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Report of the ATCM Intersessional Contact Group to Examine the Issue of Biological Prospecting in the Antarctic Treaty Area

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A. Introduction

1. At its 32nd meeting, the Antarctic Treaty Consultative Meeting (ATCM) agreed to convene an open-ended Intersessional Contact Group (ICG) working until ATCM XXXIII to examine the issue of biological prospecting in the Antarctic Treaty area with the following terms of reference (Final Report XXXII ATCM, paras. 317-318):

1. With the aim of assisting the ATCM, the ICG will consider the following issues: (a) definitions; (b) scope; (c) status; (d) access; (e) environmental impact; (f) commercialization; (g) benefit-sharing; (h) giving advance notice of and reporting on biological prospecting activities, including those identified in WP I [of ATCM XXXII]; (i) freedom of scientific investigation; (j) free exchange of information; (k) applicable intellectual property regimes; (l) merits of further regulation; and (m) any other issues identified by the ICG.

2. It was further agreed that: (a) Observers and Experts participating in ATCM XXXII will be invited to participate in the ICG; (b) the Secretariat would develop an interactive electronic discussion forum and provide assistance to the ICG; and (c) the Netherlands would act as a convener, and would report to ATCM XXXIII on the progress made in the ICG.

2. The Secretariat accordingly set up such a forum within the ATCM Discussion Forum. The participants in the web forum were invited to provide input for the work of the ICG in the form of submissions on the thirteen issues identified in the terms of reference of the ICG, to discuss these submissions, and to submit comments on the draft report composed by the convener. The ATCM Biological Prospecting Forum was accessed more than 350 times. Argentina, Australia, Belgium, Brazil, China, India, Italy, Japan, the Netherlands, New Zealand, Sweden, the United Kingdom, the United States, and the Antarctic Southern Ocean Coalition provided substantive input.

B. Issues identified in the terms of reference of the ICG

3. All issues identified by the ATCM were addressed by one or more participants of the ICG. Many participants reiterated that the Antarctic Treaty system is the appropriate framework for managing the collection of biological material in the Antarctic Treaty area and for considering its use (Resolution 9 (2009), para. 1). Some participants expressed the view that these activities are already subject, in whole or in part, to existing Antarctic Treaty system arrangements.

4. The view was expressed that the collection of biological material as in Resolution 9 (2009) is only one of a sequence of events in biological prospecting. Some participants noted that the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) does not address biological prospecting and that a single regime should address biological prospecting in both the terrestrial and marine environments of Antarctica. Other participants noted that the use of biological resources and genetic materials within and outside the Antarctic Treaty area for biological prospecting falls within the ambit of the Antarctic Treaty system, including CCAMLR.

5. The view was expressed that the information on biological prospecting in other international fora in should be included in the discussion within the ATCM.

(a) Definitions

6. None of the participants proposed definitions of terms related to biological prospecting nor did they suggest that such definitions should be developed in the short term. The absence of such definitions was not considered an impediment to biological prospecting activities in Antarctica that are otherwise permissible under the Antarctic Treaty system, or the regulation of these activities. The view was expressed that definitions agreed by other relevant bodies should be looked at. In this respect, it was suggested that the best reference is IP 70 of ATCM XXXII (*Concepts, Terms and Definitions, including a Comparative Analysis*). In relation to the suggestion to draw on definitions used by other bodies, a question was raised whether such definitions were relevant in the Antarctic Treaty system and caution was expressed about such an approach. The view was also expressed that the discussion on definition of terms within the framework of the Antarctic Treaty system should continue. In this respect, it was proposed (a) to compile a list of examples of biological prospecting activities, (b) to define biological prospecting in the longer term, and/or (c) to determine the scope of biological prospecting activities in order to identify which phases of such activities are already covered by existing Antarctic Treaty system norms and which require the adoption of new provisions.

(b) Scope

7. The view was expressed that Resolution 9 (2009) already addresses functional and geographical aspects of this issue as it “reaffirm[s] that the Antarctic Treaty System is the appropriate framework for managing the collection of biological material in the Antarctic Treaty area and for considering its use” (para. 1). On the basis of this view, it was first argued that, since the Resolution applies to *biological material*, the scope is therefore not limited to genetic material – defined in the Convention on Biological Diversity as any material of plant, animal, microbial or other origin containing functional units of heredity – but includes other parts of an organism, such as biochemical material. Second, it was argued that, since the Resolution applies to the *collection and use* of material, the scope is therefore not limited to access to *in situ* material, but extends to the access of *ex situ* material as well as the product development, manufacturing, and marketing stages of biological prospecting. Third, it was argued that, since the Resolution applies to collection of material in the *Antarctic Treaty area* and its use, the scope is thus not limited to biological material of the Antarctic continent and islands, but also includes marine biological material that is collected south of 60° South Latitude. The view was also expressed that Resolution 9 (2009) calls for the negotiation of norms that regulate all the specific phases involved in biological prospecting. Other views held that (a) Resolution 9 (2009) does not step into the issue of scope, (b) the scope of discussions should not extend to *ex situ* material, or product development, manufacturing and marketing stages of biological prospecting, except in so far as the overarching environmental principles set out in Article III of the Protocol apply, and (c) since the stages of processing following collection cannot reasonably be covered by the Antarctic Treaty system, as it would be impractical to track scientific developments that could potentially occur years after collection, or in jurisdictions that fall outside that of the Antarctic Treaty system, it is much more practical that stages of the process that occur outside Antarctica are regulated domestically. According to another view, it would be easy to track scientific developments based on Antarctic genetic resources with the help of morphological and molecular data on biological resources, and it would be feasible to require signing of a material transfer agreement that includes a clause on benefit-sharing.

8. The view was expressed that fishing is neither biological prospecting nor the collection of biological material. Another view held that fishing could involve the collection of biological material, if the material is later used for the purposes of biological prospecting, and that the implications should be considered.

(c) Status

9. The issue of status was considered by some participants to refer to the territorial status of biological material. The view was expressed that it is not necessary for the ICG to address this issue at this time. Another view distinguished between *in situ* material and *ex situ* material. It was suggested to use the model of the International Treaty on Plant Genetic Resources for Food and Agriculture and to include *in situ* material in a multilateral system, whilst noting that the inclusion of material in such a system was not to be interpreted as the renunciation, diminution, recognition, or non-recognition of a right to or claim to territorial sovereignty over such material. According to this view, *ex situ* material would remain in the system after its collection, but the right to possess and use a specimen would automatically arise from the reporting of the collection of that specimen to the competent authority. Another view held that the introduction of a new multilateral system would interfere with the fundamentals of the Antarctic Treaty system and would duplicate work already done.

10. The issue of status was considered by other participants to refer to the status of biological prospecting in the Antarctic Treaty area. Reference was made to WP 1 of ATCM XXXII (*The Antarctic Biological Prospecting Database*) and an update was provided.

(d) Access

11. None of the participants suggested restricting access to Antarctic biological material; some participants emphasized that the access to Antarctic biological material should remain free, subject to Antarctic Treaty system arrangements, and that any procedures for non-commercial research should remain as simple as possible. The view was expressed that Antarctic biological material should also remain available to all States after its collection and removal from the Antarctic Treaty area. Another view held that access to Antarctic biological material should be maintained after collection and removal, and argued that it would not be feasible at a practical level.

(e) Environmental impact

12. Participants noted Resolution 9 (2009) which emphasizes that existing Antarctic Treaty system arrangements address the environmental aspects of scientific research and the collection of biological material in the Antarctic Treaty area. Some participants noted nevertheless that the environmental impact of biological prospecting remains a concern if the target organism is rare; has a restricted distribution; the collection is focused on a particular population; large amounts of a source organism would need to be harvested; or there is a cumulative impact of biological prospecting activities. Another view held that the arrangements of the Antarctic Treaty system adequately provide for circumstances where the target organism is rare or restricted in distribution, where the collection is focussed on a particular population, or where it is proposed to harvest large amounts of the source organism. The view was also expressed that activities that fall potentially outside the environmental impact assessment requirements of the Antarctic Treaty Protocol on Environmental Protection and its Annex I are those involving the harvest of marine living resources. Some participants considered that this was adequately regulated by CCAMLR, while others held that CCAMLR thus far does not address biological prospecting directly and has indicated no interest in doing so.

(f) Commercialization

13. The commercial use of Antarctic biological material is not prohibited by the Antarctic Treaty system and none of the participants suggested that it should be. Participants were, however, not in agreement whether the existing Antarctic Treaty system arrangements are sufficient to guide commercial aspects of biological prospecting. Some participants argued that domestic law would seem to be the most appropriate way to regulate such commercial aspects, because the discovery, product development, manufacturing, and marketing stages of use of Antarctic biological material occur outside the Antarctic Treaty area, potentially years after collection or in jurisdictions that fall outside that of the Antarctic Treaty system. Such domestic law would be subject to international treaties that address relevant issues, such as intellectual property rights. Other participants argued that the use of collected biological material which is generally aimed at commercialising products and the problem of benefit-sharing of the financial returns deriving from such commercialisation appear to need specific regulation within the Antarctic Treaty system.

(g) Benefit-sharing

14. The Antarctic Treaty system does not address commercial benefit sharing, but allows for the sharing of non-monetary benefits, in particular the results from scientific research. The view was expressed that there was no compelling reason why benefits from the commercialisation of Antarctic biological material should be treated differently from other uses of Antarctica, which are not subject to a sharing regime. Another view held that commercial benefit-sharing should be addressed when scientific observations and results from research on Antarctic biological material are controlled by a patent or some other means, and thus no longer freely available or usable. On the basis of this view, it was suggested that (a) the holder should be obliged to share benefits, when they arise, with the Antarctic Treaty system to promote its objectives, in particular scientific investigation, e.g. through a fund for the protection of the Antarctic environment, or (b) a fixed percentage of the benefits should be shared with the Consultative Party under whose jurisdiction research takes place and that it should be left at the discretion of this Party to share the benefits with the Antarctic Treaty system. The view was also expressed that the ATCM does neither have the mandate nor the expertise to consider changes to the international intellectual property system. According to this view, intellectual

property matters should be considered by the World Intellectual Property Organization or the World Trade Organization, and not in the ATCM.

(h) Giving advance notice of and reporting on biological prospecting activities, including those identified in WP 1 (of ATCM XXXII)

15. The view was expressed that Parties should exchange information about Antarctic activities conducted by their national Antarctic programs and research institutes that are related to biological prospecting. Furthermore, while there seem to be ambiguities about some activities – in that the biological prospecting interest appears years later – other activities target the search for genetic resources from the outset. In addition, some of the activities related to biological prospecting may be covered by the requirements of the Protocol relating to the exchange of information, including those that involve the collection of Antarctic plants (Annex II, Art. 6.1(a)) and those that require access to Antarctic Specially Protected Areas (Annex V, Art. 10.1(a)). The view was also expressed that biological prospecting is a form of scientific research, and therefore should be reported in the same way as other scientific research.

16. The view was expressed that (a) advance notice should be given of intentional access to Antarctic biological material in accordance with Articles VII.5 and III.1(a) of the Antarctic Treaty and (b) the collection of an Antarctic specimen should be reported to the competent authority and by that competent authority in its annual report in accordance with Article 17 of the Protocol. Another view held that nothing in the Protocol requires the Parties to report on biological prospecting activities, and that Article 17 does not apply.

17. The view was expressed that the Electronic Information Exchange System (EIES) should remain the sole notifying and reporting mechanism for biological prospecting. In this respect, it was noted that consideration should be given to the adaptation of the EIES to include relevant information, such as the name of the source organism; the location and method of collection; a description of the commercial application being undertaken; the status of commercial development; the principal investigator or other contact person for further information; and a web link to the Antarctic Biological Prospecting Database. The view was also expressed that using the EIES would only make sense with a shared understanding as to what activities constitute biological prospecting. Another view held that the EIES was a mechanism to assist parties to meet their information exchange obligations, and that there was no need to extend these obligations to the collection and use of Antarctic biological material.

(i) Freedom of scientific investigation

18. The view was expressed that scientific investigation of Antarctic biological material may be of high value for mankind, irrespective of the commercial or non-commercial intent or outcome of such investigation. The view was also expressed that any regulation of biological prospecting activities in the Antarctic Treaty area must be consistent with the principle of the freedom of scientific investigation, as long as this research is non-destructive and aims to sustain the Antarctic ecosystem.

(j) Free exchange of information

19. Scientific observations and results from research on Antarctic genetic resources must be exchanged and made freely available as required by Article III.1(c) of the Antarctic Treaty in a timely manner. The view was expressed, however, that there is never absolute real-time transparency in scientific investigation, in part because the peer review process requires that findings be thoroughly vetted so as not to potentially mislead the scientific community and to protect intellectual property rights. Some participants noted that the licensing of patents tends to obstruct the free circulation of information and that information on patents should follow strict systemization and be posted on the website of the Antarctic Treaty Secretariat. Other participants, however, noted that patents tend to improve the free circulation of information although the patented invention as such is covered by intellectual property rights.

(k) Applicable intellectual property regimes

20. The view was expressed that there is no inconsistency with the requirements of Article III.1(c) of the Antarctic Treaty from the creation of intellectual property related to Antarctic biological material. The view was expressed that the objects of patents are not ‘scientific observations and results from Antarctica’, but rather inventions associated with biological material that has been collected there. The patent owner is,

furthermore, obliged to publish the full details of the invention, making this information freely available. Another view held that the information content of patent applications on the Internet varies from excellent to poor, and that it is not known how much, or if, patents affect the free availability of information relating to Antarctic discoveries. The view was also expressed that biological prospecting is a search to identify existing natural processes that may be useful in other contexts, such as in the case of extremophiles, rather than inventions per se; the concept of invention might be applicable in the replication of natural processes on an industrial scale, but is not applicable in all instances of biological prospecting, such as when regular harvesting is required.

(l) Merits of further regulation

21. There are no instruments in the Antarctic Treaty system specifically addressing biological prospecting, but several instruments address activities that may be part, but not exclusively, of biological prospecting. Participants expressed diverging views on the merits of further regulation. On the one hand, some participants argued that the Antarctic Treaty system is adequate and effective in regulating biological prospecting activities in the Antarctic Treaty area, and that the development of a separate regulatory regime to address these activities is neither necessary nor desirable. On the other hand, other participants argued that several issues related to the collection of Antarctic biological material in the Antarctic Treaty area and its use may benefit from further regulation within the framework of the Antarctic Treaty system, namely the access to *ex situ* collections of Antarctic biological material; the prevention of any potential environmental impacts; the provision of open exchange of information regarding commercial developments; and the establishment of a basis for benefit-sharing, especially when scientific observations and results from research on Antarctic biological material are controlled by a patent or some other means.

(m) Any other issues identified by the ICG

22. Some participants identified further issues for future consideration, namely (a) the tagging of Antarctic biological material in *ex situ* collections, and (b) the sequencing of DNA in accordance with modern barcoding of genetic resources.