.
COATED GRAINS — PISOIDS		Large subspherical and irregularly shaped grains, consisting of a mostly non-biogenic nucleus and a thick cortex formed by conspicuously, often densely spaced laminae exhibiting tangential and radial microfabrics. Pisoids occur as isolated grains or are incorporated in crusts. Size generally >2 mm, up to >1 cm.
GRAIN AGGREGATES		Compound grains consisting of two or more originally separated particles (e.g. ooids, skeletal grains) that have been bound and cemented together, forming grape-like or rounded lumps. Intergrain spaces filled with micrite or spar. Outline irregular lobular or rounded. Size 0.5 to more than 2 mm.
CLASTS		Synsedimentary or postsedimentary lime clasts, reworked partly consolidated carbonate sediment or already lithified material. Shape and size are highly variable: angular to rounded. Size ranges between <0.2 mm and several decameters. Very small clasts are hardly distinguishable from peloids.
SKELETAL GRAINS		Fragmented or complete skeletons of organisms. Size from 0.05 mm to many centimeters.

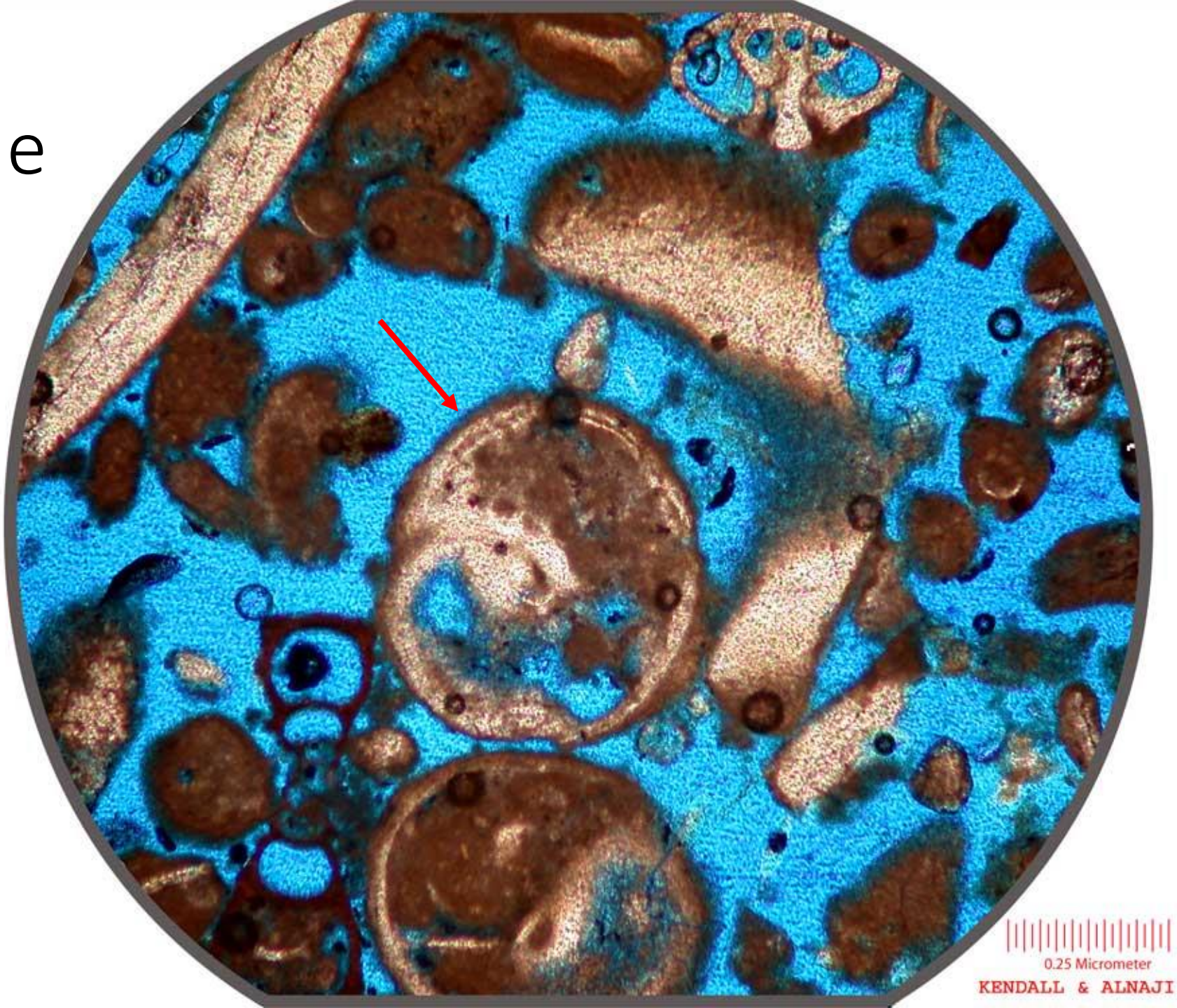
Flügel (2004)

Pelóides

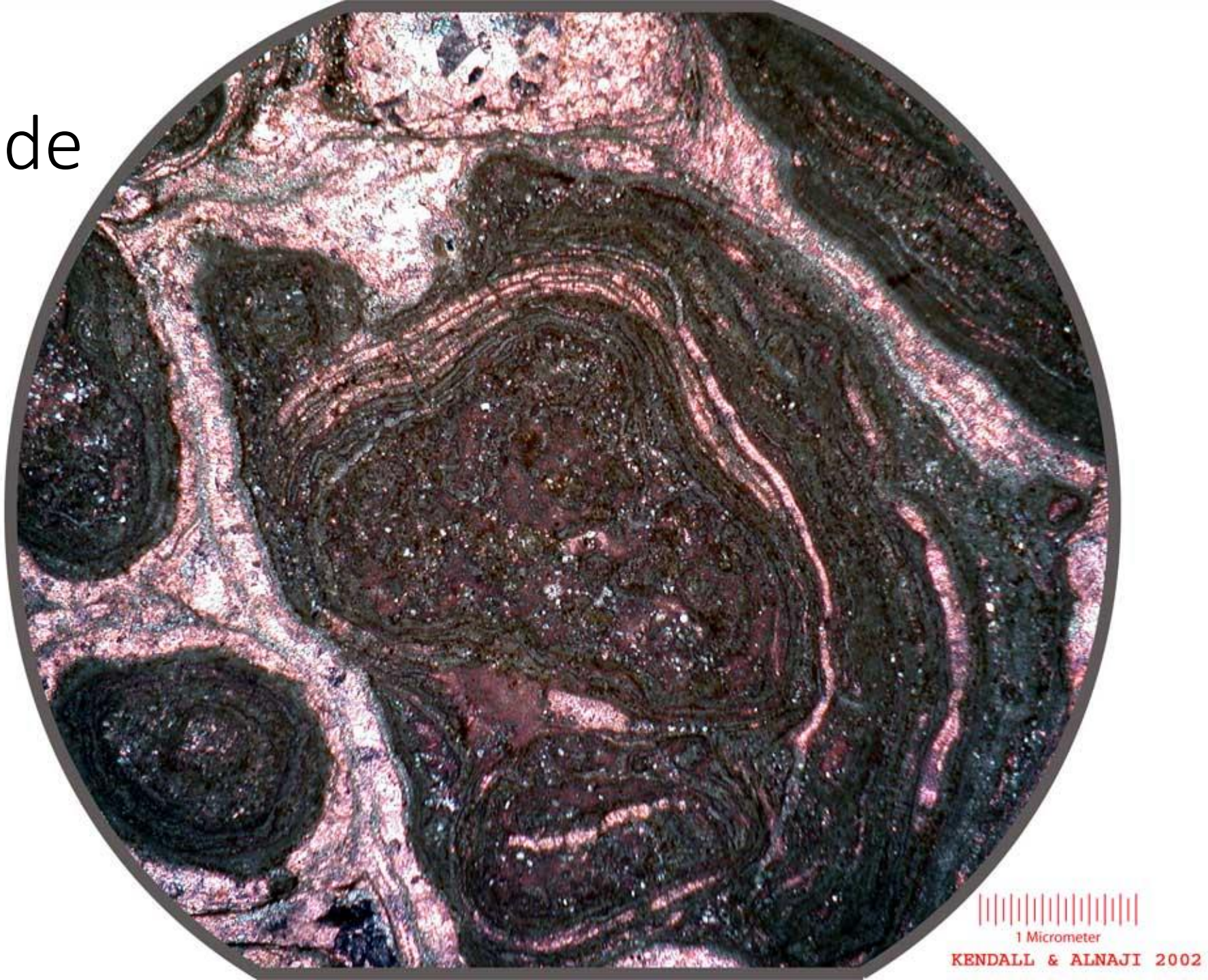



0.25 Micrometer
KENDALL & ALNAJI 2002

Cortóide

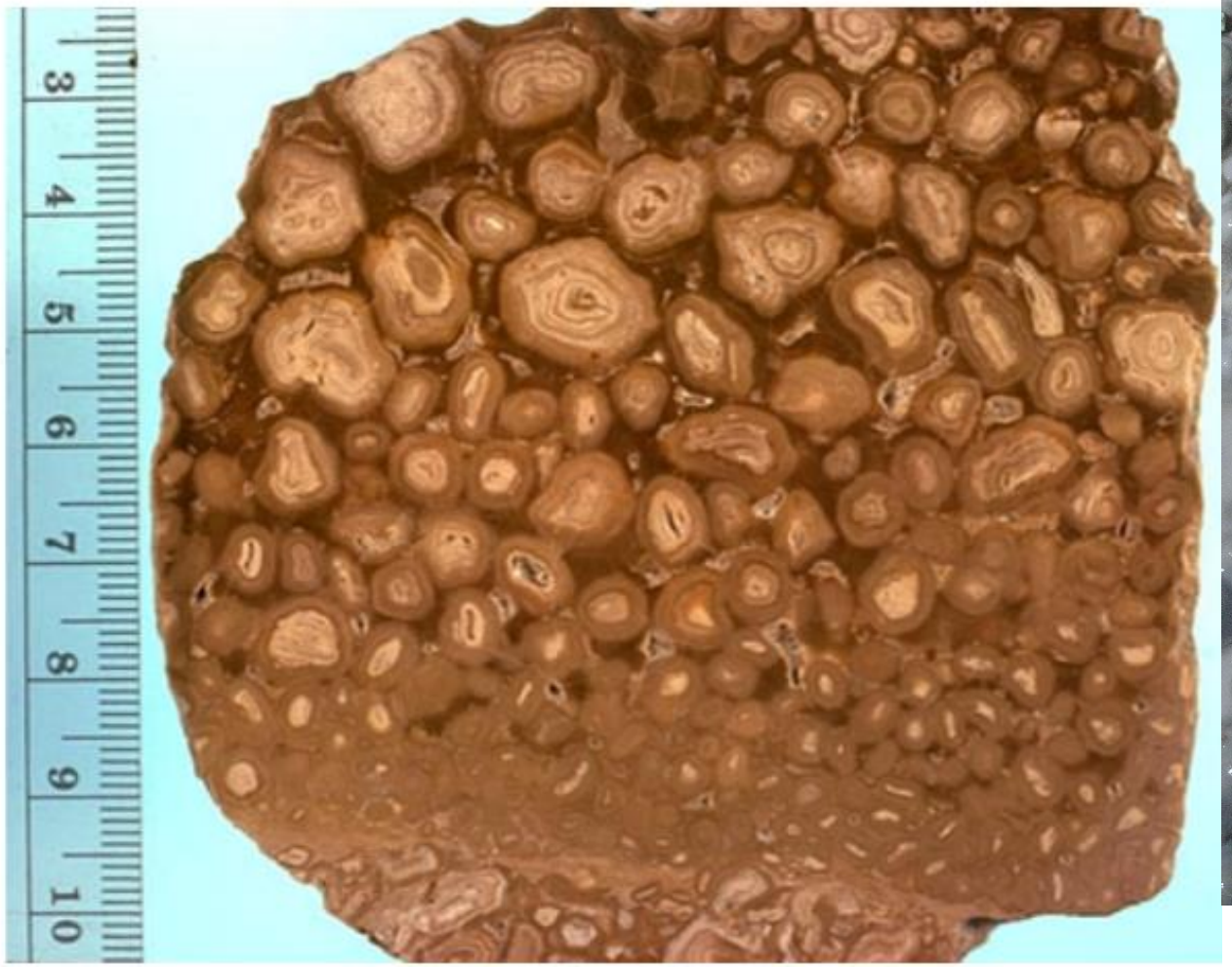


Oncóide

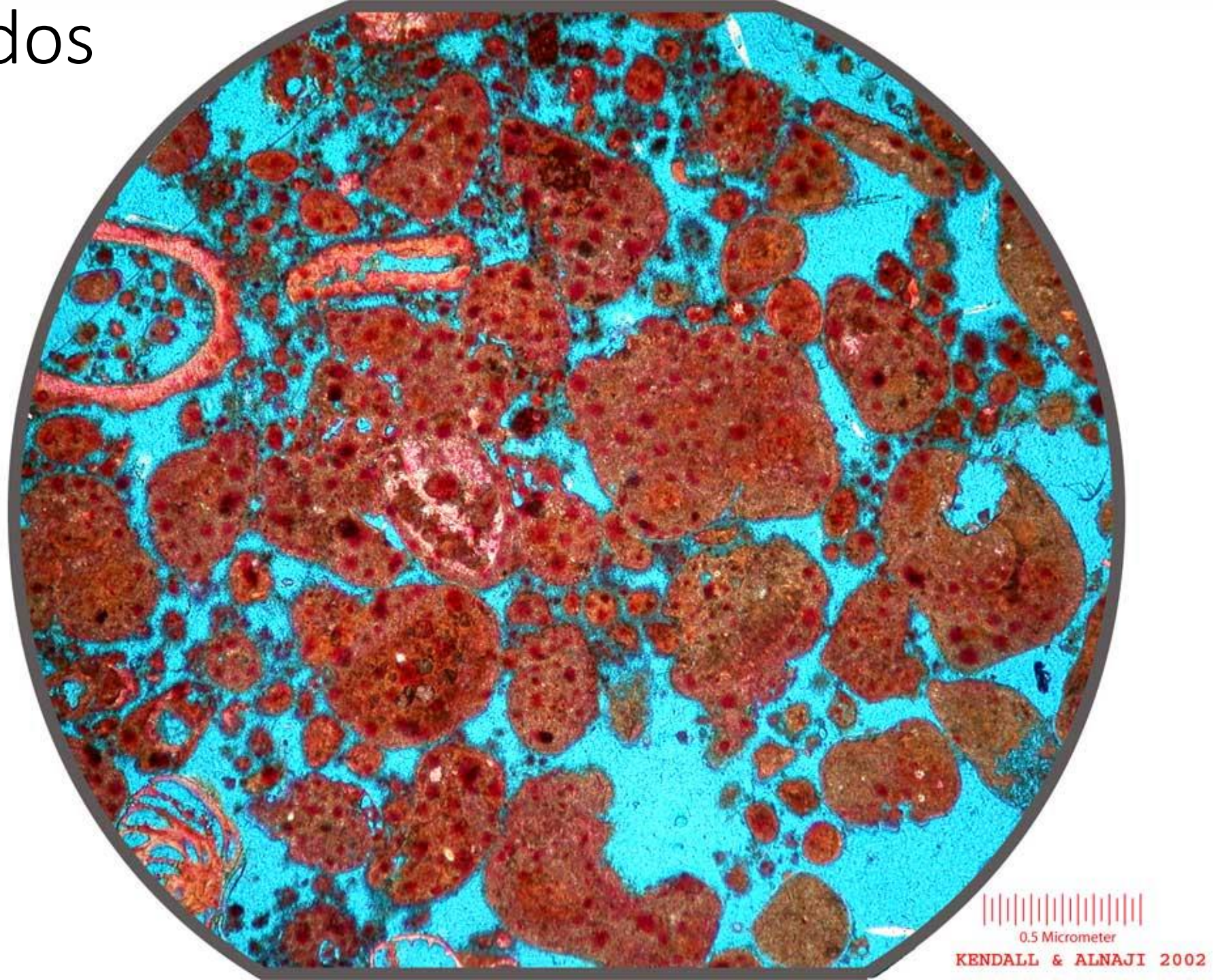


Oóide

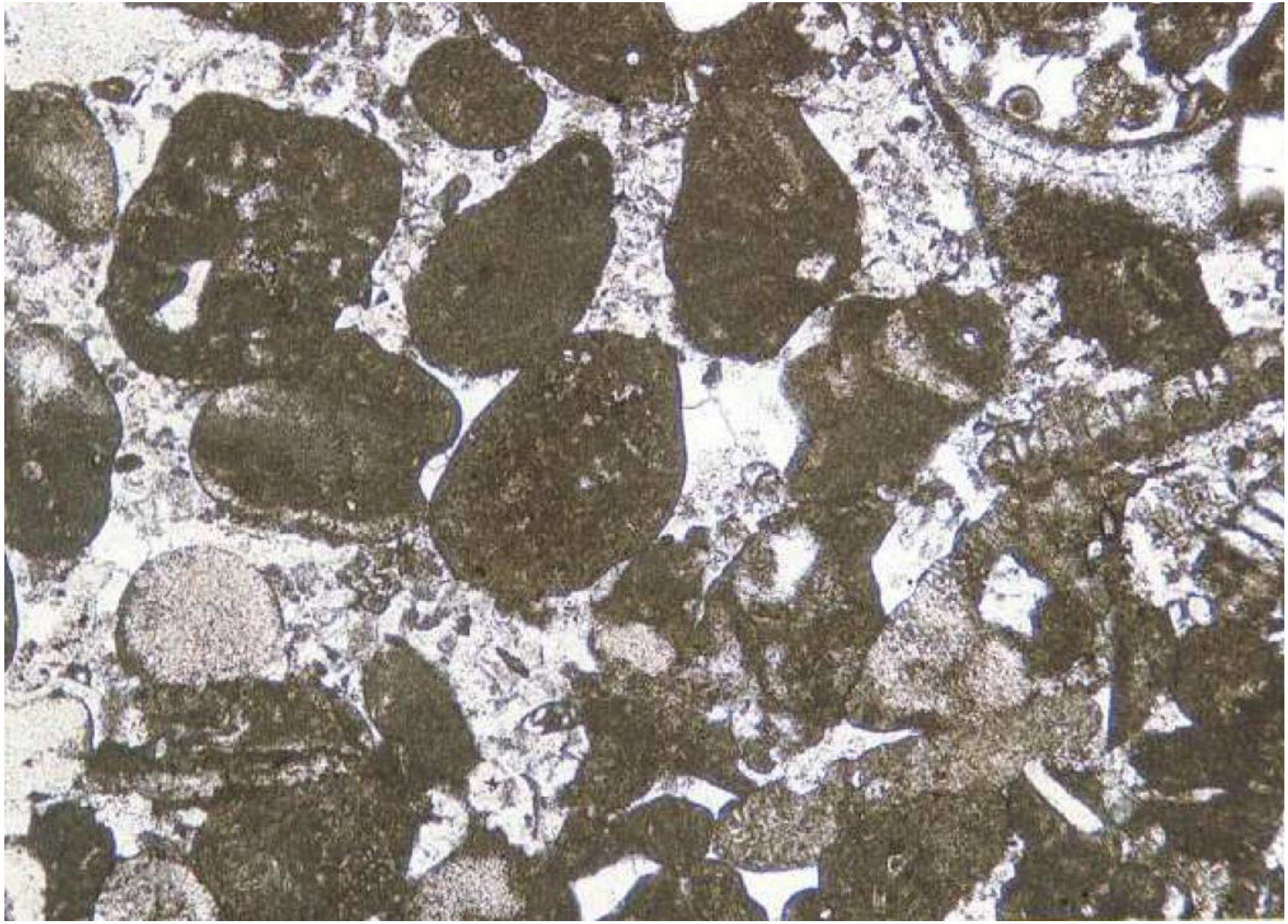
Pisóide



Grãos agregados (*grapestone*)



Intraclasto



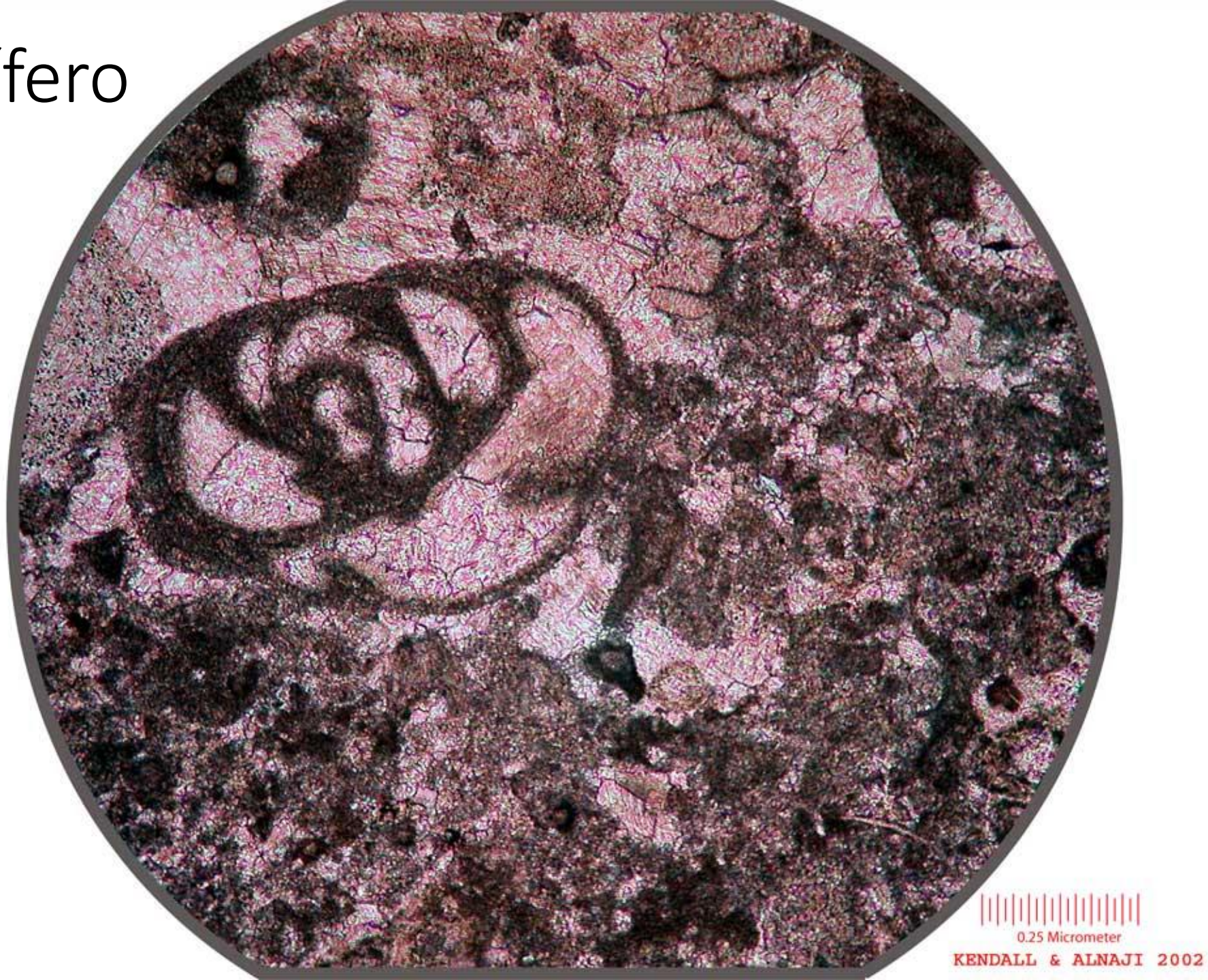
Adams et al. (1984)

Principais grãos esqueletais

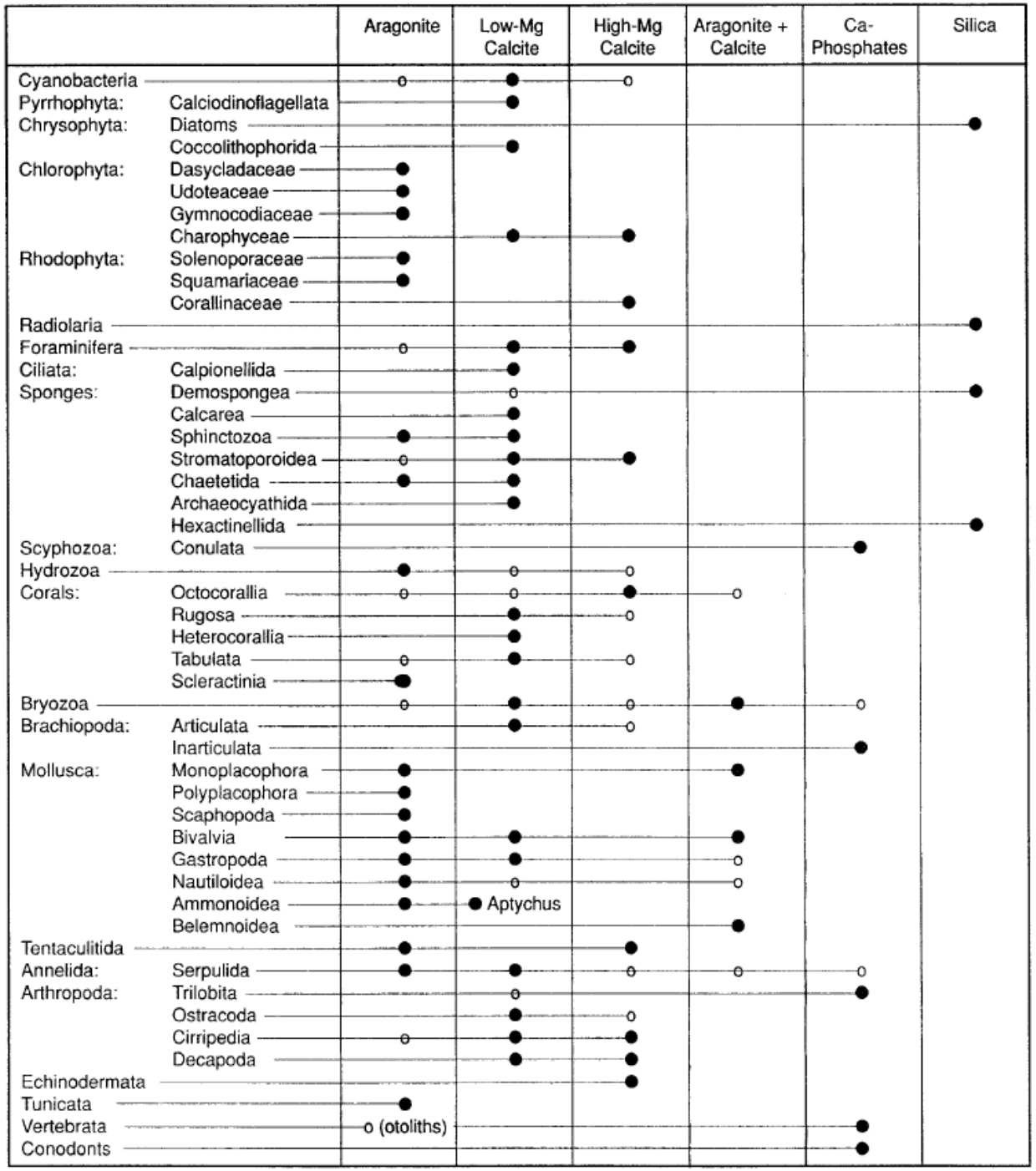
- Algas
- Foraminíferos
- Esponjas
- Corais
- Briozoários
- Braquiópodes
- Moluscos
- Equinodermas
- Artrópodes

Alga calcárea (Rhodophytae)

Foraminífero

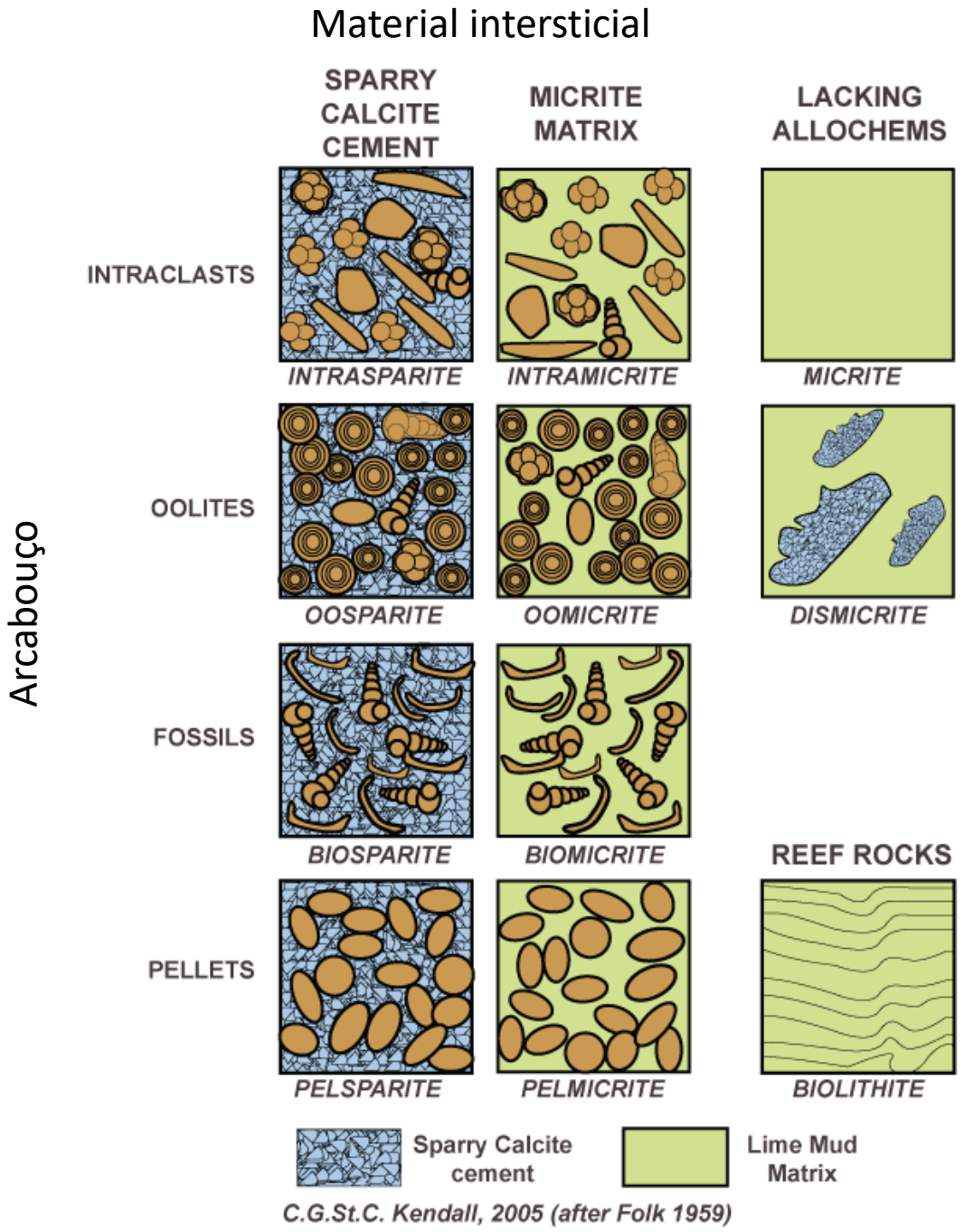


Grãos esqueletais

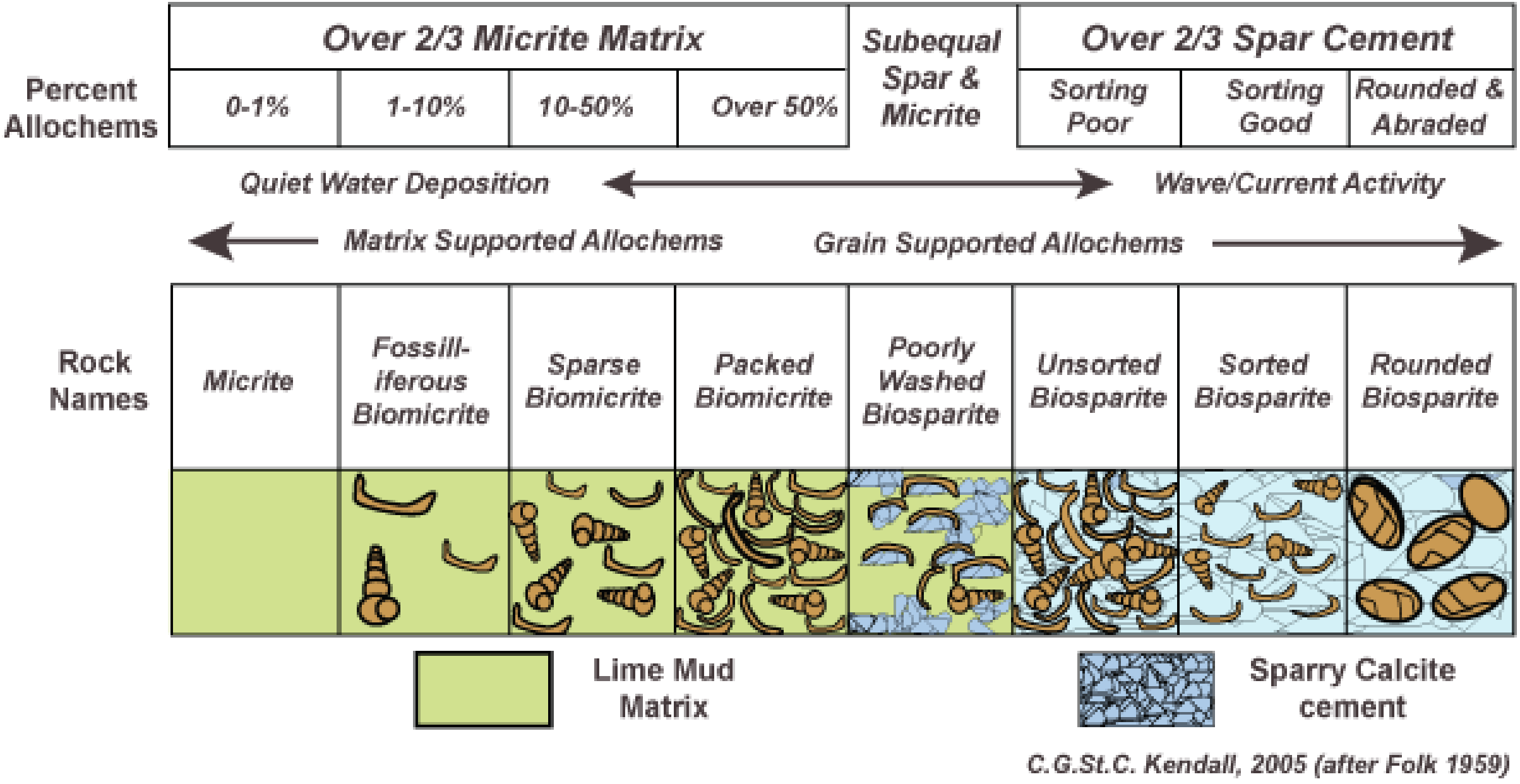


Flügel (2004)

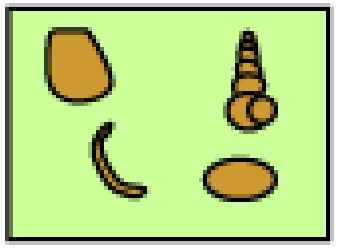
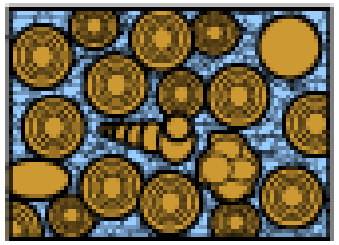
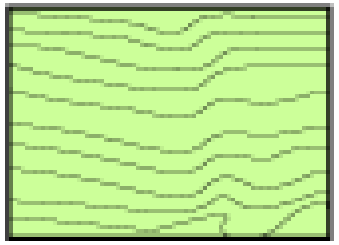
Classificação de Folk (1959)



Folk's Textural Classification of Carbonate Sediments

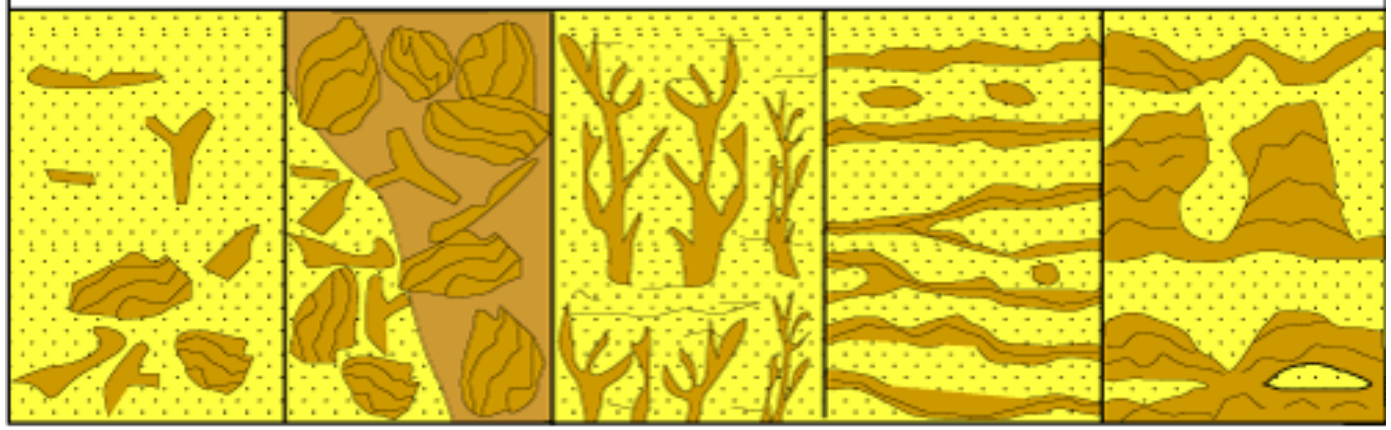


C.G.St.C. Kendall, 2005 (after Folk 1959)

Original components not bound together at deposition				Original components bound together at deposition. Intergrown skeletal material, lamination contrary to gravity, or cavities floored by sediment, roofed over by organic material but too large to be interstices
Contains mud (particles of clay and fine silt size)		Lacks Mud		
Mud-supported		Grain-supported		
Less than 10% Grains	More than 10% Grains			
Mudstone	Wackestone	Packstone	Grainstone	Boundstone
				

C. G. St. C. Kendall, 2005 (after Dunham, 1962, AAPG Memoir 1)

Allochthonous		Autochthonous		
Original components not bound organically at deposition		Original components bound organically at deposition		
>10%grains>2mm				
Matrix supported	Supported by >2mm component	By organisms that act as baffles	By organisms that encrust and bind	By organisms that build a rigid framework
Floatstone	Rudstone	Bafflestone	Bindstone	Framestone



Textural classification of reef limestones after Embry & Klovan (1971) and James (1984)

Classficações de rochas carbonáticas

- http://sepmstrata.org/page.aspx?pageid=89