UNESCO

CITY OF
PUERTO PRINCESA

The River of Swallows

A brief guide to the environmental features of the Puerto Princesa Underground River

LA VENTA

The PPUR outflow at night time

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Introduction

Twenty-seven years have passed since we visited the St Paul Underground River for the first time. It was 1986, no roads reached the area, the total known length of the cave was just a few kilometres and very few people were aware of this incredible jewel of our planet.
Since that time, hundreds of cavers have explored its huge galleries and thrown light on its mysteries, its alien fauna, and its unique speleothems. In the meantime the name of the cave and its park has changed, and the Puerto Princesa Underground River has entered the Unesco World Heritage List. In this quarter of a century hundreds of thousands of visitors have felt the fantastic feeling of navigating its giant-size galleries amongst flocks of swallows and bats. Today a cement road connects Puerto Princesa to Sabang, hotels welcome the visitors, and tens of *bancas* take them to the cave entrance.
There is however one thing that has remained the same: the respect of the cave and its dwellers, the awareness that tourism is not always in conflict with conservation, and the capacity to leave the environment and the cave absolutely untouched. Despite the huge number of tourists visiting the cave and the possibility they had to mystify the change in name of progress and development, the authorities have not built a single cement step, hung a single steel footbridge, or set up an electric line to light up the cave.
Among the unique features of this underground world, which you will discover in the following pages, the ecological approach to the cave is probably the most amazing one: the Puerto Princesa Underground River is one of the most visited caves in the world and yet, at the same time, the least damaged. This is absolutely exceptional, and represents the true point of force of this tourist site: while entering the cave, every visitor feels the same, powerful, unique feelings of the first explorers.
In a world led by mere economic interests, the international community can never thank enough the authorities and the park personnel for this far-sighted policy.
We have entered the cave hundreds of times, explored and mapped tens of kilometres of galleries. Many of the sites we have seen inside may not be reachable by tourists, due to technical difficulties or environmental sensitiveness. This book represents an opportunity to communicate, by words and images, this fascinating secret world.

Antonio De Vivo, Leonardo Piccini

Left: The entrance of the Puerto Princesa Underground River is a magical passage from the green environment of the bay to the dark galleries of a hidden world

The physical environment of the Saint Paul karst

Leonardo Piccini

Palawan is the fifth largest of the more than 7,100 Philippine Islands and covers an area of 12,000 km^2. It is located in the south-western part of the archipelago, not far from Borneo, and together with Balabac and the Calamians forms a NE-SW line of islands spreading for about 600 km.

Palawan is a narrow, elongated and mostly mountainous island and is located between 11°50' and 12°20' latitude N, and 117°00' and 120°20' longitude E. The highest peaks are: Cleopatra Needle (1593 m) and Mount St. Paul (1028 m) in the northern sector; Victoria Peak (1727 m) in the central sector and Mt. Mantalingajan (2054 m) in the southern part. Two important N-S depressions, corresponding to valleys or lowlands, divide the island into three tectonic sectors. Along the depression which divides the northern from the central sector, we find the Saint Paul Dome karst ridge. More precisely, the St. Paul area is located east of Ulugan Bay, about 50 km NE of Puerto Princesa. The length of the ridge, placed between the Babuyan River valley to the E and the Cabayugan River valley to the W, is about 10 km and its average width is 4 km.

Sharp blades and pinnacles of rock are the product of intensive corrosion on the limestone

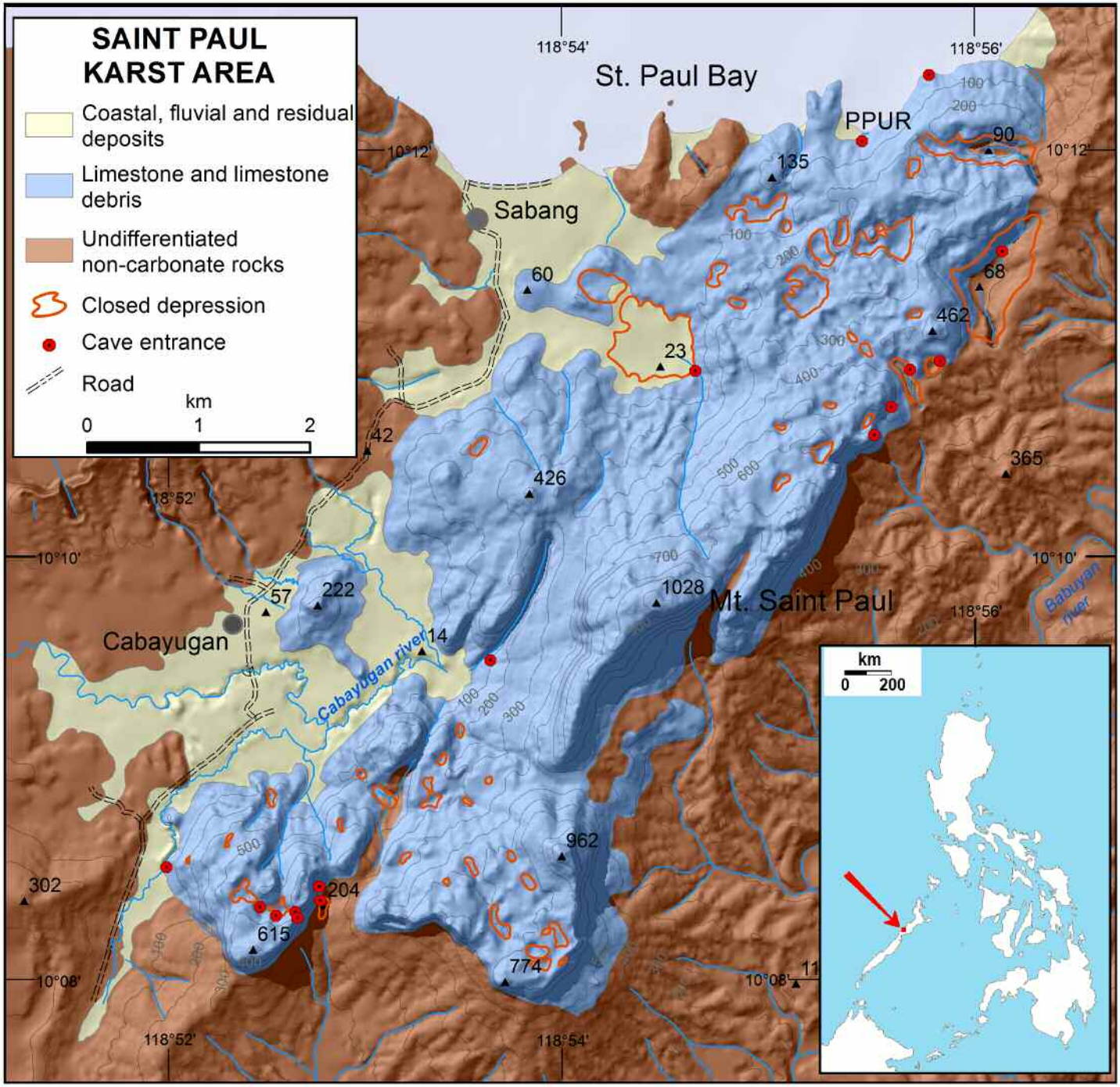
Geology

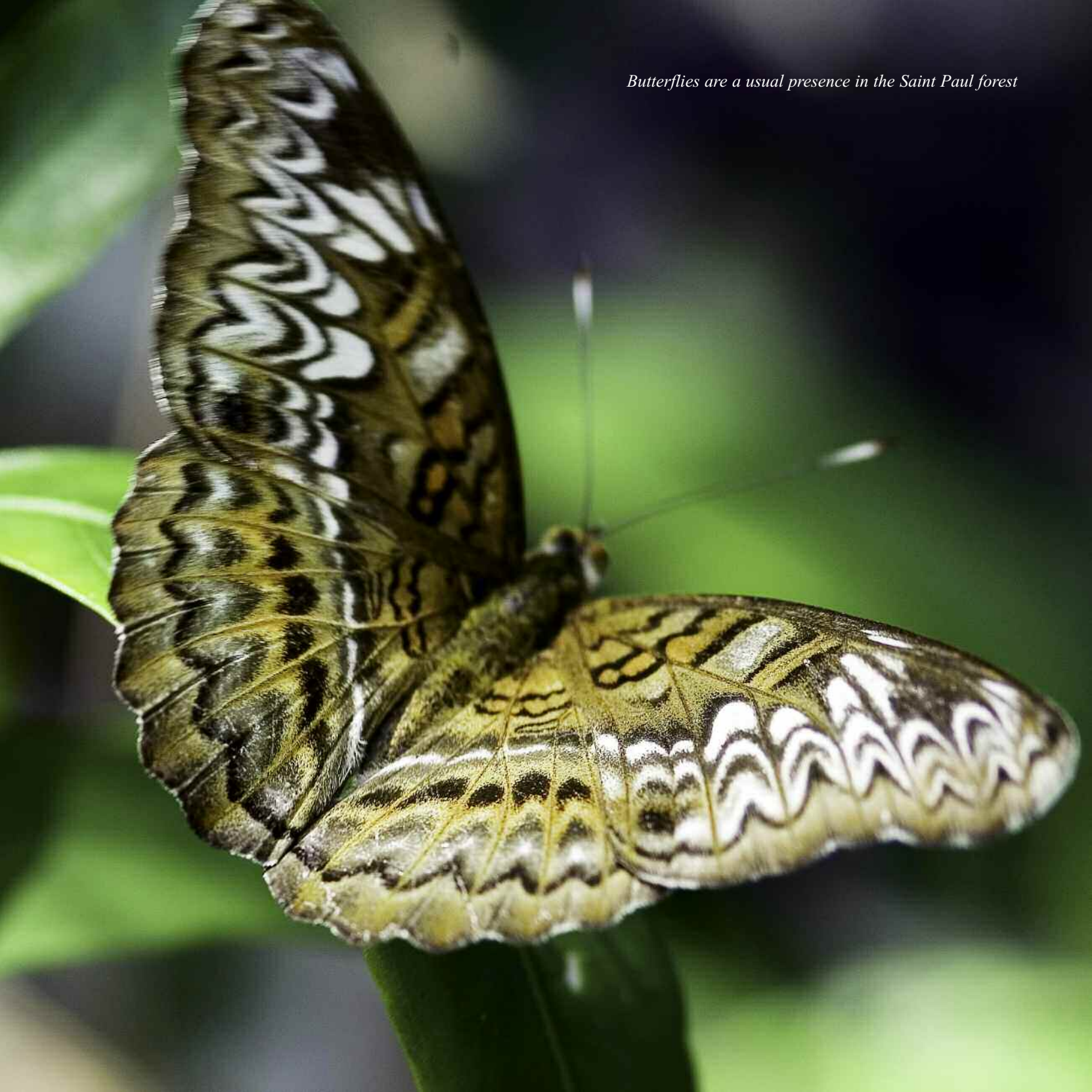
The St. Paul karst covers an area of about 35 km^2 and is made of massive to roughly bedded, light to dark grey, limestone showing levels rich in fossils. It represents the remains of an ancient coral reef, about 20-25 million years old.

Such rock formation, more than 400 m thick, lays over sedimentary (mudstones, sandstones and marls) and volcanic rocks, dating back to about 30-25 million years before present (Oligocene age) and laying on an older metamorphic basement.

The limestone outcrop is shaped as a NNE-SSW elongated, asymmetric ridge sloping down to the west. From a structural point of view it consists of a multiple NW dipping homoclinal relief limited by NE-SW oriented faults. Such lineaments have controlled both the general shape of the mountain and the karst landforms, determining the lining up of dolines and the development of the major caves. One of these faults may be seen along the coast, near the Manlipien park station, where it puts the limestone and the basement rocks in contact.

The formation of the mountain is relatively recent. After having been drowned and covered by terrigenous sediments, the limestone reef gradually rose up and was


SAINT PAUL
KARST AREA
Coastal, fluvial and residual deposits
Limestone and limestone debris
Undifferentiated non-carbonate rocks
Closed depression
Cave entrance
Road
km
0 1 2
St. Paul Bay
Sabang
Cabayugan
Cabayugan river
Mt. Saint Paul
Babuyan river
PPUR
90
135
60
68
462
23
42
426
365
1028
57
222
14
962
204
302
615
774
118°54'
118°56'
118°52'
10°12'
10°10'
10°08'
km
0 200



Butterflies are a usual presence in the Saint Paul forest