

A VISIT TO MADAGASCAR

- Arthur Clarke

From 10 May to 7 June, I will be absent from Tasmania, spending most of this time in a remote area of western Madagascar. I will be travelling to Madagascar via Johannesburg, then on to Tana (Antananarivo): the capital of Madagascar, where I will meet members of the Paris based television/cinematography company, Bonne Pioche Productions, before going west with them from Tana to Bekopaka via Belo. I have been engaged (an all expenses paid trip) as the cave ecologist/cave fauna consultant (one of several scientific advisors) for the production of a documentary film (already sold!) for European Television. Titled: "Journey to the Centre of the Stone", the film will relate the subterranean and surface biology associated with the pinnacle karst limestone in the unique Tsingy de Bemaraha (Reserve Naturelle Integrale) World Heritage Area in western Madagascar. The main themes of the film are:

- 1) The evolution of the species living in Madagascar and more particularly in the Tsingy of Bemaraha;
- 2) The relationships/oppositions between two ecosystems at the same location: the hot and dry dessicating environment at the surface, and the fresh or moist to humid, more constant temperature region in the cavernous depths below.

Bonne Pioche are paying air fares, hotels en route & food while there, plus providing specialist clothing, including tailor-made wet suits, coveralls and abrasion resistant gloves etc. This Tsingy de Bemaraha is world renown, due to the extensive area of karst (hundreds of sq. kilometres of 30 metre high spires or pinnacles – remnants of a dissected limestone plateau), where the surface karren solution flutes are extraordinarily thin with literally razor sharp edges. The area is very inaccessible – even to locals (who are not permitted entry into the national park) - so the caves and their wildlife are rarely ever studied: hence this film trip. Bonne Pioche have timed the filming to coincide with the end of the wet season to maximise the possibility of locating as much animal life as possible, before the region dries out (as it does rapidly) due to the desiccating effects of the high sub-equatorial temperatures. Roads in the area are nominally impassable at the best of times – even to 4WD vehicles – so the area is normally only accessible by helicopter; however, it is proposed that our film expedition will access the area by 4WD buses, dugout canoes, zebu carts and a two day or more (28km) long walk with river wading to reach our camp site/ filming location! Our expedition will include about 20 people... mostly cinematographers, producers and technicians, plus consulting scientists in front of the camera explaining the plant and animal life as it is filmed. The consultant specialists for the film will include: include a cave area guide, speleologist, biospeleologist (myself, botanist, entomologist, herpetologist, primates and carnivore specialist and an ethno-archeologist.

A feature of the film will include the erection of a pre-fabricated dome-shaped "Ikos" (a suspended laboratory) positioned above the Tsingy pinnacle karst by cavers and an architect. It will be coated with a special thermal covering, so the air is cool inside where terrariums will be placed for filming the behaviour of particular biological species. Only 3 to 4 persons can be inside the laboratory at the same time and it will only be accessible by SRT (single rope techniques) using mechanical prussiking devices and/ or abseiling on fixed (static) caving ropes.

As mentioned, the main themes of the film are: evolution of the species and the relationships / oppositions between two ecosystems in the Tsingy de Bemaraha. A crude translation of the French film director's brief, reads as:

- 1) In the «evolution» theme, we'll have to find examples that will explain:
 - the phenomenon of speciation on one hand;
 - the preservation of natural features on the other hand, which are peculiar to the insular (isolation) context of Madagascar as an island and also to the "island" like nature of the Tsingy karst.

To sum up, it means that we'll have to show: tiny creatures and relic plants (like microcebe, brookesia perarmata, takhtajaniaperrieri or same family), or tiny creatures and hyper adapted plants that can be the same as the relics (microcebes, propitèques, tenrec, succulent plants).

- 2) In the theme «relationships/oppositions» between the two ecosystems, the point is to show how species move from one ecosystem to the other: during a day, a season, a biological cycle, or just fortuitously (e. g. a seed carried by the water or the wind).

All those observations will be set against the local geology and geomorphology, where we'll put all this life back in its context: the Tsingy's limestone massif of Bemaraha, its formation, evolution and characteristics. It means that we'll be interested in the bonds between several estates (the flora and the fauna, the geology and the hydrobiology, the acoustics and the animal behaviours, etc.); this in order to underline the interdependence and interactions of the organisms, the food chains, the ecological nests, etc. At the same time, we'll shoot the handlings too: measurements, morphology, experiments, captures, takings, behaviours and sounds recordings. We hope to be able to collect some samples for filming in terrariums in our Ikos, or possibly with a scanning microscope back in France. Part of the film will relate to archeology and paleontology: the history and the tracks of human civilisation and animal populations that have colonised this setting in the Tsingy de Bemaraha of western Madagascar.