Doc. 10.76

Interpretation and Implementation of the Convention

DESIGNATION OF SCIENTIFIC AUTHORITIES

1. This document has been submitted by the United States of America.

Introduction

2. Article IX requires each Party to designate one or more Scientific Authorities. The proper functioning of these Scientific Authorities is important to ensure that the species being traded are effectively conserved. This document and the accompanying draft resolution re-emphasize the responsibility of the Parties to ensure the establishment and operation of competent Scientific Authorities and to encourage Parties, individually and collectively, to enhance the performance of Scientific Authorities.

3. Article III, paragraphs 2(a), 3(a) and (b), and 5(a), and Article IV, paragraphs 2(a) and 6(a), require certain advice and findings to be issued by the Scientific Authority before various CITES permits can be issued by the Management Authority. In addition, Article IV, paragraph 3, assigns a monitoring and export-limitation advisory role to the Scientific Authority. Furthermore, document Doc. 8.37 and Resolution Conf. 8.6 (Rev) recommend additional responsibilities for Scientific Authorities.

4. In addition, the following Resolutions, elaborate upon or include other responsibilities for Scientific Authorities:

   – Conf. 1.4 Museum and Herbarium Inventories
   – Conf. 2.11 (Rev.) Trade in Hunting Trophies of Species Listed in Appendix I
   – Conf. 2.14 Guidelines for Non-commercial Loan, Donation or Exchange of Museum and Herbarium Specimens
   – Conf. 8.15 Guidelines for a Procedure to Register and Monitor Operations Breeding Appendix-I Animal Species for Commercial Purposes
   – Conf. 8.21 Consultation with Range States on Proposals to Amend Appendices I and II
   – Conf. 9.10 Disposal of Illegally Traded, Confiscated and Accumulated Specimens
   – Conf. 9.11 Disposal of Confiscated Live Animals of Species Included in the Appendices
   – Conf. 9.18 Regulation of Trade in Plants
   – Conf. 9.19 Guidelines for Registration of Nurseries Exporting Artificially Propagated Specimens of Appendix-I Species
   – Conf. 9.21 The Interpretation and Application of Quotas for Species included in Appendix I
   – Conf. 9.26 Standard Nomenclature

5. The Animals Committee, in implementing Resolution Conf. 8.9, has frequently requested countries to provide the basis for their Scientific Authority's advice on exports of specimens in numbers that might be considered detrimental.

6. Resolution Conf. 8.4 directs the Secretariat to identify those Parties whose domestic measures do not provide them with the authority to designate at least one Scientific Authority.

7. Article I, paragraph (f), stipulates that the Scientific Authority means a national scientific authority designated in accordance with Article IX.

8. At the sixth meeting of the Conference of the Parties, the United States of America introduced a document expressing concern that several Parties (28 at that time) had not informed the Secretariat of the agency(ies) designated to perform Scientific Authority responsibilities for their country. Since that time the Secretariat has made a special effort to request information on the Scientific Authority of each country and has identified in the Report on Alleged Infractions those countries that have not designated their Scientific Authorities.

9. Thus, the Report on Alleged Infractions for the seventh, eighth and ninth meetings of the Conference of the Parties noted that 15, 5, and 10 Parties, respectively, had not identified their Scientific Authorities and, as of 12 December 1996, there were 11 such Parties. In most instances, it has been those Parties that have most recently acceded to CITES that have not designated their Scientific Authorities. Of the above 29 Parties, only six have been identified in more than one Report on Alleged Infractions and only four of the six still have not identified their Scientific Authority.

10. Resolution Conf. 9.5, on Trade with States not Party to the Convention, recommends in paragraph b) that Parties accept documentation from States not party to the Convention only if details of the competent authorities and scientific institutions of such States are included in the most recent updated list of the Secretariat or after consultation with the Secretariat.

11. Resolution Conf. 8.6 directs the Secretariat to prepare general guidelines for conducting appropriate scientific reviews and to co-ordinate regional workshops on the conduct of a Scientific Authority. Before undertaking the preparation of guidelines, the Secretariat circulated a questionnaire to learn how Scientific Authorities operated and what kinds of problems they encountered. Questionnaires were distributed to Management Authorities and Scientific Authorities in 127 countries and responses were received from 64 Parties. Because some countries had more than one Management Authority or Scientific Authority, a total of 145 responses was received. Considering responses to other questionnaires this return rate indicated a high interest by the Parties in this issue. The results of this questionnaire were reported in document Doc. AC.13.16.

12. Some of the responses indicated that the Scientific Authorities "were not able to function properly owing to a lack of independence", and the Secretariat in its report went on to note that "although the text of the Convention does not require a Party to designate different bodies for its Management and Scientific Authorities, measures should be taken to ensure the independence of the Scientific Authorities". Analysis of the questionnaire also indicated a "lack of communication between the Management and Scientific Authorities". In addition, the wish to obtain training was expressed by many Scientific Authorities. While some information on the function of a Scientific Authority is

currently included in the standard training by the CITES Secretariat it appears that there is continuing interest in organizing seminars or workshops specifically for Scientific Authorities. Twenty-five respondents or 50 per cent of those responding indicated that there are not enough training courses/seminars/workshops available to improve the functioning of Scientific Authorities. The need for such training was also discussed at meetings of the Animals and Plants Committees in 1996.

13. When asked about reasons for the Management Authorities not consulting the Scientific Authorities, three Management Authorities (10 per cent of respondents) said there was no legal or formal mechanism for consultation; 12 Scientific Authorities identified this as an obstacle. Three Management Authorities (10 per cent of respondents) and five Scientific Authorities said the Scientific Authority was not permanent in their country. While only five Management Authorities said no Scientific Authority had been designated, ten Scientific Authorities noted that the Management Authority and the Scientific Authority were in practice the same persons. In some instances, the Secretariat had previously been informed that there was a Scientific Authority but it had since been abolished and the Secretariat had not been aware of the change.

Proposal

14. The accompanying draft resolution:
    - directs the Secretariat to continue its efforts to identify the Scientific Authority(ies) in each country;
    - encourages the development of workshops specifically for Scientific Authorities;
    - recommends that Parties not accept CITES export permits from countries that have not designated Scientific Authorities; and
    - encourages Parties to designate Scientific Authorities separate from Management Authorities.

COMMENTS OF THE SECRETARIAT

15. The attached draft resolution addresses a number of issues related to the functioning of Scientific Authorities. Some of these are already covered by existing Resolutions, and some are new. In accordance with Decision No. 4 directed to the Parties, adopted at the ninth meeting of the Conference of the Parties, the attached draft resolution should therefore have been prepared to amend or replace the existing texts, notably Resolution Conf. 8.6 (Rev.).

16. Regarding paragraph a) under "DIRECTS" in the attached draft resolution, it should be noted that Article IX of the Convention requires each Party to **designate** one or more Scientific Authorities. Although the Secretariat has always requested missing information from the Parties about their Scientific Authorities, it is not the responsibility of the Secretariat to "identify" such Authorities.

17. Paragraph b) under "DIRECTS" in the draft resolution is already covered by paragraph a) of Resolution Conf. 8.6 (Rev.).

18. Paragraph c) under "DIRECTS" in the draft resolution is already covered by Decision No. 13 directed to the Secretariat, adopted at the ninth meeting of the Conference of the Parties.

19. The paragraph under "ENCOURAGES" in the draft resolution is appropriate and could be taken in consideration by amending Resolution Conf. 8.6(Rev.). It should be noted that, at the last meetings (1996) of the Animals and Plants Committees, it was recognized that seminars in the training of Scientific Authorities were very important.

20. In paragraph a) under "RECOMMENDS" of the draft resolution, recommends that Parties "designate Scientific Authorities separate from Management Authorities". In this connection, the United States of America draws attention (in paragraphs 11 and 12 above), to the questionnaire survey conducted by the Secretariat, which indicated that some Scientific Authorities were not able to function properly owing to a lack of independence. If the same organization or people deal with the tasks of both authorities, or if the Scientific Authority of the Party is administratively subservient to the Management Authority, this could compromise the objectivity of the Scientific Authority. Although the text of the Convention does not require Parties to designate different bodies for its Management and Scientific Authorities, measures should be taken to ensure the independence of the Scientific Authorities. Paragraph a) under "RECOMMENDS" in the attached draft resolution should therefore make clear that Management Authorities and Scientific Authorities should be <u>independent</u> even if they are within the same government agency. The word "separate" may not be sufficiently unambiguous.

21. Paragraph b) under "RECOMMENDS" in the draft resolution should be proposed as an amendment to Resolution Conf. 8.6 (Rev.) or, since it relates to acceptance of permits, to Resolution Conf. 9.3.

22. Paragraph c) under "RECOMMENDS" of the draft resolution suggests that Parties should seek the advice of others when appropriate. It does not seems necessary to put this into the soft law of the Convention.

23. The recommendation in the last paragraph of the attached draft resolution seems appropriate and could be included in Resolution Conf. 8.6 (Rev.).

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DRAFT RESOLUTION OF THE CONFERENCE OF THE PARTIES

<u>Designation of Scientific Authorities</u>

NOTING that each Party to the Convention is required to establish one or more Scientific Authorities (in accordance with Article IX);

RECOGNIZING that the responsibilities of Scientific Authorities are discussed in Article III, paragraphs 2(a), 3(a) and (b), and 5(a), and Article IV, paragraphs 2(a) and 6(a), of the Convention, and further discussed in document Doc. 8.37 and Resolution Conf. 8.6(Rev), adopted at the eighth meeting of the Conference of the Parties (Kyoto, 1992);

FURTHER RECOGNIZING that these responsibilities are elaborated upon in Resolutions Conf. 1.4,

Conf. 2.11 (Rev), Conf. 2.14, Conf. 8.15, Conf. 8.21, Conf. 9.10, Conf. 9.11, Conf. 9.18, Conf. 9.19, Conf. 9.21, and Conf. 9.26, adopted at the first, second, eighth and

ninth meetings of the Conference of the Parties (Berne, 1976; San José, 1979; Kyoto, 1992; Fort Lauderdale, 1994);

NOTING the concerns of the Parties indicated in the responses to the Secretariat's questionnaire on the functioning of Scientific Authorities, as reported in Doc. AC.13.16;

RECALLING that Resolution Conf. 8.4, adopted at the eighth meeting of the Conference of the Parties (Kyoto, 1992), directs the Secretariat to identify those Parties whose domestic measures do not provide them with the authority to designate at least one Scientific Authority;

NOTING that Reports on Alleged Infractions have identified several Parties that have not designated Scientific Authorities;

RECALLING that Resolution Conf. 9.5, adopted at the ninth meeting of the Conference of the Parties (Fort Lauderdale, 1994), recommends that Parties not accept documentation from States not party to the Convention if details of the competent authorities and scientific institutions of such States are not included in the Secretariat's most recent updated list of such authorities or after consultation with the Secretariat; and

ACKNOWLEDGING the necessity for the Secretariat, members of the Animals and Plants Committees, and other Scientific Authorities to contact the appropriate Scientific Authorities of each Party;

THE CONFERENCE OF THE PARTIES TO THE CONVENTION

DIRECTS the Secretariat:

a) to continue its efforts to identify the Scientific Authority(ies) in each country;

b) to continue to identify in its Report on Alleged Infractions those countries that have not identified their Scientific Authority(ies) to the Secretariat; and

c) to continue to provide information on the Scientific Authority(ies) or comparable entities of non-Parties to all Parties;

ENCOURAGES the Parties, the Secretariat, and interested non-governmental organizations to develop and support workshops/seminars designed specifically to improve the implementation of CITES requirements by Scientific Authorities;

RECOMMENDS that all Parties:

a) designate Scientific Authorities separate from Management Authorities;

b) not accept export permits from countries that have not identified their Scientific Authority(ies) to the Secretariat for more than one interval between biennial meetings of the Conference of the Parties; and

c) enlist the assistance of Scientific Authorities of other Parties, as appropriate; and

RECOMMENDS that neighbouring Parties consider sharing their resources by supporting common scientific institutions to provide the scientific findings required under the Convention.

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Interpretation and Implementation of the Convention

STANDARD NOMENCLATURE

1. This document has been prepared by the Secretariat on the basis of the recommendations in documents Doc. 10.18 and Doc. 10.19
2. Additions to the original text of Resolution Conf. 9.26 are included in ***bold italics***.
3. Deletions from the original text of Resolution Conf. 9.26 are marked in ~~Strike-out~~.
4. Some of the paragraphs on standard references for plants have been rearranged to better reflect the taxonomic hierarchy used in the appendices.
5. Some text has been added to paragraphs g) and h) under ADOPTS in the draft Resolution to include a reference to checklists adopted for particular taxa.

Doc. 10.77 Annex

DRAFT RESOLUTION OF THE CONFERENCE OF THE PARTIES

Standard Nomenclature

NOTING that biological nomenclature is dynamic;

AWARE that the names of the genera and species of several families are in need of standardization and that the current lack of a standard reference with adequate information decreases the effectiveness of the implementation of CITES in conserving the many species that are listed in the appendices;

RECOGNIZING that the taxonomy used in the appendices to the Convention will be most useful to the Parties if standardized by nomenclatural references;

AWARE that the Nomenclature Committee has identified names of taxa used in the appendices to the Convention that should be changed to reflect accepted biological use;

RECOGNIZING that there are several taxa included in the appendices of which domesticated forms exist, and that in several cases the Parties have chosen to discriminate between the wild form and the domesticated form by applying a name that differs from the name cited in the standard nomenclature for the protected form;

NOTING that these changes should be adopted by the Conference of the Parties to the Convention;

RECOGNIZING that, in the case of new proposals for listing in the appendices, the Parties should use adopted standard references whenever available;

CONSIDERING the great practical difficulties involved in recognizing many of the subspecies at present listed in the appendices when they appear in trade; and the need to weigh ease of subspecies identification against reliability of information on geographic source, for enforcement purposes;

THE CONFERENCE OF THE PARTIES TO THE CONVENTION

RECOMMENDS:

a) that a subspecies be proposed for inclusion in the appendices only if it is generally recognized as a valid taxon, and easily identifiable in the traded form;

b) that where there are identification difficulties, the problem be approached by either including the entire species in Appendix I or Appendix II or by circumscribing the range of the subspecies warranting protection and listing the populations within this area on a country basis;

c) that where there are domesticated forms of listed taxa the Nomenclature Committee recommend names for the wild and domestic forms;

d) that when submitting a proposal to amend the appendices to the Convention the proponent identify the reference used to describe the entity being proposed;

e) that upon receiving proposals to amend the appendices to the Convention, the Secretariat seek, where appropriate, the advice of the Nomenclature Committee on the correct names to use for the species or other taxa in question;

f) that the Secretariat may make orthographic changes in the lists of species included in the appendices to the Convention, without consulting the Conference of the Parties;

g) that the Secretariat inform the Parties whenever the name of a taxon to be used in the appendices to the Convention changes, provided that:

   i) the change has been recommended or agreed to by the Nomenclature Committee; and

   ii) the change will not alter the scope of protection for fauna or flora under the Convention; and

h) that, whenever the scope of a taxon is redefined as a result of a taxonomic revision, the Nomenclature Committee advise the Secretariat on the name to be listed in the appendices or on alternative actions, including amendments to the appendices, required to ensure that the original intent of the listing is retained;

ADOPTS the following standard references:

a) *Mammal Species of the World: A Taxonomic and Geographic Reference*, 2nd edition, (edited by D.E. Wilson and D.M. Reeder, 1993, Smithsonian Institution Press) for mammalian nomenclature;

b) *A Reference List of the Birds of the World* (J.J. Morony, W.J. Bock and J. Farrand Jr, 1975, American Museum of Natural History) for order and family level names for birds;

c) *Distribution and Taxonomy of Birds of the World* (C.G. Sibley and B.L. Monroe Jr, 1990, Yale University Press) for the genus and species names of birds;

d) ***Reptiles del noroeste, nordeste y este de la Argentina – Herpetofauna de las selvas subtropicales, puna y pampa, 1993 (Cei, Jose M. In Monografie XIV, Museo Regionale di Scienze Naturali), as the standard reference to species of the genus Tupinambis found in Argentina and Paraguay;***

e) ***Snake Species of the World: A Taxonomic and Geographic Reference (Campbell, McDiarmid and Touré, 1997; three volumes) published under the***

auspices of the Herpetologists' League, as the standard reference to species of snakes;

f) *Amphibian Species of the World: A Taxonomic and Geographic Reference* (D.R. Frost, 1985, Allen Press and The Association of Systematics Collections) ***and*** ~~for amphibian nomenclature and, following its approval by the Nomenclature Committee,~~ *Amphibian Species of the World: Additions and Corrections* (W.E. Duellman, 1993, University of Kansas) ***for amphibian nomenclature until the second edition of the former reference has been published;***

g) The Plant-Book, reprinted edition, (D.J. Mabberley, 1990, Cambridge University Press) for the generic names of all CITES plants, ***unless they are superseded by standard checklists adopted by the Parties as referenced below in paragraphs i) to m);***

h) *A Dictionary of Flowering Plants and Ferns*, 8th edition, (J.C. Willis, revised by H.K. Airy Shaw, 1973, Cambridge University Press) for generic synonyms not mentioned in *The Plant-Book*, ***unless*** ~~until~~ they are superseded by standard checklists adopted by the Parties ***as referenced below in paragraphs i) to m);***

i) *A World List of Cycads* (D.W. Stevenson, R. Osborne and ***K.D. Hill, 1995; In: P. Vorster (Ed.), Proceedings of the Third International Conference on Cycad Biology, pp. 55-64, Cycad Society of South Africa, Stellenbosch)*** ~~J. Hendricks, 1990, Memoirs of the New York Botanical Garden 57: 200-206~~) and its updates accepted by the Nomenclature Committee, as a guideline when making reference to names of species of Cycadaceae, Stangeriaceae and Zamiaceae;

j) ***The Bulb Checklist (1997, compiled by the Royal Botanic Gardens, Kew, United Kingdom) and its updates approved by the Nomenclature Committee, as a guideline when making reference to the names of species of Cyclamen (Primulaceae) and Galanthus and Sternbergia (Liliaceae);***

k) ***The CITES Checklist of Succulent Euphorbia taxa (Euphorbiaceae) (1997, published by the German Federal Agency for Nature Conservation) and its updates approved by the Nomenclature Committee, as a guideline when making reference to the names of species of succulent euphorbias;***

l) *CITES Cactaceae Checklist* (***second edition, 1997***, compiled by D. Hunt, ~~1992,~~ Royal Botanic Gardens, Kew, United Kingdom) and its updates accepted by the Nomenclature Committee, as a guideline when making references to names of species of Cactaceae; and

m) ***The*** *CITES Orchid Checklist**s***, ~~Volume I, 1995,~~ (compiled by the Royal Botanic Gardens, Kew, United Kingdom) and ~~its~~ ***the*** updates accepted by the Nomenclature Committee, as a guideline when making reference to the names of species of *Cattleya, Cypripedium, Laelia, Paphiopedilum, Phalaenopsis, Phragmipedium, Pleione* and *Sophronitis* (Volume 1, 1995); ***and Cymbidium, Dendrobium, Disa, Dracula, and Encyclia (Volume 2, 1997)***;

~~DECIDES to consider any *Euphorbia* included in the following publications to be succulent and included in Appendix II, and to use the names in these publications until a nomenclatural checklist is prepared:~~

~~a) *Lexicon of Succulent Plants/Das Sukkulentenlexikon* (H. Jacobson, 1977, English edition, Blandford Press, Dorset, U.K., 1970 and 1981 German editions, Gustav Fischer Verlag, Jena, Germany); supplemented by:~~

~~*List of Names of Succulent Plants Other than Cacti published 1950-1992* (U. Eggli and N. Taylor, editors, 1994, Royal Botanic Gardens, Kew, U.K.); and~~

~~b) for names published from 1993 onwards:~~

~~*Repertorium Plantarum Succulentarum*, Volume 44, (U. Eggli and N. Taylor, compilers, 1993, Royal Botanic Gardens, Kew, U.K.);~~

URGES Parties to assign to their Scientific Authorities the principal responsibility for:

a) interpretation of the listings;

b) consultation with the CITES Nomenclature Committee as appropriate;

c) identification of nomenclatural issues that may warrant further review by the appropriate CITES Committee and preparation of proposals to amend the appendices if appropriate; and

d) supporting and co-operating in the development and maintenance of the checklists; and

REPEALS Resolution Conf. 9.26 (Fort Lauderdale, 1994) – Standard Nomenclature.

Doc. 10.78 (Rev.)

Interpretation and Implementation of the Convention

INFORMATION ON THE POPULATION STATUS OF AND THREATS TO *OVIS VIGNEI*

1. This document has been submitted by Germany.

COMMENTS OF THE SECRETARIAT

2. Considerable confusion about the intention of the Parties at the time when *Ovis vignei* was included in the CITES appendices (1975) has led to different interpretations of the listing.

3. An Animals Committee working group on *Ovis vignei* met in Washington D.C. (United States) in April 1996 to discuss the issue. It concluded that it was not able to clarify the taxonomic status of the listing of *Ovis vignei* in Appendix I. However, it recognized that the subspecific names that are used are generally recognized by taxonomists irrespective of the species definition employed. It was agreed that a proposal to amend the CITES appendices was needed, to clarify the status of the listing of the six subspecies of *Ovis vignei* with respect to each range State. Germany collaborated with the IUCN/SSC Caprinae Specialist Group in preparing the proposal.

4. The proposal was submitted for discussion at the 13th meeting of the Animals Committee (Czech Republic, 23-27 September 1996), under the Periodic Review of Animal Taxa Included in the Appendices. The Animals Committee asked the Nomenclature Committee to meet during the 13th meeting to discuss the issue.

5. The Nomenclature Committee considered that the Conference of the Parties had resolved the taxonomic ambiguity of *Ovis vignei* when *Mammal Species of the World: A Taxonomic and Geographic Reference* (Honacki, *et al*. 1982) was adopted in 1983, in Resolution Conf. 4.23, as the standard reference to nomenclature of mammals. This reference recognizes the species *Ovis vignei* as the taxon listed in Appendix I. This decision was reinforced when, in Resolution Conf. 9.26, the Parties adopted the second edition of *Mammal Species of the World: A Taxonomic and Geographic Reference* (Wilson and Reeder, 1993) as the standard reference in 1994. The second edition included a list of the synonyms of the various taxa that are included in *Ovis vignei*.

6. Consequently, the Nomenclature Committee recommended that the amendment proposal prepared by Germany not be submitted as a proposal but be considered as an information document, to clarify the listing in the appendices.

7. The Animals Committee and the Secretariat agreed with this recommendation.

8. The following text contains information collected by the German Scientific Authority for CITES up to November 1996.

Taxonomy

9. Class: Mammalia

10. Order: Artiodactyla

11. Family: Bovidae

12. Species: *Ovis vignei* Blyth, 1841 (including the subspecies *arkal, bocharensis, cycloceros, punjabiensis, severtzovi, vignei*)

13. Scientific synonyms

Ovis orientalis vignei, O. orientalis arkal, O. orientalis bocharensis, O. orientalis cycloceros, O. orientalis punjabiensis, O. orientalis severtzovi, O. orientalis blanfordi, also including *arabica, dolgopolovi* and *varentsowi*

14. Common names

English:	Urial (including Transcaspian urial, Arkal or Ustyurt sheep; Bukhara or Turkestan urial or Tajik sheep; Afghan, Afghanistan, Iranian or Turkmen urial; Punjab urial; Kizil-Kum or Severtzov's urial; Ladakh urial and Baluchistan or Blanford's urial)
French:	Urial
German:	Urial (inkl. Arkal, Kreishornschaf, Pandschab-Urial, Nura-Tau-Wildschaf, Steppenschaf, Belutschistan-Wildschaf)
Astor:	Urin
Baluchi:	Kar
Brahui:	Kar
Iranian:	Ghuch-e-Uyreal
Ladakhi:	Sha, shapo, shapu
Pashto:	Zahra hii Gada
Punjabi:	Urial
Tamil:	Airppiyak kàttuàtu
Turkish:	Yaban koyunu, Dag koyunu
Urdu:	Jangli Dumba, Gud, Gad

Biological Parameters

Distribution

15. Uzbekistan, Tadjikistan, and NE Iran to Afghanistan, Pakistan, and NW India.

- *O. v. arkal*: Iran, Kazakstan, Turkmenistan and Uzbekistan
- *O. v. bocharensis*: Tadjikistan, Turkmenistan and Uzbekistan
- *O. v. cycloceros* (incl. *blanfordi*): Afghanistan, Iran, Pakistan, Turkmenistan
- *O. v. punjabiensis:* Pakistan
- *O. v. severtzovi*: Uzbekistan
- *O. v. vignei*: India, Pakistan

(IUCN/SSC Caprinae Specialist Group, pers. comm.; Wilson & Reeder, 1993)

Habitat availability

16. Urials inhabit low elevations, open areas that are often close to human settlements and thus heavily used by livestock. They often avoid rugged mountainous terrain where they might gain some protection, and instead compete directly with livestock. Their typical habitat is arid and of relatively low productivity.

17. In many areas urials habitat is being lost to forestry and agriculture, or is being severely degraded by livestock overgrazing (particularly by domestic sheep and goats) (Shackleton, in press).

Population status

18. According to the latest IUCN Red List of Threatened Mammals (Groombridge *et al.*, in press) the global status of the species *Ovis vignei* as a whole is Vulnerable. The status of *O. v. bocharensis*, *O. v. severtzovi* and *O. v. vignei* is Endangered and the status of *O. v. punjabiensis* Vulnerable. *O. v. cycloceros* is classified as Indeterminate and *O. v. arkal* as Insufficiently Known.

19. According to the new IUCN Red List Categories (IUCN, 1994) the global status of *O. v. bocharensis*, *O. v. punjabiensis*, *O. v. severtzovi* and *O. v. vignei* is classified as Endangered and the status of *O. v. arkal* and *O. v. cycloceros* (incl. *blanfordi*) as Vulnerable.

20. *O. v. bocharensis* and *O. v. severtzovi* are listed under Category I and *O. v. arkal* and *O. v. cycloceros* under Category II in the USSR Red Data Book (Shackleton *et al.*, in press, after Borodin 1984).

21. Subspecies at particular risk are Bukhara (*Ovis v. bocharensis*), Ladakh (*O. v. vignei*), Punjab (*O. v. punjabiensis*) and Severtzov's (*O. v. severtzovi*) urials. Without prompt and effective conservation actions, these four urials will continue declining and their status will quickly deteriorate to Critical (Shackleton, in press).

Estimate of total population numbers of the subspecies of *Ovis vignei*:

22. *O. v. arkal*: unknown
O. v. bocharensis: <1,200
O. v. cycloceros (incl. *blanfordi*): >12,000
O. v. punjabiensis: <2,000
O. v. severtzovi: >2,000
O. v. vignei: <2,100
(Fox & Johnsingh; Habibi; Hess *et al.*; Weinberg *et al.*; Ziaie; all in press)

Population in captivity

23. Population in zoos, bird and wildlife parks and research colonies:

24. *O. v. cycloceros*:

1993: Ashkhabad Turkmenistan 1Γ 0E; Berlin TP Germany 11Γ 8E; San Diego WAP United States 1Γ 1E; Tallin Estonia 1Γ 1E
Total: 14Γ 10E in 4 collections, most are presumed captive bred
1994: Berlin TP Germany 9Γ 9E; Tallin Estonia 1Γ 1E no data: Ashkhabad Turkmenistan 1Γ
Total: 10Γ 10E in 2 collections, most are presumed captive bred

25. *O. v. bochariensis*:

1993: Alma-Ata Kazakstan 1Γ 2E; Kaliningrad Russian Federation 1Γ 3E; Kharkov Ukraine 1E; St Petersburg Russian Federation 1Γ 2E
Total: 3Γ 8E in 4 collections, all are presumed captive bred
1994: Alma-Ata Kazakhstan breeding group, actual number not known; Kaliningrad Russian Federation 1Γ 2E; Kharkov Ukraine 1E; St Petersburg Russian Federation 1Γ 2E
Total: 2Γ 5E + in 4 collections, all are presumed captive bred

26. *O. v. vignei*:

1994: Bahrain 9Γ 9E; San Diego USA 4Γ 5E
Total: 13Γ 14E in 2 collections, all are presumed captive bred
(Olney *et al.*, Int. Zoo Yearbook Vol. 33 and 34, 1994 and 1995)

Population trends

27. The population trend in all subspecies is decreasing.

28. For *O. v. arkal* the population was estimated to be at least 20,000 animals in the mid-1970s in Iran (Ziaie, in press, after Valdez & DeForge 1985). Recent estimates of the actual population in Iran, where most of the population exists, are not available. In Kazakstan, Turkmenistan and Uzbekistan its numbers had previously declined significantly but, for a short time in the latter half of the 1980s, numbers appeared to respond positively to protection measures. Since the early 1990s the population (estimated to be 6,000 animals) appears to have once more declined (Weinberg *et al.*, in press).

29. The population numbers of *O. v. bocharensis* have fluctuated slightly since the 1970s and by the late 1980s there might have been up to some 1,200 animals (Weinberg *et al.*, in press after Frolov & Golub 1983, Luzhevsky 1977, Prisyazhniuk 1990 and Sokov 1989). Numbers are believed to be decreasing now and in some areas populations are very small. In Uzbekistan on the western slopes of the Kugitangtau on the Turkmen-Uzbek border there may be as few as 100 animals (Weinberg *et al.*, in press after B. Dyakin, Dep. of Hunting Management, Uzbekistan, pers comm. to E. Mukhina). For example, in the Surkhan Nature Reserve in Uzbekistan in 1991 14 were reported, but only 5 in 1993 (Weinberg *et al.*, in press, after Kh. Mengliev, pers comm. to E. Mukhina 1995).

30. The estimate for the total population of *O. v. cycloceros* in Turkmenistan in the late 1980s and early 1990s was between 10,500 and 11,000 urials. Numbers had increased slightly from the estimate of 7,000 to 9,000 (with 2,000 in the Kopet-Dagh Reserve and 1,500 in the Badkhyz Reserve) made in the 1970s. Although about half the total numbers probably still occur within protected areas, outside them *O. v. cycloceros* exists mainly in relatively low densities. Recent evidence reports a significant decline in numbers in the eastern Kopet Dagh and in Badkhyz, with only 150-200 in Big Balkhan and 300-350 in the western Kopet Dagh (Weinberg *et al.*, in press, after Babaev *et al.* 1978; Gorelov 1978 and V. Lukarevsky, in litt. 1994).

31. No total population census based on surveys is available for the Afghan urial (*O. v. cycloceros*) in Pakistan. Perhaps 2,500-3,000 animals lived in Baluchistan according to Roberts (1985). According to Mitchell (1988) 1,000 individuals (0,2/km²) inhabited the Torghar hills of Toba Kakar range (District Zhob). About 150 animals inhabit the Takatu hills near Quetta (A. Ahmad, unpubl. data), and the situation in the Dureji hills (District Zhob) may be a little better (Virk 1991). Malik (1987) estimated a total of 310-340 Afghan urials for the whole of the North West Frontier Province (NWFP), whereas the NWFP Forest Department (1992) reported a more recent total of only 80 urials, suggesting a severe decline over five years. For Sind Province, a census carried out by Mirza & Asghar (1980) estimated a population of 430 urials for Kirthar National Park (NP). Based on a census in the Mari-Lusar-Manghtar range and in the Karchat mountains in 1987, K. Bollmann (unpubl. data) estimated between 800 and 1,000 urials (0,26-0,32/km²) for the whole of Kirthar NP. According to Edge & Olson-Edge (1987) about 150 to 200 animals live in the Mari-Lusar-Manghtar range, and 100 to 150 in the Karchat mountains (1,7-2,5/km²). The overall density of Afghan urials in Pakistan is probably much lower than this. (Hess *et al.*, in press, after Roberts 1985, Mitchell 1988, A. Ahmad unpubl. data, Virk 1991, Malik 1987,

NWFP 1992, Mirza & Asghar 1980, K. Bollmann unpubl. data, Edge & Olson-Edge 1987).

32. A complete census made in 1976-1977 by Mirza *et al.* (1979) estimated the total world population of Punjab urial (*O. v. punjabiensis*) as 2,157 animals. According to Schaller (1977) the population was <2,000. Estimates by Chaudhry (unpubl. data, in 1992) give a minimum total population of 1,550 throughout its whole range. For Punjab, Chaudhry *et al.* (1988) reported a significant decline in urial numbers over only one year from 733 in 1986 to 528 in 1987 (Hess *et al.*, in press, after Mirza *et al.* 1979, Chaudhry unpubl. data, Chaudhry *et al.* 1988).

33. The most recent estimate of more than 2,000 individuals of *O. v. severtzovi* is based on density estimates extrapolated from census transects made in 1994. Compared to estimates in 1983 of 1,500 this indicates a possible increase (Weinberg *et al.*, in press, after Chernagaev *et al.* 1994, E. Chernagaev pers. comm. to E. Mukhina 1995).

34. The total Indian population of *O. v. vignei* is currently estimated at between 1,000 and 1,500 animals and has declined dramatically in the last 60 years, especially during the military conflicts between 1947 and 1962 (Fox & Johnsingh, in press, after Fox *et al.* 1991 and Mallon 1983 and 1991).

35. Around 1900, the Ladakh urial used to be a common animal of northern Pakistan. According to Schaller (1976), <1,000 animals were left in Pakistan. Hess (in press) estimated for 1987-1988 only 200-400 individuals. In 1992 a total of 57 urials was estimated by NWFP Forest Department. The total estimated for the Northern Areas for 1993 was 400-500 urials (G.Tahir, Wildlife Wing, Northern Areas Forest Dept., in litt. to G. Rasool). There are probably <600 Ladakh urials in Pakistan (Hess *et al.*, in press, after Schaller 1976, Hess in press, NWFP 1992, G. Tahir in litt. to G. Rasool).

Geographic trends

36. The populations of *O. v. bocharensis*, *O. v. cycloceros* (incl. *blanfordi*), *O. v. punjabiensis* and *O. v. vignei* are fragmented and of very low density (<1 animal/km²). Severtzov's urial (*O. v. severtzovi*) lives in populations of very low densities (<1 animal/km²). In addition the subpopulations of *O. v. bocharensis*, *O. v. punjabiensis* and *O. v. vignei* are very small (<100 animals). Whether the population of *O. v. arkal* is fragmented and of very low density is insufficiently known (Fox & Johnsingh; Habibi; Hess *et al.*; Weinberg *et al.*; Ziaie; all in press).

37. The Bukhara urial (*O. v. bocharensis*) occurs in four isolated areas in the mountains just north of the Amu Darya (Weinberg *et al.*, in press).

38. In Pakistan in the Districts of Dera Ismail Khan, Bannu, Kohat Abbottabad and lower Swat populations of Afghan urial (*O. v. cycloceros*) are extremely scattered and at low densities. In the tribal lands the densities are believed to be slightly higher (Hess *et al.*, in press, after Malik 1987).

39. The Punjab urial (*O. v. punjabiensis*) is found in small scattered populations in the Kala Chitta and in the Salt range, and in the districts of Attock, Chakwal, Jhelum, Mianwali, and Khushab. At present the two, and perhaps only, major populations inhabit the Kala Chitta hills (Attock District) and the Kala Bagh Sanctuary of the Jabbah Valley (Mianwali District) (Hess *et al.*, in press).

40. Previously Severtzov's urial (*O. v. severtzovi*) was distributed over a wide area of Uzbekistan where it occupied the mountains of Beltau, Aktau Tamdytau and other low ranges in the high desert regions. Today, it is mostly restricted to the higher, widespread mountains of Nuratau, north of Samarkand, to two small areas west and south of Aydarkul Lake. The current survival of this urial depends entirely on the Nuratau Nature Reserve, where approximately 700 animals used to exist. But there is strong pressure from locals to use the area. Currently the Reserve protects ca. 98 per cent of the total population, so it is essential to maintain the reserve's effectiveness (Weinberg *et al.*, in press).

41. In India the Ladakh urial (*O. v. vignei*) occurs only within a restricted range (about 1,500 km²) in the low arid hills along the Shyok, Nubra and Indus rivers in central Ladakh (Jammu and Kashmir). Here they occupy the low relatively accessible areas along the major valley corridors, all of which have, or soon will have, roads. Owing to increasing development activities in the major valleys of Ladakh, the future status of this urial remains questionable. In Pakistan, the Ladakh urial is still widely distributed, but only in very small isolated populations (Fox & Johnsingh, in press).

Threats

42. Urials are especially threatened for several reasons. The threats all derive from an increasing human population with concomitant demands for food and other natural resources.

43. Because of their arid and low productive habitat urial densities are often apparently naturally low (<1/km²) (Shackleton, in press). But owing to the increasing habitat loss the mostly small populations of the subspecies are becoming more and more fragmented into very small, totally isolated populations. The dispersion and degree of isolation of the populations can be critical. According to Shackleton (in press) this may be the most important factor in the decline of the urial population.

44. The proximity to human settlements also makes them especially vulnerable to being hunted or poached. Urial populations near major urban centres have declined significantly because of indiscriminate hunting pressure (Shackleton, in press).

45. Poaching remains a major threat and is the cause of the latest decline in population numbers of *O. v. arkal* in Kazakstan, Turkmenistan and Uzbekistan. It is carried out by locals, especially around the limited waterholes used by the urials, using both firearms and snares (Weinberg *et al.*, in press, after Fedosenko 1986 and Gorbunov 1986). Also for *O. v. severtzovi* poaching is still a significant problem outside the Reserve, and almost all urials that leave the Reserve are shot (Weinberg *et al.*, in press, after E. Mukhina in litt. 1994).

46. In trophy hunting the most desired Caprinae are argali, urial and markhor. They are highly prized by trophy hunters, so there is an obvious temptation to open or expand hunts for significant economic gain. Currently, almost all Caprinae, no matter how vulnerable or threatened, are subjected to trophy hunting for hard currency (Shackleton, in press).

47. In addition competition and transmission of diseases from domestic animals are major threats (Shackleton, in press).

Utilization and Trade

National utilization

48. The Uzbekistan State Committee for Nature Protection planned to allow two of the Transcaspian urials (*O. v. arkal*) and two of the Bukhara urials (*O. v. bocharensis*) to be taken by foreign hunters in 1995, and Tadjikistan planned to allow hunts for the Bukhara urial at USD 5,000/animal (Weinberg *et al.*, in press, after Anon. 1995b).

49. The Turkmenistan Government planned hunts for two of the Afghan urials (*O. v. cycloceros*) in 1995. According to information from The Hunting Consortium Ltd, 1995, Turkmenistan allows each year four Afghan urials to be hunted and some Transcaspian urials.

50. Also in Kazakstan there is a limited number of hunting permits for Transcaspian urials available (The Hunting Consortium Ltd, 1995).

51. Since 1994, hunting for two Severtzov's urial each year has been allowed in the Nuratau Nature Reserve in Uzbekistan (Weinberg *et al.*, in press). According to The Hunting Consortium Ltd, 1995, in Uzbekistan, for three years a very limited number of permits has been available each year for Severtzov's urial.

52. Caprinae are hunted and prized for their meat, furs and body parts for alleged medicinal properties (Shackleton, in press).

Legal international trade

53. Trophy hunting for *O. v. arkal* in Turkmenistan and Kazakstan or *O. v. cycloceros* in Turkmenistan is offered in Germany for USD 14,900 each by The Hunting Consortium Ltd (1995).

54. As urials are among the most desired and highly prized Caprinae in trophy hunting it is likely that there exists a much greater trade in trophies.

55. Rejected proposals for import of trophies of urial into Germany indicate some interest in trade.

Illegal trade

56. Trophy hunting for *Ovis vignei* is offered in Germany by one travel agency (The Hunting Consortium Ltd, 1995; see Annex 1) although the import into the EU is prohibited. For this reason it is possible that there may be some illegal imports into the EU.

57. Whether and to what extent urials are involved in medicinal and fur trade, like other Caprinae, (e.g. goral and serow) is unknown.

Actual or potential trade impacts

58. According to Shackleton (in press) an estimate of the extent of medicinal trade involving Caprinae should be undertaken immediately in co-operation with TRAFFIC and CITES.

Captive breeding for commercial purposes (outside country of origin)

59. There is some breeding in zoos, bird and wildlife parks and research colonies. The following table lists the numbers of specimens bred in captivity:

60. *O. v. cycloceros*:

1992: Berlin TP Germany 2Γ 4E multiple generation birth
1993: Berlin TP Germany 3Γ 4E multiple generation birth

61. *O. v. bochariensis*:

1992: Alma-Ata Kazakstan 2; Kaliningrad Russian Federation 3 (sexes unknown)
1993: Alma-Ata Kazakstan 2(1); Kaliningrad Russian Federation 2; (sexes unknown)
St Petersburg Russian Federation (1Γ)

62. *O. v. vignei*:

1993: San Diego United States 2Γ 2E multiple generation birth (Olney *et al.*, Int. Zoo Yearbook Vol. 33 and 34, 1994 and 1995)

Conservation and Management

Legal status

National

63. *O. v. arkal*: In Iran hunting in National Parks, Wildlife Refuges and protected areas is prohibited and domestic animals are under control. Hunting under licence is allowed from September to February outside these areas.

64. *O. v. cycloceros* (incl. *blanfordi*): In Pakistan this taxon is completely protected in the capital territory of Islamabad by the Third Schedule of the Islamabad Wildlife (Protection, Preservation, Conservation and Management) Ordinance, 1979, which covers all subspecies of *O. vignei*. Only females are completely protected in the North-West Frontier Province by the Third Schedule of the North-West Frontier Province Wildlife (Protection, Preservation, Conservation and Management) Act, 1975 and in the Baluchistan Province by the Third Schedule of the Baluchistan Wildlife Protection Act, 1974, which covers all subspecies of *O. vignei* (Gaski, A.L. *et al.*, Wildlife Trade Laws of Asia and Oceania, 1991).

65. *O. v. punjabiensis*: Is completely protected in the capital territory of Islamabad by the Third Schedule of the Islamabad Wildlife (Protection, Preservation, Conservation and Management) Ordinance, 1979, and in the North-West Frontier Province by the Third Schedule of the North-West Frontier Province Wildlife (Protection, Preservation, Conservation and Management) Act, 1975. In the Baluchistan Province only females of all subspecies of *Ovis vignei* are protected under the Third Schedule of the Baluchistan Wildlife Protection Act, 1974 (Gaski, A.L. *et al.*, Wildlife Trade Laws of Asia and Oceania, 1991). According to Hess *et al.* (in press) the Punjab urial is legally protected in the Punjab.

66. *O. v. vignei*: In India except Jammu and Kashmir the Ladakh urial is fully protected by Schedule I of the Indian Wildlife (Protection) Act No. 53, 1972 (Gaski, A.L. *et al.*, Wildlife Trade Laws of Asia and Oceania, 1991). In its range in Jammu and Kashmir it is fully protected by Schedule I of the Jammu and Kashmir's Wildlife (Protection) Act of 1978 (Fox & Johnsingh, in press, after Ganhar 1979). Some illegal hunting probably still takes place, although hunting has been relatively strictly controlled recently (especially in the Indus valley).

67. In Pakistan the Ladakh urial is completely protected in the capital territory of Islamabad by the Third Schedule of the Islamabad Wildlife (Protection, Preservation, Conservation and Management) Ordinance, 1979, which covers all subspecies of *O. vignei*. Only females are completely protected in the North-West Frontier Province by the Third Schedule of the North-West Frontier Province Wildlife (Protection, Preservation, Conservation and Management) Act, 1975 and in the Baluchistan Province by the Third Schedule of the Baluchistan Wildlife Protection Act, 1974, which covers all subspecies of *O. vignei* (Gaski, A.L. *et al.*, Wildlife Trade Laws of Asia and Oceania, 1991).

68. National governments are responsible for ensuring the conservation of this species, including effective legal protection throughout its range. Therefore existing laws need to be enforced where necessary, and otherwise new or stronger laws are required to ensure effective conservation legislation.

International

69. *Ovis vignei* is listed in Appendix I of CITES (proposed by India in 1973).

Species management

Population monitoring

70. It is necessary to obtain more reliable population and distribution data, especially for the urial in Iran. A lack of biological information, especially about population dynamics and habitat requirements, severely restricts conservation actions.

Habitat conservation

71. Number of protected areas according to subspecies:

72. *O. v. arkal*: 10, but most protected areas contain very few urials and it is uncertain if the number and/or size is adequate for protection of this subspecies.

73. *O. v. bocharensis*: three, but the number and/or size is probably inadequate.

74. *O. v. cycloceros* (incl. *blanfordi*): 25, but the number and/or size is probably inadequate.

75. *O. v. punjabiensis*: 11, but the number and/or size is probably inadequate.

76. *O. v. severtzovi*: one, but it is uncertain if the number and/or size is adequate for protection of this subspecies.

77. *O. v. vignei*: four, but the number and/or size is probably inadequate.

(Fox & Johnsingh; Habibi; Hess *et al.*; Weinberg *et al.*; Ziaie; all in press)

78. The Hemis National Park (Jammu and Kashmir) contains the only population of *O. v. vignei* currently found in a protected area in India (Fox & Johnsingh, in press).

79. Around 19 protected areas in Pakistan are reported to contain mostly very small numbers of Afghan urial (*O. v. cycloceros*). However, except for Kirthar NP, Hingol NP, Dhrun NP and Dureji WS, the protection measures for the sanctuaries and reserves may not be effective at the present time. The Kopet Dagh Nature Reserve in Turkmenistan was established primarily for preservation of the Afghan urial (Hess *et al.*, Weinberg *et al.*, both in press).

80. The current survival of Severtzov's urial (*O.v. severtzovi*) depends entirely on the Nuratau Nature Reserve, where approximately 700 animals used to exist. But there is strong pressure from locals to use the area. A few years ago, 4,386 ha of the Reserve's 22,130 ha were given over to forestry management and the area is now badly degraded by livestock grazing. Most recently, local pastoralists have requested that the Reserve be turned over to them in this period of financial crisis. Currently the Reserve protects ca. 98 per cent of the total population, so it is essential to maintain the reserve's effectiveness (Weinberg *et al.*, in press).

81. According to Fox & Johnsingh (in press), Hess *et al.* (in press), and Weinberg *et al.* (in press), most of the protected areas are probably inadequate or it is uncertain if the number and/or size is adequate for protection. As effective conservation of the urial depends on habitat protection and designation of protected areas (according to the new categories adopted by IUCN), the range of a protected area should be truly representative of the urial's genetic and geographic diversity.

Management measures

82. The effects of increased hunting and possible human settlement associated with irrigation projects and increased livestock numbers, will require effective conservation and management actions if the urial is to survive (especially the Ladakh urial in the valleys of Ladakh) (Fox & Johnsingh, in press, after Fox *et al.* 1994).

83. Unless conservation measures are taken quickly, the Afghan urial (*O. v. cycloceros*) will be lost throughout more and more of its range in Pakistan. One of the main reasons is that populations are very small and widely scattered in relatively accessible terrain, and thus can easily be wiped out with no chance for areas to be naturally re-populated through dispersal.

84. WWF-Pakistan has recently initiated a participatory management programme in the Shirani tribal area, which includes protection for the Afghan urial (Hess *et al.*, in press).

85. In Afghanistan plans were considered in the 1970s to locate a viable Afghan urial population and develop a limited hunting reserve involving local participation (Habibi, in press).

86. In view of the strong pressure for hunting trophy animals, coupled with heavy livestock competition and declining numbers of most subspecies, not only of the urial but also the markhor and argali, the IUCN/SSC Caprinae Specialist Group calls for immediate action. While it is necessary to obtain more reliable population and distribution data (especially for mouflon and urial in Iran), even without these data, action is also needed to deal with current levels of use. Action may be most effective if the various parties involved in hunting, hunting management and conservation, meet to discuss common problems and solutions. If this does not occur, many of these animals will very probably be lost in the near future (Shackleton, in press).

87. In the forthcoming IUCN Survey and Action Plan for Wild Caprinae the IUCN/SSC Caprinae Specialist group gives the following recommendations for actions and implementation for urial as well as markhor and argali:

88. "1) **Trophy Hunting Working Group**

Establish a working group under the IUCN/SSC Caprinae Specialist Group, to develop an interim approach to hunting these trophy animals. The Working Group's first task should be to organize a workshop. This would be a relatively small meeting with discussion papers prepared in advance. In addition key Caprinae biologists from the countries of these three species, other professional biologists and representatives of hunting organizations (e.g. Conseil International de la Chasse et de la Conservation du Gibier [CIC], Safari Club International [SCI], Safari Outfitters, Glavbiocontrol) should also be members of the working group...

89. 2) **Surveys**

Survey the distributions and numbers of all taxa within these three groups of wild sheep throughout their ranges. Initially it may be possible to survey only sample areas for each taxon. These should be randomly chosen to represent the taxon's recent historic range, thus allowing a broad estimate of its general status." (Shackleton, in press)

90. Fully in line with these recommendations, the Working Group on *Ovis vignei* of the CITES Animal Committee agreed in 1996 that in addition to the listing of the species in Appendix I of CITES a resolution is needed to clarify Parties' responsibilities in relation to the conservation of this taxon (including all subspecies). Effective conservation of this species depends, in part, on incentive systems that promote local management, including sustainable use, and mechanisms are needed to emphasize the importance of local involvement in the conservation/management of urial populations.

91. According to the *Ovis vignei* Working Group of the CITES Animals Committee, local involvement in the conservation, management and use of discrete populations of this species should be provided under government licence, where local management takes account of:

92. – the status of the discrete population that is being used;

93. – monitoring the status of the population being used;

94. – use levels; and

95. – how benefits obtained from the use of the population will be applied to the conservation and management of the population.

96. (See minutes of the meeting of the CITES Animals Committee Working Group on *Ovis vignei*, April 1996.)

Control measures with regard to international trade

97. CITES identification sheets about protected species of Caprinae should be prepared to aid law enforcement officials in their task of controlling the illegal trade.

Additional Remarks

98. The taxonomic status of urial subspecies, especially in Baluchistan and south-western Sind (Pakistan), is disputed and differently divided. Some authors refer them to the Baluchistan urial (*O. v. blanfordi*), others to the Afghan urial (*O. v. cycloceros*); or they differentiate between the Afghan urial distributed in Baluchistan north of Quetta, and the Baluchistan urial distributed in Baluchistan south of Quetta and in Sind west of the Indus. As there is no description of any difference in appearance between both populations, and there are no geomorphological or habitat barriers, and as a genetic and/or morphological study has not been done, the IUCN/SSC Caprinae Specialist Group refers the population in Baluchistan and south-western Sind to *O. v. cycloceros.* In this paper the taxonomy of subspecies follows this point of view (incl. *blanfordi*).

99. Two hybrid populations exist between subspecies of *Ovis vignei* and *Ovis aries* in Iran: Alborz red sheep (*O. aries gmelinii x O. vignei arkal*) and Kerman mouflon (*O. aries laristanica x O. vignei cycloceros* incl. *blanfordi*). No estimate of numbers for the hybrid population is available.

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