AUSTRALIA

Communicable Diseases Intelligence

Bulletin number 80/22
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Contents:

VIRUS REPORTING SCHEME - A total of 942 reports were received this period.

Reports of interest include:

- Influenza - Five isolations of influenza A virus resembling influenza A/Texas/1/77 were made during this reporting period, three by Woden Valley Hospital, Canberra, and two by the State Health Laboratory, Brisbane.

  Eight isolations of influenza A virus resembling influenza A/Bangkok/1/79 and seven isolations of influenza B virus resembling influenza B/Singapore/222/79 were made by Fairfield Hospital, Melbourne, during September.

- Eighteen cases of Q fever were reported by the Institute of Medical and Veterinary Science, Adelaide. Six cases involved slaughter-room workers at a cattle abattoir in Tennant Creek, and nine cases originated from Alice Springs, four abattoir workers, an employee in a trucking yard, a housewife and three for whom no information was available.

- All eight patients admitted to Fairfield Hospital, Melbourne, with malaria during September had infections with Plasmodium vivax. Two had returned from Papua New Guinea, one from South East Asia, one from Indonesia and the remaining four were Vietnamese refugees.

- Coxsackie A16 virus was isolated from each of the three hand, foot and mouth disease cases reported by Fairfield Hospital, Institute of Clinical Pathology and Medical Research, Sydney, and the State Health Laboratory, Brisbane.

- Quarantine restrictions have been placed on the importation of frozen frogs legs of Indian origin because of continuing unsatisfactory bacteriological results, and lack of decontamination procedures that do not substantially alter the product.

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EPIDEMIOLOGY OF DENGUE AND ROSS RIVER FEVERS IN THE SOUTH PACIFIC

(Based on information contributed by L. Self, WHO Regional Office for the Western Pacific, Manila, Philippines, from published and unpublished reports.)

Dengue fever used to have a rather legendary quality, when relatives returning from the tropics described an unpleasant and debilitating, but otherwise harmless, acute disease that had laid them low. This classical form of dengue presents as an acute febrile disease with headaches, joint and muscular pains and, more often in young children, a maculopapular rash. However, dengue haemorrhagic fever (DHF) was recognised as a new disease only in 1953 in the Philippines, and later in 1958 in Thailand. DHF is now endemo-epidemic in most of South East Asia and the Western Pacific Regions, and is one of the ten leading causes of hospitalisation and death in children in at least eight Asian countries.

Dengue virus is transmitted to man through mosquito bites. Man is the virus reservoir, although the monkey is also a natural reservoir in Malaysia. The four serotypes of this group B arbovirus are antigenically very similar, but elicit only partial cross-protection. It is not known whether one serotype is more pathogenic than another.

The incubation period is four to six days, with a high viraemia in the acute phase which lasts five to seven days. This is followed by an immune response which offers only partial and temporary protection. Infections with other serotypes are possible after short intervals.

It is these reinfections that are believed to result in DHF. Pre-existing antibodies combine with the new serotype but fail to neutralise it, and instead enhance penetration and virus growth by interacting with the cellular Fc receptors, particularly in the monocytes. Complement is activated with a profound depression of C3 and C5 levels, and vascular permeability is increased, resulting in plasma loss. These physiopathological changes result in haemoconcentration, low pulse pressure and other signs of shock. As there are no specific anti-viral treatments, management is supportive, with correction of shock.

Aedes aegypti is the most efficient mosquito vector because of its domestic habitat. The female mosquito bites man during the day. After feeding on infected blood, the insect can transmit dengue either immediately by carry over, or after a period of eight to ten days when the virus has multiplied in its salivary glands. Other secondary vectors are Ae.albopictus, Ae.polynesiensis and several species of the Ae.scutellaris complex.

Most dengue infections are subclinical, and since these silent dengue infections usually precede DHF, surveillance of virus circulation is of paramount importance. An understanding of the epidemiology of the disease depends on recovery of the pathogen. The sensitivity of laboratory assays has been increased by inoculating serum into female Aedes mosquitoes and detecting virus multiplication by immunofluorescence,

using cell cultures of Ae.pseudoscutellaris, or by using blood cells rather than plasma. A live tetravalent vaccine is being developed, although it will be some time before it is acceptable for universal usage.

Control of the mosquito vector depends on local conditions, approaches, and resources. Long-term insecticide control is difficult and expensive, although adulticide spraying with a formulation of malathion and fenitrothion, and larviciding with abate (an organophosphorus compound in the form of 1% sand granules) has been effective in high risk localities and in alleviating outbreaks. Greater community participation in removing stagnant water receptacles has been the most successful approach. Biological control with Toxorhynchites mosquitoes and the nematode Romanomermis culicivorax is also being investigated.

Authorities are worried about the prospect of dengue virus becoming endemic in the South Pacific. A dengue type 1 pandemic occurred on a large number of islands in 1974, and outbreaks of types 2 and 3 had occurred in previous years. Suitable vectors exist on most islands, and with the increasing freedom of international travel, new serotypes could be introduced (see CDI 79/20). The prolific spread of such mosquito borne viruses is illustrated by the group A arbovirus, Ross River Virus (RR). Originally detected in Queensland, the virus is transmitted by Culex annulirostris and Ae. vigilax. Infection presents with pain in the ankles, knees and wrists in addition to pain and muscle tenderness in the back, shoulders and limbs. Some patients develop a maculopapular itchy rash, but there are no serious complications. In 1979 Fiji experienced an extensive epidemic of RR fever, with over 30,000 clinically recognised cases. Throughout that year, and continuing into 1980, the disease has spread throughout the South Pacific.

The remainder of this article collates the epidemiology of these two arboviruses in the region in 1979 and 1980.

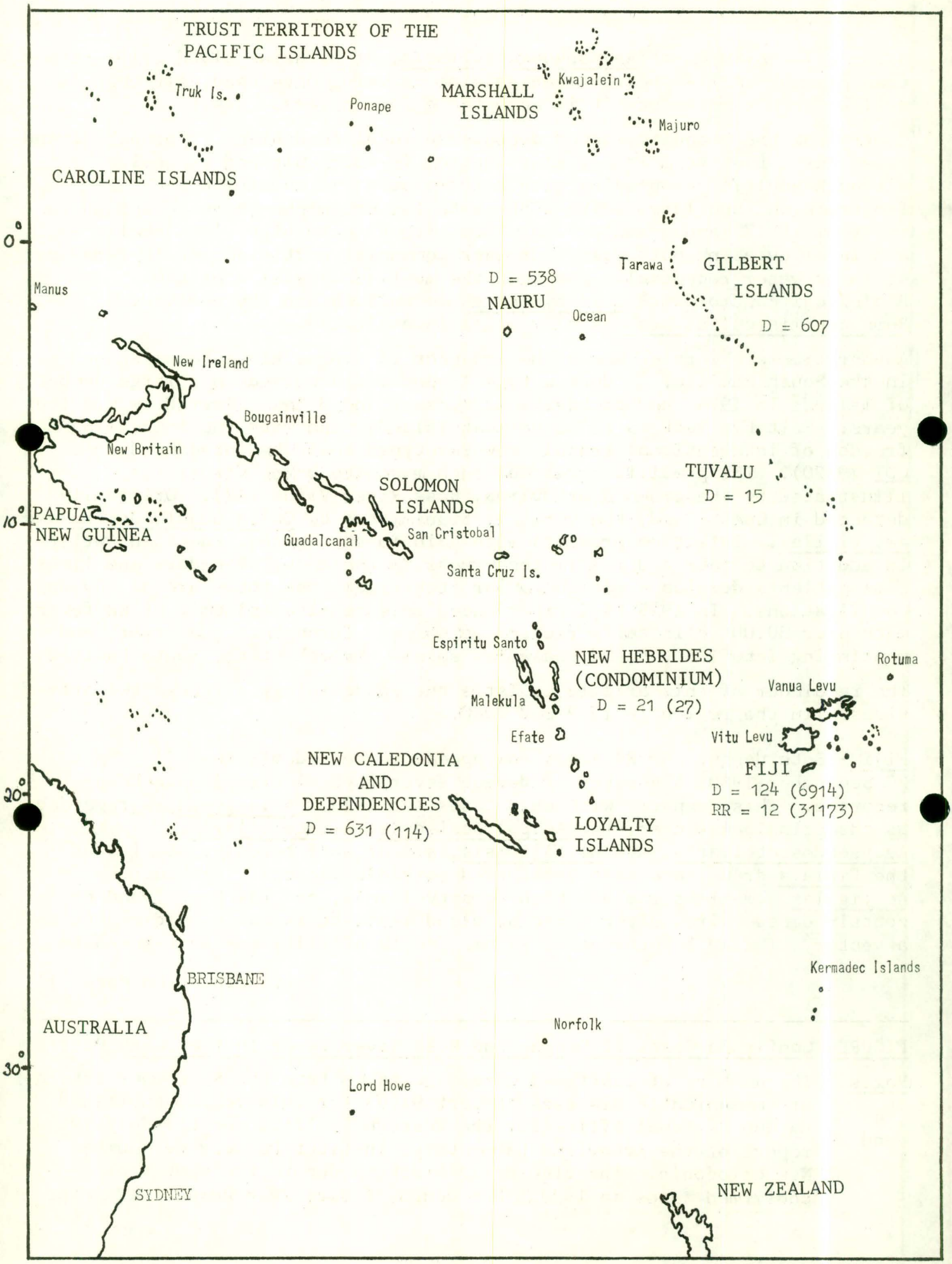
Fiji - Both dengue and RR fever now appear to be endemic in Fiji. Up to 20 September 1980, 124 cases of dengue fever (type 4 virus) have been reported. This compares with 6914 cases for 1979. Ae.aegypti is regarded as the principal vector, but Ae.polynesiensis, Ae.scutellaris, Ae.pseudoscutellaris, and Ae.fijiensis, a leaf axil breeding species of the Finlaya group, are also considered possible vectors. Although Ae.vigilax sometimes reaches high density levels, and has been found to contain dengue virus after a recent blood meal, it is not considered to be a vector. The 1975 outbreak on Rotuma (north of Fiji) was attributed to

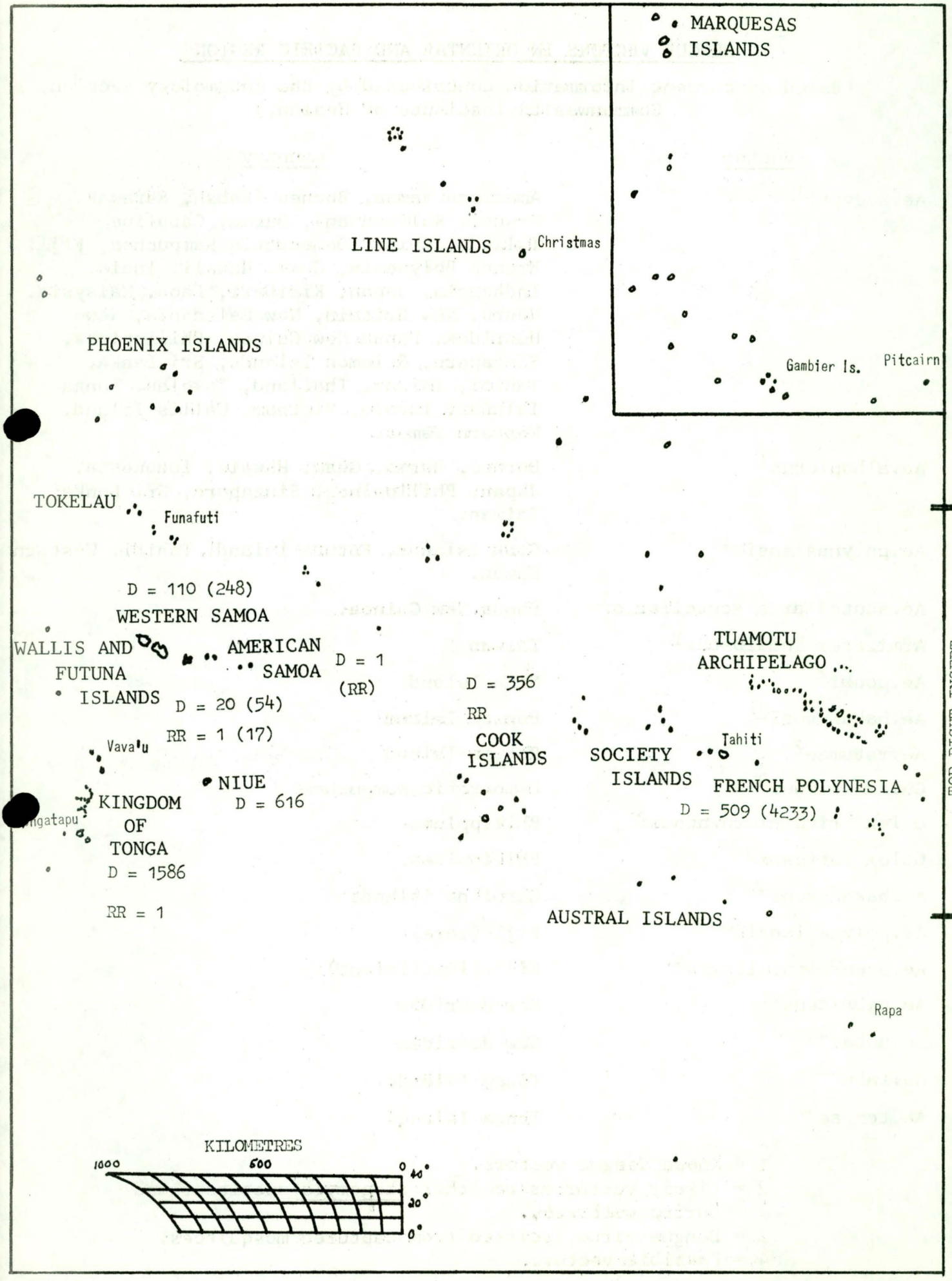
(continued on page 7)

FIGURE Confirmed Cases of Dengue and Ross River Fever in the South Pacific

Pages 4 and 5

The numbers of confirmed cases are taken from the September return of communicable diseases (Report 9/80) for this region published by WHO Regional Office for the Western Pacific, and the July 1980 report of the Arbovirus Laboratory, Institut Pasteur de Noumea, New Caledonia. The figures in brackets denote the number of confirmed cases in 1979. D = dengue fever; RR = Ross River fever.


TRUST TERRITORY OF THE PACIFIC ISLANDS
Truk Is.
Ponape
MARSHALL ISLANDS
Kwajalein
Majuro
CAROLINE ISLANDS
0°
Manus
D = 538
NAURU
Ocean
Tarawa
GILBERT ISLANDS
D = 607
New Ireland
Bougainville
New Britain
TUVALU
D = 15
SOLOMON ISLANDS
10°
PAPUA NEW GUINEA
Guadalcanal
San Cristobal
Santa Cruz Is.
Espiritu Santo
NEW HEBRIDES (CONDOMINIUM)
D = 21 (27)
Rotuma
Vanua Levu
Malekula
Efate
Vitu Levu
FIJI
D = 124 (6914)
RR = 12 (31173)
NEW CALEDONIA AND DEPENDENCIES
D = 631 (114)
20°
LOYALTY ISLANDS
BRISBANE
Kermadec Islands
AUSTRALIA
Norfolk
30°
Lord Howe
SYDNEY
NEW ZEALAND



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DENGUE VECTORS IN ORIENTAL AND PACIFIC REGIONS

(Based on current information contributed by the Entomology Section, Commonwealth Institute of Health.)

Vector	Country
Ae.aegypti[1]	American Samoa, Borneo (Sabah, Sarawak, Brunei, Kalimantan), Burma, Caroline Islands, China, Democratic Kampuchea, Fiji, French Polynesia, Guam, Hawaii, India, Indonesia, Japan, Kiribati, Laos, Malaysia, Nauru, New Britain, New Caledonia, New Hebrides, Papua New Guinea, Philippines, Singapore, Solomon Islands, Sri Lanka, Tahiti, Taiwan, Thailand, Tokelau, Tonga Islands, Tuvalu, Vietnam, Wallis Island, Western Samoa.
Ae.albopictus[1]	Borneo, Burma, Guam, Hawaii, Indonesia, Japan, Philippines, Singapore, Sri Lanka, Taiwan.
Ae.polynesiensis[1]	Cook Islands, Futuna Island, Tahiti, Western Samoa.
Ae.scutellaris scutellaris[1]	Papua New Guinea.
Armigeres subalbatus[1]	Taiwan
Ae.cooki[2]	Niue Island
Ae.hakanssoni[2]	Ponape Island
Ae.rotumae[2]	Rotuma Island
Culex gelidus[3]	Democratic Kampuchea
Culex tritaeniorhynchus[3]	Philippines
Culex fatigans[3]	Philippines
Ae.hakanssoni[4]	Caroline Islands
Ae.polynesiensis[4]	Fiji (rare)
Ae.pseudoscutellaris[4]	Fiji (inefficient)
Ae.hebrideus[4]	New Hebrides
Ae.aobae[4]	New Hebrides
Ae.tabu[4]	Tonga Islands
Ae.tongae[4]	Tonga Islands

1 = Known dengue vectors.
2 = Likely vector as no other Stegomyia species found during outbreak.
3 = Dengue virus isolated from captured mosquitoes.
4 = Possible vector.

Ae.rotumae.

The initial experience with RR fever occurred in 1979, when over 30,000 clinical cases were reported, although the involvement of dengue and influenza may have complicated some diagnoses. Several tourists contracted the infection, which was subsequently identified on return to their respective countries (CDI 79/15). Because of the prevailing immunity, only 12 laboratory confirmed cases of RR fever have been reported up to April this year.

Post-epidemic sera were investigated by the Queensland Institute of Medical Research, Brisbane, and for one village, anti-RR HI antibody at a titre of $\geq$ 1/20 was detected in 92% of the sera (CDI 80/3). Neutralisation tests showed little activity against other group A arboviruses, and virus isolates were indistinguishable from the prototype strain of Ross River(T48). Twenty-three per cent of these villagers had clinical symptoms, of which 17% were adult females, 4% were adult males, and 2% were children. However, the symptoms were more discomforting rather than debilitating. Assays of maternal and cord blood from 368 pregnancies showed that 56% of mothers had HI antibody, and 3% of the cord bloods contained IgM antibody to RR virus suggestive of in utero infection. These IgM positive children were of average weight at birth and showed no apparent abnormalities.

The Australian vectors of RR virus, Culex annulirostris and Ae.vigilax, were not found in some areas of the northern division of Fiji, but laboratory transmission experiments implicated Ae.polynesiensis as a possible vector.

The endemicity of RR virus results from the susceptibility of rodents and pigs to infection. These animals have large populations, and short gestation periods, so that new susceptible generations are constantly emerging. Rat and mongoose sera have given positive CF titres, but no neutralisation activity. However, several porcine and bovine sera from Vitu Levu have given positive neutralisation titres.

New Caledonia - From 1975 to February 1979, virus isolations from patients and vectors identified only dengue type 1 infection. The first isolation of dengue type 4 was made from a traveller arriving from Tahiti in March, and subsequent indigenous cases were soon recognised. Outbreaks occurred in Thio in November 1979, and in Noumea in March 1980. For the first half of 1980, there have been 2100 suspected dengue cases, of which 538 have been confirmed by laboratory investigation.

Although a 1979 serological survey of 527 arthritis cases showed RR virus antibodies in 3.4% of the patients, there was no significant rise in titre. The first confirmed case of RR fever was seen in mid-February 1980 in Noumea. Up to June 1980, 24 RR infections have been diagnosed from ten different localities.

New Hebrides - Cases of febrile polyarthritis with swollen knees were seen in young men living in the north of Espiritu Santo in June 1979. Dengue type 4 was identified. In April 1980, clinical dengue cases appeared in

Vila, and Vate, and 21 were confirmed by serology. Ae.aobae and Ae.hebrideus are suspect vectors in the localities where Ae.aegypti does not occur.

Nauru - Nauru detected dengue-like illnesses in June 1980, on clinical grounds. Confirmation was obtained by serology, and 538 cases were recognised between May and the second week of July.

Tuvalu - An outbreak of dengue fever occurred during mid-February 1980, with dengue confirmations on four paired sera. The fever primarily affected young adults.

Kiribati - Preventive vector adulticiding was undertaken early in May 1980 following the dengue outbreak in neighbouring Tuvalu. However, in June about 40 cases with mild symptoms of dengue were clinically diagnosed, and these were later confirmed serologically.

Wallis and Futuna Islands - Examination of serum samples from 79 patients from Wallis Island gave 54 positive dengue fever diagnoses for the months September to December 1979. Dengue type 4 was isolated. On the neighbouring Futuna and Hoorne Islands, dengue diagnoses were confirmed for 9 patients in January 1980, and 11 patients in May 1980.

RR virus infections were first detected by seven virus isolations and nine positive HI tests from Futuna and Hoorne Islands in November 1979, and one case on Wallis Island in each of December 1979 and January 1980.

Tonga - Dengue-like illness with skin rash and joint pains occurred in June 1979. However paired sera were negative for both dengue and RR virus. In April 1980, four cases of dengue fever were confirmed serologically in Tongatapu, and one case of RR fever in Vavua. Ae. polynesiensis is believed to be the vector in the areas where Ae.aegypti does not occur.

Niue - Niue had a large epidemic of dengue-like illness which affected about one-third of the population from January through to April 1980. The disease spread to all 13 villages, and the highest attack rate (40%) was in the age group 20-29 years. Both sexes were equally affected. Dengue type 4 was isolated from acute case sera. Since about 3% of the patients gave a history of involvement of small joints, RR fever may also be present. Four deaths were reported, from illness consistent with DHF with shock. This figure compares with 12 deaths during the 1972 type 2 dengue outbreak. Ae.cooki or Ae.aegypti or both are believed to be responsible for the transmission.

American Samoa - An outbreak of RR fever occurred between July and October 1979, presenting with influenza-like symptoms associated with joint pains and skin rash. This was the island's first exposure, as sera collected during the 1972 dengue epidemic had no RR antibody activity. Although the vector Culex annulirostris was not found in three of the villages, larvae of this species were found in later surveys.

Western Samoa - Dengue fever was confirmed for five serum samples at the

end of 1979. Ae.samoanus which is a vector for filariasis, is being investigated as the possible dengue vector.

Cook Islands - An outbreak of RR fever started in February 1980, and continued through April. The presence of the virus was confirmed serologically and by isolation. No dengue infections were detected. The epidemic differed from the Fijian in the extent of liver involvement, which is probably a reflection of the 18% prevalence of microfilaria infection. RR virus infections were reported on Rarotonga, Aitu, Aitutaki, Mangaia, and Minihiki islands. The vector is presumed to be Ae.polynesiensis which has higher densities and wider distribution than Culex annulirostris.

French Polynesia - The epidemic of dengue type 4 was first detected in January 1979, in Tahiti. This was the first extension of the serotype outside Asia. Mild forms were the rule, but a few severe forms with neurological or obstetrical complications with two fatalities were seen. Most of the patients were from rural areas, suggesting that Ae.polynesiensis was the important vector.

The last major outbreak of dengue in Australia occurred in 1942 and appeared to spread from Townsville. Since pockets of Ae.aegypti are still present in the north, the Commonwealth Department of Health operates an Ae.aegypti surveillance program at the northern seaports and all Australian international airports. Surveillance is carried out by use of ovi traps and active searching of breeding places. Mosquito surveillance is also undertaken by the Australian Encephalitis Control program in the Southern States.

PROLONGED RESPIRATORY INFECTIONS

(Contributed by I. Jack, Royal Children's Hospital, Melbourne.)

Two prolonged viral respiratory infections were noted in September and October:

- A five year old boy with advanced lymphosarcoma presented with a persistent cough on 19 September. Influenza B virus antigen was detected by immunofluorescence, and the virus was isolated in tissue culture. Three weeks later the child presented with new signs of a chest infection. Influenza B was again isolated. Herpes simplex virus was also detected in this second mucus specimen. His serum, collected on 10 October, gave an HI titre of 1:10 to influenza B virus. This titre is much lower than expected three weeks after a primary infection.
- A three month infant presented with bronchiolitis on 11 September. There were no underlying chronic diseases. RS virus infection was diagnosed by immunofluorescence and isolation, and the child was discharged four days later. On 9 October, the child had a second attack of bronchiolitis, and RS virus was again isolated from mucus.

Since no investigations were done between the two infections, it is not possible to establish whether the patients were re-infected or had an extended primary infection. The possibility of long-term virus excretion has implications for management, especially in a ward reserved for children with malignancy.

FALCIPARUM MALARIA, DESPITE PROPHYLAXIS

(Based on CDR (1980) 80/41.)

On the return flight to the U.K. on 27 January 1980, following a stay in the Sudan, a 38 year old mechanical engineer complained of diarrhoea, vomiting and some fever. The next day he was better, although there was still some fever. One month later he was hospitalised for investigation of P.U.O. He was discharged within a few days, since the microbiological and haematological investigations proved inconclusive. On 16 July, he developed high fever with rigors. Blood films showed numerous Plasmodium falciparum parasites. Enquiry revealed that the patient had taken regular malaria prophylaxis (Daraprim), but had ceased the treatment one week after his return. He recovered fully with standard chemotherapy of chloroquine, followed by primaquine.

This incident emphasises the need for the involvement of a clinical microbiologist in the investigation of P.U.O., especially when the patient has recently returned from a tropical area. Also a stated history of prophylaxis should not influence the doctor's decision to look for malarial parasites, since prophylaxis should be continued for at least one month after leaving a malarial region. If the illness on the flight was malaria, this may have been an example of infection with a partially drug-resistant strain, since low levels of drug-resistance could occur in a known area in which the parasite is usually drug-sensitive.

METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS

(Based on Fairfield Hospital monthly reports August and October 1980.)

Since June 1980, bacterial isolates from 19 patients with methicillin-resistant Staph.aureus infections have been examined. These patients have been transferred to Fairfield from other Melbourne hospitals because of the absence of adequate isolation facilities and their close proximity to other patients at risk, e.g., surgical patients. Most of the patients have been elderly and debilitated in whom leg ulcers, burn wounds, sputum or urinary tract have been colonised with Staph.aureus. Some patients had severe clinical infection such as peritonitis and septicaemia.

All isolates which have been tested were sensitive to vancomycin (MIC $< 1.0\mu g/ml$), but only one was sensitive to rifampicin. Most isolates were also sensitive to gentamicin and chloramphenicol, although there were two patients who had gentamicin-resistant strains, two with chloramphenicol-resistant strains, and one with an organism resistant to both.

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

1

REPORTING PERIOD - 16-10-80 — 29-10-80 BULLETIN NUMBER - 80/22.

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES

VIRUS OR VIRAL ANTIGEN	ICPMR (NSW)/ WVH (ACT)	RAHC (NSW)	PHH/ POW (NSW)	FAIR-FIELD (VIC)	RCH (VIC)	IMVS (SA)	STATE LAB (QLD)	STATE LAB (WA)	Total
0100 ADENOVIRUS NOT TYPED	10	1	1	1	2	4	2	3	24
0101 ADENOVIRUS TYPE 1	6				4	3		1	14
0102 ADENOVIRUS TYPE 2	4		2	1	8	8			23
0103 ADENOVIRUS TYPE 3	6					1		4	11
0105 ADENOVIRUS TYPE 5	3	1		1	1	2		1	9
0107 ADENOVIRUS TYPE 7	1				4				5
0115 ADENOVIRUS TYPE 15						2			2
0119 ADENOVIRUS TYPE 19				1				15	16
0199 ADENOVIRUS TYPING PENDING			1		2	2			5
0201 INFLUENZA A VIRUS	15		3	5		5	2	8	38
0202 INFLUENZA A VIRUS SUBTYPE H3N2	6			5	4		2		17
0203 INFLUENZA B VIRUS	4		2	8	5	7	4		30
0301 PARAINFLUENZA VIRUS TYPE 1	1				1	1		2	5
0302 PARAINFLUENZA VIRUS TYPE 2					1				1
0303 PARAINFLUENZA VIRUS TYPE 3	1			1	8	1	4	3	18
0399 PARAINFLUENZA VIRUS TYPING PENDING			1			2			3
0400 RESPIRATORY SYNCYTIAL VIRUS (RS)	3				5	6	1	5	20
0500 RHINOVIRUS (ALL TYPES)	2			4	12	8	6		32
0600 MYCOPLASMA PNEUMONIAE	2		2	1		3		6	14
0700 ORNITHOSIS-PSITTACOSIS				1		2		1	4
0809 COXSACKIEVIRUS A9					1	4			5
0816 COXSACKIEVIRUS A16	2			1			1		4
0901 COXSACKIEVIRUS B1						2			2
0902 COXSACKIEVIRUS B2					1				1
1006 ECHOVIRUS TYPE 6	1						1		2
1007 ECHOVIRUS TYPE 7								4	4
1009 ECHOVIRUS TYPE 9	1								1
1011 ECHOVIRUS TYPE 11					1				1
1020 ECHOVIRUS TYPE 20			1						1
1022 ECHOVIRUS TYPE 22					14				14
1025 ECHOVIRUS TYPE 25				1					1
1030 ECHOVIRUS TYPE 30	1			3	3				7

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE 2

REPORTING PERIOD - 16 - 10 - 80 — 29 - 10 - 80 BULLETIN NUMBER - 80/22.

VIRAL IDENTIFICATIONS FROM CONTRIBUTING LABORATORIES-CONTINUED

VIRUS OR VIRAL ANTIGEN	ICPMR (NSW)/ WVH (ACT)	RAHC (NSW)	PHH/ POW (NSW)	FAIR-FIELD (VIC)	RCH (VIC)	IMVS (SA)	STATE LAB (QLD)	STATE LAB (WA)	Total
1101 POLIOVIRUS TYPE 1		1				2	1		4
1102 POLIOVIRUS TYPE 2						1			1
1103 POLIOVIRUS TYPE 3			1			2			3
1104 POLIOVIRUS-VACCINAL STRAIN					7				7
1200 MUMPS VIRUS	2			2				3	7
1300 HERPES VIRUS GROUP-NOT TYPED	6	2		3	1	4			16
1301 HERPES SIMPLEX VIRUS NOT-TYPED	4			1				41	46
1302 EPSTEIN-BARR VIRUS (EB VIRUS)						1		1	2
1303 VARICELLA-ZOSTER VIRUS			1			2	1		4
1306 HERPES SIMPLEX TYPE 1	4		5	23		7	5		44
1307 HERPES SIMPLEX TYPE 2	59		3	23		24	13		122
1399 HERPES VIRUS TYPING PENDING			4		3	12			19
1401 COXIELLA BURNETI	9			2		18	12		41
1502 PICORNA VIRUS-NOT TYPED								1	1
1514 MOLLUSCUM CONTAGIOSUM						1			1
1515 CONTAGIOUS PUSTULAR DERMATITIS (ORF VIRUS)						1			1
1521 MEASLES VIRUS	2	4	1		1				8
1522 RUBELLA VIRUS	19	1	1			1	6	3	31
1531 HEPATITIS B VIRUS				24					24
1532 HEPATITIS B ANTIGEN	7		10			5	1	7	30
1535 HEPATITIS A ANTIBODY	4		5	3		6		14	32
1541 CHLAMYDIA A - TRIC TYPE	8		2					61	71
1556 CMV - CYTOMEGALOVIRUS	4		3	19	4	5		6	41
1563 CORONAVIRUS				1					1
1564 ROTAVIRUS	14			6		8		5	33
1599 ENTEROVIRUS TYPING PENDING		1	2		9	1		2	15
ROSS RIVER VIRUS							1		1
SMALL VIRUS (LIKE) PARTICLE	1					1			2
Total	212	11	51	141	102	165	63	197	942

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

3

PERIOD : 16/10/80 to 29/10/80 .... 80/22

Viral Identifications by Clinical Information Table 1.
Code 00,99 -No ill or data; 01,02,11,12 -Respiratory; E3 -Encephalitis; M3 -Meningitis; 04 -Paralysis; 05,13 -CNS other unspec.; 07,49 -GI; 17,47 -Hepatic; 19 -CVS; 89 -Urinary; 06 -Skin/mucous.

VIRUS OR VIRAL ANTIGEN	No-ill or data	Respiratory	Encephalitis	Meningitis	Paralysis	CNS other unspec	GI	Hepatic	CVS	Urinary	Skin/mucs memb
0100 ADENOVIRUS NOT TYPED.....	4	6					5		1		3
0101 ADENOVIRUS TYPE 1.....	2	6					3		1		
0102 ADENOVIRUS TYPE 2.....	2	9					7				3
0103 ADENOVIRUS TYPE 3.....	1	7					1				
0105 ADENOVIRUS TYPE 5.....		3		1			4				
0107 ADENOVIRUS TYPE 7.....	2						1				1
0115 ADENOVIRUS TYPE 15.....							2				
0201 INFLUENZA A VIRUS.....	2	26							3		
0202 INFLUENZA A VIRUS SUBTYPE H3N2		14		1							
0203 INFLUENZA B VIRUS.....		19		2			1				
0301 PARAINFLUENZA VIRUS TYPE 1....		5									
0302 PARAINFLUENZA VIRUS TYPE 2....		1									
0303 PARAINFLUENZA VIRUS TYPE 3....	1	15				1					
0400 RESPIRATORY SYNCYTIAL VIRUS (RS).....	1	17							1		
0500 RHINOVIRUS (ALL TYPES).....		30									1
0600 MYCOPLASMA PNEUMONIAE.....	2	8							1		
0700 ORNITHOSIS-PSITTACOSIS.....		4									
0809 COXSACKIEVIRUS A9.....		1		2			1				
0816 COXSACKIEVIRUS A16.....											4
0901 COXSACKIEVIRUS B1.....				1			1				
0902 COXSACKIEVIRUS B2.....		1									
1006 ECHOVIRUS TYPE 6.....				1			1				
1007 ECHOVIRUS TYPE 7.....	1	1				1	1				
1009 ECHOVIRUS TYPE 9.....							1				
1011 ECHOVIRUS TYPE 11.....		1									
1020 ECHOVIRUS TYPE 20.....							1				
1022 ECHOVIRUS TYPE 22.....	14										

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE 4.

PERIOD : 16 / 10/80 to 29 / 10 / 80 .... 80/22.

Viral Identifications by Clinical Information Table 1.
Code 00,99 -No ill or data; 01,02,11,12 -Respiratory; E3 -Enceph-alitis; M3 -Meningitis; 04 -Paralysis; 05,13 -CNS other unspec.; 07,49 -GI; 17,47 -Hepatic; 19 -CVS; 89 -Urinary; 06 -Skin/mucous.-CONTINUED

VIRUS OR VIRAL ANTIGEN	No-ill or data	Respir atory	Enceph alitis	Mening -itis	Para- lysis	CNS other unspec	GI	Hepa -tic	CVS	Urin -ary	Skin/ mucs memb
1025 ECHOVIRUS TYPE 25.....						1					
1030 ECHOVIRUS TYPE 30.....		1		4			3				
1101 POLIOVIRUS TYPE 1.....		2					1				
1102 POLIOVIRUS TYPE 2.....							1				
1103 POLIOVIRUS TYPE 3.....							2				
1104 POLIOVIRUS-VACCINAL STRAIN....		3					3				
1200 MUMPS VIRUS.....	2		1	1							
1300 HERPES VIRUS GROUP-NOT TYPED..	2		1								10
1301 HERPES SIMPLEX VIRUS NOT-TYPED	1					1					34
1302 EPSTEIN-BARR VIRUS (EB VIRUS).	1										
1303 VARICELLA-ZOSTER VIRUS.....	1							1			2
1306 HERPES SIMPLEX TYPE 1.....		7	1	1					1	2	20
1307 HERPES SIMPLEX TYPE 2.....	1										6
1401 COXIELLA BURNETI.....	3	1									
1515 CONTAGIOUS PUSTULAR DERMATITIS (ORF VIRUS).....											1
1521 MEASLES VIRUS.....		2		1							5
1522 RUBELLA VIRUS.....	2							1			26
1531 HEPATITIS B VIRUS.....	14							10			
1532 HEPATITIS B ANTIGEN.....	9	1						20			
1535 HEPATITIS A ANTIBODY.....								32			
1556 CMV - CYTOMEGALOVIRUS.....	1	10						1		6	
1563 CORONAVIRUS.....							1				
1564 ROTAVIRUS.....	2						31				
SMALL VIRUS (LIKE) PARTICLE							2				
Total.....	71	201	3	15		4	74	65	8	8	116

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE

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80/22

PERIOD : 16/10/80 to 29/10/80 ...
Viral Identifications by Clinical Information Table 2.
Code 10 -Eye; 59 -Genital; 39 -Endo/sal gland;
38 -RES; 29 -Muscle/joint; 69 -Congenital; P8 -PUO;
G8 -Fever/malaise; 09 -Other; A1 -SIDS ...

VIRUS OR VIRAL ANTIGEN	Eye	Genital	Endo/sal gland	RES	Muscle/joint	Congenital	PUO	Fever/malaise	Other	SIDS
0100 ADENOVIRUS NOT TYPED.....			1	1			2			
0101 ADENOVIRUS TYPE 1.....							2			
0102 ADENOVIRUS TYPE 2.....							2			
0103 ADENOVIRUS TYPE 3.....	2									
0105 ADENOVIRUS TYPE 5.....								2		
0107 ADENOVIRUS TYPE 7.....	1									
0119 ADENOVIRUS TYPE 19.....	4	13								
0201 INFLUENZA A VIRUS.....				2			3	3		
0202 INFLUENZA A VIRUS SUBTYPE H3N2							2	4		
0203 INFLUENZA B VIRUS.....			1		1			10	2	1
0303 PARAINFLUENZA VIRUS TYPE 3....							1			
0400 RESPIRATORY SYNCYTIAL VIRUS (RS).....								1		
0500 RHINOVIRUS (ALL TYPES).....	1									1
0600 MYCOPLASMA PNEUMONIAE.....	1						1	1	1	
0809 COXSACKIEVIRUS A9.....							1			
0816 COXSACKIEVIRUS A16.....			1							
1006 ECHOVIRUS TYPE 6.....								1		
1007 ECHOVIRUS TYPE 7.....								1		
1101 POLIOVIRUS TYPE 1.....										1
1103 POLIOVIRUS TYPE 3.....									1	
1104 POLIOVIRUS-VACCINAL STRAIN....										1
1200 MUMPS VIRUS.....			1	1				1		
1300 HERPES VIRUS GROUP-NOT TYPED..		2						1		
1301 HERPES SIMPLEX VIRUS NOT-TYPED		36								
1302 EPSTEIN-BARR VIRUS (EB VIRUS).			1							
1306 HERPES SIMPLEX TYPE 1.....	1	9						2		
1307 HERPES SIMPLEX TYPE 2.....		115								

AUSTRALIA - COMMUNICABLE DISEASES INTELLIGENCE 6

PERIOD : 16/10/80 to 29/10/80 ... 80/22.

Viral Identifications by Clinical Information Table 2.
Code 10 -Eye; 59 -Genital; 39 -Endo/sal gland;
38 -RES; 29 -Muscle/joint; 69 -Congenital; P8 -PUO;
G8 -Fever/malaise; 09 -Other; A1 -SIDS ... **-CONTINUED**

VIRUS OR VIRAL ANTIGEN	Eye	Genital	Endo/sal gland	RES	Muscle/joint	Congenital	PUO	Fever/malaise	Other	SIDS
1401 COXIELLA BURNETI.....							21	17		
1514 MOLLUSCUM CONTAGIOSUM.....		1								
1522 RUBELLA VIRUS.....					2	1	1			
1532 HEPATITIS B ANTIGEN.....					1					
1541 CHLAMYDIA A - TRIC TYPE.....	2	68					1			
1556 CMV - CYTOMEGALOVIRUS.....		5	2	1		2	2	1	10	1
1564 ROTAVIRUS.....								1		
ROSS RIVER VIRUS					1					
Total.....	12	249	7	5	5	3	39	46	14	5