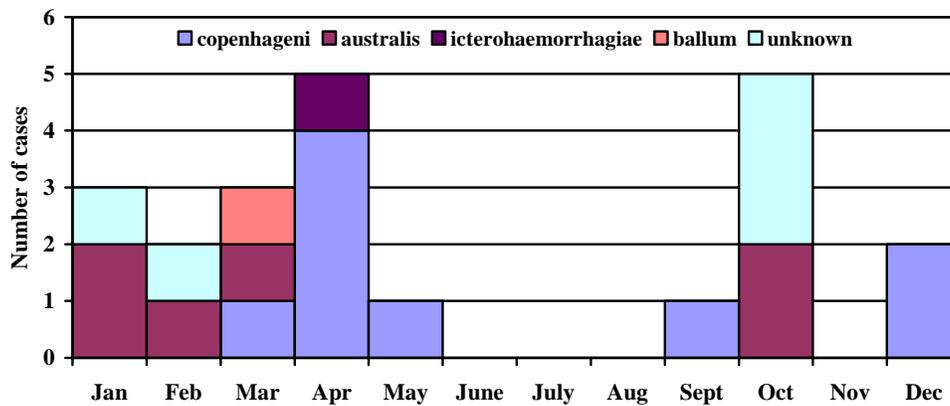


Leptospirosis in Wallis and Futuna in 2005

An extract from the 2005 epidemiological report by doctors Laurent Morisse, Gwénaél Roualen and Jean-François Yvon of the EpiNet team in the Health Agency of the Territory of the Wallis and Futuna Islands.

- **22 cases recorded in the territory**
 - 21 in Futuna (endemic zone) and 1 sporadic case in Wallis
 - 16 confirmed cases (serology or PCR) and 6 suspected
 - Annual incidence in Futuna: 450/100 000 inhabitants (700/100 000 inhabitants in 2004)
- **Chronological distribution**

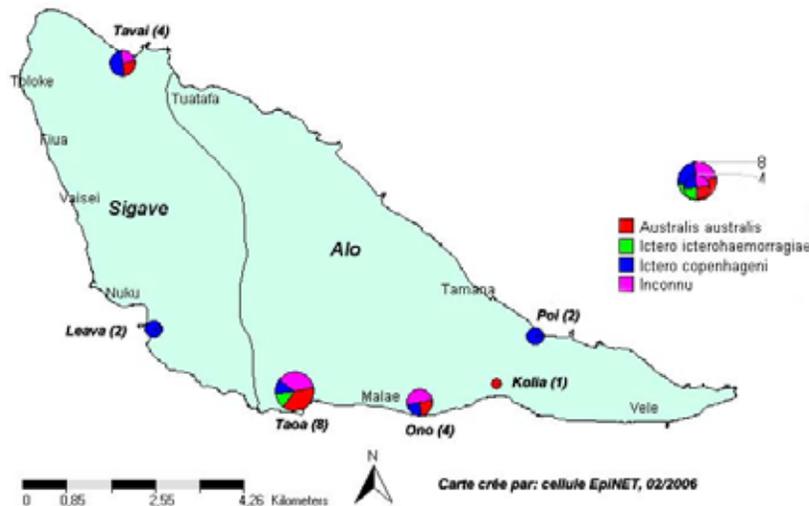
Graph 1: Monthly record of serovar-confirmed leptospirosis cases in Wallis and Futuna in 2005



It can be noted that case recruitment is spread throughout the year but is lower during the cool season (June to September). Ninety per cent of cases are recruited over a seven-month period of the year.

- **Geographical distribution**

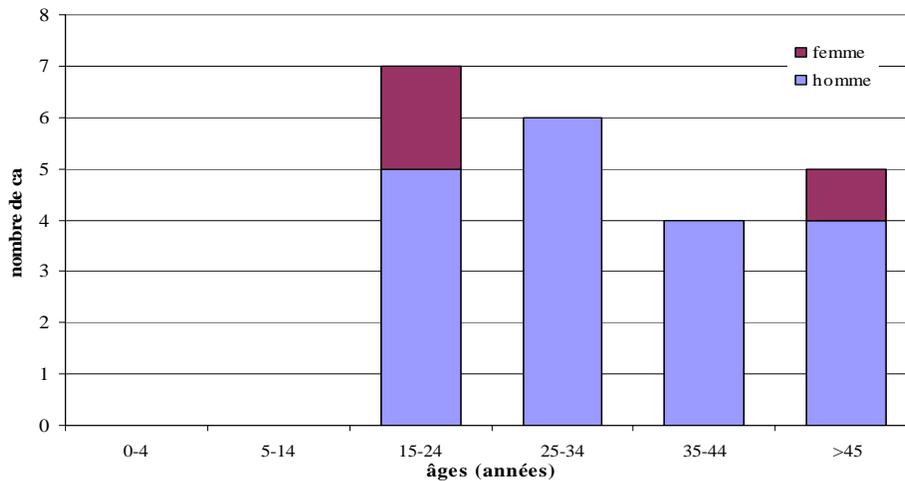
Map 1: Distribution by village and serovar of leptospirosis cases in Futuna in 2005
Map created by EpiNet unit, 02/2006



In Futuna, Alo district has a clear majority of cases with 15 out of 21, or 70% of the total. Taoo village is the most affected with eight cases, four of which are clustered in the Lalo neighbourhood. Then comes Ono with four cases, including three grouped in the Vaimasa area. The two cases in Poi are in the Tufuone area. Only two villages are affected in Sigave, where the cases are geographically dispersed.

➤ Exposed population

Graph 2: Distribution of leptospirosis by age and sex in Futuna in 2005



Case distribution is very uneven between the sexes, with women accounting for only 15% of the total. Cases are, however, spread over all the age groups, with cases under 35 years predominating (59.1%). Only three cases are wage-earners; the Wallis case was a wage-earner on a commercial pig farm. All the cases look after pigs. One case claimed never to have looked after the family's pigs and to have bathed in the river in the days before contracting the disease (the Gutuvai at Taoo). None of the cases wore boots or shoes when they went to look after the pigs.

➤ Clinical presentation

The usual trio – headache, myalgia, conjunctival suffusion – occurs in 90%, 95% and 75% of cases respectively. Forty per cent of cases presented with a cough. The figures vary greatly depending on the serovar concerned (see Table 1). *L. Icterohaemorrhagiae copenhageni* is responsible for all visceral complications. The heart damage was due to pericarditis.

Table 1: Clinical and biological signs by serovar identified in Futuna in 2005

Sign \ Serovar	<i>Icterohaemorrhagiae icterohaemorrhagiae</i>	<i>Icterohaemorrhagiae copenhageni</i>	<i>Australis australis</i>	Unknown
Number of cases	1	8	7	5
Fever > 39°C	1	6	7	5
Headache	1	7	6	5
Myalgia	1	8	6	5
Conjunctival suffusion	1	5	5	5
Cough		4	2	5

Jaundice		2		
Heart damage		1		
Meningeal reaction		1	2	
Oliguria				
Shivering after administration of amoxicillin	1	6	3	5
Thrombopenia < 150 000 / mm ³		2		
Renal failure (creatinin > 250 µr		2		

➤ Serogroups and serovars identifiable among positive cases

Table 2: Distribution of leptospirosis cases by serovar in Wallis and Futuna in 2005

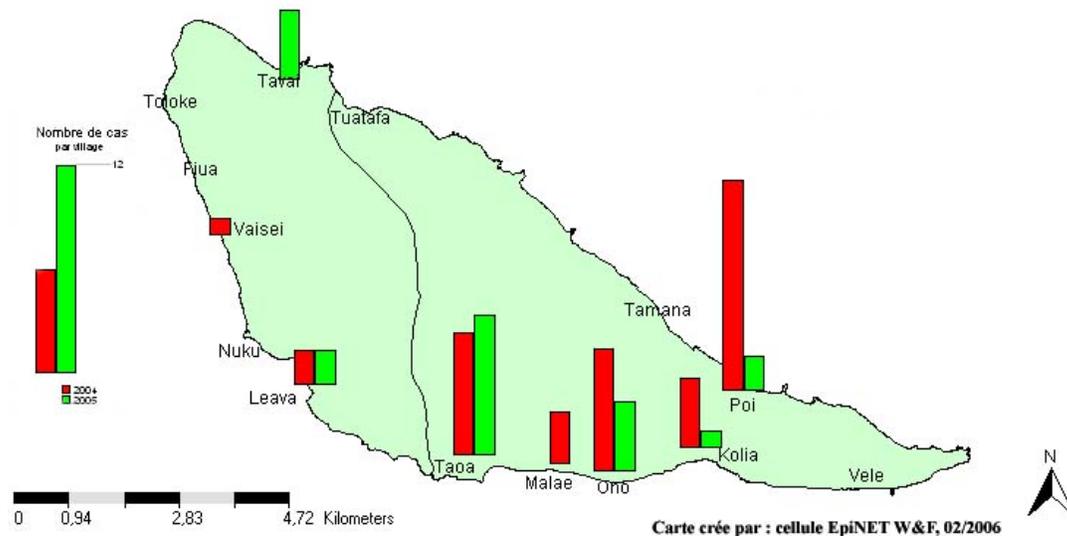
Serogroup	Serovar	Number	Percentage
Australis	australis	6	35%
Icterohaemorrhagiae	copenhageni	8	47%
Icterohaemorrhagiae	icterohaemorrhagiae	1	6%
Ballum	ballum	1	6%

The serogroups *Australis* and *Icterohaemorrhagiae* play a major role in Futuna, while the serogroup *Ballum* corresponds with the case in Wallis.

➤ Comparison with 2004

- Island of Futuna

Map 2: Distribution by village of cases of leptospirosis in Futuna in 2004 and 2005



With 21 cases of leptospirosis in 2005 in comparison with 34 cases in 2004, the trend would appear to be downward. We can nevertheless confirm an endemic situation on the island of Futuna. The period of low recruitment during the dry season occurred again this

year. Recruitment in the Sigave district rose from 10% to 27% of cases when compared with 2004, in two non-neighbouring villages and including a new leptospirosis outbreak site: Tavai. More noteworthy is that the Poi mini recruitment zone dropped from 44% to 10% of cases. An intense rat eradication drive was conducted in this village in the second half of 2004. Two 'family' clusters – one at Taa'a and the other at Ono – may also be noted.

The preponderant role played by the serogroups *Icterohaemorrhagiae* and *Australis* remains unchanged. The mean age and sex ratios are virtually unchanged. So far this year no-one has worn protective gear on their feet.

- Island of Wallis

In 2004, as in 2005, only one case of leptospirosis was diagnosed. The serogroup identified in 2004 was *Autumnalis*, whereas in 2005 it was *Ballum*.

➤ **Paths to better prevention**

There seems little real hope of persuading people to wear protective footwear when they are in pigpen areas, despite a number of awareness-raising campaigns being carried out since 1998 by the health and rural economy sectors.

To have pigpens made from cement by supplying farmers with the materials required (cement, wire netting and corrugated iron) free of charge and leaving them to build them as they see fit does not seem to be the best alternative. As the environmental survey carried out in February this year revealed the presence of many rats' nests around the slabs, the proportion of farms concerned (92% are cement-built or cement and earth) and the major incidence (growing in recent years) of the disease would seem to indicate that disease incidence is increasing as more and more farms are building cement pens!

The pigpens need rehabilitating to a strict set of instructions regarding the site and construction method to be chosen, plus an obligatory drainage system for waste water and water soiled by animal faeces.

Chemical rat control by the territorial departments concerned and better sanitation of farms by the community need to be done on a permanent basis but also whenever a case of human leptospirosis occurs in an area.

The full report includes information about the following diseases: dengue, leptospirosis, brucellosis, influenza, lymphatic filariasis, sexually transmitted infections, hepatitis B, salmonellosis, acute bloody diarrhoea, tuberculosis and leprosy. It is available online from the PPHSN web site at <http://www.spc.int/phs/PPHSN/Services/EpiNet/intro.htm>.

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