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AQUATIC ANIMAL DISEASE REPORT
(Asia and Pacific Region)

January-March 2002

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Contents

Reports Received by the NACA Secretariat

Country: Australia **Period: January to March 2002**

Item	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
	January	February	March		
Diseases prevalent in some parts of the region					
Finfish disease					
1. Epizootic haematopoietic necrosis*	-(2001)	-(2001)	-(2001)		1
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. *Oncorhynchus masou* virus disease*	0000	0000	0000		
4. Infectious pancreatic necrosis	0000	0000	0000		
5. Viral encephalopathy and retinopathy	-(2001)	+?	+?		2
6. Epizootic ulcerative syndrome (EUS)	+( )	+	+	II	3
7. Bacterial kidney disease	0000	0000	0000		
8. Red sea bream iridoviral disease	***	***	***		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	-(2000)/0000	-(2000)/0000	-(2000)/0000		4
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	0000/-(2001)	0000/-(20001)	0000/-(2001)		5
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	0000/-(1996)	0000/-(1996)	0000/-(1996)		6
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	0000/+	0000/+	0000/+	II	7
Crustacean disease					
1. Yellowhead disease*	0000	0000	0000		
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
3. White spot disease*	0000	0000	0000		
4. Baculoviral midgut gland necrosis	0000	0000	0000		
5. Gill associated virus (GAV)	***	***	***		8
6. Spawner-isolated mortality virus disease	***	***	***		9
7. Taura syndrome*	0000	0000	0000		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	0000	0000	0000		
2. Viral haemorrhagic septicaemia*	0000	0000	0000		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	0000/0000	0000/0000	0000/0000		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

[a] Please use the following symbols:
+ Disease reported or known to be present
+? Serological evidence and/or isolation of causative agent but noclinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	Epizootic haematopoietic necrosis virus was not reported this period despite passive surveillance but known to have occurred in Victoria (last year 2001), New South Wales (last year 2000) and South Australia (last year 1992). Targeted active surveillance and never reported in Northern Territory and Queensland. Annual occurrence of the disease in the Australian Capital Territory, but no laboratory confirmation.
2	Histological evidence of viral encephalopathy and retinopathy was suspected, but not confirmed, in clinically healthy barramundi fry in Queensland in February and March. VER was not reported during this period despite active surveillance, but is known to have occurred in the Northern Territory (last year 2001), Tasmania (last year 2000) and South Australia (last year 1998). Never reported from New South Wales, Victoria or Western Australia despite passive surveillance. No information available in the Australian Capital Territory.
3	Epizootic ulcerative syndrome was reported from a silver perch farm in New South Wales in March 2002 and from Queensland in February 2002 (based on histological diagnoses). EUS may still be present in a single perch farm pond in Victoria (passive surveillance). Not reported during this quarter from the Northern Territory and Western Australia (despite passive surveillance), but known to have occurred earlier in 2001. Passive surveillance and never reported in South Australia and Tasmania. No information available in the Australian Capital Territory.
4	*Bonamia* species: Not reported during this period but known to have occurred in Western Australia (last year 2000), Tasmania (last year 1999) and Victoria (last year 1993). Now regarded as enzootic in Western Australia. Passive surveillance and never reported in New South Wales, Northern Territory, Queensland and South Australia. No information available in the Australian Capital Territory (no marine water responsibility). *Bonamia ostreae*: Passive surveillance and never reported in New South Wales, Northern Territory, Queensland, South Australia, Tasmania, Victoria and Western Australia. No information available in the Australian Capital Territory (no marine water responsibility).
5	*Marteilia refringens*: Active surveillance and never reported in Tasmania. Passive surveillance and never reported in New South Wales, Northern Territory, Queensland, South Australia, Victoria and Western Australia. No information available in the Australian Capital Territory (no marine water responsibility). *Marteilia sydneyi*: Considered enzootic in Queensland, but lack of diagnostic submissions. Not reported from New South Wales during this period despite active targeted surveillance but known to have occurred in May 2001. Not reported from Western Australia this period despite passive surveillance (last occurred 1994). Active surveillance and never reported in Tasmania. Passive surveillance and never reported in the Northern Territory, South Australia and Victoria. No information available in the Australian Capital Territory (no marine water responsibility).
6	*Mikrocytos mackini*: Active surveillance and never reported in Tasmania. Passive surveillance and never reported in New South Wales, Northern Territory, Queensland, South Australia, Victoria and Western Australia. No information available in the Australian Capital Territory (no marine water responsibility). *Mikrocytos roughleyi*: Active surveillance and never reported in Tasmania. Not reported during this period (passive surveillance) but known to have occurred in New South Wales (last year 1996) and Western Australia (last year 1996). Considered enzootic in Queensland but lack to diagnostic submissions. Passive surveillance and never reported in Northern Territory, South Australia and Victoria. No information available in the Australian Capital Territory (no marine water responsibility).
7	*Perkinsus marinus*: Active surveillance and never reported in Tasmania. Passive surveillance and never reported in New South Wales, Northern Territory, Queensland, Victoria and Western Australia. Never reported from South Australia despite active targeted surveillance. No information available for the Australian Capital Territory (no marine water responsibility). *Perkinsus olseni*: Reported from New South Wales in March 2002 and South Australia in January, February and March 2002 (targeted active surveillance). *P. olseni* suspected to have occurred in Western Australia in February 2002 (passive surveillance). Active surveillance and never reported in Tasmania. Passive surveillance and never reported in Northern Territory, Queensland and Victoria. No information available in the Australian Capital Territory (no marine water responsibility).
8	The relationship between 'Gill Associated Virus' GAV and 'Lymphoid Organ Virus' LOV is unclear to the extant that even the existence of GAV – as a separate and distinguishable virus – is questionable. There is no specific detection test for GAV. The research detection test (a RT-PCR test) recognises LOV. LOV is part of the Mid-crop Mortality Syndrome, but its role in MCMS pathogenesis is unclear.
9	'Mid-crop Mortality Syndrome' MCMS is a general term used to describe presumed virus associated mortality in pond reared prawns. Several viral agents have been associated with MCMS outbreaks, including 'Spawner-isolated Mortality Virus' SMV ('Spawner Mortality Syndrome').

2. New aquatic animal health regulations introduced within past six months (with effective date):

AQUAVETPLAN Control Centres Manual released

On 11 February 2002, the Federal Minister for Agriculture, Fisheries and Forestry, the Hon. Mr. Warren Truss launched the AQUAVETPLAN Control Centres Manual as the third in a series of operational manuals and instruments. AQUAVETPLAN manuals outline the method and protocols that will help ensure Australia is prepared for aquatic animal emergency disease outbreaks. The AQUAVETPLAN manuals are being produced as part of AQUAPLAN, Australia's National Strategic Plan for Aquatic Animal Health (1998-2003).

The Control Centres Management Manual provides a description of procedures, management structures and roles of personnel in the event of a suspected or actual aquatic animal disease emergency. It is a general manual for use by all jurisdictions for all emergency diseases or conditions. It is intended for use:

- *in operations* either as the primary manual or as a detailed reference to back up action plans;
- *in planning* as the basis for the development of more specialised procedures; and
- *in training* as key reference.

The Control Centres Manual has been endorsed by the industry and State, Territory and Commonwealth governments.

Country: Bangladesh **Period: January to March 2002**

Item	Disease status[a] Month			Comment Numbers
Diseases prevalent in some parts of the region				
Finfish diseases	January	February	March	
1. Epizootic haematopoietic necrosis*	0000	0000	0000	
2. Infectious haematopoietic necrosis*	0000	0000	0000	
3. *Oncorhynchus masou* virus disease*	0000	0000	0000	
4. Infectious pancreatic necrosis	0000	0000	0000	
5. Viral encephalopathy and retinopathy	0000	0000	0000	
6. Epizootic ulcerative syndrome (EUS)				
7. Bacterial kidney disease	0000	0000	0000	
Mollusc disease				
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	0000	0000	0000	
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	0000	0000	0000	
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	0000	0000	0000	
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	0000	0000	0000	
Crustacean disease				
1. Yellowhead disease				
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	
3. White spot disease	***	+	+	2
4. Baculoviral midgut gland necrosis	0000	0000	0000	
5. Gill associated virus (GAV)	0000	0000	0000	
6. Spawner mortality syndrome ('Midcrop mortality syndrome')	0000	0000	0000	
Diseases presumed exotic to the region, but reportable to the OIE				
Finfish diseases				
1. Spring viraemia of carp*	0000	0000	0000	
2. Viral haemorrhagic septicaemia*	0000	0000	0000	
Mollusc diseases				
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	0000	0000	0000	
Any other diseases of importance[b]	+	+	+	3
Unknown diseases of serious nature				

[b]In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:

Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish

Molluscs: Iridovirosis (Oyster velar disease)

Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepatopancreatitis

***** OIE notifiable diseases

[a]Please use the following symbols:

+	Disease reported or known to be present
+?	Serological evidence and/or isolation of causative agent but no clinical diseases
?	Suspected by reporting officer but presence not confirmed
+( )	Occurrence limited to certain zones
***	No information available
0000	Never reported
-	Not reported (but disease is known to occur)
(year)	Year of last occurrence

1. Epidemiological Comments

Comment No.	
1	Outbreak of EUS in the Indian major carp, exotic carp and Thai sarputi in Mymensingh region. Report of the occurrence of EUS in Indian major carp in the South-East part, i.e. Cox's Bazar area.
2	*P. monodon* were affected with White spot virus both in the brackish water and marine water region. Report came from marine water sites that the *P. monodon* is affected with bacterial diseases, such as, appendages rot and gill rot. Softening of shell was also reported during the period.
3	Greater Mymensingh region (in the central part of the country) where pangas is being intensively cultured was frequently reported that *Pangasius sutchi* were seriously affected with bacterial diseases.
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2. New aquatic animal health regulations introduced within the past six months (with effective date):

Not applicable.

Country: Hong Kong SAR, China **Period: January to March 2002**

Item	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
	January	February	March		
Diseases prevalent in some parts of the region					
Finfish disease					
1. Epizootic haematopoietic necrosis*	0000	0000	0000	II	
2. Infectious haematopoietic necrosis*	0000	0000	0000	III	
3. *Oncorhynchus masou* virus disease*	0000	0000	0000	II	
4. Infectious pancreatic necrosis	0000	0000	0000	III	
5. Viral encephalopathy and retinopathy	0000	0000	0000	II	
6. Epizootic ulcerative syndrome (EUS)	0000	0000	0000	II	
7. Bacterial kidney disease	0000	0000	0000	III	
8. Red sea bream iridoviral disease	0000	0000	0000	II	
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	0000	0000	0000	II	
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	0000	0000	0000	II	
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	0000	0000	0000	II	
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	0000	0000	0000	II	
Crustacean disease					
1. Yellowhead disease*	0000	0000	0000	II	
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	II	
3. White spot disease*	0000	0000	0000	II	
4. Baculoviral midgut gland necrosis	0000	0000	0000	II	
5. Gill associated virus (GAV)	0000	0000	0000	II	
6. Spawner-isolated mortality virus disease	0000	0000	0000	II	
7. Taura syndrome*	0000	0000	0000	II	
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	0000	0000	0000	II	
2. Viral haemorrhagic septicaemia*	0000	0000	0000	II	
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	0000	0000	0000	II	
Any other diseases of importance [b/]					
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

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+() Occurrence limited to certain zones
*** No information available
0000 Never reported
- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
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2. New aquatic animal health regulations introduced within past six months (with effective date):

Country: Iran **Period: January to March 2002**

Item	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
	January	February	March		
Diseases prevalent in some parts of the region					
Finfish disease					
1. Epizootic haematopoietic necrosis*	0000	0000	0000		
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. *Oncorhynchus masou* virus disease*	0000	0000	0000		
4. Infectious pancreatic necrosis	0000	0000	0000		
5. Viral encephalopathy and retinopathy	0000	0000	0000		
6. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
7. Bacterial kidney disease	0000	0000	0000		
8. Red sea bream iridoviral disease	0000	0000	0000		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	0000	0000	0000		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	0000	0000	0000		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	0000	0000	0000		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	0000	0000	0000		
Crustacean disease					
1. Yellowhead disease*	0000	0000	0000		
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
3. White spot disease*	0000	0000	0000		
4. Baculoviral midgut gland necrosis	0000	0000	0000		
5. Gill associated virus (GAV)	0000	0000	0000		
6. Spawner-isolated mortality virus disease	0000	0000	0000		
7. Taura syndrome*	0000	0000	0000		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	0000	0000	0000		
2. Viral haemorrhagic septicaemia*	0000	0000	0000		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	0000	0000	0000		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

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+? Serological evidence and/or isolation of causative agent but no clinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
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2. New aquatic animal health regulations introduced within past six months (with effective date):

Country: Japan **Period: January to March 2002**

Item	Disease status[a]			Comment Numbers
	Month			
	January	February	March	
Diseases prevalent in some parts of the region				
Finfish diseases				
1. Epizootic haematopoietic necrosis*	0000	0000	0000	
2. Infectious haematopoietic necrosis*	+	+	+	
3. *Oncorhynchus masou* virus disease*	+	+	+	
4. Infectious pancreatic necrosis	-	+	+	
5. Viral encephalopathy and retinopathy	-	-	-	
6. Epizootic ulcerative syndrome (EUS)	-	-	+	
7. Bacterial kidney disease	-	+	+	
8. Red seabream iridoviral disease	-	-	+	
Mollusc disease				
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	0000	0000	0000	
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	0000	0000	0000	
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	0000	0000	0000	
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	0000	0000	0000	
Crustacean disease				
1. Yellowhead disease*				
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000	
3. White spot disease*	-	-	-	
4. Baculoviral midgut gland necrosis	(1992)	(1992)	(1992)	
5. Gill associated virus (GAV)	0000	0000	0000	
6. Spawner mortality syndrome ('Midcrop mortality syndrome')	0000	0000	0000	
7. Taura Syndrome Virus*				
Diseases presumed exotic to the region, but reportable to the OIE				
Finfish diseases				
1. Spring viraemia of carp*	0000	0000	0000	
2. Viral haemorrhagic septicaemia*	+	+	+	
Mollusc diseases				
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*				1
Any other diseases of importance[b]				
Unknown diseases of serious nature				

[b]In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:

Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish

Molluscs: Iridovirosis (Oyster velar disease)

Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Taura syndrome; Necrotising hepatopancreatitis

* OIE notifiable diseases

[a]Please use the following symbols:

+	Disease reported or known to be present
+?	Serological evidence and/or isolation of causative agent but no clinical diseases
?	Suspected by reporting officer but presence not confirmed
+( )	Occurrence limited to certain zones
***	No information available
0000	Never reported
-	Not reported (but disease is known to occur)
(year)	Year of last occurrence

1. Epidemiological Comments

Comment No.	
1	*Haplosporidium nelsoni* was detetcted at 2% positive in Pacific oyster (*Crassostrea gigas*) spats Collected from the North-eastern part of Japan (see OIE Disease Information on the 5 October 2001 on the OIE Internet homepage). However, mortality or disease of pacific oyster associated with H. nelsoni has not been reported at all. Therefore, the symbol is not described at the portion of Haplosporidiosis in this report form.
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2. New aquatic animal health regulations introduced within the past six months (with effective date):

Country: Lao PDR **Period: January to March 2002**

Item	Disease status [a/]			Level of Diagnosis	Epidemiological Comment Numbers
	Month				
	January	February	March		
Diseases prevalent in some parts of the region					
Finfish disease					
1. Epizootic haematopoietic necrosis*	***	***	***		
2. Infectious haematopoietic necrosis*	***	***	***		
3. *Oncorhynchus masou* virus disease*	***	***	***		
4. Infectious pancreatic necrosis	***	***	***		
5. Viral encephalopathy and retinopathy	***	***	***		
6. Epizootic ulcerative syndrome (EUS)	***	***	***		
7. Bacterial kidney disease	***	***	***		
8. Red sea bream iridoviral disease	***	***	***		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	***	***	***		
Crustacean disease					
1. Yellowhead disease*	***	***	***		
2. Infectious hypodermal and haematopoietic necrosis	***	***	***		
3. White spot disease*	***	***	***		
4. Baculoviral midgut gland necrosis	***	***	***		
5. Gill associated virus (GAV)	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Taura syndrome*	***	***	***		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	***	***	+( )		1
2. Viral haemorrhagic septicaemia*	***	***	***		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

[a] Please use the following symbols:
+ Disease reported or known to be present
+? Serological evidence and/or isolation of causative agent but no clinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	Trichodinol + Gyrodactylus sp.
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2. New aquatic animal health regulations introduced within past six months (with effective date):

Country: Malaysia **Period: January to March 2002**

Item	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
	January	February	March		
Diseases prevalent in some parts of the region					
Finfish disease					
1. Epizootic haematopoietic necrosis*	0000	0000	0000		
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. *Oncorhynchus masou* virus disease*	0000	0000	0000		
4. Infectious pancreatic necrosis	0000	0000	0000		
5. Viral encephalopathy and retinopathy	0000	0000	0000		
6. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
7. Bacterial kidney disease	0000	0000	0000		
8. Red sea bream iridoviral disease	0000	0000	0000		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	***	***	***		
Crustacean disease					
1. Yellowhead disease*					
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
3. White spot disease*	-	+	+	III	1
4. Baculoviral midgut gland necrosis	0000	0000	0000		
5. Gill associated virus (GAV)	0000	0000	0000		
6. Spawner-isolated mortality virus disease	0000	0000	0000		
7. Taura syndrome*	0000	0000	0000		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	0000	0000	0000		
2. Viral haemorrhagic septicaemia*	0000	0000	0000		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]					
Ulcerative lesion of red snapper, *Lutjanus argentimaculatus*	+	+	+	II+III	2
'Scale-drop' syndrome in *Lates calcarifer*	+	+	+	II+III	3
Unknown diseases of serious nature	***	***	***		

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

[a] Please use the following symbols:
+ Disease reported or known to be present
+? Serological evidence and/or isolation of causative agent but no clinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	White spot virus diseases was reported in *Penaeus monodon* culture in Kerpan area in Kedah Peninsular Malaysia. The reported case was confined to 87 ponds in Kedah Aquaculture project. The affected stock was juvenile shrimp of size 10-15 gm. 100% of stock was infected. Economic loss due to the disease was estimated to be RM 2,000,000. The disease was diagnosed and confirmed by Level II & III diagnostics. Department of Fisheries took immediate preventive measures to disinfect the ponds and eliminate the pond stock with chlorinated coupled with management of pond effluents and suspension of pond operations in the affected areas.
2	The Dermal Ulcerative Syndrome of red snappers (*Lutjanus argentimaculatus*) was continuously present in net cage cultured at Langkawi Island, Tg. Dawai and Pulau Ketam. This problem was chronic in fish of 200-310 gm sizes. Mainly *Vibrio* spp., *Streptococcus* spp (2 species) and *Flavobacterium* were isolated in these cases.
3	The scale-drop syndrome of *Lates calcarifer* was serious in most cage culture areas like Tg. Dawai, Bukit Tambun dan Kukup. Affected areas were advised to stop culturing the species to prevent further spread of the disease problems. The syndrome was of multiple pathogen in origin. Bacteria like *V. alginolyticus* and Myxobacteria and a monogenean group, *Benedenia* spp. frequently associated with this problem.
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2. New aquatic animal health regulations introduced within past six months (with effective date):

Since July 2001, certification for 'White Spot Disease virus' free status is enforced when exporting frozen or processed shrimps to Australia and on request to EU countries.

Country: Myanmar **Period: January to March 2002**

Item	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
	January	February	March		
Diseases prevalent in some parts of the region					
Finfish disease					
1. Epizootic haematopoietic necrosis*	0000	0000	0000		
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. *Oncorhynchus masou* virus disease*	0000	0000	0000		
4. Infectious pancreatic necrosis	0000	0000	0000		
5. Viral encephalopathy and retinopathy	0000	0000	0000		
6. Epizootic ulcerative syndrome (EUS)	?	?	?	I	3
7. Bacterial kidney disease	0000	0000	0000		
8. Red sea bream iridoviral disease	0000	0000	0000		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*					
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*					
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*					
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*					
Crustacean disease					
1. Yellowhead disease*	?	?	?	I	2
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
3. White spot disease*	+ ( )	+ ( )	+ ( )	III	1
4. Baculoviral midgut gland necrosis	0000	0000	0000		
5. Gill associated virus (GAV)	0000	0000	0000		
6. Spawner-isolated mortality virus disease	0000	0000	0000		
7. Taura syndrome*	0000	0000	0000		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	***	***	***		
2. Viral haemorrhagic septicaemia*	***	***	***		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

[a] Please use the following symbols:
+ Disease reported or known to be present
+? Serological evidence and/or isolation of causative agent but no clinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	PCR result (Private), precautionary measures are being worked out, thorough control of infected pond water drainage and property recondition and sanitation of ponds are suggested.
2	Further investigation will be carried out.
3	EUS generally occurred in summer during February-May this year, it was seen to be detected EUS.
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2. New aquatic animal health regulations introduced within past six months (with effective date):

Country: Nepal **Period: January to March 2002**

Item	Disease status [a/]			Level of Diagnosis	Epidemiological Comment Numbers
	Month				
	January	February	March		
Diseases prevalent in some parts of the region					
Finfish disease					
1. Epizootic haematopoietic necrosis*	***	***	***		
2. Infectious haematopoietic necrosis*	***	***	***		
3. *Oncorhynchus masou* virus disease*	***	***	***		
4. Infectious pancreatic necrosis	***	***	***		
5. Viral encephalopathy and retinopathy	***	***	***		
6. Epizootic ulcerative syndrome (EUS)	+	+	+	I	1,2,3 & 4
7. Bacterial kidney disease	***	***	***		
8. Red sea bream iridoviral disease	***	***	***		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	***	***	***		
Crustacean disease					
1. Yellowhead disease*	***	***	***		
2. Infectious hypodermal and haematopoietic necrosis	***	***	***		
3. White spot disease*	***	***	***		
4. Baculoviral midgut gland necrosis	***	***	***		
5. Gill associated virus (GAV)	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Taura syndrome*	***	***	***		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	***	***	***		
2. Viral haemorrhagic septicaemia*	***	***	***		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

[a] Please use the following symbols:
+ Disease reported or known to be present
+? Serological evidence and/or isolation of causative agent but no clinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	Prevalence of disease reported in Terai – plains: diagnosis based on gross clinical observation (Level I)
2	Amongst the cultured fish species, small sized *Cirrhina mirgala* of 10 to 150 gm reported to be the most vulnerable, while *Labeo rohita* and *Catla catla* reported to be moderately affected with the disease.
3	*Puntius* spp. and *Channa* spp. Reported to be some of the disease affected fish species in the wild.
4	In some private fish farms: Lime, Chelacop and Platomycin (chelated copper and streptomycin sulphate – tetracycline hydrochloride) and Potassium per Manganese reported to be used for disease control.
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2. New aquatic animal health regulations introduced within past six months (with effective date):

Country: Pakistan **Period: January to March 2002**

Item	Disease status [a/]			Level of Diagnosis	Epidemiological Comment Numbers
	Month				
	January	February	March		
Diseases prevalent in some parts of the region					
Finfish disease					
1. Epizootic haematopoietic necrosis*	***	***	***		
2. Infectious haematopoietic necrosis*	***	***	***		
3. *Oncorhynchus masou* virus disease*	***	***	***		
4. Infectious pancreatic necrosis	***	***	***		
5. Viral encephalopathy and retinopathy	***	***	***		
6. Epizootic ulcerative syndrome (EUS)	***	***	***		
7. Bacterial kidney disease	***	***	***		
8. Red sea bream iridoviral disease	***	***	***		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	***	***	***		
Crustacean disease					
1. Yellowhead disease*	***	***	***		
2. Infectious hypodermal and haematopoietic necrosis	***	***	***		
3. White spot disease*	***	***	***		
4. Baculoviral midgut gland necrosis	***	***	***		
5. Gill associated virus (GAV)	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Taura syndrome*	***	***	***		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	***	***	***		
2. Viral haemorrhagic septicaemia*	***	***	***		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]					
LERNAEASIS	+	-	+	I	
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

[a] Please use the following symbols:
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+? Serological evidence and/or isolation of causative agent but no clinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	Two cases of Lernaeasis were reported from private fish farm (infected area 2.8 and 3.5 acres). Dipterex was suggested to be used in the pond. No mortality occurred in farms.
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2. New aquatic animal health regulations introduced within past six months (with effective date):

Country: Philippines **Period: January to March 2002**

Item	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
	January	February	March		
Diseases prevalent in some parts of the region					
Finfish disease					
1. Epizootic haematopoietic necrosis*	***	***	***		
2. Infectious haematopoietic necrosis*	***	***	***		
3. *Oncorhynchus masou* virus disease*	***	***	***		
4. Infectious pancreatic necrosis	***	***	***		
5. Viral encephalopathy and retinopathy	+	+	+	3	1
6. Epizootic ulcerative syndrome (EUS)	-	-	-		
7. Bacterial kidney disease	***	***	***		
8. Red sea bream iridoviral disease	***	***	***		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	***	***	***		
Crustacean disease					
1. Yellowhead disease*	***	***	***		
2. Infectious hypodermal and haematopoietic necrosis	***	***	***		
3. White spot disease*	-	+	+	3	2
4. Baculoviral midgut gland necrosis	***	***	***		
5. Gill associated virus (GAV)	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Taura syndrome*	***	***	***		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	***	***	***		
2. Viral haemorrhagic septicaemia*	***	***	***		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

[a] Please use the following symbols:
+ Disease reported or known to be present
+? Serological evidence and/or isolation of causative agent but no clinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	The affected fish are grouper (*Epinephelus* sp.) broodstock, eggs, fingerlings at the SEAFDEC-AQD in Iloilo. Affected fish showed mortality. Diagnostic methods conducted were RT-PCR and histopathology by SEAFDEC. (Reported by : Dr. E.C. Lacierda, SEAFDEC – Fish Health Section)
2	There were 146 batches of P. monodon post larvae from hatcheries in Iloilo, Negros Occidental, Bohol, Cebu, Batangas, Misamis Oriental examined during the months of January-March 2002 that produced negative results for WSSV using PCR technique. Examination conducted by the UPLB-Biotechnology, NPPMCI Lab and BFAR-Regional Fish Health Laboratories. *P. monodon* samples from grow-out ponds taken from the Visayas (UPV, Batan, Aklan) examined (month of February) using PCR technique produced positive results for WSSV. These farms were experiencing mortalities. Examinations conducted by the Fish Health Section, SEAFDEC-AQD. *P. monodon* samples from 2 grow-out ponds in Luzon (Bulacan) and Visayas (Capiz) examined (months of February and March) using PCR produced positive results for WSSV. Examination conducted by the UPLB-Institute of Biotechnology.
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2. New aquatic animal health regulations introduced within past six months (with effective date):

Country: Singapore **Period: January to March 2002**

Item	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
	January	February	March		
Diseases prevalent in some parts of the region					
Finfish disease					
1. Epizootic haematopoietic necrosis*	0000	0000	0000		
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. *Oncorhynchus masou* virus disease*	0000	0000	0000		
4. Infectious pancreatic necrosis	0000	0000	0000		
5. Viral encephalopathy and retinopathy	-(2000)	-(2000)	-(2000)		
6. Epizootic ulcerative syndrome (EUS)	0000	0000	0000		
7. Bacterial kidney disease	0000	0000	0000		
8. Red sea bream iridoviral disease	0000	0000	0000		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	***	***	***		
Crustacean disease					
1. Yellowhead disease*	***	***	***		
2. Infectious hypodermal and haematopoietic necrosis	***	***	***		
3. White spot disease*	-	-	-		
4. Baculoviral midgut gland necrosis	***	***	***		
5. Gill associated virus (GAV)	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Taura syndrome*	***	***	***		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	0000	0000	0000		
2. Viral haemorrhagic septicaemia*	0000	0000	0000		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]	Nil	Nil	Nil		
Unknown diseases of serious nature	Nil	Nil	Nil		

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

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? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
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2. New aquatic animal health regulations introduced within past six months (with effective date):

Country: Sri Lanka **Period: January to March 2002**

Item	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
	January	February	March		
Diseases prevalent in some parts of the region					
Finfish disease					
1. Epizootic haematopoietic necrosis*	***	***	***		
2. Infectious haematopoietic necrosis*	***	***	***		
3. *Oncorhynchus masou* virus disease*	***	***	***		
4. Infectious pancreatic necrosis	***	***	***		
5. Viral encephalopathy and retinopathy	***	***	***		
6. Epizootic ulcerative syndrome (EUS)	-	-	-		1
7. Bacterial kidney disease	***	***	***		
8. Red sea bream iridoviral disease	***	***	***		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	***	***	***		
Crustacean disease					
1. Yellowhead disease*	-	-	-		2
2. Infectious hypodermal and haematopoietic necrosis	***	***	***		
3. White spot disease*	+	+	+		3
4. Baculoviral midgut gland necrosis	***	***	***		
5. Gill associated virus (GAV)	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Taura syndrome*	***	***	***		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	***	***	***		
2. Viral haemorrhagic septicaemia*	***	***	***		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

[a] Please use the following symbols:
+ Disease reported or known to be present
+? Serological evidence and/or isolation of causative agent but no clinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	Not reported during this period.
2	There were no reports of the Yellow Head Disease during this period.
3	PCR amplification results from OCR laboratories indicated post-larvae and juveniles prawns carried DNA of SEMBV during the reporting period. Incidence was very high.
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2. New aquatic animal health regulations introduced within past six months (with effective date):

Country: Thailand **Period: January to March 2002**

Item	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
	January	February	March		
Diseases prevalent in some parts of the region					
Finfish disease					
1. Epizootic haematopoietic necrosis*	***	***	***		
2. Infectious haematopoietic necrosis*	***	***	***		
3. *Oncorhynchus masou* virus disease*	***	***	***		
4. Infectious pancreatic necrosis	***	***	***		
5. Viral encephalopathy and retinopathy	+	-	-	III	1
6. Epizootic ulcerative syndrome (EUS)	-	-	-	II	
7. Bacterial kidney disease	***	***	***		
8. Red sea bream iridoviral disease	-	-	-	III	
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	***	***	***		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	***	***	***		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	***	***	***		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	***	***	***		
Crustacean disease					
1. Yellowhead disease*	?	?	?	I	
2. Infectious hypodermal and haematopoietic necrosis	***	***	***		
3. White spot disease*	+	+	+	III	2
4. Baculoviral midgut gland necrosis	***	***	***		
5. Gill associated virus (GAV)	***	***	***		
6. Spawner-isolated mortality virus disease	***	***	***		
7. Taura syndrome*	-	-	-	III	3
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	-	-	-	III	
2. Viral haemorrhagic septicaemia*	***	***	***		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	***	***	***		
Any other diseases of importance [b/]					
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

[a] Please use the following symbols:

+ Disease reported or known to be present
+? Serological evidence and/or isolation of causative agent but no clinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	Twenty samples of diseased groupers were collected from 4 grouper farms during January survey. Five samples were diseases adult groupers showing hemorrhagic ulcers on the bodies. The others were fry to juvenile stage of grouper (1-3 inches in total length) exhibiting swirling movement and some fish floated near the water surface in the cage and earthen pond. Viruses could be isolated from 11/15 diseased fry to juvenile stage of groupers and 1/5 diseased adult groupers using SSN-1 cells. No virus isolate obtained using EPC cells. RT-PCR using specific primers to redspotted grouper nervous necrosis virus (RGNNV) and sequence analysis of PCR product indicated that these nodaviruses closely related to viral genotype RGNNV with 98% nucleotide homology. The disease occurred in wild-caught fry to juvenile stage of groupers. Mortality occurred during the first few weeks after catching from the wild and death told were 90-100% of then wild-caught seed stocks. There was no disease report in February and March. *More details of the October-December 2001 reporting period:* During October-December survey, viruses could be isolated from 16/60 diseased adult groupers. These 16 viruses were isolated using SSN-1 cells. 3/16 viral isolates were identified as nodavirus.
2	A total of 7,641 tiger prawn samples cultured in 29 provinces had been sent to 11 PCR Laboratories of the Department of Fisheries. Most of the prawn samples were post-larvae stage, which were PCR-tested before stocking in culture ponds. 379 samples or 4.96% were recorded as PCR positive or carrying SEMBV gene.
3	1,365 *Penaeus vannamei* brooders have been introduced. 45 brooders were sampled and RT-PCR tested for Taura syndrome using a commercial kit. The RT-PCR results were negative. All brooders have been stocked in registered hatcheries and their seeds or post-larvae will be tested for Taura syndrome virus before stocking in the culture ponds.
4	

2. New aquatic animal health regulations introduced within past six months (with effective date):
Role of the Department of Fisheries on a Temporary Permit for Introduction of *Penaeus vannamei* Brooders

Date of notice: March 11, 2002
Effective date: March 12, 2002 to August 31, 2002

An initiation plan of the Department of Fisheries to survey Taura syndrome virus in *P. vannamei* shrimp hatcheries in Thailand has started in December 2001. The shrimps had been first introduced in 1998. The results from histological sections and RT-PCR tests for TSV gene of *P. vannamei* brooders (F2 generation) from three hatcheries were found negative for TSV. As there are still demands for more introductions of *Penaeus vannamei* brooders into the country. The DOF issued a rule for a temporary permit for introduction of *Penaeus vannamei* brooders. The Rule covered details as follows:

1. Standard requirement for *P. vannamei* shrimp hatchery registration
2. Details of getting a permit to introduce *Penaeus vannamei* brooders
3. Details for laboratory testing for Taura syndrome virus and other viruses
4. Details for disease control and eradication
5. Details for *P. vannamei* movement documents

Country: Vietnam **Period: January to March 2002**

Item	Disease status [a/] Month			Level of Diagnosis	Epidemiological Comment Numbers
	January	February	March		
Diseases prevalent in some parts of the region					
Finfish disease					
1. Epizootic haematopoietic necrosis*	0000	0000	0000		
2. Infectious haematopoietic necrosis*	0000	0000	0000		
3. *Oncorhynchus masou* virus disease*	0000	0000	0000		
4. Infectious pancreatic necrosis	***	***	***		
5. Viral encephalopathy and retinopathy	0000	0000	0000		
6. Epizootic ulcerative syndrome (EUS)	+	+	-	2	1
7. Bacterial kidney disease	0000	0000	0000		
8. Red sea bream iridoviral disease	0000	0000	0000		
Mollusc disease					
1. Bonamiosis (*Bonamia* sp., *B. ostreae*)*	0000	0000	0000		
2. Marteiliosis (*Marteilia refringens, M. sydneyi*)*	0000	0000	0000		
3. Mikrocytosis (*Mikrocytos mackini, M. roughleyi*)*	0000	0000	0000		
4. Perkinsosis (*Perkinsus marinus, P. olseni*)*	0000	0000	0000		
Crustacean disease					
1. Yellowhead disease*	-	-	-	2	2
2. Infectious hypodermal and haematopoietic necrosis	0000	0000	0000		
3. White spot disease*	-	+	+		
4. Baculoviral midgut gland necrosis	0000	0000	0000		
5. Gill associated virus (GAV)	0000	0000	0000		
6. Spawner-isolated mortality virus disease	0000	0000	0000		
7. Taura syndrome*	***	***	***		
Diseases presumed exotic to the region, but reportable to the OIE					
Finfish diseases					
1. Spring viraemia of carp*	0000	0000	0000		
2. Viral haemorrhagic septicaemia*	0000	0000	0000		
Mollusc diseases					
1. Haplosporidiosis (*Haplosporidium costale, H. nelsoni*)*	0000	0000	0000		
Any other diseases of importance [b/]					
Diseases of grass carp	-	-	-	2,3	4
Monodon baculovirus disease (MBV)	-	+	+	2	5
Unknown diseases of serious nature					

b/ In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:
Finfish: Channel catfish virus disease; Infectious salmon anaemia; Piscirickettsiosis; Gyrodactylosis (*Gyrodactylus salaris*); Enteric septicaemia of catfish; White sturgeon iridoviral disease
Molluscs: Iridovirosis (Oyster velar disease)
Crustaceans: Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*); Crayfish plague (*Aphanomyces astaci*); Necrotising hepatopancreatitis

* OIE notifiable diseases

[a] Please use the following symbols:
+ Disease reported or known to be present
+? Serological evidence and/or isolation of causative agent but no clinical diseases
? Suspected by reporting officer but presence not confirmed
+() Occurrence limited to certain zones
*** No information available
0000 Never reported
- Not reported (but disease is known to occur
(year) year of last occurrence

1. Epidemiological comments:

Comment No.	
1	Disease is reported during this period in Hatay province (only in 3 small scale farms) and some provinces in Southern. The mortality was not high. Lime treatment was applied to affected farms. The disease was confirmed by histology.
2	The disease was not reported during this period but last summer in different shrimp cultured areas in Vietnam and confirmed by histology.
3	Reported in the central and southern Vietnam: Khanh Hoa, Phu Yen, Ca mau, Minh hai, Soc trang, Ben tre and Kien giang provinces in *Penaeus monodon*. In the northern part, during this period not many farms started to stock shrimp due to low temperature; therefore the disease was not found. However it is known to be present in Northern Vietnam. The disease caused a big loss for shrimp cultured farms and was confirmed by histology and PCR.
4	The diseases were not reported during this period. The last report on the diseases was last Autumn/winter.
5	The disease was reported in the whole of Vietnam such as Quang ninh, Hai phong, Nghe An, Thanh hoa, Khanh hoa, Phu Yen, Ben tre. The disease was detected in shrimp fry (*P. monodon*) and confirmed by histology.
6	
7	
8	

2. New aquatic animal health regulations introduced within past six months (with effective date):

Decision number 1/2002 of Ministry of Fisheries dated January 22, 2002 on "List of forbidden antibiotics and chemicals used in fisheries sector".

Related Publications

Asia Diagnostic Guide to Aquatic Animal Diseases. 2001. Bondad-Reantaso, M.G., McGladdery, S.E., East, I. and Subasinghe, R.P. (eds). FAO Fisheries Technical Paper No. 402, Suppl. 2. Rome, FAO. 2001. 236 pp.

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DNA-based Molecular Diagnostic Techniques: Research Needs for Standardisation and Validation of the Detection of Aquatic Animal Pathogens and Diseases. 2000. (eds. P. Walker and R.P. Subasinghe). FAO Fisheries Technical Paper 395. Report and Proceedings of the Expert Workshop on DNA-based Molecular Diagnostic Techniques: Research Needs for Standardisation and Validation of the Detection of Aquatic Animal Pathogens and Diseases, Bangkok, Thailand, 7-9 February 1999.

Information from:
Dr. Rohana P. Subasinghe
FAO of the United Nations
Viale delle Terme di Caracalla
Rome 00100 Italy
E-mail: Rohana.Subasinghe@fao.org

APEC/AAHRI/FHS-AFS/NACA. 2001. Report and proceeding of APEC FWG 02/2000 "Development of a Regional Research Programme on Grouper Virus Transmission and Vaccine Development". M.G. Bondad-Reantaso, J. Humphrey, S. Kanchanakhan and S. Chinabut (eds).

Diagnostic Procedures for Finfish Diseases (by Kamonporn Tonguthai, Supranee Chinabut, Temdoung Somsiri, Pornlerd Chanratchakool, Somkiat Kanchanakhan)

Epizootic Ulcerative Syndrome (EUS) Handbooks. Two new EUS handbooks are available free of charge: (1*) Pathology and Histopathology of EUS* by S. Chinabut and R.J. Roberts; and **(2) *EUS Technical Handbook*** by J.H. Lilley, R.B. Callinan, S. Chinabut, S. Kanchanakhan, I.H. MacRae and M.J. Phillips.

Health Management in Shrimp Ponds. Third Edition (by P. Chanratchakool, JF Turnbull, S.J. Funge-Smith, I.H. MacRae and C Limsuwan).

Information from:
Project Manager
Southeast Asia Aquatic Disease Control Project (SEAADCP)
Aquatic Animal Health Research Institute (AAHRI)
Thailand's Department of Fisheries, Kasetsart University Campus, Jatujak, Bangkok 10900
E-mail: aahri@fisheries.go.th

APEC/FAO/NACA/SEMARNAP. 2001. Trans-Boundary aquatic animal pathogen transfer and the development of harmonised standards on aquaculture health management. Report of the Joint APEC/FAO/NACA/SEMARNAP Workshop, Puerto Vallarta, Jalisco, Mexico, 24-28 July 2000. Network of Aquaculture Centres in Asia-Pacific, Bangkok, Thailand. 197 pp.

Primary Aquatic Animal Health Care in Rural, Small-Scale, Aquaculture Development: Reporty of an Asia Regional Scoping Workshop held in Dhaka, Bangladesh, 27th-30th September 1999. Department for International Development, Food and Agriculture Organization of the United Nations and the Network of Aquaculture Centres in Asia-Pacific. 36 pp.

CD-ROM on Diagnosis of Shrimp Diseases (by V. Alday de Graindorge and T.W. Flegel) This CD-Rom provides detailed information on the diagnosis of shrimp disease, with emphasis on *Peneaus monodon***.**

Information from:
NACA Secretariat
E-mail: naca@enaca.org

OIE International Aquatic Animal Health Code. Fourth edition, 2001.

OIE Diagnostic Manual for Aquatic Animal Diseases. Foruth Edition. 2001

Risk Analysis in Aquatic Animal Health. 2001. Proceedings of an International Conference held in Paris, France, 8-10 February 2000 (C.J. Rogers, ed.).
Information from:
Office International des Epizooties
12, rue de Prony, 75017 Paris, France
Tel: 33-(0)1 44 15 18 88
Fax: 33-(0) 1 42 67 09 87
E-mail: oie@oie.int
Web: http://www.oie.int

Diseases in Penaeid Shrimps in the Philippines. Second Edition (2000). By C.R. Lavilla-Pitogo, G.D. Lio-Po, E.R. Cruz-Lacierda, E.V. Alapide-Tendencia and L.D. de la Pena

Use of Chemicals in Aquaculture in Asia. 2000. J.R. Arthur, C.R. Lavilla-Pitogo and R.P. Subasinghe (eds). Proceedings of the Meeting on the Use of Chemicals in Aquaculture in Asia, 20-22 May 1996, Tigbauan, Iloilo, Philippines.

Diseases of Penaeid Shrimps in the Philippines. 2000. by C.R. Lavilla-Pitogo, G.D. Lio-Po, E.R. Cruz-Lacierda, E.V. Alapide-Tendencia and L.D. de la Pena. Aquaculture Extension Manual No. 16.

Health Management in Aquaculture. 2001. G.D. Lio-Po, C.R. Lavilla, E.R. Cruz-Lacierda (eds).

Husbandry and Health Management of Grouper. 2001. APEC/SEAFDEC. APEC, Singapore and SEAFDEC, Iloilo, Philippines. 94 p.

Information from:
Training and Information Division
SEAFDEC Aquaculture Department
5021 Tigbauan, Iloilo, Philippines
Fax: (63-33) 335 1008 336 2891
E-mail: aqdchief@aqd.seafdec.org.ph

Reference PCR Protocols for Detection of White Spot Syndrome Virus (WSSV) in Shrimp. Shrimp Biotechnology Service Laboratory. Vol. 1, No. 1, March 2001
Information from:
Shrimp Biotechnology Service Laboratory
73/1 Rama 6 Rd., Rajdhewee, Bangkok 10400
Tel: (662) 644-8150
Fax: (662) 644-8107

Manual for Fish Disease Diagnosis - II: Marine Fish and Crustacean Diseases in Indonesia (2001) by Isti Koesharyani, Des Roza, Ketut Mahardika, Fris Johnny, Zafran and Kei Yuasa, edited by K. Sugama, K. Hatai, and T Nakai
Information frrom:
Gondol Research Station for Coastal Fisheries
P.O. Box 140 Singaraja, Bali, Indonesia
Tel: (62) 362 92278
Fax: (62) 362 92272

AQUAPLAN Zoning Policy Guidelines
Information from:
Aquatic Animal Health
Office of the Chief Veterinary Officer
Product Integrity, Animal and Plant Health
Agriculture, Fisheries and Forestry
GPO Box 858
Canberra, ACT 2601

List of National Coordinators*

Country	Name and Address
Australia	Dr. Eva -Maria Bernoth Manager, Aquatic Animal Health Unit , Office of the Chief Veterinary Officer Department of Agriculture, Fisheries and Forestry GPO Box 858, Canberra ACT 2601, Australia Fax: 61-2-6272 3150; Tel: 61-2-6272 4328 Email: Eva-Maria.Bernoth@affa.gov.au Mr. Alistair Herfort (Focal point for disease reporting) Aquatic Animal Health Unit , Office of the Chief Veterinary Officer Department of Agriculture, Fisheries and Forestry GPO Box 858, Canberra ACT 2601, Australia Fax: +61 2 6272 3150; tel: +61 2 6272 4009 E-mail: Alistair.Herfort@affa.gov.au
Bangladesh	Dr. M. A. Mazid Director General, Bangladesh Fisheries Research Institute (BFRI) Mymensingh 2201, Bangladesh Fax: 880-2-55259, Tel: 880-2-54874 E-mail: frifs@bdmail.net
Cambodia	Mr. Srun Lim Song Chief, Aquaculture Bureau, Department of Fisheries 186 Norodom Blvd.,P.O. Box 835, Phnom Penh, Cambodia Fax: (855) 23 210 565; Tel: (855) 23 210 565 E-mail: smallfish@bigpond.com.kh
China	Mr. Wei Qi Extension Officer, Disease Prevention and Control Division National Fisheries Technology Extension Centre, No. 18 Ministry of Agriculture Mai Zi dian Street, Chaoyang District, Beijing 100026, China Fax: 0086-1—65074250; Tel: 0086-10-65074250 E-mail: weiqi_moa@hotmail.com Prof. Yang Ningsheng (*Focal point for AAPQIS*) Director, Information Center, China Academy of Fisheries Science 150 Qingta Cun, South Yongding Road, Beijing 100039, China Fax: 86-010-68676685; Tel: 86-010-68673942 E-mail: ningsheng.yang@mh.bj.col.com.cn
DPR Korea	Mr. Chong Yong Ho Director of Fish Farming Technical Department Bureau of Freshwater Culture Sochangdong Central District, P.O.Box. 95 , Pyongyong, DPR Korea Fax- 850-2-814416; Tel- 3816001, 3816121
Hong Kong China	Dr. Roger S.M. Chong National Coordinator and Fish Health Officer Agriculture, Fisheries and Conservation Department Castle Peak Veterinary Laboratory San Fuk Road, Tuen Mun New Territories, Hong Kong Fax: +852 2461 8412 Tel: + 852 2461 6412 E-mail: vfhoafd@netvigator.com

* The matrix provides a list of National Coordinators nominated by Governments and focal points for the *Asia-Pacific Quarterly Aquatic Animal Disease Reports*.

India	Shri M.K.R. Nair Fisheries Development Commissioner
Indonesia	Dr. Ahmed Rukyani Directorate General of Fisheries Jl. Harsono RM No. 3 Ragunan Pasar Minggu Tromol Pos No.: 1794/JKS Jakarta – 12550 Indonesia Tel: 7804116-119 Fax: 7803196 – 7812866 E-mail: dfrmdgf@indosat.net.id
Iran	Dr. Reza Pourgholam National Coordinator (from November 2000) Veterinary Organization Ministry of Jihad – E – Sazandegi Vali-ASR Ave S.J.Asad Abadi St PO Box 14155 – 6349 Tehran, Iran Tel: 8857007-8857193 Fax: 8857252 Dr. A.E. Maghsodi Fard (Disease Reporting Officer) Manager Director of Aquatic Animal Diseases Department
Japan	Mr. Mahito Masuda Fisheries Health Protection Office Fish Ranching and Aquaculture Division Fishery Agency 1-2-1, Kasumigaseki Chiyoda-ku, Tokyo 100-8907, Japan Fax: 813-3591-1084; Tel: 813-350-28111(7365) E-mail: mahito_masuda@nm.maff.go.jp Dr. Hiroshi Kimiya (Disease Reporting Officer) Director, Office of Fish Health Protection
Lao PDR	Mr. Khampet Roger National Coordinator Fisheries and Livestock Department Ministry of Agriculture, Forestry and Fisheries P.O. Box 811, Vientianne, Lao PDR TeleFax: (856-21) 415674; Tel: (856-21) 416932 Mr. Bounma Luang Amath Focal Point for Disease Reporting Fisheries and Livestock Department Ministry of Agriculture, Forestry and Fisheries P.O. Box 811, Vientianne, Lao PDR TeleFax: (856-21) 415674; Tel: (856-21) 416932

Malaysia	Mr. Ambigadevi Palanisamy National Coordinator Fisheries Research Institute Department of Fisheries Penang, Malaysia E-mail: ambigadevip@yahoo.com Dr. Ong Bee Lee (focal point for disease reporting) Head, Regional Veterinary Laboratory Services Department of Veterinary Services 8th & 9th Floor, Wisma Chase Perdana Off Jln Semantan 50630, Kuala Lumpur, Malaysia Fax: (60-3) 254 0092/253 5804; Tel: (60-3) 254 0077 ext.173 E-mail: ong@jph.gov.my
Myanmar	Ms. Daw May Thanda Wint Assistant Staff Officer, Aquatic Animal Health Section Department of Fisheries Sinmin Road, Alone Township , Yangon, Myanmar Fax: (95-01) 228-253; Tel: (95-01) 283-304/705-547
Nepal	Mr. Gagan B.N. Pradhan Fisheries Development Officer Directorate of Fisheries Development Central Fisheries Building Balaju, Kathmandu, Nepal Tel: + 350 662 E-mail: dofd@mail.com.np Mr. Shankar Prasad Dahal (Focal Point for Disease Reporting) Assistant Fisheries Development Officer Directorate of Fisheries Development Central Fisheries Building Balaju, Kathmandu, Nepal Tel: + 350 662 E-mail: dofd@mail.com.np
Pakistan	Dr. Muhammad Hayat Assistant Fisheries Development Commissioner Livestock Division Ministry of Food, Agriculture and Livestock 10th Floor, Shaheed-e-Millat Secretariat (Livestock Wing) I Islamabad Fax: 92-51-922 1246; Tel: 92-51-920 8267
Philippines	Dr. Joselito R. Somga Aquaculturist II, Fish Health Section, BFAR 860 Arcadia Building, Quezon Avenue, Quezon City 1003 Fax: (632)3725055/4109987; Tel:(632) 3723878 loc206 or 4109988 to 89 E-mail: sssomga@edsamail.co.ph
Republic of Korea	Dr. Mi-Seon Park Director of Pathology Division National Fisheries Research and Development Institute 408-1 Sirang, Kijang Pusan 619-900 Korea RO Tel: 82-51-720-2470; Fax: 82-51-720-2498 E-mail: parkms@haema.nfrda.re.kr

Singapore	Mr. Chao Tien Mee SAVAO (Senior Agri-Food and Veterinary Authority Officer) OIC, Marine Aquaculture Centre (MAC) Agri-Food & Veterinary Authority of Singapore (AVA) 300 Nicoll Drive, Changi Point, Singapore 498989 Tel: (65) 5428455; Fax No.: (65) 5427696 E-mail: CHAO_Tien_Mee@ava.gov.sg Dr. Susan Kueh (focal person for disease reporting) Agri-Food and Veterinary Authority of Singapore Central Veterinary Laboratory 60 Sengkang East Way Singapore 548596 Tel: (65) 3863572; Fax No. (65) 3862181 E-mail: Susan_KUEH@ava.gov.sg
Sri Lanka	Mr. A. M. Jayasekera Director-General National Aquaculture Development Authority of Sri Lanka Ministry of Fisheries and Aquatic Resources Development, 317 1/1 T.B. Jayah Mawatha, Colombo 10, Sri Lanka Tel: (94-1) 675316 to 8; Fax: (94-1) 675437 E-mail: aqua1@eureka.lk Dr. Geetha Ramani Rajapaksa (Focal point for disease reporting) Veterinary Surgeon Department of Animal Production and Health Veterinary Investigation Centre, Welisara, Ragama, Sri Lanka Tel: + 01-958213 E-mail: sser@sri.lanka.net
Thailand	Dr. Somkiat Kanchanakhan Fish Virologist, Aquatic Animal Health Research Institute (AAHRI) Department of Fisheries , Kasetsart University Campus Jatujak, Bangkok 10900, Thailand Fax: 662-561-3993; Tel: 662-579-4122, 6977 E-mail: somkiatkc@fisheries.go.th
Vietnam	Dr. Le Thanh Luu Vice-Director Research Institute for Aquaculture No. 1 (RIA No. 1) Dinh Bang, Tien Son, Bac Ninh, Vietnam Fax: 84-4-827-1368; Tel: 84-4-827-3070 E-mail: ria1@hn.vnn.vn Ms Phan Thi Van (Focal point for disease reporting) Researcher, Research Institute for Aquaculture No.1 (RIA No.1) Dinh Bang , Tien Son, Bac Ninh, Vietnam Fax: 84-4-827-1368; Tel : 84-4-827 - 3070 E-mail: ria1@hn.vnn.vn; phanvan@hn.vnn.vn

List of Diseases in the Asia-Pacific Quarterly Aquatic Animal Disease Reports (beginning 2002)

Diseases prevalent in some parts of the region

Finfish Diseases:	Epizootic haematopoietic necrosis*
	Infectious haematopoietic necrosis*
	Oncorhynchus masou virus disease*
	Infectious pancreatic necrosis*
	Viral encephalopathy and retinopathy*
	Epizootic ulcerative syndrome (EUS)
	Bacterial kidney disease
	Red sea bream iridoviral disease
Mollusc Diseases:	Bonamiosis (*Bonamia* sp., *B. ostreae*)*
	Marteiliosis (*Marteilia refringens*, *M. sydneyi*)*
	Microcytosis (*Mikrocytos mackini*, *M. roughleyi*)*
	Perkinsosis (*Perkinsus marinus*, *P. olseni*)*
Crustacean Disease:	Yellowhead disease*
	Infectious hypodermal and haematopoietic necrosis (IHHN)
	White spot disease*
	Baculoviral midgut gland necrosis
	Gill associated virus (GAV)
	Spawner mortality syndrome ('Midcrop mortality syndrome')
	Taura syndrome*

Diseases presumed exotic to the region, but reportable to OIE

Finfish Diseases:	Spring viremia of carp*
	Viral haemorrhagic septicaemia*
Mollusc Diseases:	Haplosporidiosis (*Haplosporidium costale*, *H.nelsoni*)*

Any other diseases of importance: In particular, these include the following diseases so far presumed, but not proven, to be exotic to this region:

Finfish Diseases:	Channel catfish virus disease
	Infectious salmon anaemia
	Piscirickettsiosis
	Gyrodactylosis (*Gyrodactylus salaris*)
	Enteric septicaemia of catfish
	White sturgeon iridoviral disease
Mollusc Diseases:	Iridovirus (Oyster velar disease)
Crustacean Diseases:	Nuclear polyhedrosis baculovirosis (*Baculovirus penaei*)
	Crayfish plague (*Aphanomyces astaci*)
	Taura syndrome
	Necrotising hepatopancreatitis

*OIE notifiable diseases

New Instructions on how to fill in the QUARTERLY AQUATIC ANIMAL DISEASE REPORT

(Revised during the Provisional Meeting of the AG[1], Bangkok, Thailand, November 7-9, 2001)

Symbols used in the report are similar to those used by FAO, OIE and WHO for the *Animal Health Yearbook*. Please read these instructions carefully before you fill in the forms.

Under the heading 'Country', please enter your country.

Under the heading 'Period', please enter the reporting quarter (months) and year, e.g. January to March 2002.

Under the heading "Month", please enter months of a quarter in question, e.g. January, February, March.

In "Level of Diagnosis", please enter the Level of Diagnosis used, e.g., I, II, or III. See Section C below.

In "Epidemiological Comment Numbers", please enter the serial numbers, and write your corresponding epidemiological comments on page 2. See Section D below for guidance on the subjects to be covered under Epidemiological Comments.

If an unknown disease of serious nature appears, please fill in the last line of the form, with additional information on "Level of Diagnosis" and "Epidemiological Comment Numbers" as above.

Please do not fail to enter "*******" or "**-**" as appropriate against each disease, which is essential to incorporate your information on the *Quarterly Aquatic Animal Disease Report (Asia and Pacific Region.)*

If you have new aquatic animal health regulations introduced within the past six months, please describe them under Section 2 on page 2.

Please use the following symbols to fill in the forms.

A. Symbols used for negative occurrence are as follows:

***	This symbol means that no information on a disease in question is available due to reasons such as lack of surveillance systems or expertise.
-	This symbol is used when a disease is not reported during a reporting period. However the disease is known to be present in the country (date of last outbreak is not always known).
0000	This symbol is used when disease surveillance is in place and a disease has never been reported.
(year)	Year of last occurrence (a disease has been absent since then).

B. Symbols used for positive occurrence are shown below.

+	This symbol means that the occurrence of a disease in question is sporadic but it is known to be present. However the occurrence is relatively rare.
+?	This symbol is used when the presence of a disease is suspected but there is no recognised occurrence of clinical signs of the disease in the country. Serological evidence and isolation of the causal agent may indicate the presence of the disease, but no confirmed report is available. **It is important that the species of animals to which it applies is indicated in the "Comments" on page 2 of the form if you use this symbol**.
+( )	These symbols mean that a disease is present in a very limited zone or zones as exceptional cases. It may also include the occurrence of a disease in a quarantine area.
?	This symbol is used only when a disease is suspected by the reporting officer, but the presence of the disease has not been confirmed.

[1] Regional Advisory Group on Aquatic Animal Health (AG)

C. Levels of Diagnosis

LEVEL	SITE	ACTIVITY
I	Field	Observation of animal and the environment Clinical examination
II	Laboratory	Parasitology Bacteriology Mycology Histopathology
III	Laboratory	Virology Electron microscopy Molecular biology Immunology

D. Subjects to be covered in the Epidemiological Comments

1. Origin of the disease or pathogen (history of the disease);
2. Mortality rate (high/low or decreasing/increasing);
3. Size of infected areas or names of infected areas;
4. Death toll (economic loss, etc.);
5. Preventive/control measures taken;
6. Disease characteristics (unusual clinical signs or lesions);
7. Pathogen (isolated/sero-typed);
8. Unknown diseases (describe details as much as possible);
9. Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); and
10. Published paper (articles in journals)/web site, etc.

IMPORTANT

Please send the **original report** or the best photocopy thereof to the OIE and/or NACA **by fax** and **registered airmail**. Faxed reports are needed to check whether or not the reports are all right. The deadline for submission of the reports is **two and a half months (75 days)** after the end of the quarterly period.

If you require further explanation, please write to the OIE (Tokyo), NACA (Bangkok) or FAO (Rome) at the following addresses, respectively:

OIE East 311, Shin Aoyama Building, 1-1-1 Minami Aoyama, Minato-ku,
Tokyo 107-0062, Japan
Tel: +81-3-5411-0520; Fax: +81-3-5411-0526
E-mail: oietokyo@tky.3web.ne.jp

NACA P. O. Box 1040, Kasetsart Post Office, Bangkok 10903, Thailand
Tel: 66-2-561-1728/9; Fax: 66-2-561-1727
E-mail: melba.reantaso@enaca.org; naca@enaca.org

FAO Fishery Resources Division, Fisheries Department
FAO of the United Nations
Viale delle Terme di Caracalla, 00100 Rome
Tel. +39 06 570 56473; Fax + 39 06 570 530 20
E-mail: Rohana.Subasinghe@fao.org

Notes

Notes

Published by the Network of Aquaculture Centres in Asia-Pacific and the Food and Agriculture Organization of the United Nations. For inquiries regarding editorial or technical content, please write to NACA, P.O. Box 1040, Kasetsart P.O. , Bangkok 10903, Thailand; Tel. (662) 561-1728 to 9; Fax: (662) 561-1727; e-mail: **naca@enaca.org**
Website: **http://www.enaca.org**

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