REPORT OF THE MEETING OF THE OIE AD HOC GROUP ON THE OIE LIST OF AQUATIC ANIMAL DISEASES - MOLLUSC TEAM - FOR THE OIE AQUATIC ANIMAL HEALTH CODE

Paris, 8-10 August 2006

The OIE ad hoc Group on the OIE List of Aquatic Animal Diseases - Mollusc Team (hereinafter referred to as the ad hoc Group) for the OIE Aquatic Animal Health Code (hereinafter called the Aquatic Code) held its meeting at the OIE Headquarters from 8-10 August 2006.

On behalf of Dr Bernard Vallat, Director General of the OIE, Dr Sarah Kahn, Head of the International Trade Department, welcomed the members of the ad hoc Group and thanked them for their willingness to be involved in addressing this mandate of the OIE.

The members of the ad hoc Group are listed in Appendix I. The Agenda adopted is given in Appendix II.

1. Abalone viral mortality

The ad hoc Group, in the report of its July 2005 meeting, drew the attention of the OIE Aquatic Animal Health Standards Commission (hereinafter called the Aquatic Animals Commission) to this emerging disease and proposed that it be listed in Chapter 1.2.3. of the Aquatic Code. Information that has subsequently become available indicates both a wider distribution of the disease (recent news report from Australia) and a clearer aetiology (putative herpesvirus). Based on this information, the ad hoc Group updated the case definition and revised the disease information card for abalone viral mortality that had been initially prepared with assistance of Drs Shi Zhengli and Judith Handlinger (see Appendix III). The ad hoc Group thanked Chile for providing the relevant references on the viral infections of abalone.

The ad hoc Group recommended that the OIE Central Bureau and the Aquatic Animals Commission provide Member Countries with the information they need in order to commence efficient and accurate reporting, starting in January 2007.

2. Infection with Terebrasabella heterouncinata

The ad hoc Group addressed the request from the Aquatic Animals Commission on the sabellid worm (Terebrasabella heterouncinata) by developing a full assessment of the disease against the listing criteria provided in Chapter 1.2.2. of the Aquatic Code (see Appendix IV).

The ad hoc Group noted that the spread of the disease is linked to transboundary movements of live abalone for farming purposes, the disease has a serious economic impact, the disease aetiology is clear and there are robust diagnostic techniques. The ad hoc Group also noted that abalone farming is a sector of the aquaculture industry showing significant growth and many regions are still free from this disease.

As a result of the assessment, the ad hoc Group recommends that infection with Terebrasabella heterouncinata be listed in Chapter 1.2.3. of the Aquatic Code.

.../Appendices
Appendix I

MEETING OF THE OIE AD HOC GROUP ON THE OIE LIST OF AQUATIC ANIMAL DISEASES - MOLLUSC TEAM - FOR THE OIE AQUATIC ANIMAL HEALTH CODE

Paris, 8-10 August 2006

List of Participants

MEMBERS OF THE AD HOC GROUP - MOLLUSC TEAM

Dr Franck Berthe (Chair)
Member of the OIE Aquatic Animal Health Standards Commission
Department of Pathology & Microbiology
Atlantic Veterinary College - UPEI
550 University Ave.
Charlottetown
Prince Edward Island, C1A 4P3
CANADA
Tel.: + (1-902) 566-0868
Fax: +1-902 566-0851
Email: fberthe@upei.ca

Prof. Eugene M. Burreson
Virginia Institute of Marine Science,
College of William and Mary,
P.O. Box 1346,
Gloucester Point, VA 23062
UNITED STATES OF AMERICA
Tel.: + (1-804) 684.71.08
Fax: + (1-804) 684.70.97
E-mail: gene@vims.edu

Dr Mike Hine
Aquatic Animal Diseases
Investigation and Diagnostic Centre
MAF Operations, P.O. Box 40-742
Upper Hutt
NEW ZEALAND
Tel.: + (64-4) 526-5600
Fax: + (64-4) 526-5601
E-mail: hinem@maf.govt.nz

OIE HEADQUARTERS

Dr Bernard Vallat
Director General
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

Dr Sarah Kahn
Head
International Trade Department
OIE
Tel.: 33 (0)1 44.15.18.88
Fax: 33 (0)1 42.67.09.87
E-mail: s.kahn@oie.int

Dr Francesco Berlingieri
Deputy Head
International Trade Department
OIE
Tel.: 33 (0)1 44.15.18.88
Fax: 33 (0)1 42.67.09.87
E-mail: f.berlingieri@oie.int

Mrs Sonja Rosic-Banjanin
Trainee
International Trade Department
OIE
Tel.: 33 - (0)1 44 15 18 88
Fax: 33 - (0)1 42 67 09 87
E-mail: s.rosic@oie.int
MEETING OF THE
OIE AD HOC GROUP ON THE OIE LIST OF AQUATIC ANIMAL DISEASES - MOLLUSC TEAM -
FOR THE OIE AQUATIC ANIMAL HEALTH CODE

Paris, 8-10 August 2006

Adopted Agenda

OIE List of Aquatic Animal Diseases

1. Address comments provided by Chile on the listing of abalone viral mortality
2. Assessment of the sabellid worm (infection with *Terebrasabella heterouncinata*)
ABALONE VIRAL MORTALITY - DISEASE INFORMATION CARD

Pathogen information

1. Causative agent
   
   1.1. Pathogen type
   
   Virus
   
   1.2. Disease name and synonyms
   
   Crack-shell disease of *Haliotis hannai*, *Haliotis diversicolor* viral disease and ganglioneuritis of abalone.
   
   1.3. Pathogen common name and synonyms
   
   Abalone icosahedral virus
   
   1.4. Taxonomic affiliation
   
   1.4.1. Pathogen scientific name (Genus, species, sub-species or type)
   
   No data
   
   1.4.2. Phylum, class, family, etc.
   
   Putative herpesvirus
   
   1.5. Description of the pathogen
   
   Icosahedral virus, 90-140 nm in diameter, two-layer envelope (8-10 nm) with a smooth surface; nucleocapsid measures 70-100 nm in diameter; replicates in the nucleus and maturation takes place in cytoplasm of infected cells.
   
   1.6. Authority (first scientific description, reference)
   
   
   1.7. Pathogen environment (fresh, brackish, marine waters)
   
   Marine water
   
2. Modes of transmission
   
   2.1. Routes of transmission (horizontal, vertical, direct, indirect)
   
   Horizontal, per os
   
   Given the nature of this virus vertical transmission cannot be excluded.
Appendix III (contd)

2.2. Life cycle

No data

2.3. Associated factors (temperature salinity, etc.)

Temperature less than 24°C required for expression of the disease

2.4. Additional comments

This disease is not the same as the amyotrophia or the viral infections of glioma described in *Nordotis discus*, from Japan (Otsu and Sasaki 1997; Harada *et al.* 1993).

3. Host range

3.1. Host type

Abalone

3.2. Host scientific names

*Haliotis hannai*, *H. diversicolor*, *H. laevigata* and *H. rubra*

3.3. Other known or suspected hosts

No data

3.4. Affected life stage

Young to adult abalone

3.5. Additional comments

Different names are used for the host species, such as *Haliotis diversicolor*, *Haliotis diversicolor aquatilis*, *Haliotis diversicolor supertexta* and *Haliotis diversicolor diversicolor*. It is suggested that these different names should be unified under the name *Haliotis diversicolor*.

4. Geographic distribution

4.1. Region

Asia, Far East and Oceania

4.2. Country

Australia, China (People’s Rep. of) and Taipei China

**Disease information**

5. Clinical signs and case description

5.1. Host tissues and infected organs

Reported in digestive tract, hepatopancreas, renal tissue, haemocytes and neural tissue.
5.2. Gross observations and macroscopic lesions

Low activity, loss of appetite, decreased photophobia, decreased growth rate, increased secretion of mucus, contracted foot and mantle, black and hardened foot, dead abalone present swollen hepatopancreas and digestive tract.

5.3. Microscopic lesions and tissue abnormality

In haematoxylin and eosin stained sections of mantle, foot, gill, hepatopancreas and digestive tract, the common pathological changes are: necrosis and disorder of connective tissues of all organs; necrosis of haemocytes and epithelial cells; detachment and vacuolization of epithelial cells of foot, mantle, hepatopancreas and gills.

5.4. OIE status

Currently listed by the OIE

6. Social and economic significance

No data but significant economic importance is suspected from the various reports currently available.

7. Zoonotic importance

No data

8. Diagnostic methods

Three levels of examination procedures are used: screening methods for surveillance, presumptive diagnostic methods when abnormal mortalities occur, and confirmatory methods if available when a pathogen is encountered during screening or mortality outbreaks.

8.1. Screening methods

8.1.1. Level I

Increased mortality rates, low activity, loss of appetite, decreased photophobia, decreased growth rate, increased secretion of mucus, contracted foot and mantle, black and hardened foot, dead abalone presents swollen hepatopancreas and digestive tract.

8.1.2. Level II

In haematoxylin and eosin stained sections: haemocytic infiltration and necrotic lesions of connective tissue of all organs and in the neurolemma of cerebral ganglia and peripheral neural tissue; hypertrophy and hyperplasia of the digestive tract epithelial cells.

8.1.3. Level III

Under electron microscopy, infected cells show damage to the nuclear membrane, swelling of mitochondria and proliferation of the endoplasmic reticulum.

The nucleocapsids can be seen in the nucleus and assembled virions in the cytoplasm.
8.2. Presumptive methods

8.2.1. level I: see section 8.1.1.

8.2.2. level II: see section 8.1.2.

8.2.3. level III: see section 8.1.3.

8.3. Confirmatory methods

8.3.1. level I: none

8.3.2. level II: none

8.3.3. level III: transmission electron microscopy. See section 8.1.3.

9. Control methods

No known methods of prevention or control. Infected abalone should not be transported into areas known to be free of the disease.

Selected references


Appendix III (contd)


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Infection with *Terebrasabella heterouncinata*

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<th>Comment</th>
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<td>A1</td>
<td>+</td>
<td>Lack of quantitative data on impact in the wild; it is not possible to quantify losses.</td>
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<td>or A2</td>
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<td>or A3</td>
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<tr>
<td>and B4</td>
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<tr>
<td>or B5</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>and B6</td>
<td>+</td>
<td>Origin of the parasite: South Africa (4, 5) Has now spread to: Chile (6), Mexico (Baja California) (1) and USA (California) (3, 4).</td>
</tr>
<tr>
<td>and B7</td>
<td>+</td>
<td>Europe, Mediterranean and Australasia</td>
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<tr>
<td>and C8</td>
<td>+</td>
<td>Repeatable and robust means of detection/diagnosis can be achieved through macroscopic observation of clinical signs, microscopic observation of wet mounts, shell radiography, scanning electron microscopy</td>
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References


Appendix IV (contd)


