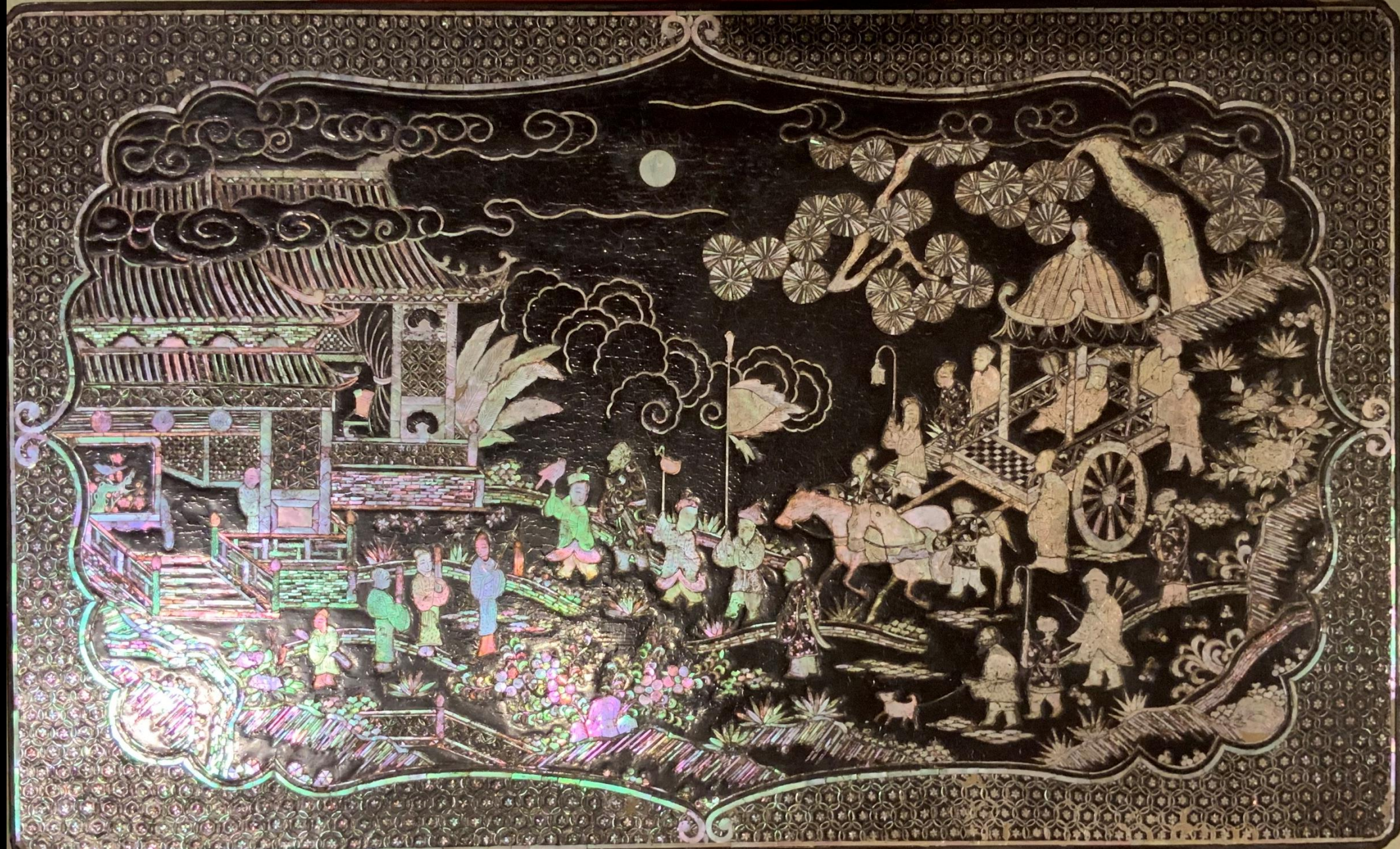


我願無窮

蒐藏癖的自白



我

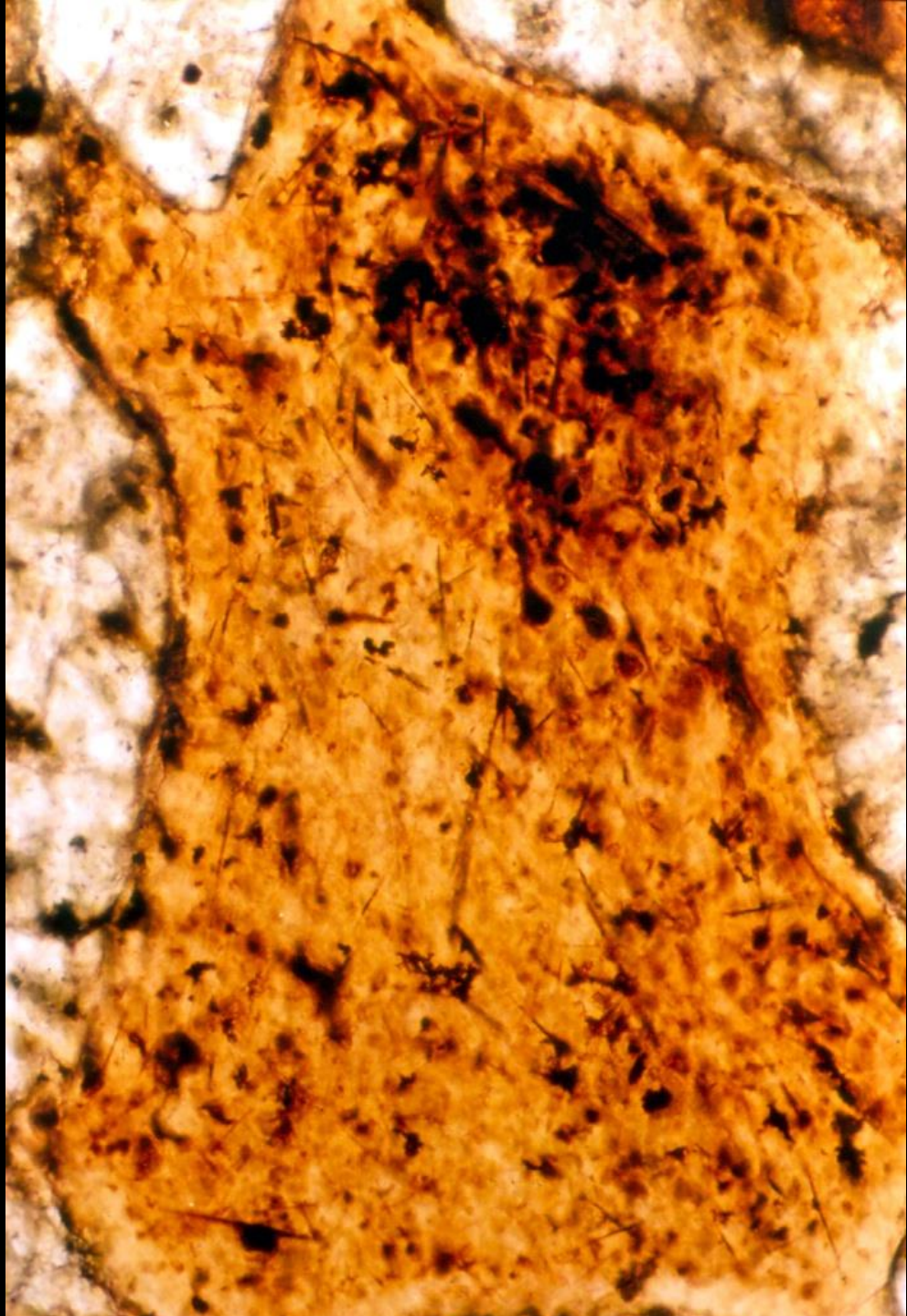












Science 1998



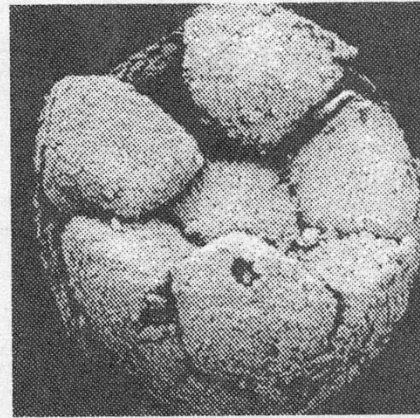
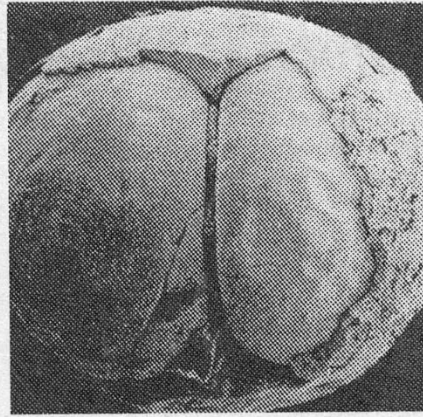
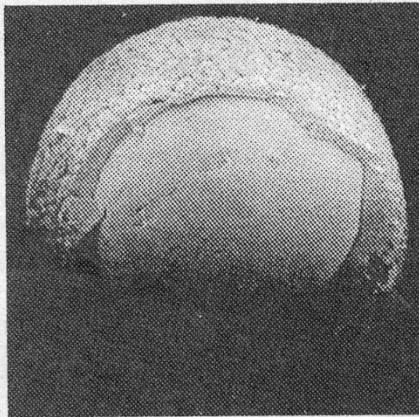




wsb60-102 10.0kV x130

400um





Photographs by Shuhai Xiao, Zhang Yun, Andrew H. Knoll

Three fossil animal embryos from the Doushantuo formation are at different phases of development. A fertilized egg is at left, an egg in the two-cell stage at center, and an egg with multiple divisions on the right.

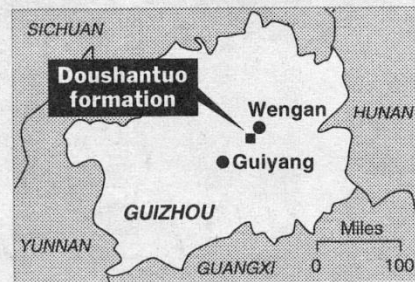
Fossils Take Scientists Past Biology's Big Bang

By JOHN NOBLE WILFORD

New fossil discoveries in China have transported paleontologists across a great divide in the history of life on Earth, taking them deep into virtually unexplored time, showing them the earliest known forms of tiny ancestral animals and pointing out where they should be searching next for evidence of the origins of the first such complex life.

Two teams of paleontologists have found the minute but distinct traces of ancient marine animals and embryos exquisitely preserved in phosphate deposits. The specimens are related to sponges, jellyfish and even more advanced species, including apparent forerunners of trilobites, clams and crabs.

Under a magnifying glass, the tiny mineralized organisms reveal striking details down to the cellular level,



The New York Times

new world of small-bodied organisms is now open for discovery," he said. "That, to me, is the greatest significance of this achievement."

The last comparable step, Dr. Gould recalled, occurred in 1953. At the time, there was no fossil record of Precambrian life of any kind, not even single-cell bacteria or algae. But scientists had not been searching in the right sediments. The same could be said in the investigations of Precambrian animal life, until in the 1980's Dr. Zhang Yun of Beijing University began turning up tantalizing fossils in what are called the Doushantuo phosphorites of southern China.

It was several years, though, before Chinese and American scientists realized the rocks contained anything more than algae fossils. The findings of two independent groups are being described in this

A Fresh Look At Early Life

Two groups of researchers have shown that multicellular animals — sponges, jellyfish and maybe more complex animals — had evolved by 570 million years ago, much earlier than had been thought.

PRESENT DAY

100,000 to 200,000 years ago: advent of modern humans

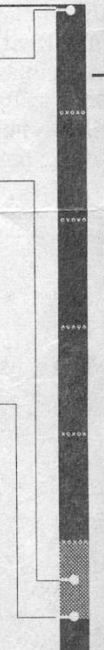
EARLIER DISCOVERY

540 million years ago: Many multicellular animals lived, as shown by fossils in the Burgess Shale.

NEW DISCOVERY

570 million years ago: Multicellular animals had evolved by this point, two new studies show.

500 million to 570 million years ago: Cambrian Era





SCIENTIFIC
AMERICAN

中文版

NO.43

2005年9月號

科學人



【特別報導】p.46

專訪張子文：

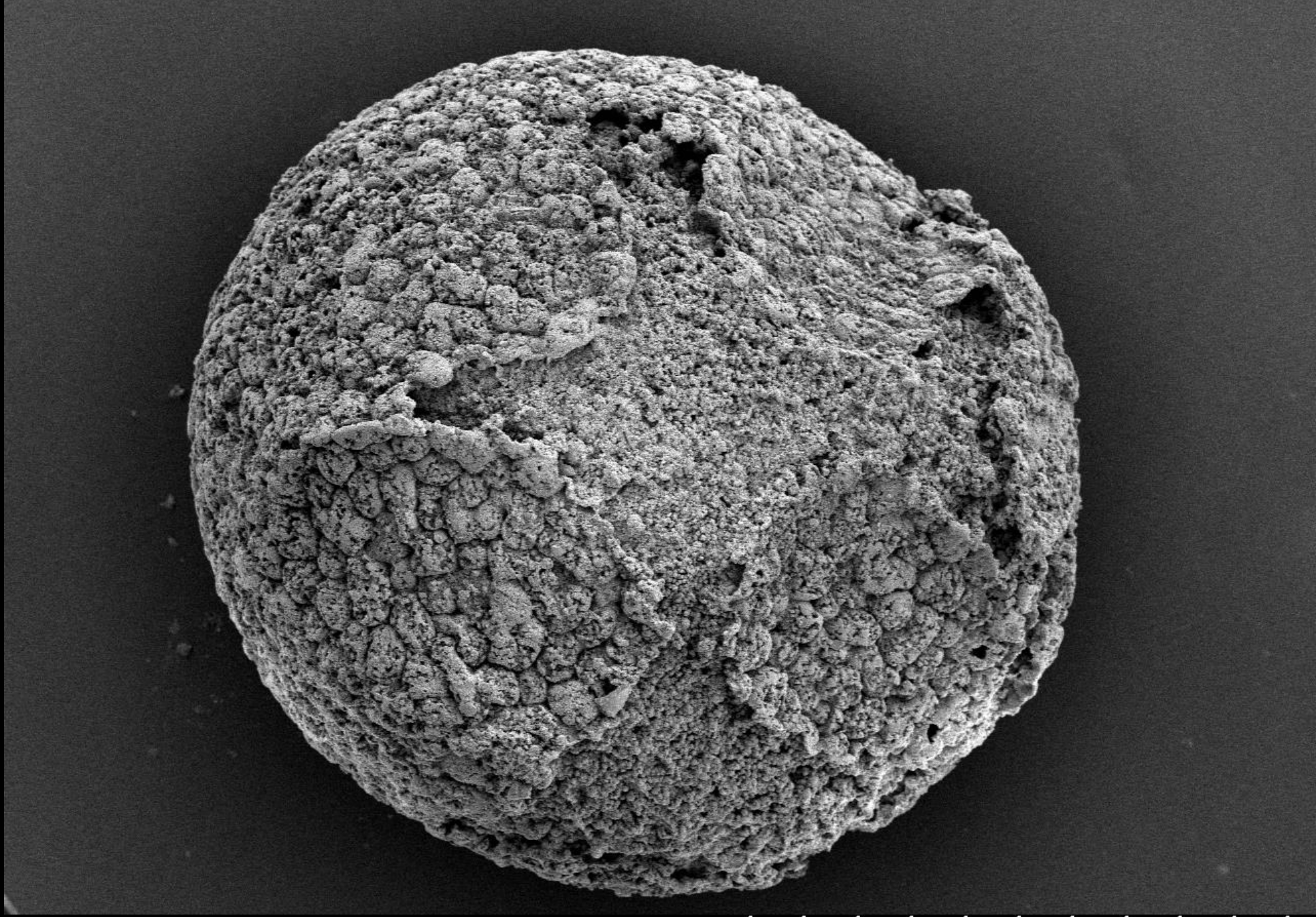
台灣生技產業，需要跨領域人才

sa.ylib.com

貴州小春蟲 改寫動物演化史

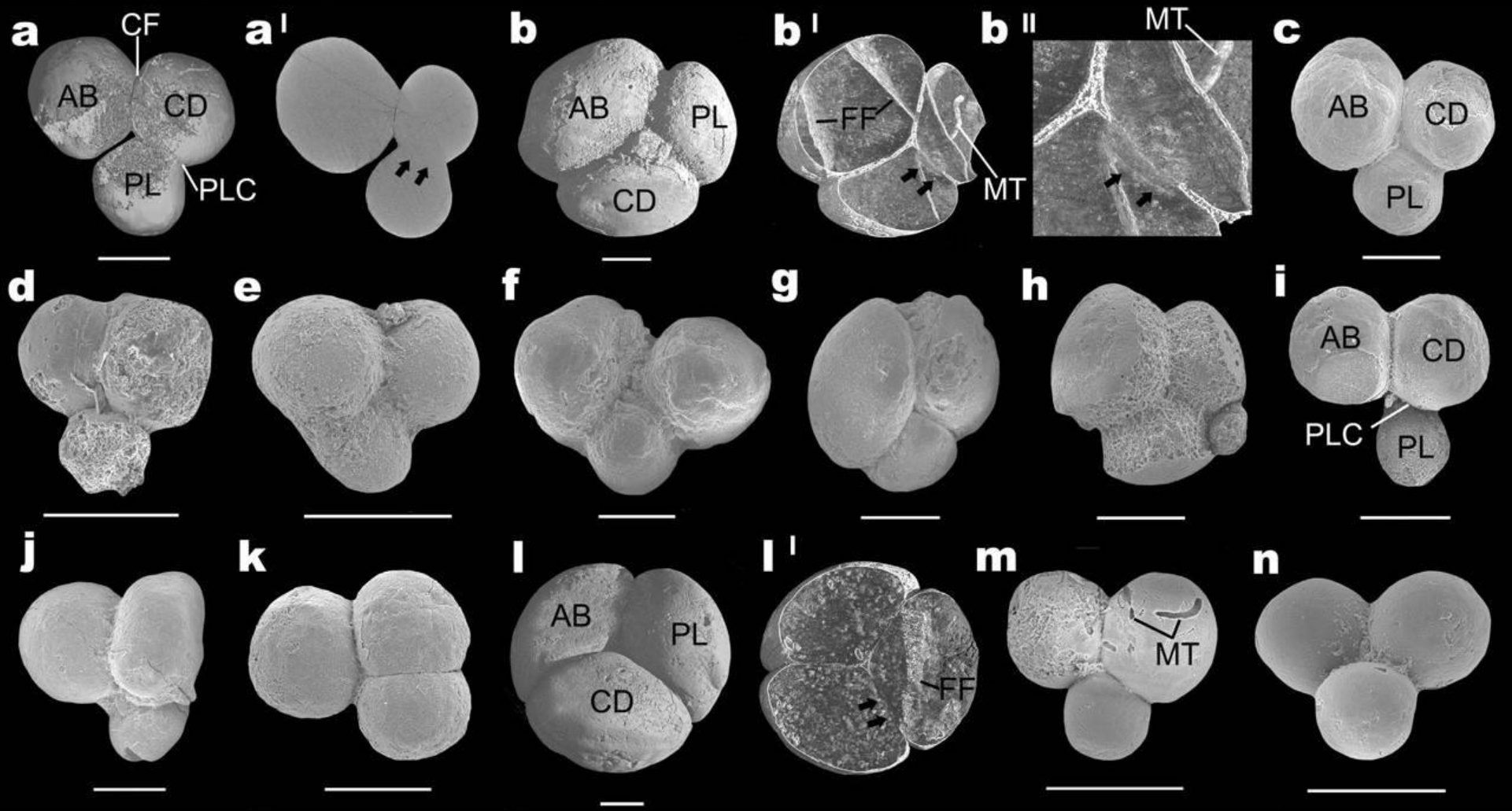
中國瓮安磷礦裡發現的微小化石，
揭露六億年前動物演化關鍵！



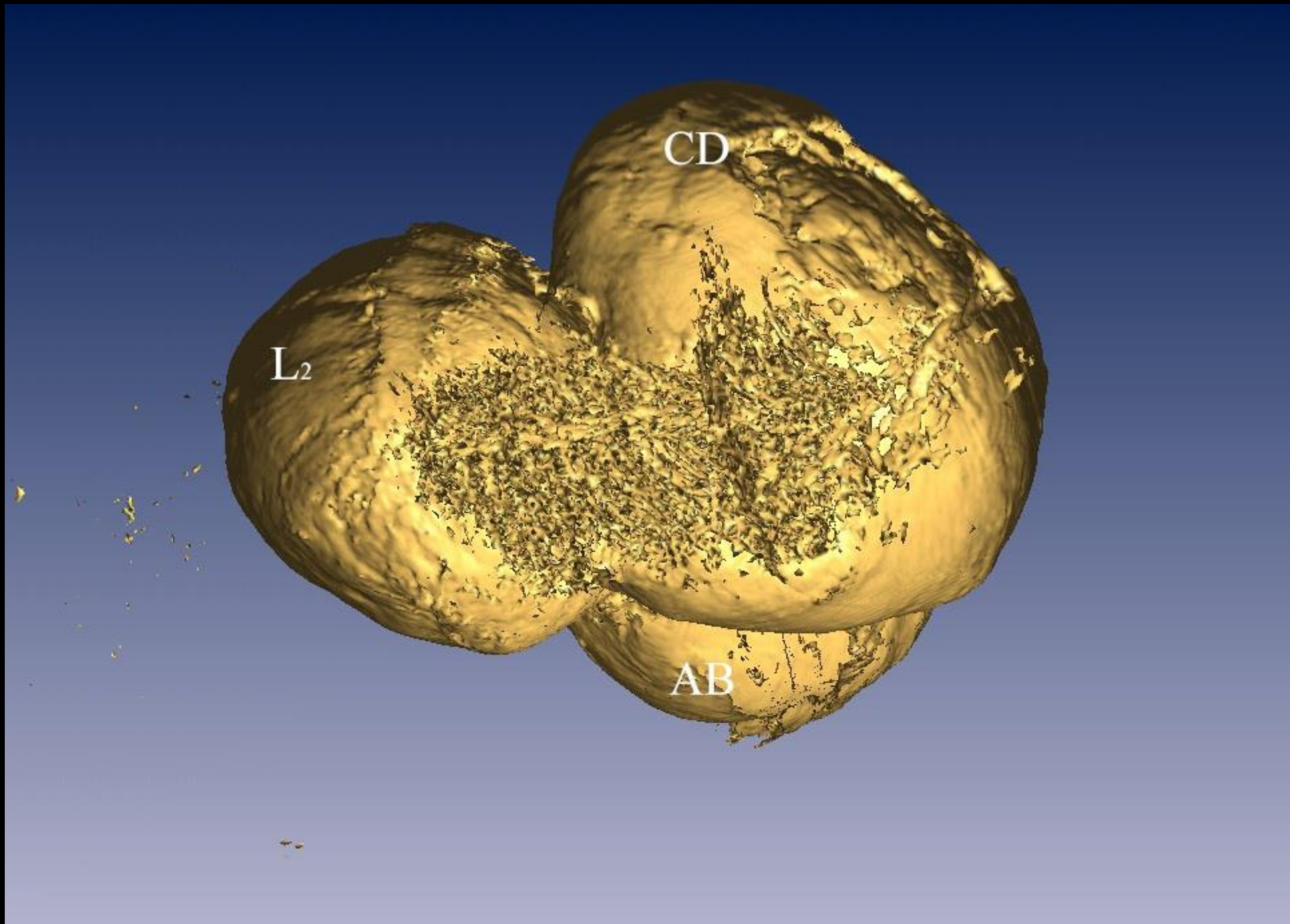


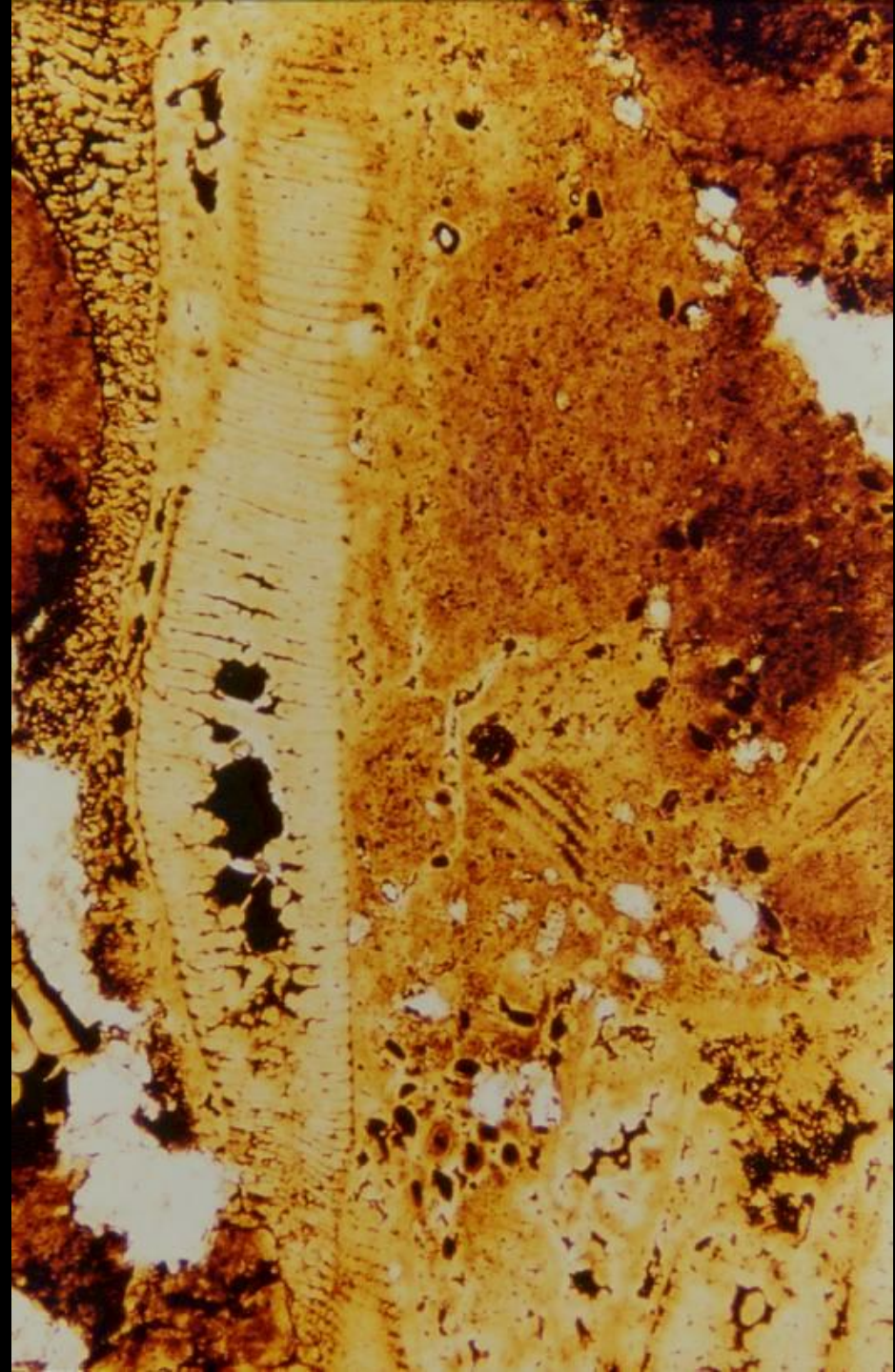
wsb-11 10.0kV x130

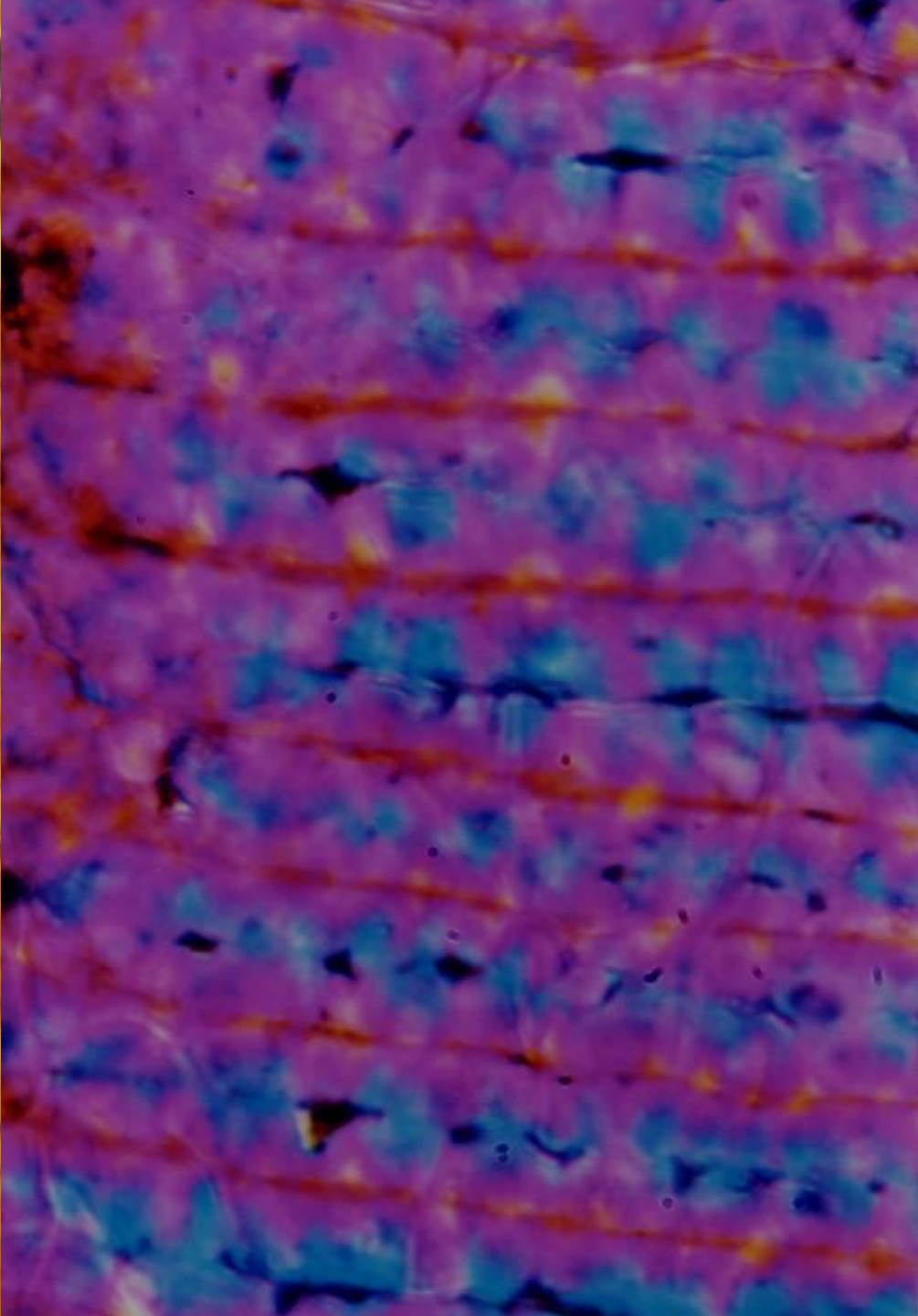
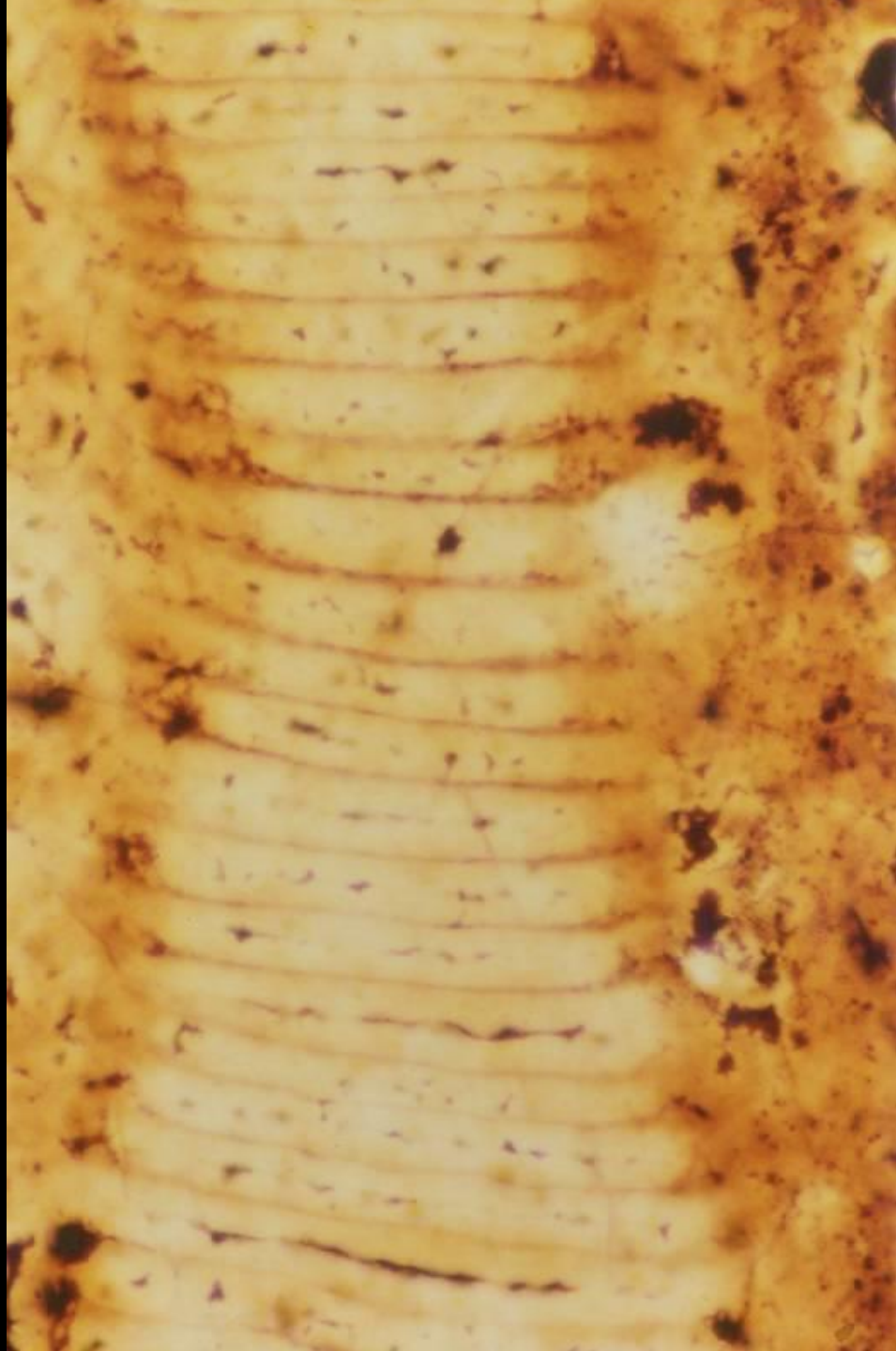
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Asserculina
Asserculina orbiculata West
 1939

23.4		13.9
22.7		12.7
21.0		11.4
19.4		10.7
18.2		8.8
16.8		7.0
15.0		6.3
		5.4
		4.7
		3.0
		1.8
		0.5

产地 南坪九寨沟
 编号 D5243f21
 时代 P₂²
 鉴定 吴锡始
 制作 王寿岩
 日期 1973.9

系列 伊星岩组
 Frechastraea
 D₃
 合



P1

Asserculina orbiculata Wang

Asserculinia

23.4			13.9
22.7			12.7
21.0			11.4
19.4			10.7
18.2			8.8
16.8			7.0
15.0			6.3
			5.4
			4.7
			3.0
			1.8
			0.5

产地	南坪九寨沟
编号	D5243f21
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製作	王寿岩
日期	1973.9

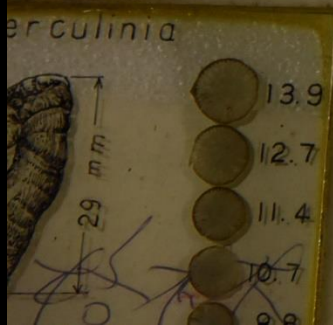
弗列契星珊瑚
Frechastraea



D₃
56

中国科学院南京地质古生物研究所

1. 锐角珊瑚 Argutastrea D₂ 广西
2. 六角珊瑚 Hexagonaria D₂²-D₃ 广西
3. 原米契林珊瑚 Protomichelina P₁ 贵州
4. 克拉玛斯珊瑚 Klamathastrea D-S 贵州
5. 弯曲珊瑚 Anfractophyllum C₃-P 贵州
6. 卫根珊瑚 Waagenophyllum P₂ 广西
7. 放射珊瑚 Radiophyllum D 云南
8. 蕺刺珊瑚 Acrocyathus C₂ 山西
9. 郎士强珊瑚 Lonsdaleia C₁ 湖南
10. 刺板珊瑚 Dentilasma S 陕西
11. 瓦特洛珊瑚 Wentellophyllum P₁ 贵州

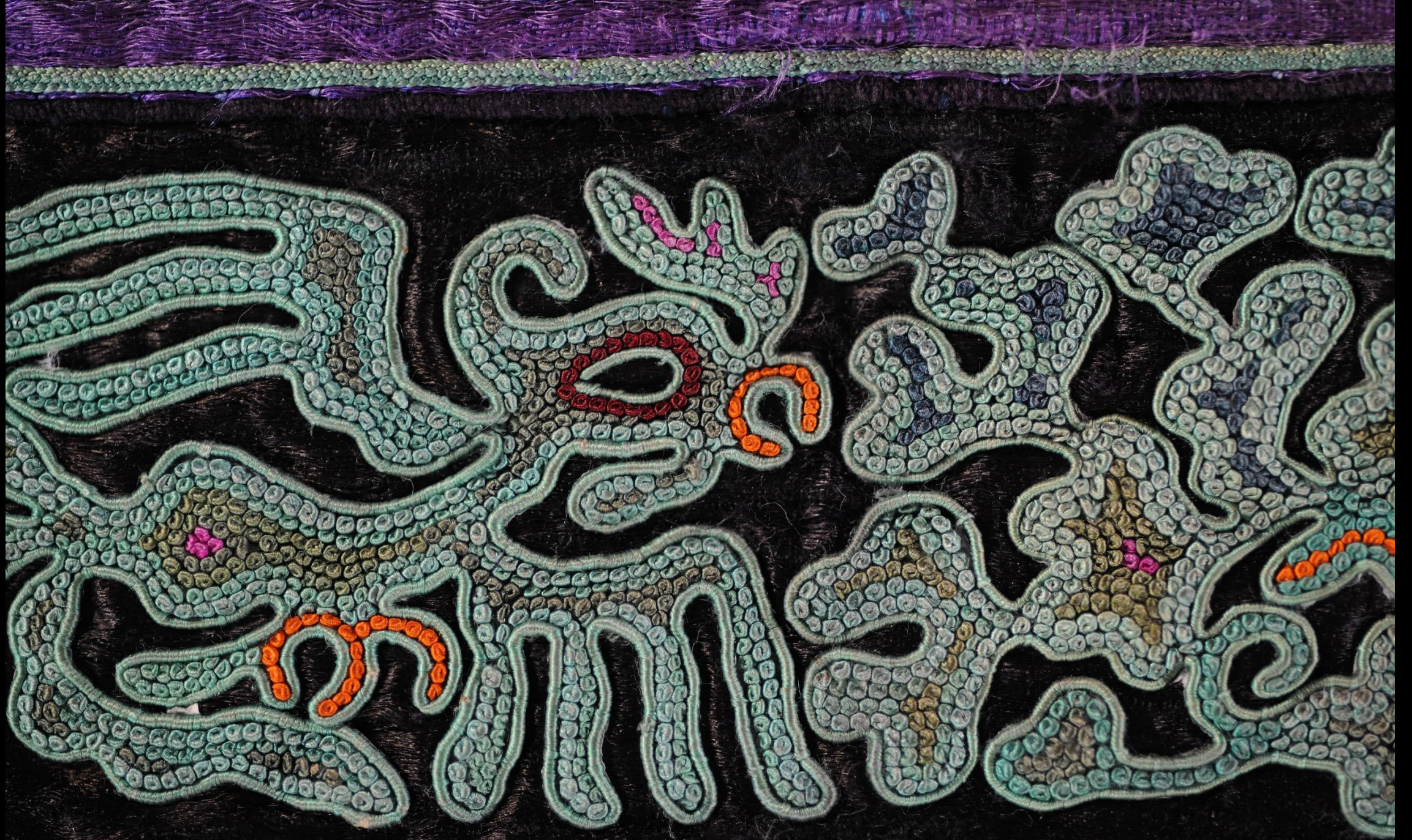


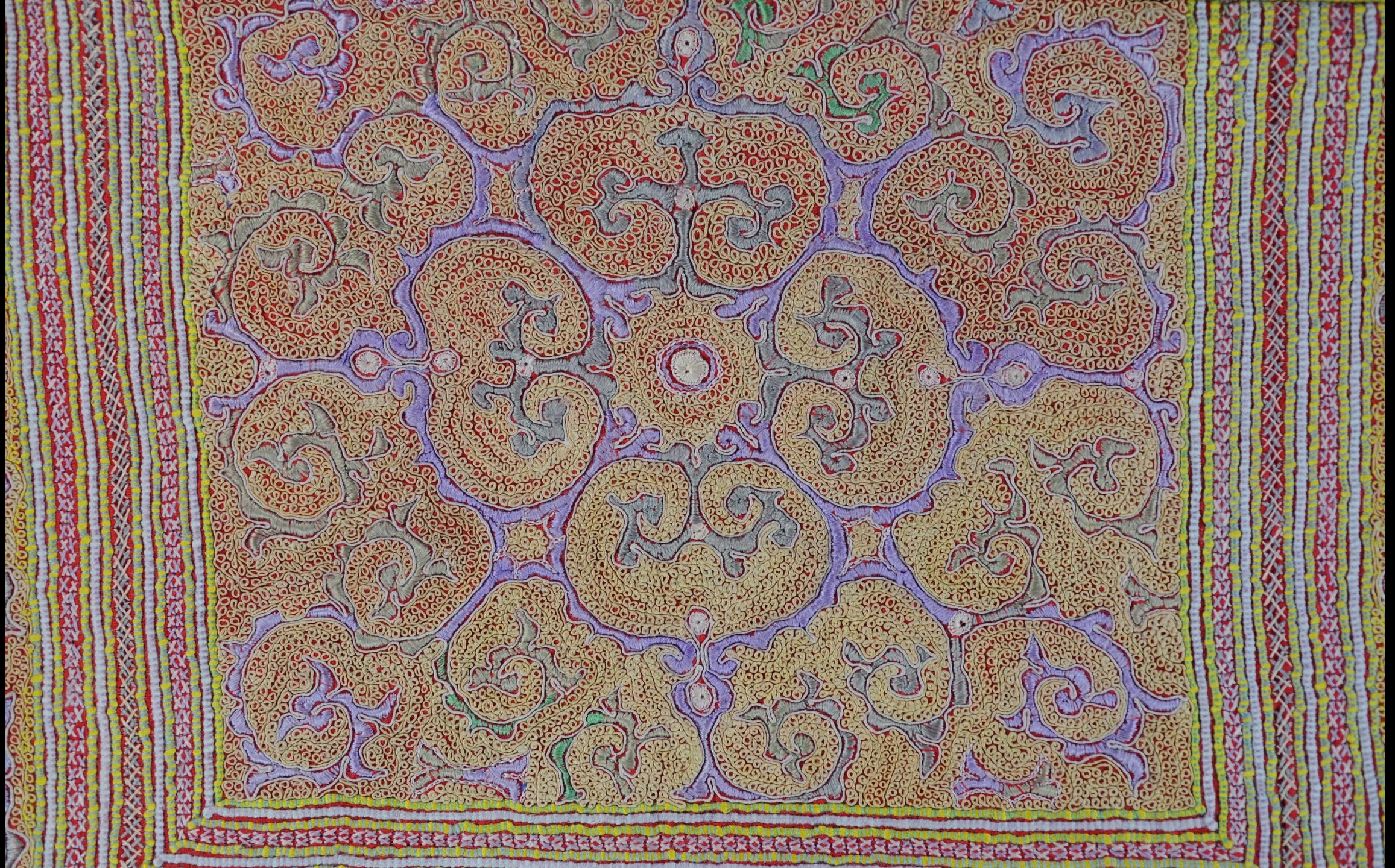




















澄江生物群

寒武紀大爆發的見證



陳均遠 周桂琴 朱茂炎 葉貴玉



李群



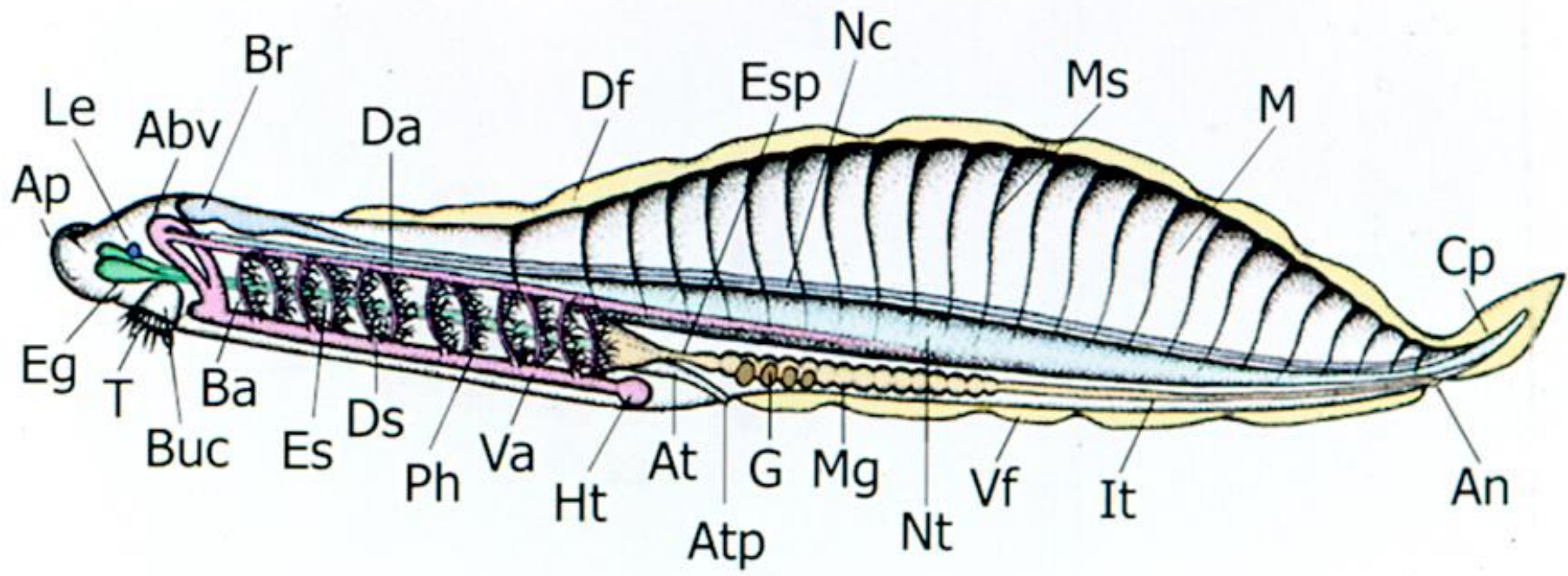






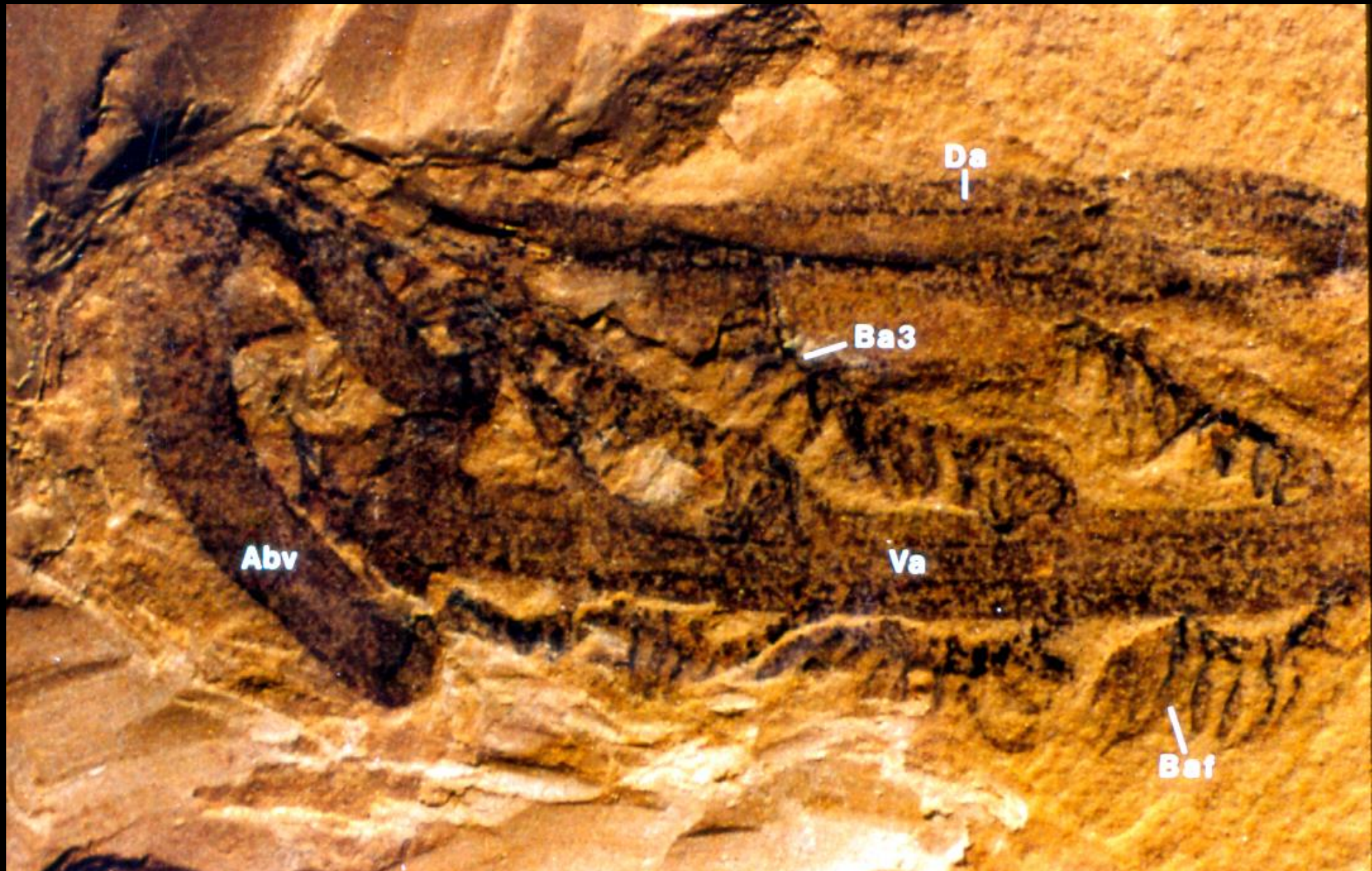
Nature 1999

Haikouella lanceolata



海口蟲

雲南 海口

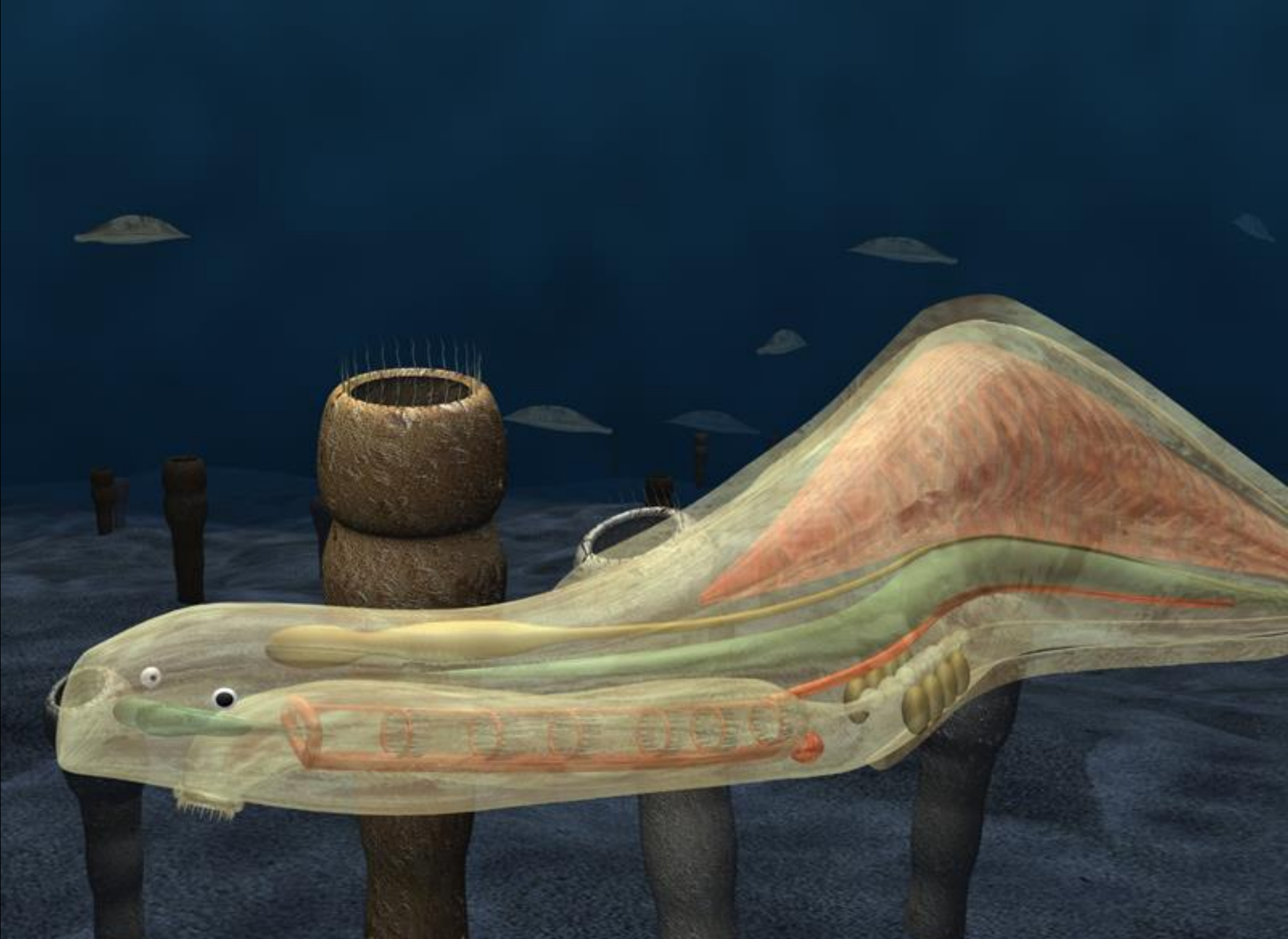




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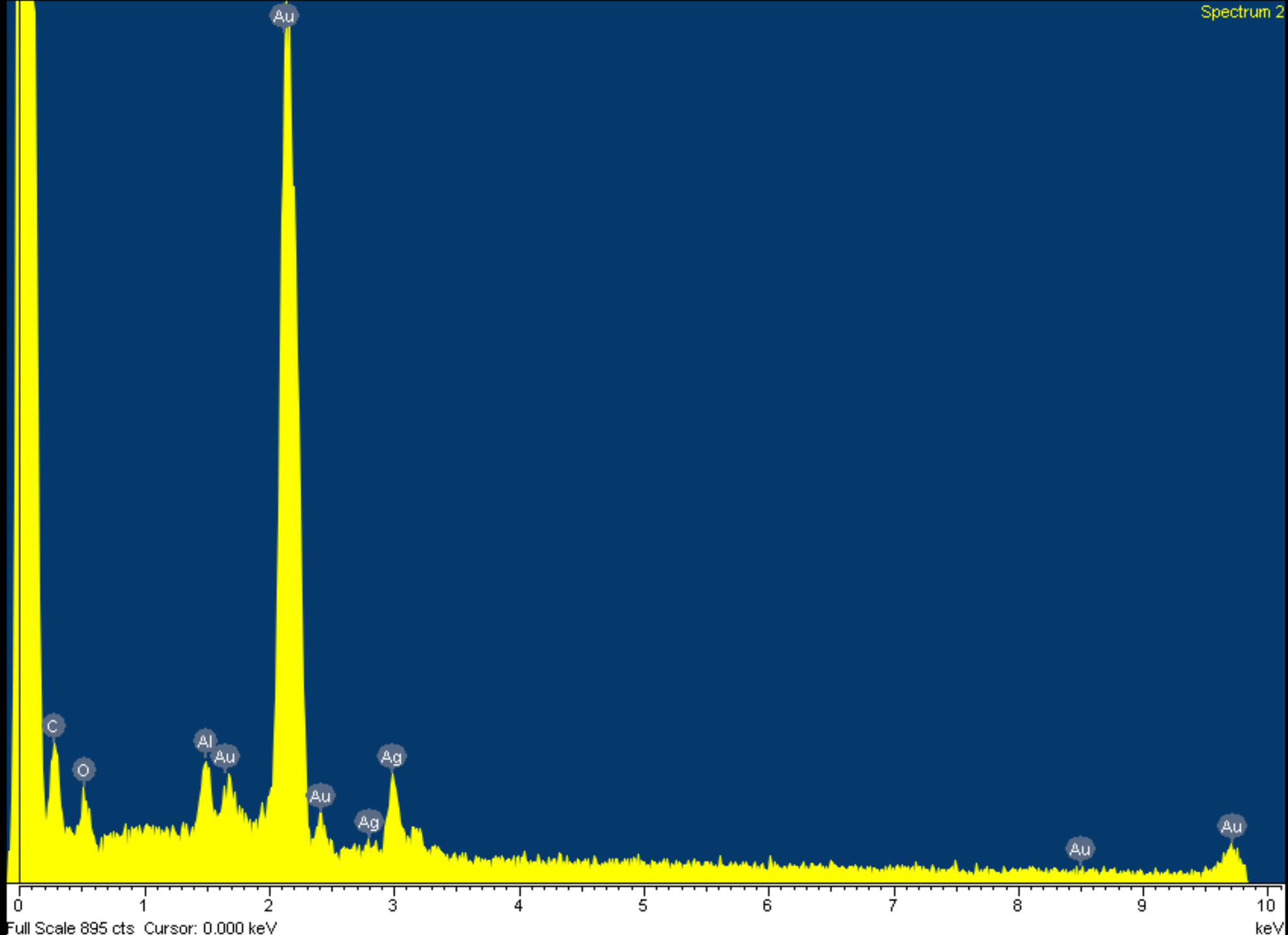
































山 齋
辰 居























小面

蘇葯

元參

紫苑

紅花

青蒿

金銀花

桑葉

羌活

獨活

香薷

西紅花

黃連

黃芩

紅花

三七

杏仁

杏仁

阿膠

深刁竹

西芥

阿膠

肉桂

刺楸



















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武廟
開創 聖心殿 聖心殿 聖心殿









Our Mission

To conserve tropical and subtropical plants, in order to sustain the richest biodiversity on Earth.

Dr. Cecilia Koo Botanic Conservation Center







Dr. Cecilia Yoo Botanic Observation Center
鄭麗偉植物觀察中心



17 greenhouses 35,240 m² 2019



Total collection: 33,393

2019. 11





蘭科

Orchidaceae 9,178

2019. 11







蕨類

Pteridophyta

2,070

2019. 11



鳳梨科 Bromeliaceae: 2,522

2019. 11



Succulents

7,975

2019. 11



Araceae 1,673

2019. 11





 NATIONAL
GEOGRAPHIC





一条