

Miocene coral reef ecosystems in South East Asia

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**PROGRESS REPORT
NTA-4**



Universiteit Utrecht



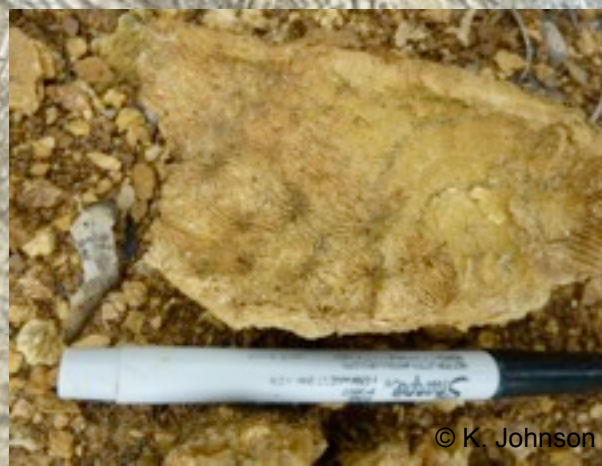
Contents

- Objectives
- Progress...
- Plan for NTA-4
- Plan Middle-term



Objectives

1. To identify the biodiversity of Miocene coral assemblages in SE Asia (East Kalimantan). Recent vs. Extinct ?
2. To infer the palaeoecology of Miocene reef environments in SE Asia. Integration with other PhD students.
3. To study the taxonomy, systematics, and evolution of a “target” Scleractinian taxon, i.e. Agariciidae, *Pachyseris*.



Processing the samples...

Arrival in UK



Friday, 7 October 2011

Processing the samples...

Arrival in UK

Washing up ...



Friday, 7 October 2011

Processing the samples...

Arrival in UK



Washing up ...



Cataloging...



Processing the samples...

Arrival in UK



Washing up ...



Cataloging... **V factor :**
Exhibition NHM



Identification...

Separation of morphotypes → comparison at Naturalis



Throughflow Project 26 May 2011
Leptoseris cf. yabei
Early Miocene
Balek: TFF, Samarinda, Kalimantan Timur,
Indonesia
Coll K. G. Johnson 6 June 2010
TF7_KJ1_38 AZ 5024



57-NS3-2.4
TF_101-101-101-101
NHM Palaeo Dept. AZ



TF151-SR27-NS1
Dictyosphaera micrantha
≈ 42993 Coll. Rotten
Kari Oeang



Throughflow Project
Galaxea cf. fascicularis
57-NS3-2.1
TF_101-101-101-101
NHM Palaeo Dept. AZ JT



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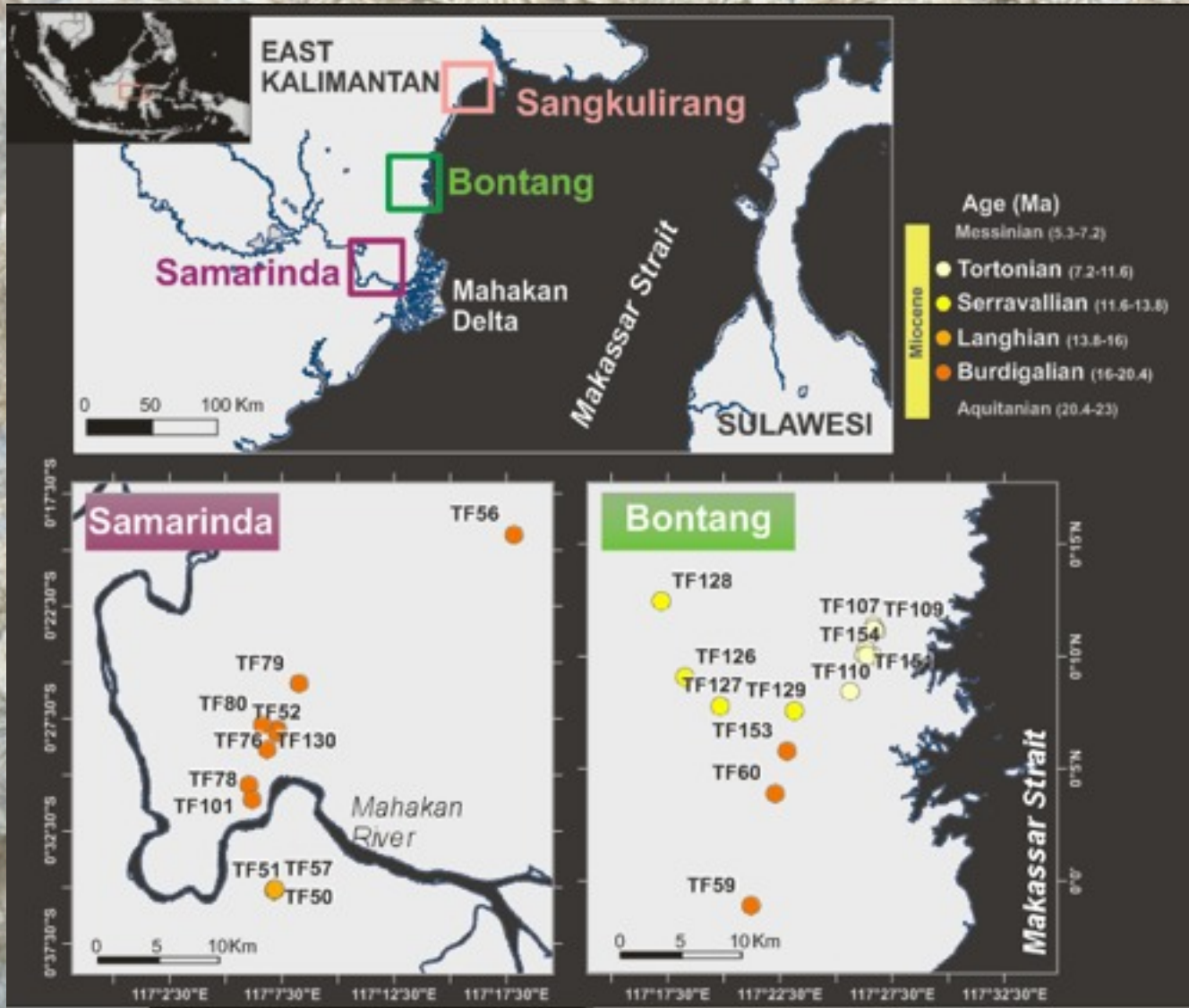
Throughflow Project
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NHM Palaeo Dept. AZ JT



Expectation!!

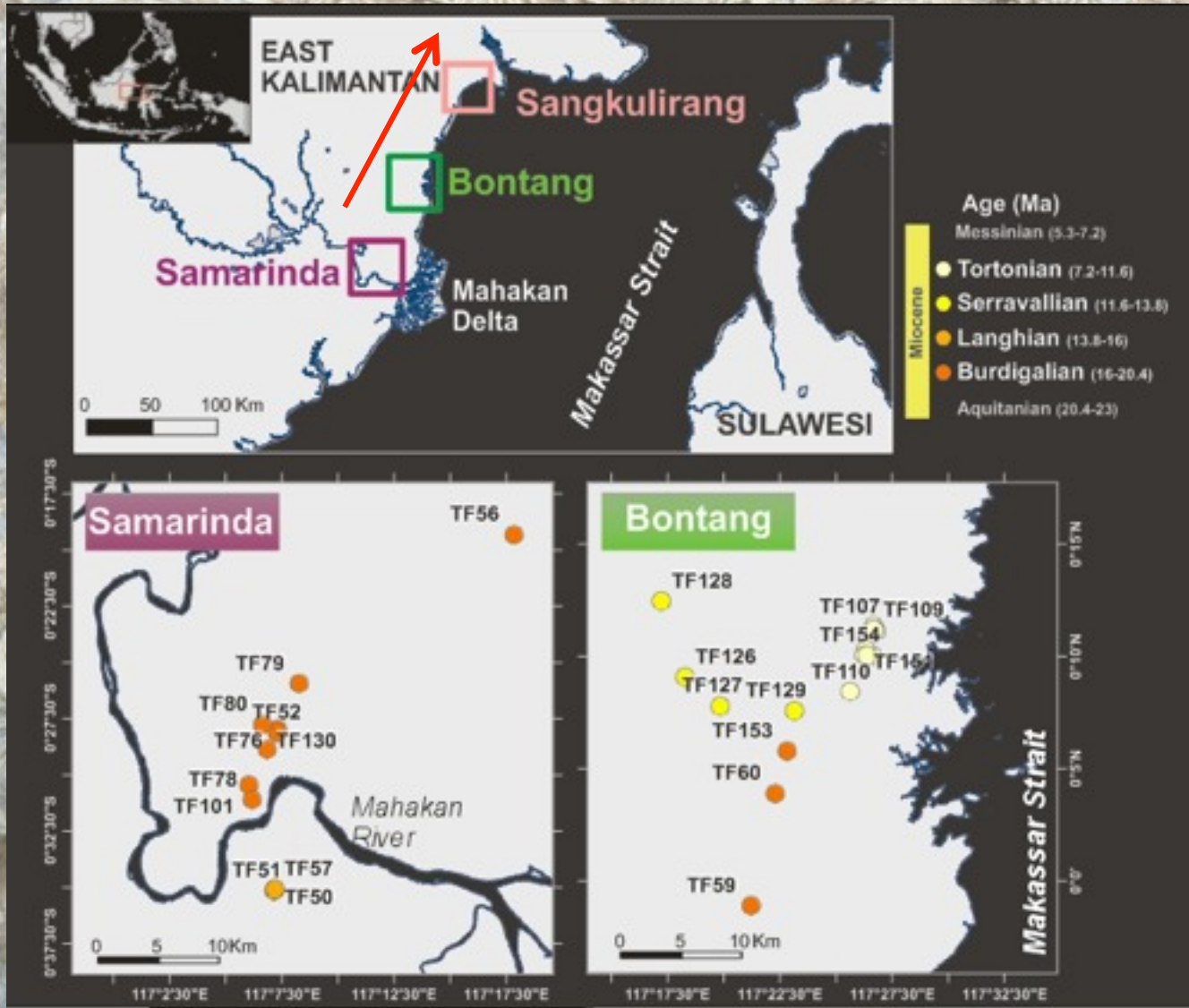
Bromfield, 2009 → 155 spp.

Johnson et al. (in prep) → 301 valid species



Objective 1: Coral Diversity in Time / species and assemblages

Influence of Delta



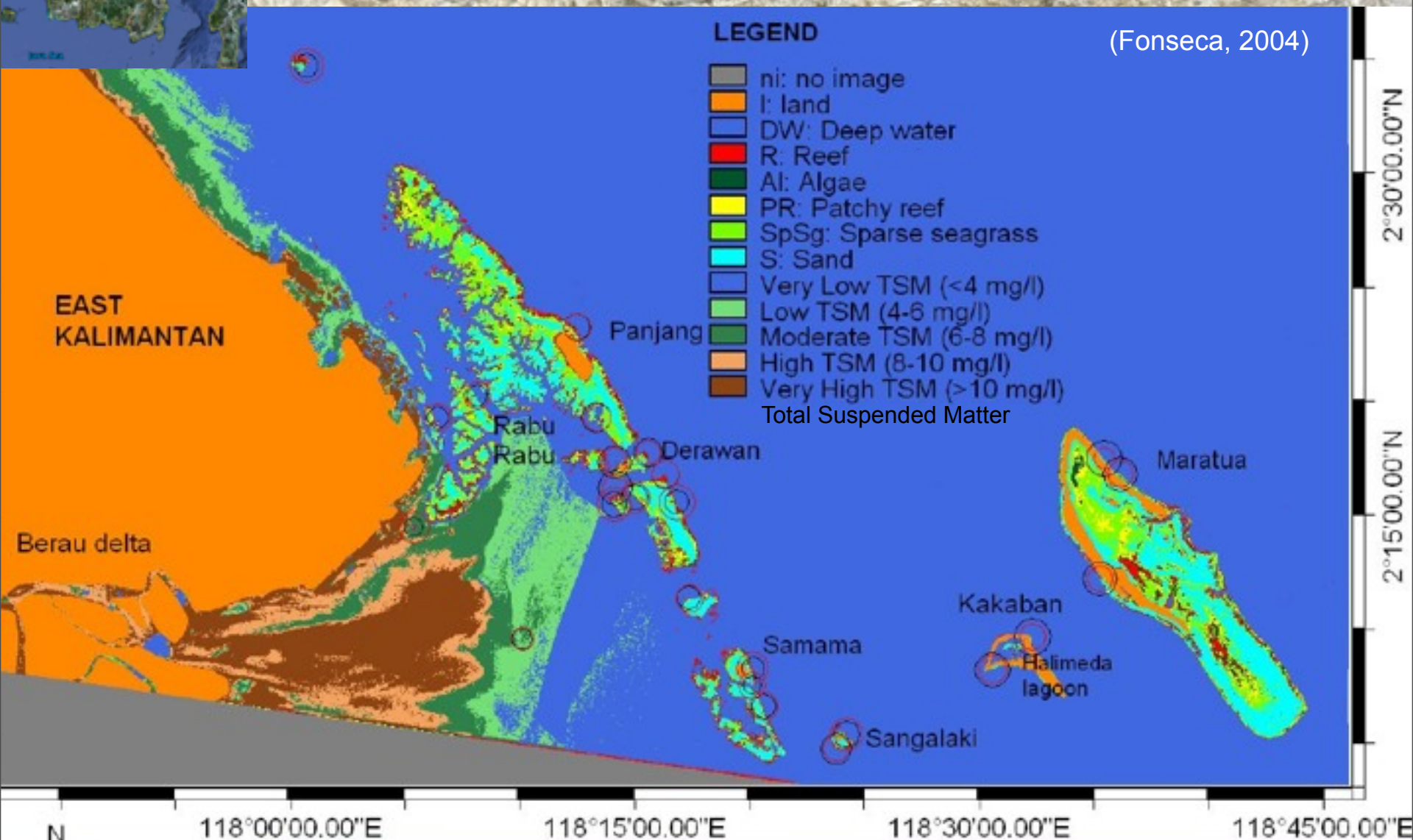
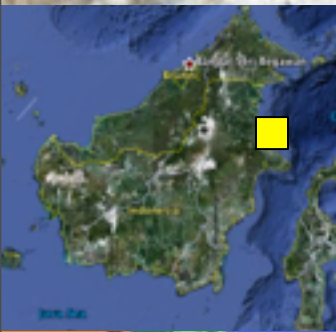
**Geographical
variation**

**Time
range**

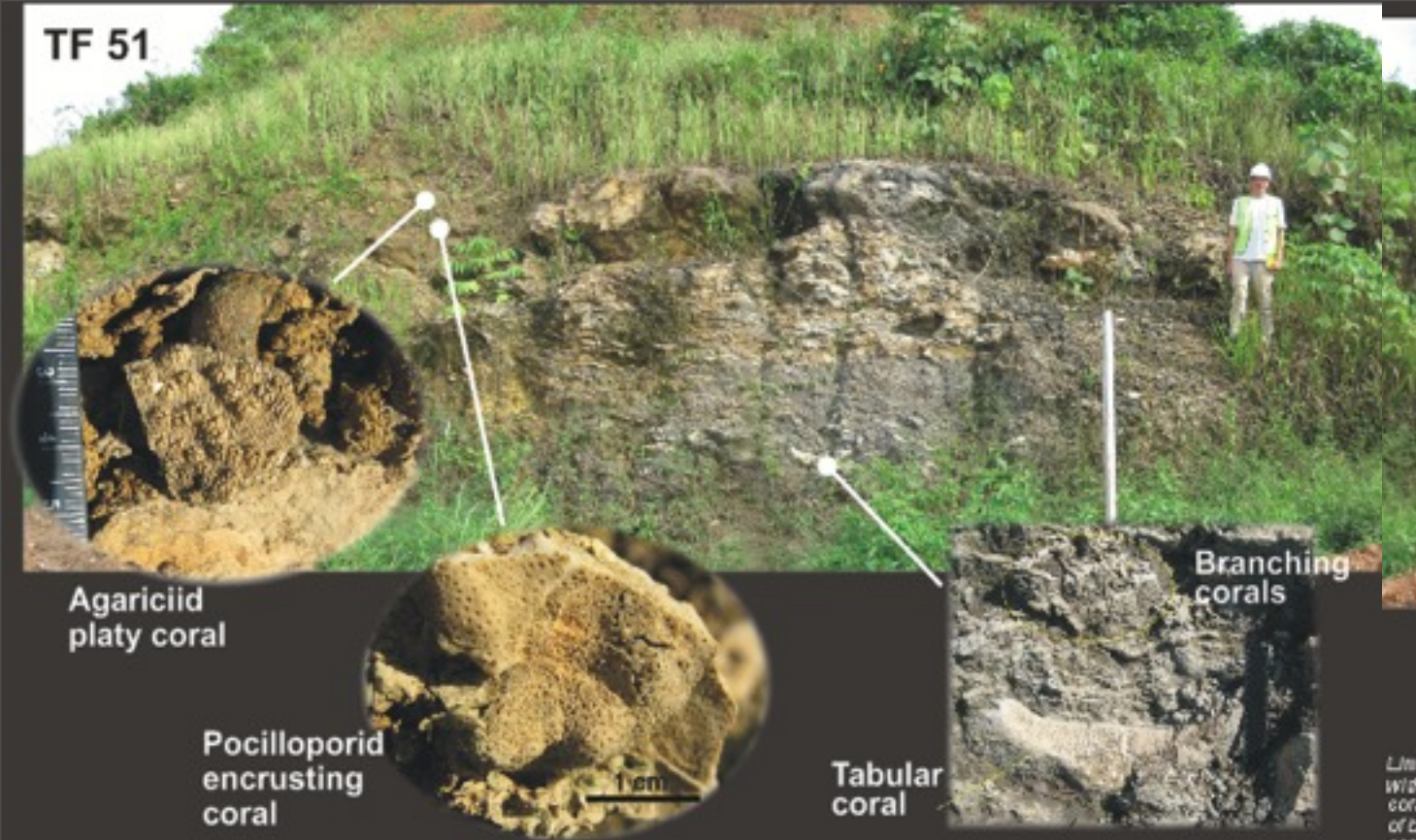
Objective 1: Coral Diversity in Time / species and assemblages

Uniformitarianism

Berau Reef System



TF 51



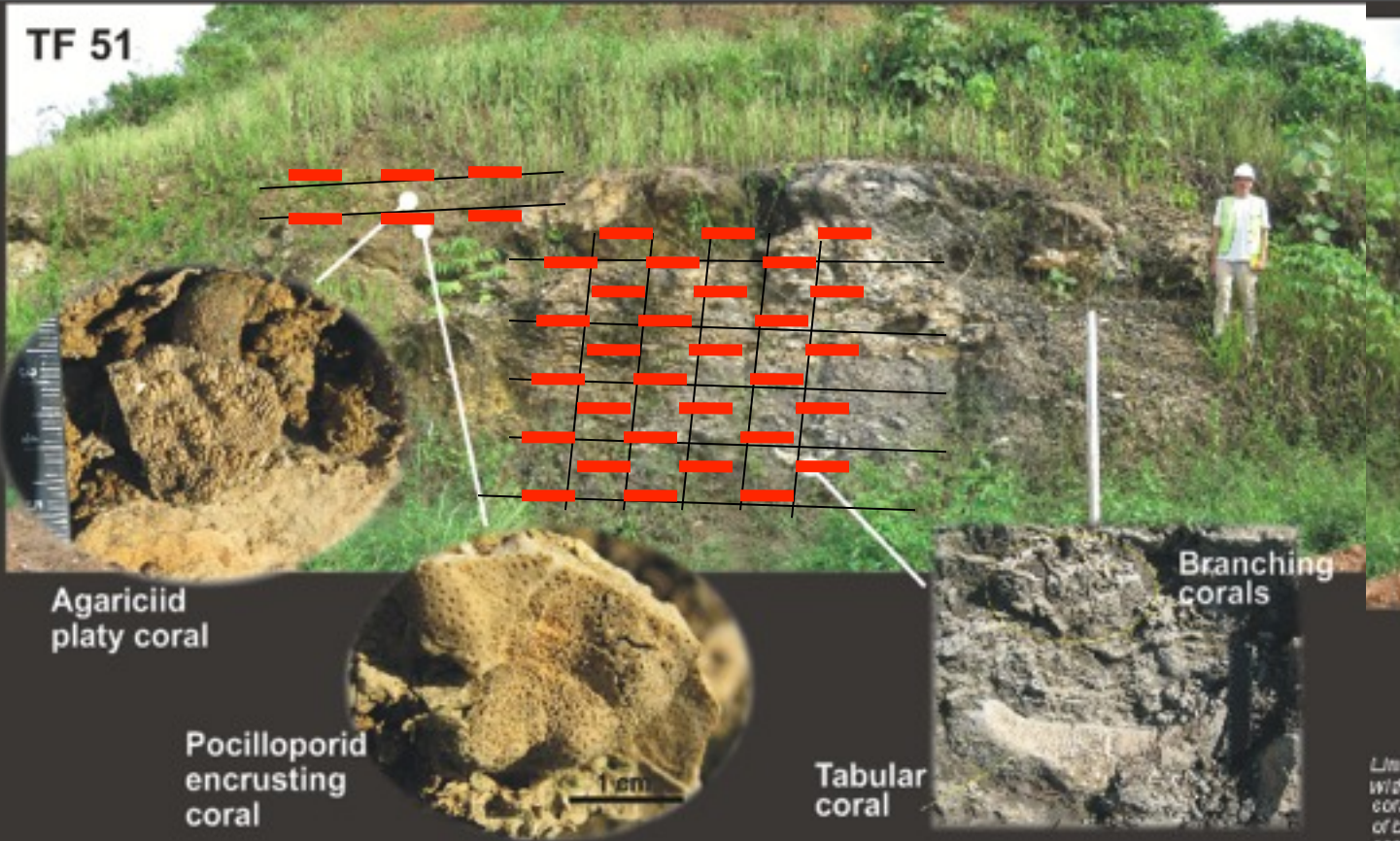
Arragoni, 2011

Parasequences → COAL → CORAL (cycle 3rd Order)

How is the succession of coral assemblages?

How did the reef start? Why did it die?

TF 51



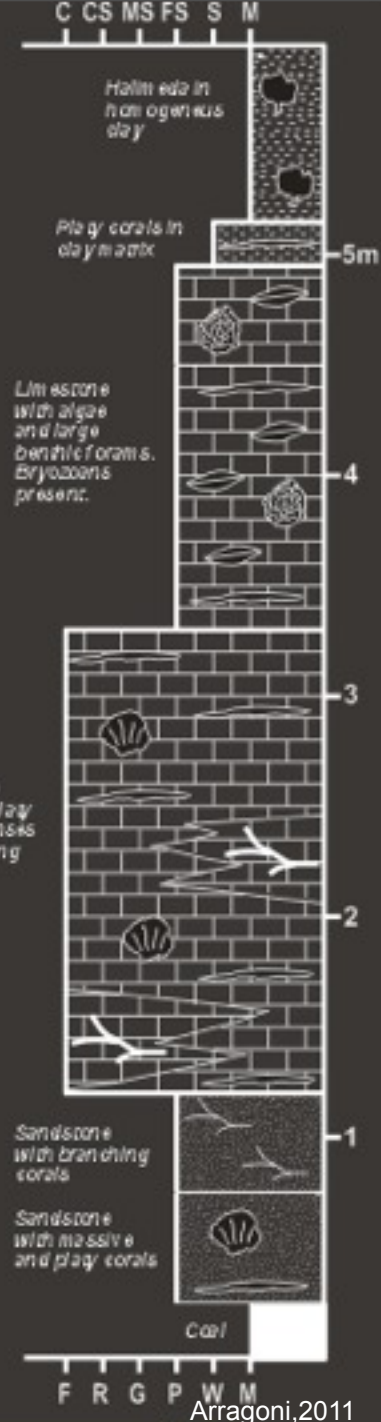
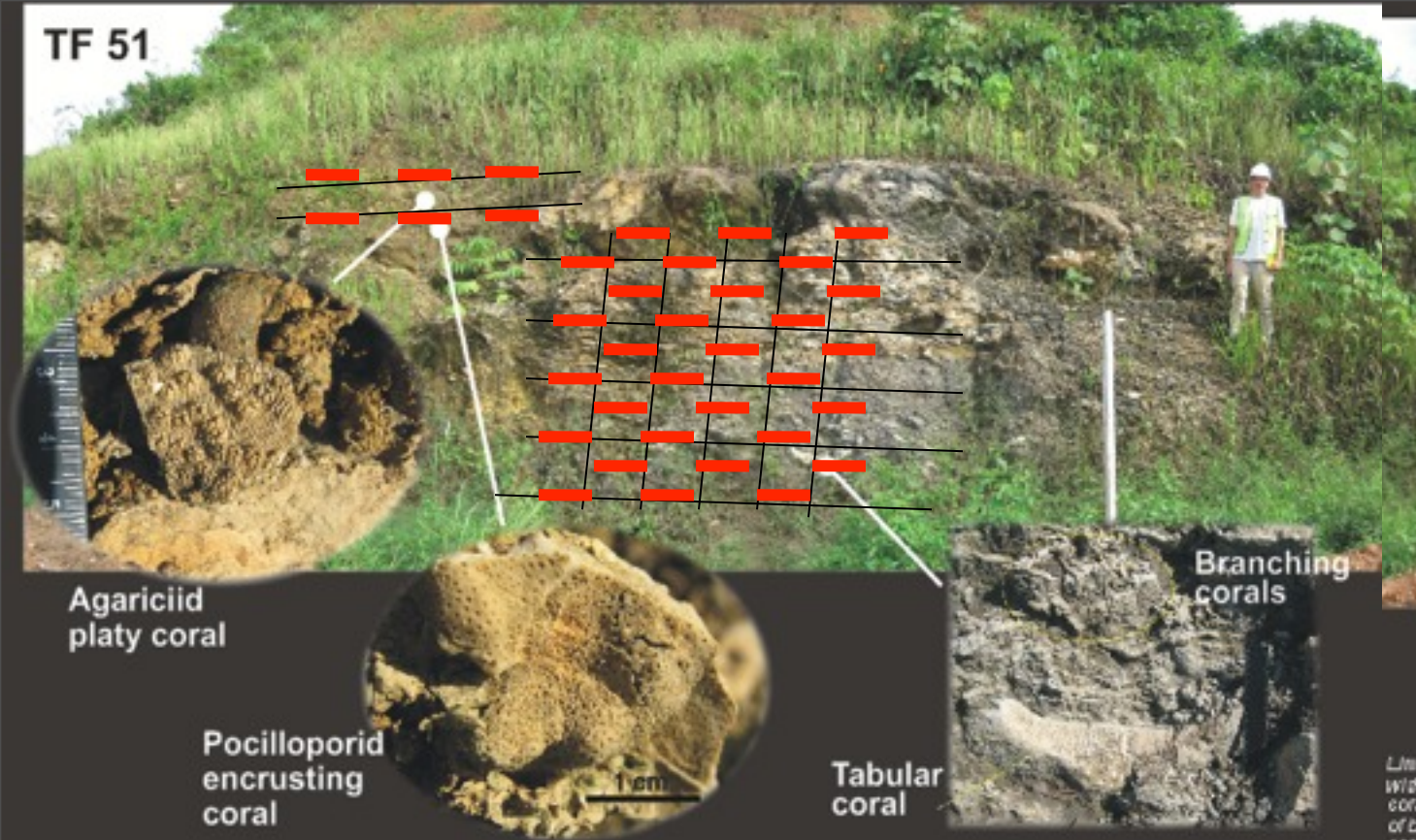
Arragoni, 2011

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TF 51



Arragoni, 2011

Parasequences → COAL → CORAL (cycle 3rd Order)

How is the succession of coral assemblages?

How did the reef start? Why did it die?

Constratal → Suprastratal

No Epibiontes

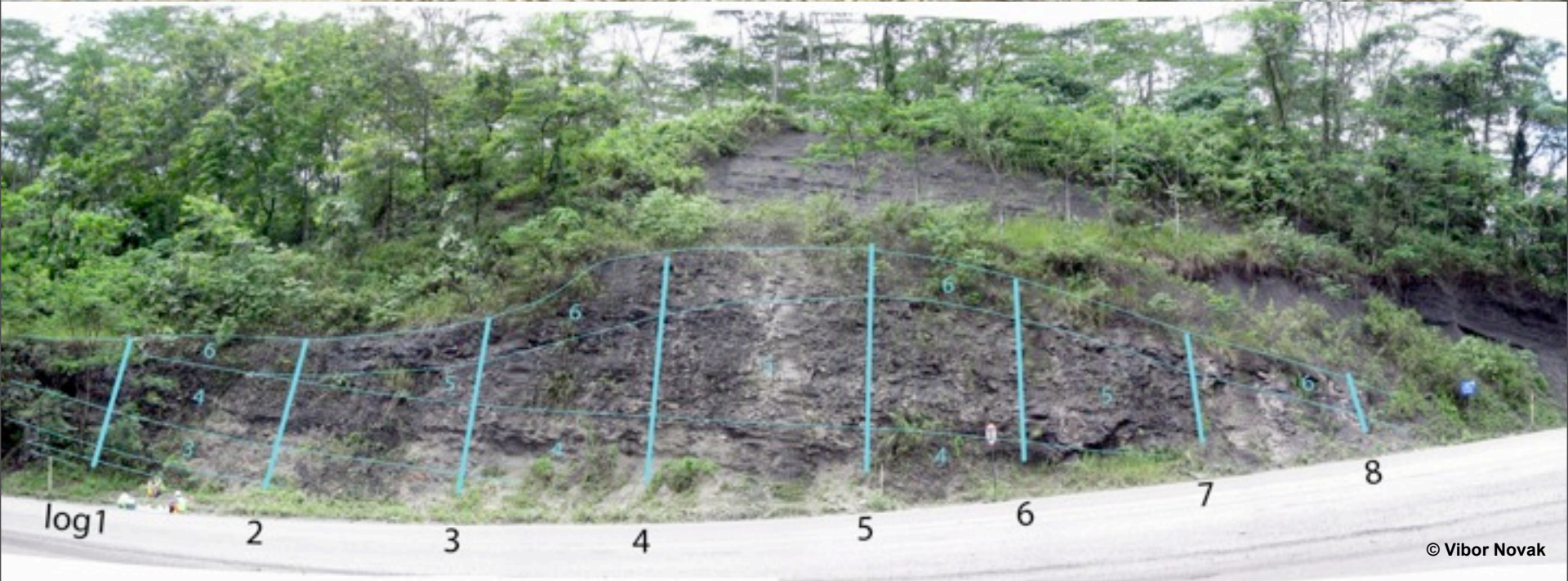
Full of bryozoans

Coral+LBF+BRY+MOL(?)+ALG

BONTANG

→ 3D-reef

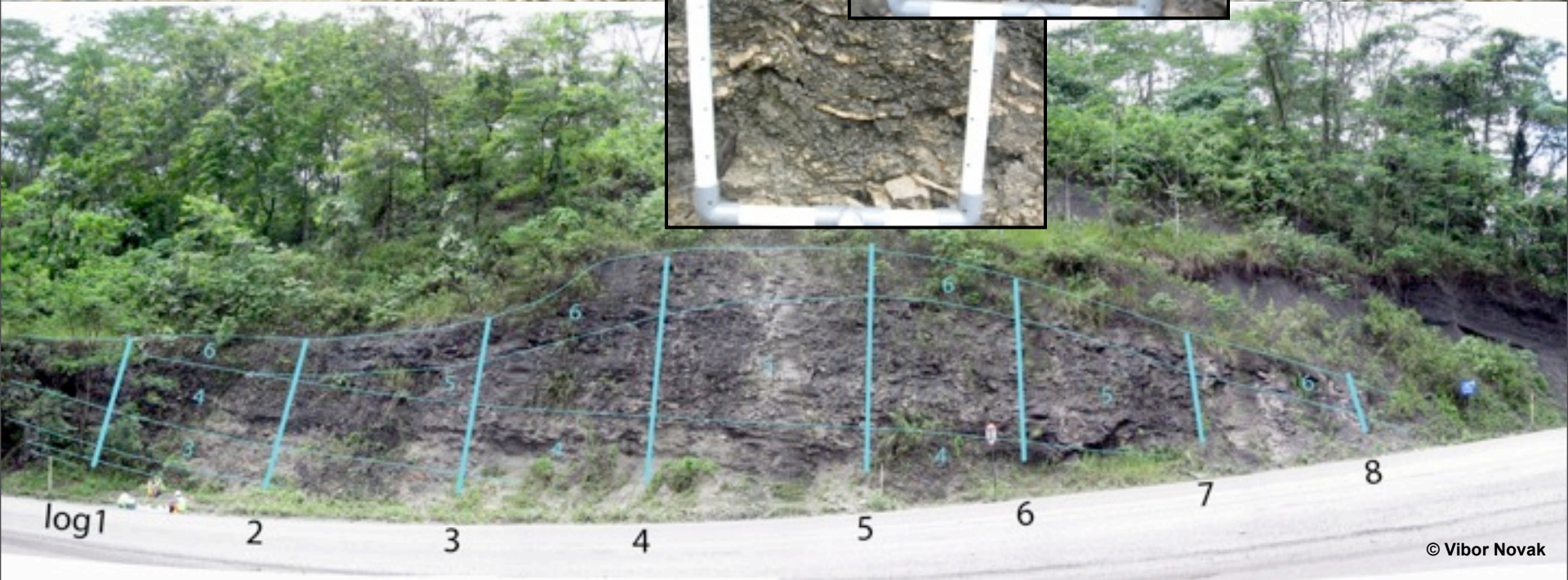
→ Southern Hemisphere
COR+BRY+MOL+ALG



BONTANG

→ 3D-reef

→ Southern Hemisphere
COR+BRY+MOL+ALG



Plans



1. Symposia
Fossil Cnidaria & Porifera Symposium in August
Abstract for ICRS 2012 (Deadline in October)
Abstract for IGC 2012
2. Paper on Top-reef Stadium & 3-D reef
3. Collaboration on a paper based on museum occurrences
4. Utrecht University meeting in October
5. Identification-Taxonomy baseline

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QUESTIONS?