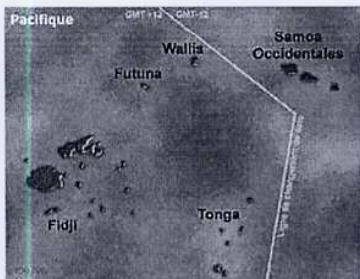


RECENT INCURSIONS OF INVASIVE ANIMAL AND PLANT SPECIES IN THE SMALL AND REMOTE ARCHIPELAGO OF WALLIS AND FUTUNA (SOUTH PACIFIC): “LA MAISON BRÛLE MAIS NOUS REGARDONS AILLEURS”.

An inventory of all alien terrestrial plant and animal species recently carried out in the French Overseas Territory of Wallis & Futuna, reveals that incursions of some of the worst invasive alien species still occur in this small and remote archipelago of the South Pacific.

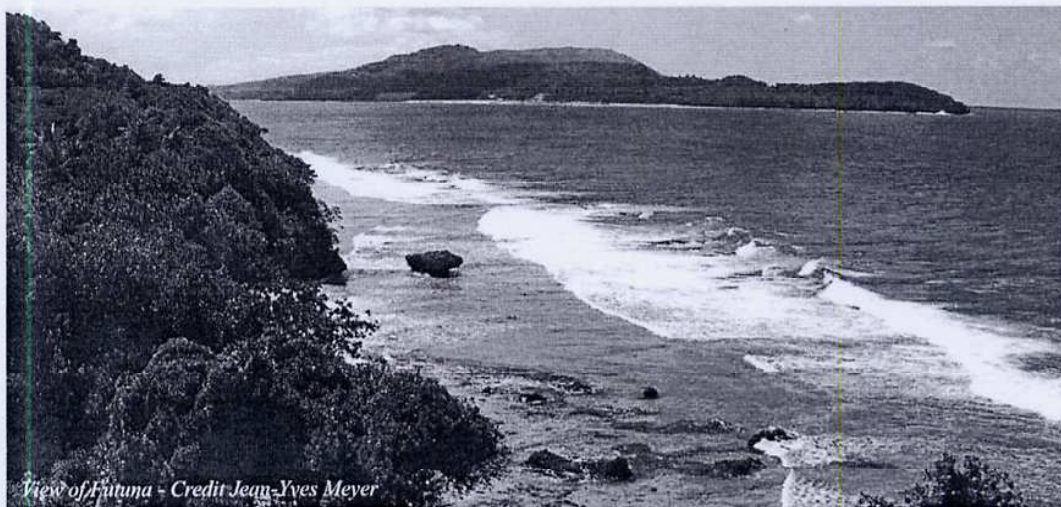
Wallis & Futuna, also known as the Horne Islands, is formed by the three small high volcanic islands of 'Uvea (78 km², 151 m asl, surrounded by ca. 19 offshore islets), Futuna (47 km², 524 m asl) and Alofi (17 km², 417 m asl), located between 280-400 km from Fiji, Samoa and Tonga. The archipelago is connected by an international flight to New Caledonia only twice (up to three) per week with a stop-over in Suva (Fiji), and there are two daily flights between 'Uvea and Futuna (230 km apart) with a small Twin-Otter plane. The population comprises 13,450 inhabitants (2008 census), with 68% living on the main island of 'Uvea. People on Futuna have kept their traditional socio-political (ruled by two kingdoms), and agricultural, and pig rearing systems intact. Futunians cross the 1.8 km sea channel to Alofi (with no permanent settlement) daily to cultivate taro, kava, paper mulberry and tobacco, and to hunt flying foxes, Pacific pigeons and coconut crabs found in the dense primary rainforest.



Wallis & Futuna islands

Two three-week field-expeditions, funded by Wallis & Futuna Department of Environment and lead by the Centre IRD de Nouméa, were conducted in November 2007 and November 2008. In addition to the two first authors, the field team was comprised of malacologist Ira Richling (Kiehl University, Germany), zoologist Jörn Theuerkauf (Museum and Zoological Institute, Poland), botanists Jérôme Munzinger and Yohann Pillon (IRD-Nouméa), and entomologists Bruno Gatimel, Emilie Baby (IRD-Nouméa) and Fabien Condamine (INRA-Montpellier, France). The main objectives were to list, identify and locate all the introduced, naturalized (or established) and invasive plants and animals, and to assess the conservation status of the native and endemic species, as well as the native habitats (coastal vegetation, wetlands and mangroves, littoral forests, uplifted limestone forest, lowland and upland rainforests). Obtaining current data on the native and alien biota of Wallis & Futuna is crucial, as the last study on the ant fauna was conducted in 1965 and on the vascular flora in the early 1980's.

Among the recently introduced invasive animals, the black rat, *Rattus rattus*, commonly found on 'Uvea has now reached Futuna, where it is restricted to the main village and wharf of Leava, and it is still absent on Alofi. The little fire ant, *Wasmannia auropunctata*, abundant in 'Uvea and Futuna, has gained a foothold on Alofi as well as the rosy-wolf snail, *Euglandina rosea*, which is now threatening the last populations of the endemic tree snail, *Partula subgonochila*. The aggressive myna bird, *Acridotheres tristis*, on 'Uvea and *A. fuscus* on Futuna were intentionally introduced during the last 5-10 years. Feral dogs were observed on Alofi and might have caused the extirpation of the native ground-dove, *Gallicolumba stairii*. Among the dominant weeds, the liana, *Merremia peltata* is thriving in abandoned cultivated areas on 'Uvea and covers entire lowland slopes on Futuna. The shrub *Clidemia hirta* is aggressively colonizing the



View of Futuna - Credit Jean-Yves Meyer



work team at Alofi - credit Ira Richling

understory of *Falcataria moluccana* and pine plantations of *Pinus caribaea* as well as open native shrublands and disturbed dense forest on the three islands. The invasive vine *Mikania micrantha* in 'Uvea is still absent from Futuna and Alofi, and the African tulip tree, *Spathodea campanulata* which is spreading on 'Uvea is only planted as an ornamental on Futuna. The invasive grasses *Melinis minutiflora* and *Pennisetum clandestinum* were intentionally introduced to 'Uvea in the 80's as fodder plants, and are now naturalized. The thorny shrub *Mimosa diplotricha* was discovered in 2003 in a few localities on 'Uvea and more recently on Futuna. We estimated that the number of non-native vascular plants in Wallis & Futuna increased from ca. 175 in the early 80's to more than 300 species today, including 120 naturalized plants. Many newly established species were introduced as garden ornamentals, with some of them now showing signs of invasion, such as the small tree *Tecoma stans* (Bignoniaceae) and the vine *Thunbergia laurifolia* (Acanthaceae) in Futuna, and the palm *Livistona chinensis* in 'Uvea.

The conservation of the unique terrestrial biodiversity of this small and remote Pacific archipelago, especially on the islands of Futuna and Alofi where many native and endemic birds (e.g. the lorikeet *Vini australis*, the Polynesian triller *Lalage maculosa futunae*, the shrikebill *Clytorhynchus vitiensis fortunae*, the kingfisher *Halcyon chloris regina*), animal (e.g. the Pacific boa *Enygrus (Candoia) bibroni* on Alofi) and plant species (e.g. the endemic shrub *Cyrtandra futunae*, Gesneriaceae) still survive is a challenge. Native forests are vanishing rapidly and are being transformed into fernland (called "toafa"), with less than 5-10% left on 'Uvea, mainly because of deforestation for agriculture and housing development, and repeated fires.

Wallis & Futuna adopted its first nature protection legislation in July 2007 ("Code de l'Environnement"), and the newly created Service de l'Environnement is in charge of biodiversity conservation and invasive species management. However, without strong funding support and rapid action

(e.g. black rat eradication), new incursions and dispersal of alien species are inevitable in this French Overseas Territory isolated in the Pacific Ocean. As quoted by a former French president during an international conference on biodiversity in 2005 (Paris), "*la maison brûle et nous regardons ailleurs*" (the house is burning and we look elsewhere)...

This paper is dedicated to our colleague and friend Paino Vanal, former (and first) chief of the Service de l'Environnement, for his dedication and perseverance towards the conservation of Wallis & Futuna's natural heritage. We also thank Bradley Balukjian (UC Berkeley, R. B. Gump South Pacific Research Station, Moorea) for revising the English.



Village of Leava wharf - Credit Jean-Yves Meyer

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ALIENS

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FROM THE NEW CHAIR OF ISSG
– PIERO GENOVESI



As you know, Mick Clout has recently decided to step back from the Chair of ISSG, and Simon Stuart – elected Chair of IUCN SSC at last WCC in Barcelona - has invited me to take this role.

I cannot say how challenging it is to take this role after Mick, who is the “father” of ISSG and - as Chair of the group - has been incredibly active globally in conservation in the last decades. Mick was in fact the founder of ISSG in 1993, and since then he has been the main actor of the success of the group - one of the most active and influential within the Species Survival Commission. In particular by making the GISD portal the most widely used tool on alien species, by organising keystone meetings, by providing scientific and policy advice to global programs such as GISP, by creating synergies with programs – among others - on protected areas and islands. But beyond the important results gathered within the IUCN world, Mick’s constant work and commitment have contributed substantially to the advances we have seen in the last decade in the knowledge and awareness on biological invasions. Mick’s role was acknowledged by the recent attribution of the Peter Scott Award , which was awarded in the WCC meeting at Barcelona in October 2008.

So, I believe it is clear to you all that taking Mick’s role is for me a tremendous challenge, and I hope with your advice and support to be a good Chair of the group. I am sure that Mick and the other ISSG people in New Zealand will assist me not only in the transition phase, but also in the coming future.

I have worked for about 15 years in species’ management, but in the last years my work has focused more on policies than on field activities. My activities have been mostly based in Europe, and I will definitely need to increase my understanding of the key topics and problems in other areas of the world in order to keep on strengthening and expanding the geographical scope of ISSG, improving our ability to assist the areas more at risk, or with less capacity to address invasions.

Despite the great successes so far gathered, ISSG has many challenges to face in the near future. It is my opinion that there is still much to do to raise the profile of the impacts posed by biological invasions, that are still largely underestimated – if not unknown - to many decision makers, NGOs, governments and the public. In a recent survey carried out in Europe on biodiversity, only 2% of respondents considered alien invasive species as a major threat. In this regard we cannot miss the opportunity of this year CBD Biodiversity Day, that will be on invasive species, launching a global campaign with all the means we have.

I also believe that we need to ensure a constant updating of the Global Invasive Species Database, making this tool more and more integrated with other international databases, and taking the challenge offered by new information technologies to improve our ability to provide prompt and authoritative information to scientists, practitioners and decision makers. I take this chance to thank Michael Browne for his commitment and passion in managing the GISD; Michael’s contribution has been crucial for making the database the valuable tool it is now.

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