

CHAPTER 10.3.

GYRODACTYLOSIS

(*Gyrodactylus salaris*)

Article 10.3.1.

For the purposes of the *Aquatic Code*, gyrodactylosis means *infection* with the viviparous freshwater ectoparasite *Gyrodactylus salaris* (*G. salaris*) (Phylum Platyhelminthes; Class Monogenea).

Information on methods for *diagnosis* are provided in the *Aquatic Manual*.

Article 10.3.2.

Scope

The recommendations in this Chapter apply to: Atlantic salmon (*Salmo salar*), rainbow trout (*Oncorhynchus mykiss*), Arctic char (*Salvelinus alpinus*), North American brook trout (*Salvelinus fontinalis*), grayling (*Thymallus thymallus*), North American lake trout (*Salvelinus namaycush*) and brown trout (*Salmo trutta*). The recommendations also apply to other fish species in waters where the parasite is present, because these species may carry the parasite and act as vectors.

Article 10.3.3.

Commodities

1. When authorising the importation or transit of the following *commodities*, the *Competent Authorities* should not require any gyrodactylosis related conditions, regardless of the gyrodactylosis status of the *exporting country, zone or compartment*:
 - a) For the species referred to in Article 10.3.2. intended for any purpose:
 - i) *commodities* treated in a manner that inactivates the *disease agent* e.g. leather made from fish skin, pasteurised products and some ready-to-eat meals; and fish oil and fish *meal* intended for use in *feed*;
 - ii) chilled products of fish, where the head, fins and skin have been removed;
 - iii) biological samples preserved for diagnostic applications in such a manner as to inactivate the *disease agent*.
 - b) The following *commodities* destined for human consumption from the species referred to in Article 10.3.2. that have been prepared and packaged for direct retail trade:
 - i) fish (chilled or frozen);
 - ii) fillets or cutlets (chilled or frozen);
 - iii) dried fish (including air dried, flame dried and sun dried);
 - iv) smoked salmonids.

For the *commodities* referred to in point 1b), OIE Members may wish to consider introducing internal measures to address the *risks* associated with the *commodity* being used for any purpose other than for human consumption.

2. When authorising the importation or transit of *commodities* of a species referred to in Article 10.3.2., other than those referred to in point 1 of Article 10.3.3., the *Competent Authorities* should require the conditions prescribed in Articles 10.3.7. to 10.3.12. relevant to the gyrodactylosis status of the *exporting country, zone* or *compartment*.
3. When considering the importation/transit from an *exporting country, zone* or *compartment* not declared free of gyrodactylosis of any live *commodity* from a species not covered in Article 10.3.2. but which could reasonably be expected to be a potential mechanical vector for *G. salaris*, the *Competent Authorities* should conduct a *risk analysis* in accordance with the recommendations in the *Aquatic Code*. The *exporting country* should be informed of the outcome of this assessment.

Article 10.3.4.

Gyrodactylosis free country

A country may make a *self-declaration of freedom* from gyrodactylosis if it meets the conditions in points 1, 2, 3 or 4 below.

If a country shares a *zone* with one or more other countries, it can only make a *self-declaration of freedom* from gyrodactylosis if all the areas covered by the shared watercourse(s) are declared gyrodactylosis free countries or *zones* (see Article 10.3.5.).

1. A country where none of the *susceptible species* is present may make a *self-declaration of freedom* from gyrodactylosis when *basic biosecurity conditions* have been continuously met in the country for at least the past 2 years.

OR

2. A country where the species referred to in Article 10.3.2. are present but there has been no observed occurrence of the *disease* for at least the past 10 years despite conditions that are conducive to its clinical expression, as described in the corresponding chapter of the *Aquatic Manual*, may make a *self-declaration of freedom* from gyrodactylosis when *basic biosecurity conditions* have been continuously met in the country for at least the past 10 years.

OR

3. A country where the last observed occurrence of the *disease* was within the past 10 years or where the *infection* status prior to *targeted surveillance* was unknown (e.g. because of the absence of conditions conducive to its clinical expression as described in the corresponding chapter of the *Aquatic Manual*) may make a *self-declaration of freedom* from gyrodactylosis when:
 - a) *basic biosecurity conditions* have been continuously met for at least the past 5 years; and
 - b) *targeted surveillance*, as described in Chapter 1.4. of the *Aquatic Code*, has been in place for at least the last 5 years without detection of *G. salaris*.

OR

4. A country that has previously made a *self-declaration of freedom* from gyrodactylosis but in which the *disease* is subsequently detected may make a *self-declaration of freedom* from gyrodactylosis again when the following conditions have been met:
 - a) on detection of the *disease*, the affected area was declared an *infected zone* and a *buffer zone* was established; and

- b) infected populations have been destroyed or removed from the *infected zone* by means that minimise the *risk* of further spread of the *disease*, and the appropriate *disinfection* procedures (see *Aquatic Manual*) have been completed, or the waters containing the infected fish have been treated by chemicals that kill the parasite; and
- c) *targeted surveillance*, as described in Chapter 1.4. of the *Aquatic Code*, has been in place for at least the last 5 years without detection of *G. salaris*; and
- d) previously existing *basic biosecurity conditions* have been reviewed and modified as necessary and have continuously been in place for at least the past 5 years.

In the meantime, part of the non-affected area may be declared a free *zone* provided that such part meets the conditions in point 3 of Article 10.3.5.

Article 10.3.5.

Gyrodactylosis free zone or free compartment

A *zone* or *compartment* within the *territory* of one or more countries not declared free from gyrodactylosis may be declared free by the *Competent Authority(ies)* of the country(ies) concerned if the *zone* or *compartment* meets the conditions referred to in points 1, 2, 3 or 4 below.

If a *zone* or *compartment* extends over more than one country, it can only be declared a gyrodactylosis free *zone* or *compartment* if all the *Competent Authorities* confirm that the conditions have been met.

1. A *zone* or *compartment* where none of the *susceptible species* is present may be declared free from gyrodactylosis when *basic biosecurity conditions* have been continuously met in the *zone* or *compartment* for at least the past 2 years.

OR

2. A *zone* or *compartment* where the species referred to in Article 10.3.2. are present but there has been no observed occurrence of the *disease* for at least the past 10 years despite conditions that are conducive to its clinical expression, as described in the corresponding chapter of the *Aquatic Manual*, may be declared free from gyrodactylosis when *basic biosecurity conditions* have been continuously met in the *zone* or *compartment* for at least the past 5 years.

OR

3. A *zone* or *compartment* supplied with seawater with a salinity of at least 25 parts per thousand may be declared free from gyrodactylosis provided that no live *aquatic animals* of species referred to in Article 10.3.2. are introduced from a site of a lesser health status for *G. salaris* during the 14 days prior to any live fish transfers from the *zone* or *compartment*.

OR

4. A *zone* or *compartment* where the last observed occurrence of the *disease* was within the past 10 years or where the *infection* status prior to *targeted surveillance* was unknown (e.g. because of the absence of conditions conducive to its clinical expression as described in the corresponding chapter of the *Aquatic Manual*) may be declared free from gyrodactylosis when:
 - a) *basic biosecurity conditions* have been continuously met for at least the past 10 years; and
 - b) *targeted surveillance*, as described in Chapter 1.4. of the *Aquatic Code*, has been in place for at least the last 5 years without detection of *G. salaris*.

OR

5. A *zone* previously declared free from gyrodactylosis but in which the *disease* is subsequently detected may be declared free from gyrodactylosis again when the following conditions have been met:
 - a) on detection of the *disease*, the affected area was declared an *infected zone* and a *buffer zone* was established; and
 - b) infected populations have been destroyed or removed from the *infected zone* by means that minimise the *risk* of further spread of the *disease*, and the appropriate *disinfection* procedures (see *Aquatic Manual*) have been completed, or the waters containing the infected fish have been treated by chemicals that kill the parasite; and
 - c) *targeted surveillance*, as described in Chapter 1.4. of the *Aquatic Code*, has been in place for at least the last 5 years without detection of *G. salaris*; and
 - d) previously existing *basic biosecurity conditions* have been reviewed and modified as necessary and have continuously been in place for at least the past 5 years.

Article 10.3.6.

Maintenance of free status

A country, *zone* or *compartment* that is declared free from gyrodactylosis following the provisions of points 1 or 2 of Articles 10.3.4. or 10.3.5. (as relevant) may maintain its status as gyrodactylosis free provided that *basic biosecurity conditions* are continuously maintained.

A country, *zone* or *compartment* that is declared free from gyrodactylosis following the provisions of point 3 of Article 10.3.4. or point 4 of 10.3.5. (as relevant) may discontinue *targeted surveillance* and maintain its status as gyrodactylosis free provided that conditions that are conducive to clinical expression of gyrodactylosis, as described in the corresponding chapter of the *Aquatic Manual*, exist, and *basic biosecurity conditions* are continuously maintained.

However, for declared free *zones* or *compartments* in infected countries and in all cases where conditions are not conducive to clinical expression of gyrodactylosis, *targeted surveillance* needs to be continued at a level determined by the *Competent Authority* on the basis of the likelihood of *infection*.

Article 10.3.7.

Importation of live aquatic animals from a country, zone or compartment declared free from gyrodactylosis

When importing live *aquatic animals* of species referred to in Article 10.3.2. from a country, *zone* or *compartment* declared free from gyrodactylosis, the *Competent Authority* of the *importing country* should require an *international aquatic animal health certificate* issued by the *Competent Authority* of the *exporting country* or a *certifying official* approved by the *importing country* attesting that, on the basis of the procedures described in Articles 10.3.4. or 10.3.5. (as applicable), the place of production of the *aquatic animal* is a country, *zone* or *compartment* declared free from gyrodactylosis.

The *certificate* should be in accordance with the Model Certificate in Chapter 5.10.

This Article does not apply to *commodities* referred to in point 1 of Article 10.3.3.

Article 10.3.8.

Importation of live aquatic animals for aquaculture from a country, zone or compartment not declared free from gyrodactylosis

1. When importing, for *aquaculture*, live *aquatic animals* of species referred to in Article 10.3.2. from a country, *zone* or *compartment* not declared free from gyrodactylosis, the *Competent Authority* of the *importing country* should:
 - a) require an *international aquatic animal health certificate* issued by the *Competent Authority* of the *exporting country* attesting that:
 - i) the *aquatic animals* have been held, immediately prior to export, in water with a salinity of at least 25 parts per thousand for a continuous period of at least 14 days; and
 - ii) no other live *aquatic animals* of the species referred to in Article 10.3.2. have been introduced during that period;

OR

 - iii) in the case of eyed eggs, the eggs have been disinfected by a method demonstrated to be effective against *G. salaris*;

OR

 - b) assess the *risk* and apply *risk* mitigation measures such as:
 - i) the direct delivery to and lifelong holding of the consignment in biosecure facilities for continuous isolation from the local environment;
 - ii) if breeding from the imported fish, *disinfection* of the fertilised eggs by a method demonstrated to be effective against *G. salaris*, and complete separation of the hatched progeny from the imported animals;
 - iii) the treatment of all effluent and waste materials in a manner that ensures inactivation of *G. salaris*.
2. If the intention of the introduction is the establishment of a new stock, the Code of Practice on the Introductions and Transfers of Marine Organisms of the International Council for the Exploration of the Seas (ICES) should be followed.
3. For the purposes of the *Aquatic Code*, the ICES Code (full version see: <http://www.ices.dk/indexfla.asp>) may be summarised to the following main points:
 - a) identify stock of interest (cultured or wild) in its current location;
 - b) evaluate stock's health/disease history;
 - c) take and test samples for *G. salaris*, pests and general health/disease status;
 - d) import and quarantine in a secure facility a founder (F-0) population;
 - e) produce F-1 generation from the F-0 stock in *quarantine*;
 - f) culture F-1 stock and at critical times in its development (life cycle) sample and test for *G. salaris* and perform general examinations for pests and general health/disease status;
 - g) if *G. salaris* is not detected, pests are not present, and the general health/disease status of the stock is considered to meet the *basic biosecurity conditions* of the *importing country, zone* or *compartment*, the F-1 stock may be defined as gyrodactylosis free or specific pathogen free (SPF) for *G. salaris*;

- h) release SPF F-1 stock from *quarantine* for *aquaculture* or stocking purposes in the country, *zone* or *compartment*.

This Article does not apply to *commodities* referred to in point 1 of Article 10.3.3.

Article 10.3.9.

Importation of live aquatic animals for processing for human consumption from a country, zone or compartment not declared free from gyrodactylosis

When importing, for processing for human consumption, live *aquatic animals* of species referred to in Article 10.3.2. from a country, *zone* or *compartment* not declared free from gyrodactylosis, the *Competent Authority* of the *importing country* should:

1. require an *international aquatic animal health certificate* issued by the *Competent Authority* of the *exporting country* attesting that the *aquatic animals* have been held, immediately prior to export, in water with a salinity of at least 25 parts per thousand for a continuous period of at least 14 days, and no other live fish of the species listed in Article 10.3.2. have been introduced during that period;

OR

2. require that the consignment be delivered directly to and held in *quarantine* facilities for slaughter and processing to one of the products referred to in point 1 of Article 10.3.3. or other products authorised by the *Competent Authority*, and all effluent and waste materials be treated in a manner that ensures inactivation of *G. salaris*.

This Article does not apply to *commodities* referred to in point 1 of Article 10.3.3.

Article 10.3.10.

Importation of live aquatic animals intended for use in animal feed, or for agricultural, industrial or pharmaceutical use, from a country, zone or compartment not declared free from gyrodactylosis

When importing, for use in animal *feed*, or for agricultural, industrial or pharmaceutical use, live *aquatic animals* of species referred to in Article 10.3.2. from a country, *zone* or *compartment* not declared free from gyrodactylosis, the *Competent Authority* of the *importing country* should:

1. require an *international aquatic animal health certificate* issued by the *Competent Authority* of the *exporting country* attesting that the *aquatic animals* have been held, immediately prior to export, in water with a salinity of at least 25 parts per thousand for a continuous period of at least 14 days, and no other live *aquatic animals* of the species referred to in Article 10.3.2. have been introduced during that period;

OR

2. require that the consignment be delivered directly to and held in *quarantine* facilities for slaughter and processing to one of the products referred to in point 1 of Article 10.3.3. or other products authorised by the *Competent Authority*, and all effluent and waste materials be treated in a manner that ensures inactivation of *G. salaris*.

This Article does not apply to *commodities* referred to in point 1 of Article 10.3.3.

Article 10.3.11.

Importation of aquatic animal products from a country, zone or compartment declared free from gyrodactylosis

When importing *aquatic animal products* of species referred to in Article 10.3.2. from a country, *zone* or *compartment* declared free from gyrodactylosis, the *Competent Authority* of the *importing country* should require an *international aquatic animal health certificate* issued by the *Competent Authority* of the *exporting country* or a *certifying official* approved by the *importing country* attesting that, on the basis of the procedures described in Articles 10.3.4. or 10.3.5. (as applicable), the place of production of the *commodity* is a country, *zone* or *compartment* declared free from gyrodactylosis.

The *certificate* should be in accordance with the Model Certificate in Chapter 5.10.

This Article does not apply to *commodities* referred to in point 1 of Article 10.3.3.

Article 10.3.12.

Importation of aquatic animal products from a country, zone or compartment not declared free from gyrodactylosis

When importing *aquatic animal products* of species referred to in Article 10.3.2. from a country, *zone* or *compartment* not declared free from gyrodactylosis, the *Competent Authority* of the *importing country* should assess the *risk* and apply appropriate *risk* mitigation measures.

1. In the case of dead *aquatic animals*, whether *eviscerated* or uneviscerated, such *risk* mitigation measures may include:
 - a) the direct delivery into and holding of the consignment in biosecure facilities for processing to one of the products referred to in point 1 of Article 10.3.3. or other products authorised by the *Competent Authority*;
 - b) the treatment of all effluent and waste materials in a manner that ensures inactivation of *G. salaris*.

OR

2. The *Competent Authority* of the *importing country* should require an *international aquatic animal health certificate* issued from the *Competent Authority* of the *exporting country* attesting that the product was derived from *aquatic animals* which had been held, immediately prior to processing, in water with a salinity of at least 25 parts per thousand for a continuous period of 14 days, and no other live *aquatic animals* of the species referred to in Article 10.3.2. have been introduced during that period.

This Article does not apply to *commodities* referred to in point 1 of Article 10.3.3.