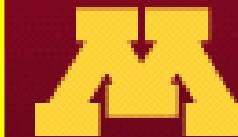


preserving nature in post-pandemic PNG: a field report

George Weiblen

Professor, Department of Plant & Microbial Biology,
College of Biological Sciences
Science Director, Bell Museum of Natural History,
College of Food, Agricultural & Natural Resource Sciences



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Driven to Discover™

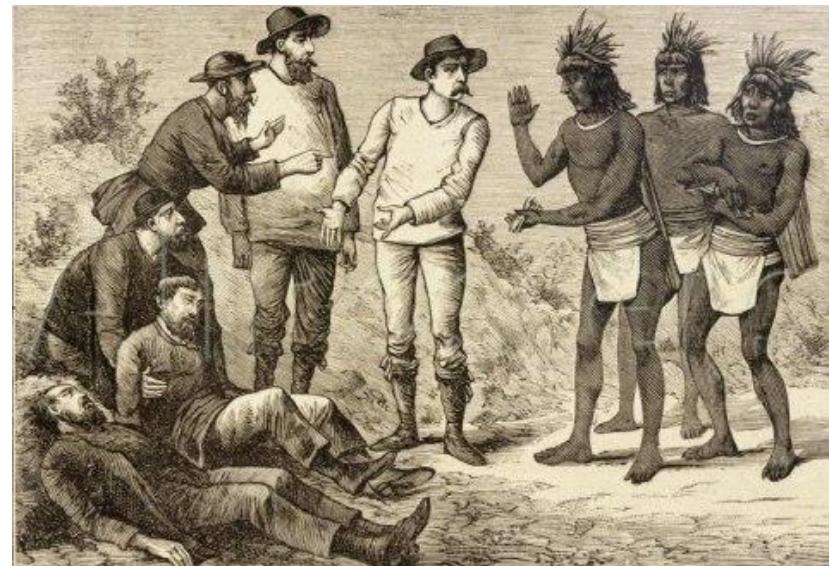


A generation goes,
a generation comes
but the earth
remains forever

Ecclesiastes 1: 4

bio-cultural solutions to societal challenges: quinine & malaria

Quechua people gifted Jesuit missionaries in the 16th century with cinchona bark from which quinine is extracted and used to treat malaria



preserving nature in PNG

- indigenous science
New Guinea
- bio-cultural preservation
Ohu
- global research networks
Wanang
- canopy crane
Baitabag



Binatang Research Center

Nagada Plantation, Madang

- biodiversity research, conservation & education since 1997
- international scientists & village-based projects training all levels
- US\$ 1 million annual budget & 40 full-time staff
- associate director Francesca Dem & other PhD graduates



Port Moresby 2023

freeways & high-rise
apartments as pricey as
New York City



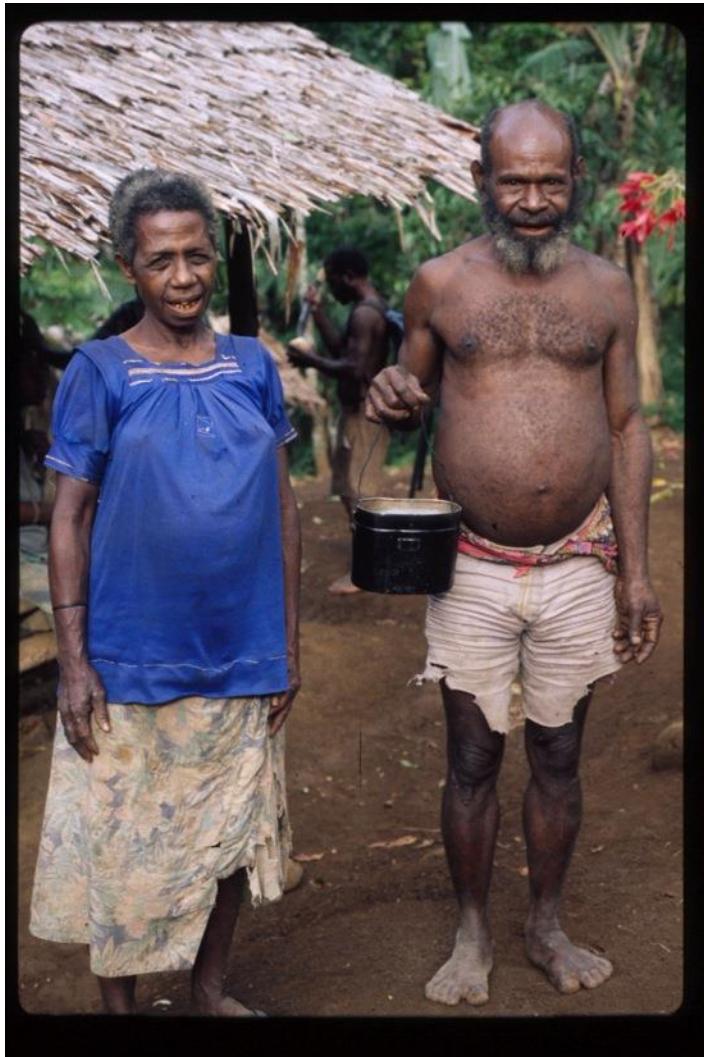
PNG is globalizing rapidly

technology & revolutionary change



rural mobile phones,
solar-powered refrigerators
& stone tools

globalization on the rain forest frontier



resource owners

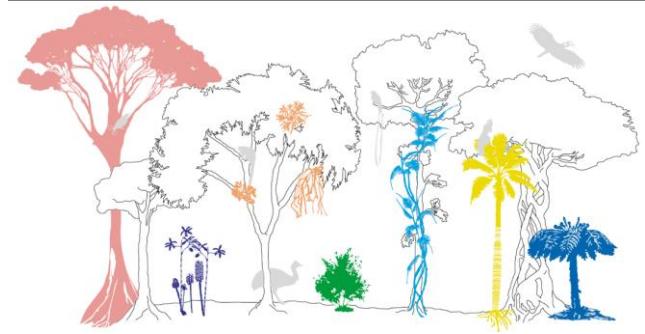


natural
resources



Article

New Guinea has the world's richest island flora

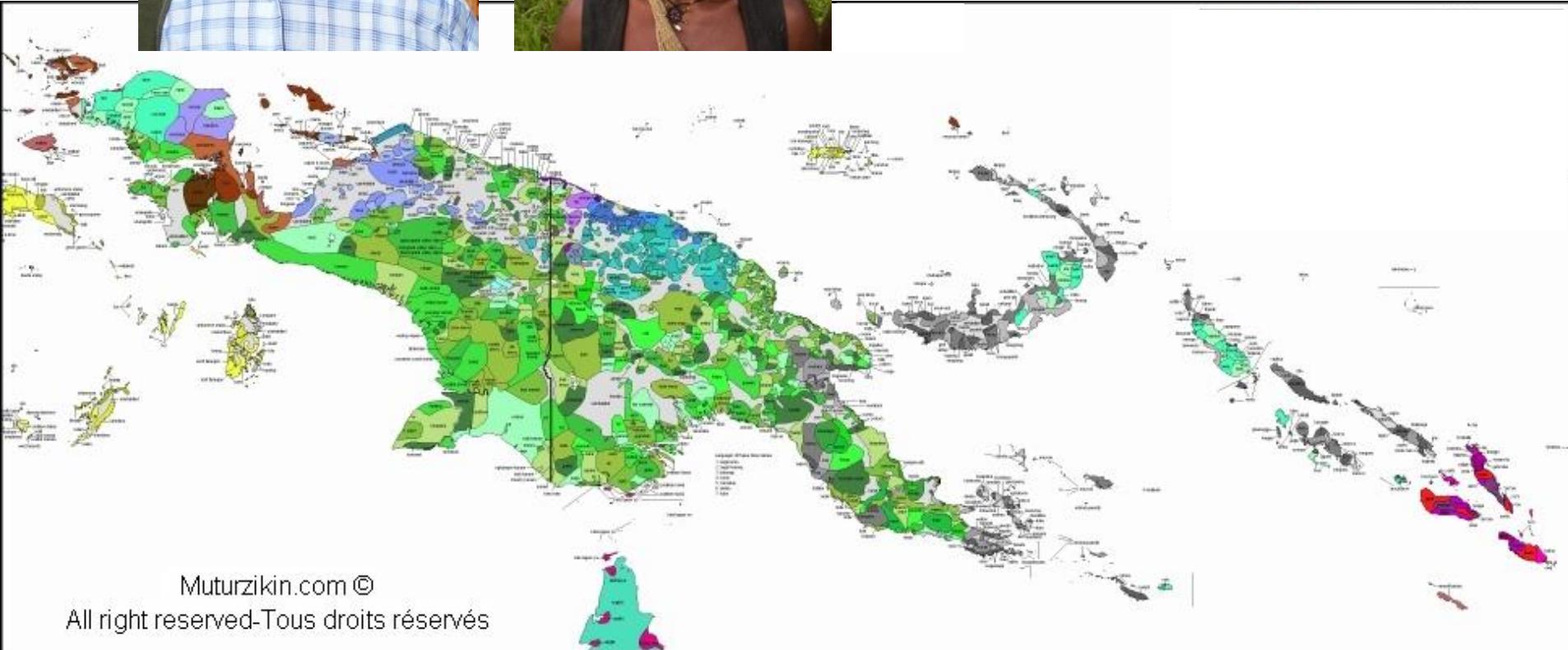


(Camara-Leret, Ezedin, Z. Weiblen G. D. & 96 other taxonomists 2020)

cultural diversity mirrors biological diversity



1,100 languages
1/6 of the global total



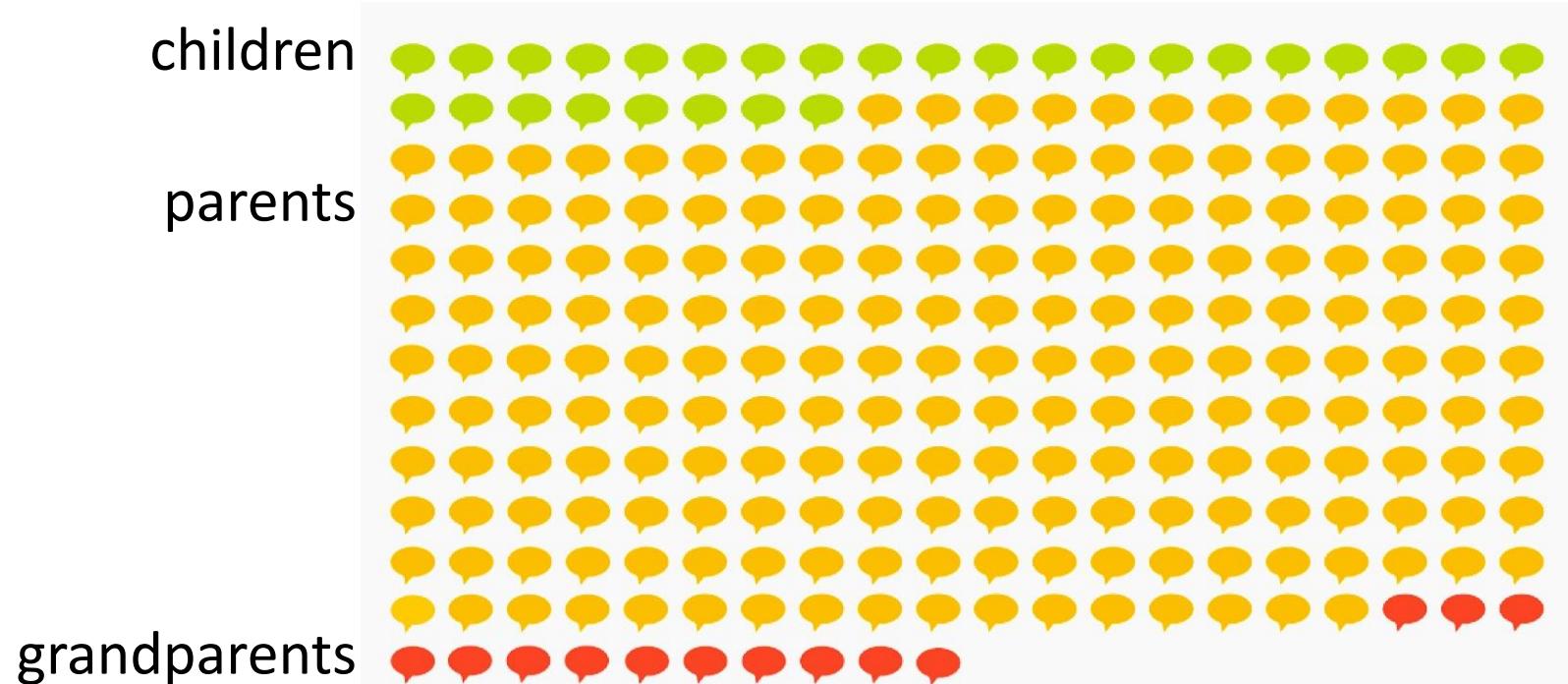
cultural collisions & exchanges



23 ¹ Bikpela em i wasman
bilong mi.
Olsem na mi no inap sot
long wanpela samting.

comparing species & language extinction

rate of language loss is ten times higher than rate of species loss
(Gorenflo et al. 2012, PNAS)



90% of 250 European languages are not spoken by children

PNG national high school linguistic survey



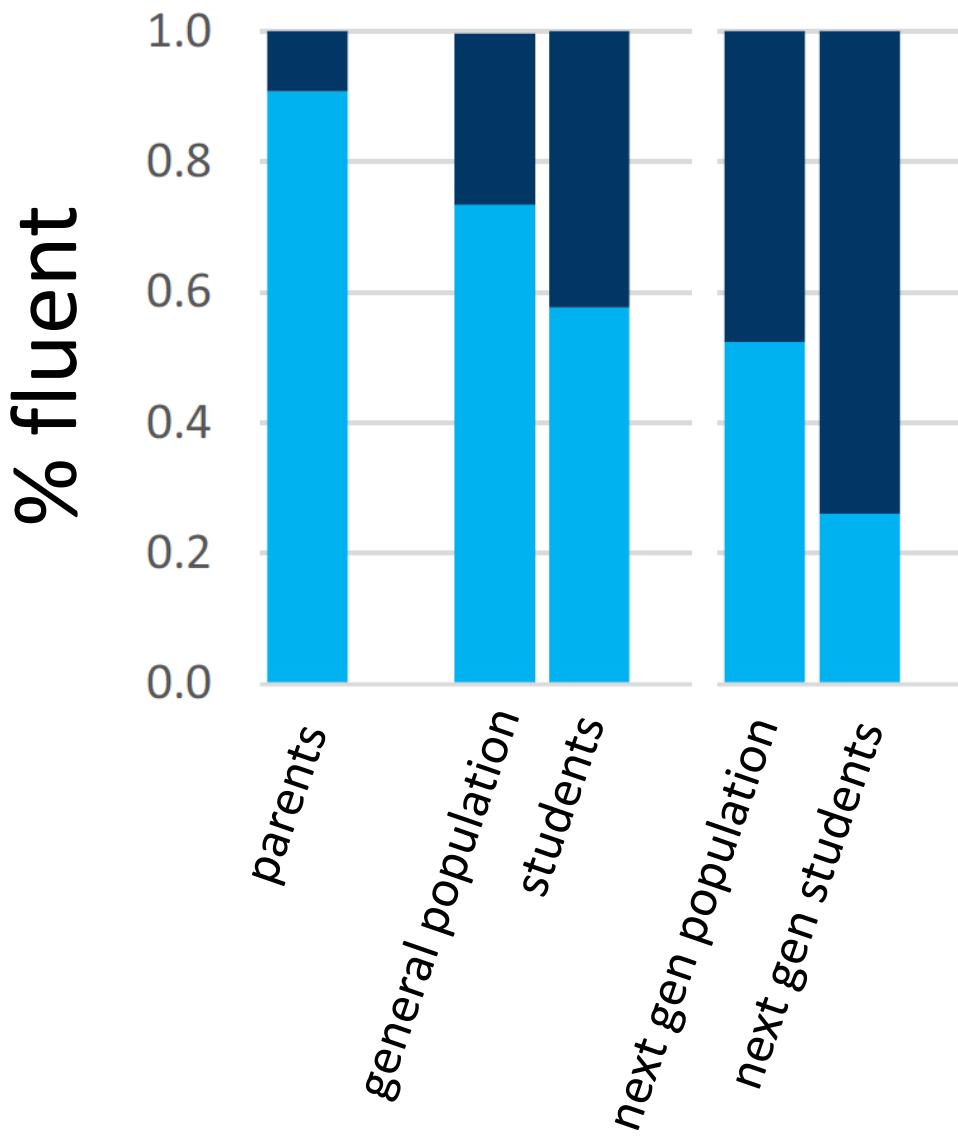
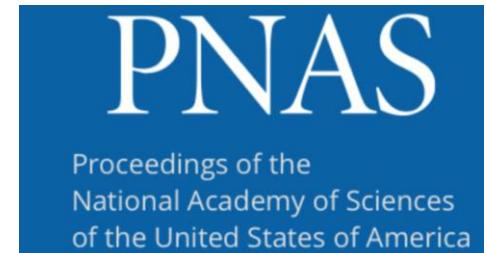
Alfred Kik, M.Sc.

6,000 surveys



- 6,000 11th & 12th graders, siblings & parents
- surveyed over holiday breaks in 2015-2018
- 30 of 123 secondary schools
- 392 spoken languages (5% of global total)
- languages spoken at home
- traditional ecological knowledge, agricultural practice, carpentry & medicine
- ability to name native plants & birds

Language and ethnobiological skills decline precipitously in Papua New Guinea, the world's most linguistically diverse nation



Kik et al. 2021

observed fluent

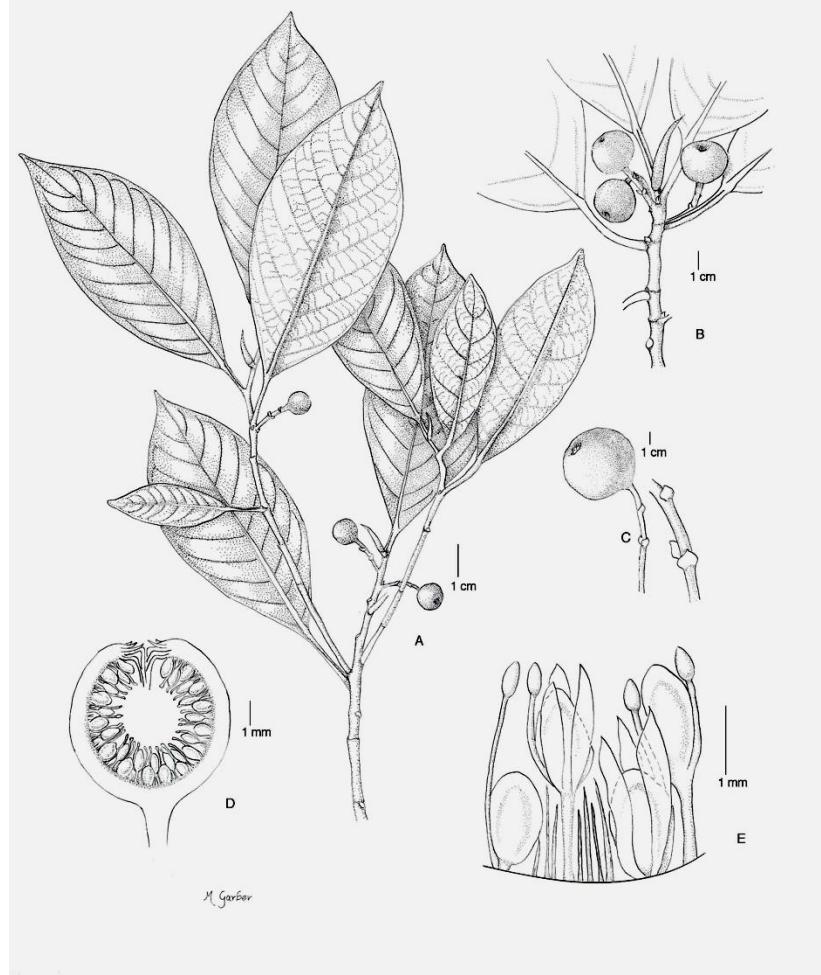
| | |
|-------------|-----|
| parents | 91% |
| general pop | 75% |
| students | 58% |

predicted fluent

| | |
|---------------|-----|
| next gen pop | 50% |
| next students | 28% |

decolonizing species “discovery”

Ficus rubrivestimenta Weiblen & Whitfeld



2010 Harvard Papers in Botany

preserving nature in PNG

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Ohu Conservation

“Preservation of Bio-Cultural Resources in a New Guinea Rain Forest: Education, Eco-tourism & Science”

A partnership between The Christensen Fund, the University of Minnesota, and Ohu community, Papua New Guinea



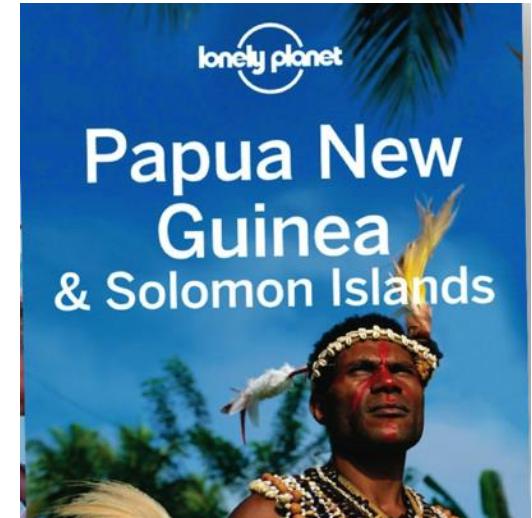
Annika Moe & Meli Brus



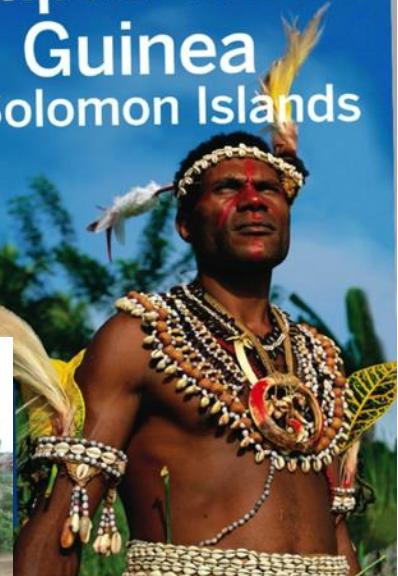
Ohu Conservation Handbook



local youth



eco-tourists



WIAD CONSERVATION

A Handbook of Traditional Knowledge and Biodiversity



The Place of Thunder

as told & translated from Amele by Meli Brus

Dispela Tanda Stone Em I Stap

**Bipo tru, ol tumbuna na papa bi
olsem. Bilong wanem igat stori**

Qeli Pelena

**Werle osikel armemikel ar pilain sa
materken alen fekina. Apen qe op**

Conservation Handbook launched 2016



MAMOSE Villagers receive handbook

The National - Thursday, October 6, 2016 13

By DOROTHY MARK

HUNDREDS of villagers outside Madang have been presented nature conservation handbooks printed in

the Ohu Conservation and Butterfly Farm. The handbooks contain traditional knowledge and biodiversity which can help visitors understand

was initiated by the community and funded by donors in the United Kingdom. Conservation project manager Bruce Isua said stories and

States where it was compiled into a handbook.

Dr George Weiblem, a lecturer at the university who headed the com-

"We were presented 200 copies of the handbooks - 50 copies were given to the Ohu Primary School and the rest to clan leaders and dignitar-



Ohu Village 2023



Brus Isua & Ficus brusii

Ficus dammaropsis Diels



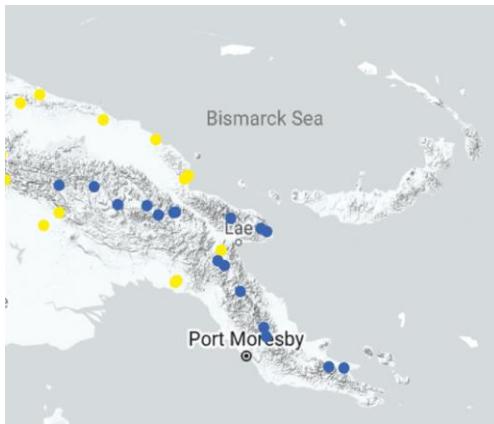
Gardens' Bulletin Singapore 71(Suppl. 2):197-216. 2019
doi: 10.26492/gbs71(suppl. 2).2019-15

197

Additions and changes to *Ficus* (Moraceae) in New Guinea with comments on the world's largest fig

Z. Ezedin¹ and G.D. Weiblen²

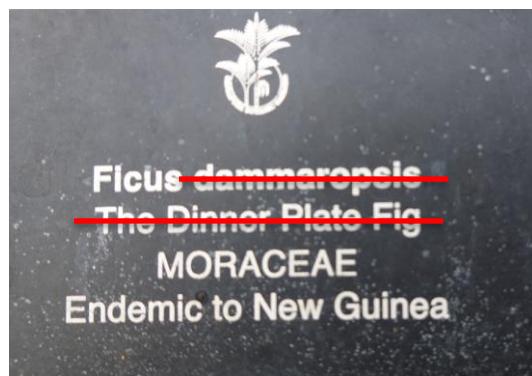
Ficus brusii Weiblen



B

C

Singapore Botanic Garden 2023



Ficus brusii Weiblen
Brus' Dinner Plate Fig

preserving nature in PNG

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Baitabag



welcome to Wanang



incubating a long-term partnership

- indigenous resource owners
- international scientists
- citizen scientists
- students
- granting agencies
- government officials
- industry sponsors



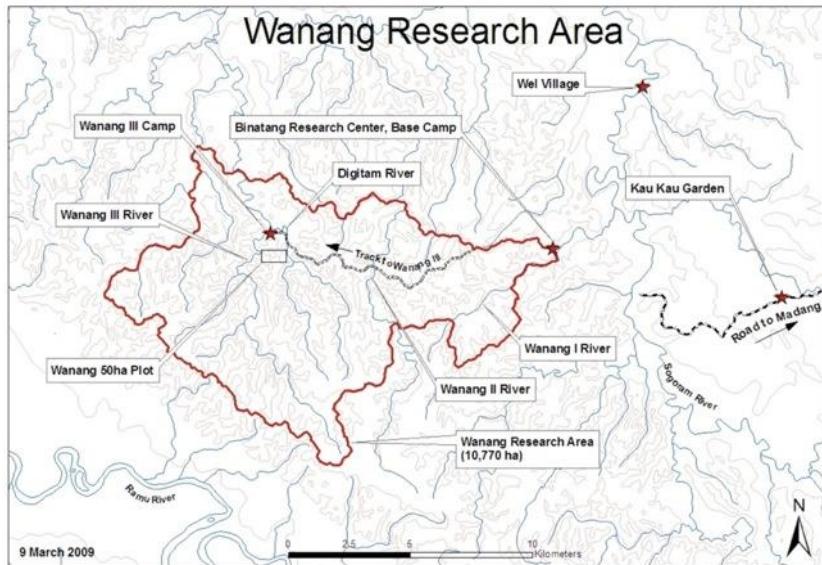


SWIRE



- conservation: forest preservation linked to research and development
- research: long-term study provides employment & professional training
- education: investment in Wanang school on the condition of responsible land stewardship

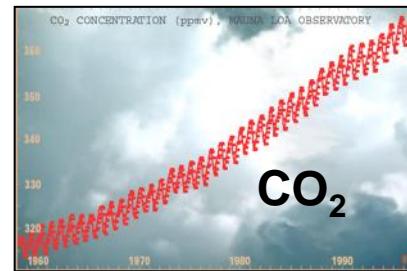
conserving Wanang Forest





Global Forest Observatories:

an international network
monitoring the health of forests



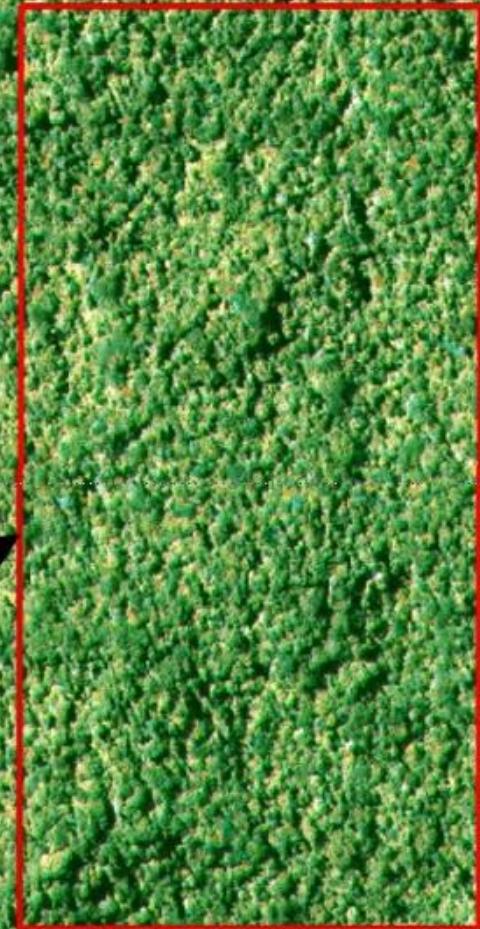
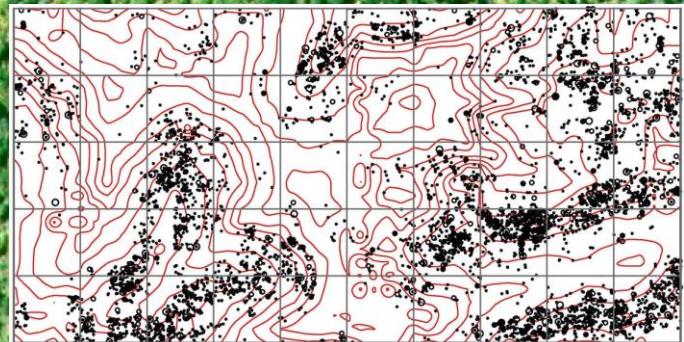
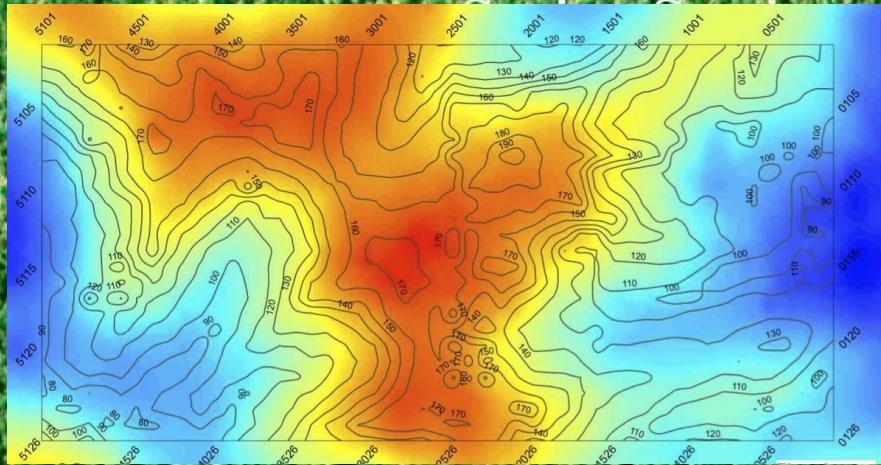
23 forest plots
16 countries
> 75 institutions
8,500 tree species
3 million trees



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Wanang forest from space



>300,000 trees
>500 species



Wanang recognized by United Nations in 2015



Wanang Conservation School in 2023



| WANANG PRIMARY SCHOOL | | | | | | |
|--------------------------|-----------------|----------|-----------|----------|----------|--|
| GRADE 4 TIME TABLE- 2022 | | | | | | |
| TIME | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | TIME ANALYSIS |
| | | | | | | SUBJECT NO OF LESSON TIME ALLOCATED |
| 8:00-8:30 | A S S E M B L Y | | | | | LANGUAGE 4x 90 1x 90 1x 90 450 MINS |
| 8:30-9:00 | | | LANGUAGE | | | 1x 90 210 MINS |
| 9:00-9:30 | LANGUAGE | LANGUAGE | CRE | LANGUAGE | LANGUAGE | ENV/STUDIES 3x90 210 MINS MATHS 3x90 1x90 COM/LIVING 2x90 180 MINS |
| 9:30-10:00 | | | | | | COM/LIVING 2x90 1x90 |
| 10:00-10:30 | | | | | | HEALTH 90 MINS |
| 10:30-11:00 | MATHS | MATHS | LANGUAGE | MATHS | MATHS | EX-ARTS 1x90 90 MINS ENV/STD 1x90 ENV/STD 1x90 PHY/EDUCATION 1x90 90 MINS |
| 11:00-11:30 | | | | | | CRE 1x90 60 MINS |
| 11:30-12:00 | COM/UV | HEALTH | MATHS | HEALTH | COM/UV | COM/SERVICE 1x40 60 MINS |
| 12:00-1:00 | | | | | | |
| 1:00-1:30 | END/STD | COM/UV | HEALTH | COM/UV | ENV/STD | SPORTS 1x40 60 MINS |
| 1:30-2:00 | | | | | | ASSEMBLY 5x30 150 MINS |
| 2:00-2:30 | EX-ARTS | EX-ARTS | PHY EDU | COM/SERV | SPORTS | TOTAL 1650 MINS |
| 2:30-3:00 | PHY EDU | | | | | |

Note: This timetable is flexible, changes can be made when there is a need.

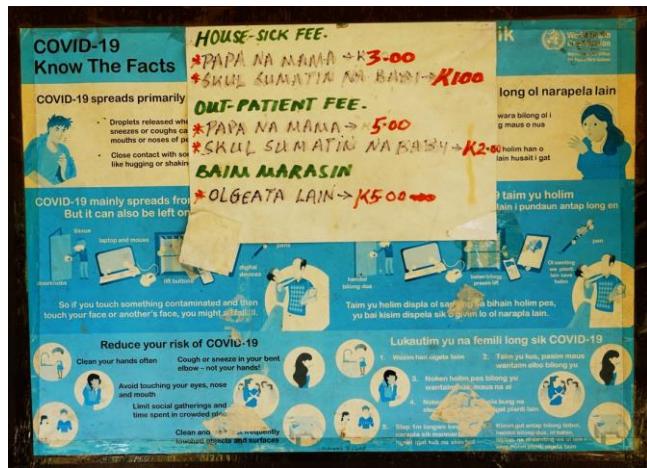
Prepared by Mrs. H Moka

Class Teacher

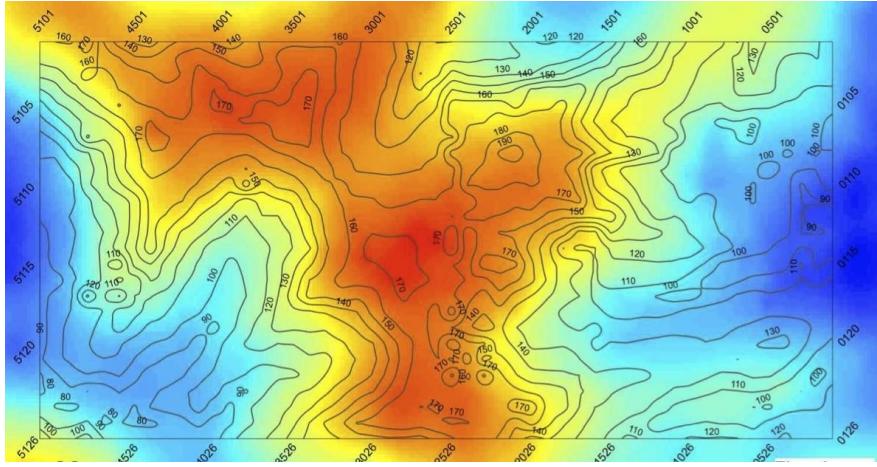
Supervisor's Comment:
Well constructed
Time Table - time (time)
fairly allocated to each
subject
Approved !!
H.Moka H.H. 20/03/22

government-supported
five teachers
eight grades
200+ students
six qualified for high
school but only one
family could afford
school fees

Wanang Aid Post



Wanang Forest Plot recensus 2023



Wanang Forest Plot recensus

Archidendron lucyi F.Muell.

Species Code: ARCHLU

Family: Fabaceae

Wanang names: kialte suku

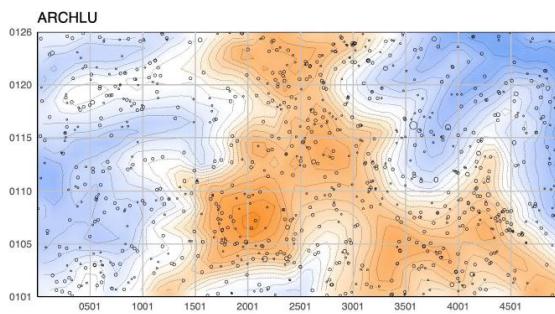
Uses: timber used in construction of small huts

Notes: stipule on petiole base

Diameter (cm): Individuals

| | |
|--------|------|
| 1-2: | 693 |
| 2-5: | 1130 |
| 5-10: | 55 |
| 10-20: | 2 |
| 20-30: | 3 |
| 30-60: | 1 |
| >60: | |
| Total: | 1908 |

Vouchers: 90





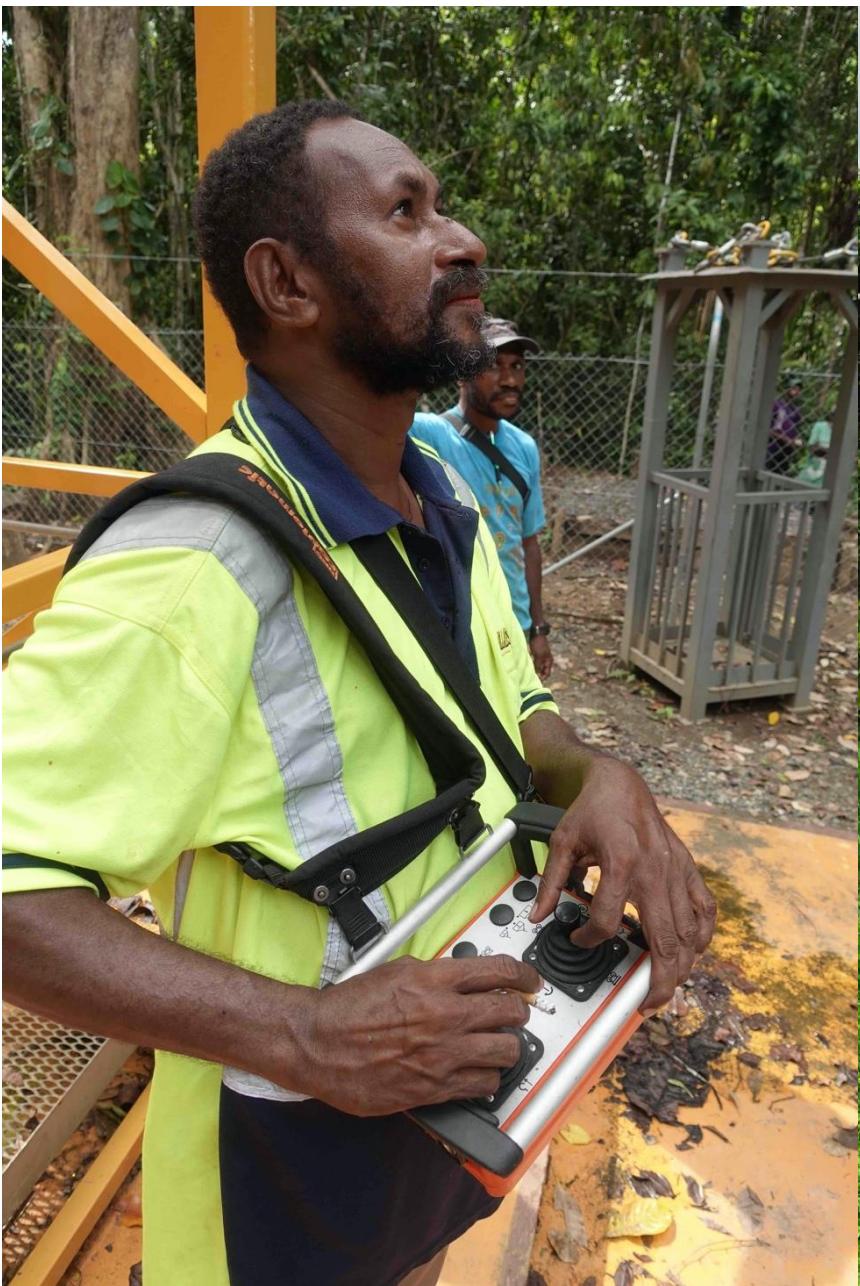
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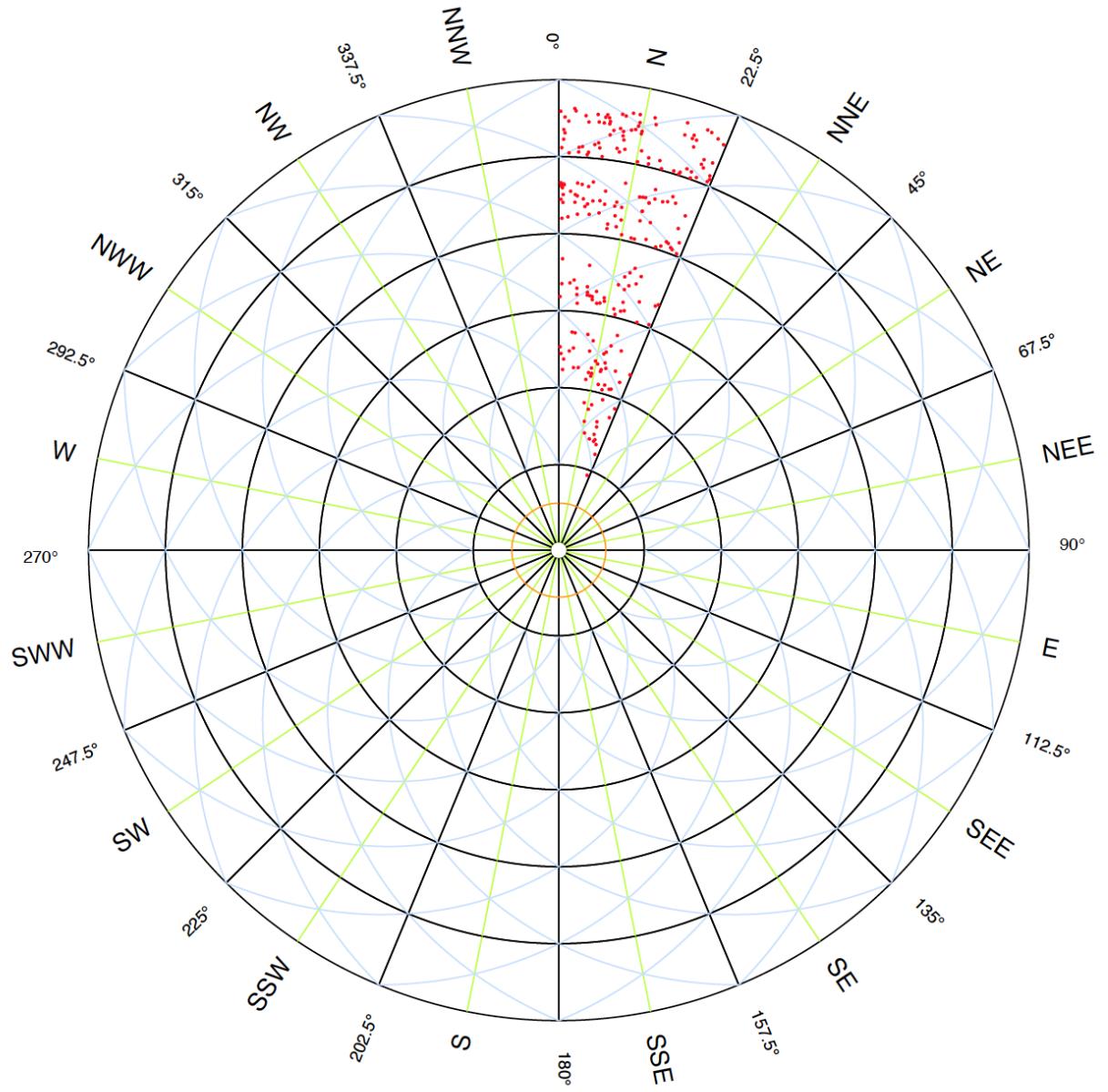


rainforest canopy research crane
overlooking Good Shepard Lutheran High School,
Madang Lagoon & Amron Station





mapping topography and trees under the crane





Baitabag 2023



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Museum Science Directors then & now

Drs. Bulisa Iova & George Weiblen



bell museum

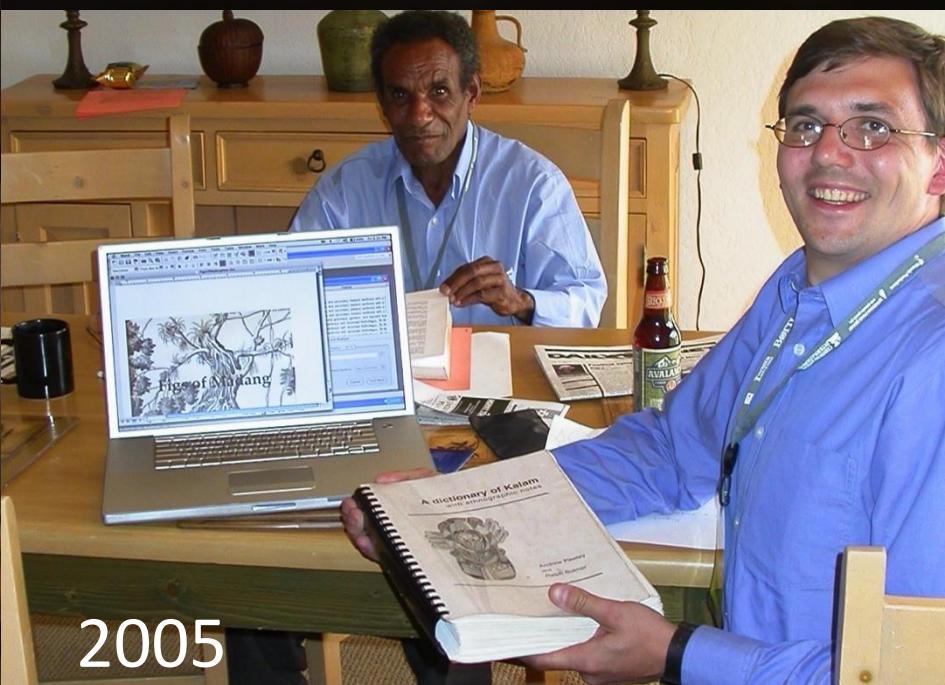
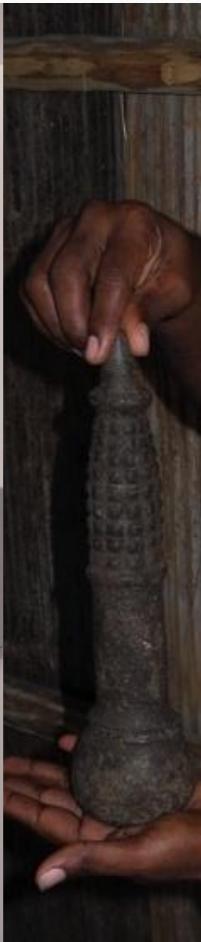
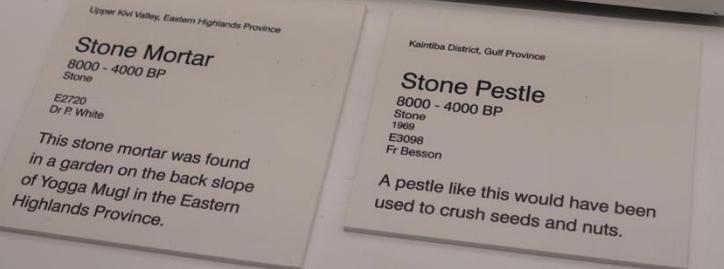




Ian Saem Majnep Gallery

1995

Late Dr Ian Saem Majnep was one of the first Papua Guinean scientists in the fields of ethnography (a br...



2005



A generation goes,
a generation comes
but the earth
remains forever

Ecclesiastes 1: 4



acknowledgements



bell museum



THE
CHRISTENSEN
FUND

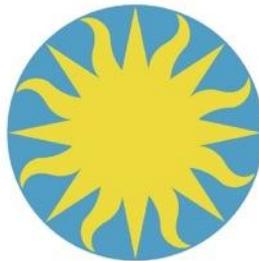


PNG LNG



SWIRE

ExxonMobil



STEAMSHIPS



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