

Comments on the proposed conservation of usage of *Testudo gigantea* Schweigger, 1812 (currently *Geochelone (Aldabrachelys) gigantea*; Reptilia, Testudines)
(Case 3463; see BZN 66: 34–50, 80–87, 169–186)

(1) Akio Takahashi

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My colleagues and I (Takahashi et al., 2003) published a paper in which we made morphological and taxonomic comparisons of a fossil tortoise with other testudines. We have become aware that there has been great nomenclatural debate and uncertainty about the name of the Aldabra tortoise, and after studying the recent publication of Case 3463 in the Bulletin of Zoological Nomenclature, it is clear that the nomenclatural instability adds greatly to the complications of scientific research.

It is therefore very important to fix the name of the Aldabra tortoise, and the detailed explanation in Case 3463 shows why this should be based on the name that has been in use for more than a century. The maintenance of the neotype of *T. gigantea*, based on a specimen of known locality and exhibiting gigantism, a critical character of this species, will be the most satisfactory way to fix the name, and facilitate scientific investigation in various fields that need stable names.

Additional references

Takahashi, A., Hirayama, R. & Otsuka, H. 2003. A new species of the genus *Manouria* (Testudines: Testudinidae) from the Upper Pleistocene of the Ryukyu Islands, Japan. *Paleontological Research*, 7(3): 195–217.

(2) Ren Hirayama

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I completely support the petition to conserve the specific name *Testudo gigantea* Schweigger, 1812 for the Aldabra tortoise, although I used another name, *Dipsoschelys dussumieri* in my paper (Takahashi et al., 2003). I agree with Frazier that *T. gigantea* is the established name. As explained in Case 3463, it has been in continuous use for more than 100 years and has been widely used in the scientific literature. It is important to settle this nomenclatural issue because there has been considerable confusion since 1982. The neotype for *T. gigantea* (USNM 269962) that was designated in 2006 should be maintained.

(3) Angel C. Alcalá

Silliman University, Angelo King Center for Research and Environmental Management (SUAKCREM), 2/F Marine Lab. Bldg, Bantayan, 6200 Dumaguete City, Philippines (e-mail: suakcrem@yahoo.com)

I agree with the arguments of Dr Jack Frazier recommending the stabilisation of the name of the Aldabra tortoise and proposing that the neotype designation of 2006 be affirmed. Changing the scientific name of this tortoise will lead to confusion.

(4) Miguel A. Carretero

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As a student of reptiles in the Indian Ocean area I was perfectly aware of the nomenclatural chaos regarding the Aldabra tortoises having profound effects on both the research progress in this field and conservation efforts for preserving and managing these tortoises. I completely agree with Frazier's arguments and hopefully this will provide a stable taxonomical situation for the future.

(5) Igor G. Danilov

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My message is in support of Case 3463 to stabilise the name of the Aldabra tortoise. I do agree with arguments described in Case 3463. I think this is the only way to stop the considerable taxonomic and nomenclatural confusion that surrounds the Aldabra tortoise and stabilise its scientific name.

(6) Carl H. Ernst

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I support the application of J. Frazier to conserve the name *Testudo gigantea* Schweigger, 1812 for the Aldabra tortoise by maintenance of the neotype designation, and suppression of *Testudo dussumieri* Gray, 1831. Frazier (2006a, 2006b) clearly described the recent confusion as to the acceptable name for the Aldabra tortoise following Bour's (1982) claim that the holotype of *T. gigantea* was not an Aldabra tortoise and his creation of the genus *Dipsochelys*. *Dipsochelys* Bour, 1982 has been used by some turtle systematists and hobbyists, but either *Geochelone* Fitzinger, 1835 or *Aldabrachelys* Loveridge & Williams, 1957 has been preferred by most biologists and the greater number of testudinologists. Very importantly, both of these names have precedence over *Dipsochelys*, and both of them are far more common in the literature. Likewise, *gigantea* is by far the most frequently used species name for the Aldabra tortoise, and pre-dates both *elephantina* Duméril and Bibron, 1835 and *dussumieri* Gray, 1831. The most recent checklist of the world's turtles (Fritz & Havaš, 2007) used *Aldabrachelys gigantea* for this tortoise. Frazier's (2006a) designation of a neotype (USNM 269962) fixed the name *Testudo gigantea* to the giant tortoises from Aldabra Atoll, thereby stabilising the nomenclature by using the established name. Bour (2007) supposedly rediscovered the type specimen of *Testudo gigantea* Schweigger, 1812, which was hard to do because Schweigger never listed one, and the holotype (by monotypy) has never been described a second time, and has been lost for nearly two centuries. However, the name of the Aldabra tortoise should be *Testudo gigantea* (currently *Geochelone (Aldabrachelys) gigantea* (Schweigger, 1812)) with a neotype designated by Frazier (2006a).

(7) R. Honegger

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As Curator of Herpetology (Retired) of Zurich Zoological Garden, Zurich, Switzerland, and a past Chairman of the Swiss Federal Scientific Commission to CITES, I support the petition by Frazier to conserve the specific name *gigantea* for the Aldabra giant tortoise. This charismatic tortoise species is well-known under this name and such a species deserves to have a stable name.

I am very glad that Dr Jack Frazier is now applying to conserve the specific name *gigantea*. Within the frame of our daily zoo work we do need stable names. Zoological Gardens within the World Association of Zoos and Aquaria (WAZA) are visited by more than 600 million visitors each year. During my professional life of over 40 years, I have visited about two hundred zoos in Europe, the U.S.A., Africa, Asia and Australia, and noticed that a majority of them label their Aldabra tortoises with the specific name *gigantea*. Zoos have an important duty in educating all people from young pupils to university graduate students, and will continue to refer to this species as *gigantea*. The new names proposed will not have the power to change this fact. International organisations such as IUCN or WWF also use the specific name *gigantea* for the Aldabra giant tortoise.

Another very important issue is the implementation of conservation regulations (such as CITES) at international border posts. As zoo curators we are regularly asked for assistance when animals or animal products are checked by customs. Furthermore we educate customs officers in regular training sessions for identifying animal species. How can we teach customs officers if such relevant questions of naming such important animals are not satisfyingly solved? Destabilising the nomenclature of this threatened species creates potential loopholes in laws and regulations concerning its protection. There will be confusion and chaos when important conservation regulations should be strictly implemented. I do hope very much that the ICZN will accept the arguments given in Case 3463 and give this fascinating tortoise the name it deserves: *gigantea*.

(8) Jeffrey E. Lovich

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Flagstaff, AZ 86001-1600 U.S.A. (e-mail: jeffrey_lovich@usgs.gov)*

I am writing in support of the application by Jack Frazier to conserve the name *Testudo gigantea* for the Aldabra tortoise and to recognise the neotype he designated. This species has one of the most confusing (unnecessarily so) taxonomies of any living turtle, despite the fact that it is internationally recognised and iconic. Given the multitude of names proposed for this species, common usage of *gigantea* begs for a resolution as suggested by Frazier. Cleaning up past confusion regarding names and types is the only way to achieve a solution to this long-standing problem.

(9) Patrick K. Malonza

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This is to clarify that, although I am the author of a scientific paper that used the scientific name *Dipsochelys dussumieri* to refer to the Aldabra tortoise (Malonza, 2003), I have now read Case 3463 and I support the arguments explained therein. Not only is the claim of rediscovery of the holotype of *Testudo gigantea* Schweigger, 1812 not totally convincing but, more importantly, there is an urgent need to stabilise the name of the Aldabra tortoise using the established species name *gigantea*. This is especially important to make research and conservation activities on this endangered species more effective.

Additional references

Malonza, P.K. 2003. Ecology and distribution of the Pancake Tortoise, *Malacochersus tornieri* in Kenya. *Journal of East African Natural History*, **92**(1): 81–96.

(10) Jiří Moravec

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I would like to support the arguments described by Jack Frazier in Case 3463 to conserve the name *Testudo gigantea* Schweigger, 1812. The Aldabra tortoise is a particularly well known species and its specific name *gigantea* has been widely used for more than 100 years. In this case all proposals to supplant this name by other names (e.g. *Testudo dussumieri* Gray, 1831; *T. elephantina* Duméril & Bibron, 1835) would lead to nomenclatural chaos negatively affecting conservation and education activities. Regarding the discovery of Schweigger's purported type specimen (Bour, 2006) the name *Testudo gigantea* Schweigger, 1812 should be retained as the conserved name. Acceptance of the neotype designation (Frazier 2006a) can easily solve this issue.

(11) Malcolm Penny

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I should like to add my name to those who support Jack Frazier in his attempt to stabilise the name of *Testudo gigantea* for the Aldabra Giant Tortoise. I worked with Dr Frazier on the atoll in the 1960s, and I have the greatest respect for his opinions. Any move which makes the identification of such an important species more complicated by confusing nomenclature should be resisted in the interest of conservation.

(12) Peter Praschag

Behler Chelonian Center (The Turtle Conservancy), P.O. Box 1289, Ojai, California 93024, U.S.A. (e-mail: peter@praschag.at)

I have been following the ongoing debate about the correct naming of the Aldabra tortoise. In awareness of the ICZN Code and by carefully studying Case 3463, I strongly support the diligent application by Jack Frazier to stabilise the nomenclature by using the name *Geochelone (Aldabrachelys) gigantea* (Schweigger, 1812). The argument that Hubrecht (1881) and Boulenger (1889) had used the species name *gigantea* in association with Aldabra Atoll, and that *T. gigantea* Schweigger, 1812 has been consistently recognised as the oldest available name for the Aldabra tortoise for more than 50 years, is compelling. Furthermore there is no doubt that *Geochelone (Aldabrachelys) gigantea* is overall the most widely used name for the species. Bour's (1982) assumption that *T. gigantea* is a junior synonym of *Cylindraspis indica* (Schneider, 1783) and the rediscovery of the holotype have been causing instability in nomenclature, which is counterproductive for any conservation effort for a species facing various threats. I can only agree that the simplest and most maintainable solution is to recognise USNM 269962 as the neotype of *T. gigantea* and to suppress *T. dussumieri* Gray, 1831.

(13) Pavel Široký

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I have to support the arguments published by Jack Frazier in Case 3463 to conserve the name *Testudo gigantea* Schweigger, 1812 for the Aldabra giant tortoise. *Testudo gigantea* (now *Geochelone gigantea* or *Aldabrachelys gigantea*) has been widely used as the scientific name for this species for over a century. This name was replaced first by *Testudo elephantina* Duméril & Bibron, 1835 and then by *Testudo dussumieri* Gray, 1831 during the last few decades. These changes introduce chaos and uncertainties into the diverse research and educational communities interested in chelonians, because not only taxonomists are dealing with tortoises. There are many fields that overlap with taxonomy in general biological sciences, e.g. ecology, parasitology, nature conservation, etc. Even herpetoculturists and tortoise fans are suffering from this situation. That is why I vote for the name *Testudo gigantea* Schweigger, 1812 to be retained as a nomen conservandum, and for acceptance of the neotype designation, which can solve the problem.

(14) Phillip Q. Spinks

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Jack Frazier has diligently and thoroughly recounted the quagmire that is the taxonomy of Aldabra tortoises. Having read Frazier's summary, I am in complete agreement with his proposal to designate a neotype for this species, and agree with the suppression of the name *dussumieri*. Such drastic measures are necessary to stabilise the taxonomy of this group.

(15) Christine Griffiths

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I support the petition to conserve the name of the Aldabran giant tortoise *Testudo gigantea*, particularly advocating the use of the specific name *gigantea*. The inconsistency in the nomenclature leads to confusion and frustration for readers familiar, and more so unfamiliar, with the volatility of the Latin name. Upon initially embarking on my studies with Aldabran giant tortoises, I repeatedly had to change the Latin name to satisfy different co-authors. While more than one name exists, dissatisfaction with a chosen nomenclature will persist. Consequently stabilising the name will be a relief to future work and aid in conformity with regards to referencing.

(16) Dennis Hansen

Department of Biology, 371 Serra Mall, Stanford University, Stanford, CA 94305–5020, U.S.A. (e-mail: dmhansen@stanford.edu)

I write to voice my strong support of the petition by Frazier (Case 3463) to conserve the usage of *Testudo gigantea* Schweigger, 1812 (and thus, by default, *Aldabrachelys*) for the Aldabra giant tortoise. As a conservation ecologist working with these tortoises on other islands in the Western Indian Ocean, it has been frustrating, to say the least, to have to sift through the nomenclatural chaos surrounding the Aldabra giant tortoise. Together with my collaborators, I consistently use *Aldabrachelys gigantea* (see, for example, additional references below) as the best available name: ‘*gigantea*’ because it has been used in the majority of peer-reviewed scientific papers dealing with the Aldabra giant tortoise in the last five decades, and ‘*Aldabrachelys*’ because the genus *Geochelone* is obviously rampantly polyphyletic, and will likely cease to exist in its present form within very few years indeed. I have refrained from using either *Dipsoschelys* or *dussumieri* as I found these to have been promoted only recently, by very few authors, and often in non-peer-reviewed herpetological books, or journals with a local focus. To me, the most parsimonious solution to the current mess is to accept Frazier’s (2006) designation of a neotype to once and for all fix the name that fits the tortoise best. I cannot agree with Gerlach’s (BZN 66: 185–186) discourse that ‘*Aldabrachelys*’ is an inappropriate name: after all we think of this animal as the ‘Aldabra giant tortoise’, and not ‘Dussumier’s thirsty tortoise’.

Additional references

- Hansen, D.M., Kaiser, C.N. & Müller, C.B.** 2008. Seed dispersal and establishment of endangered plants on oceanic islands: The Janzen-Connell Model, and the use of ecological analogues. *PLoS ONE*, 3(5): e2111. doi:10.1371/journal.pone.0002111. <http://www.plosone.org/article/info:doi/10.1371/journal.pone.0002111> (accessed 17 July 2009).
- Kaiser-Bunbury, C.N., Traveset, A. & Hansen, D.M.** (in press). Conservation and restoration of plant-animal mutualisms on oceanic islands. *Perspectives in Plant Ecology Evolution and Systematics*.
- Griffiths, C.J., Jones, C.G. Hansen, D.M., Puttoo, M., Tatayah, R.V., Müller, C.B. & Harris, S.** (in press). The use of extant non-indigenous tortoises to replace extinct ecosystem engineers: a restoration tool. *Restoration Ecology*.

(17) Kirsten Bauerfeld

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(e-mail: k.bauerfeld@tierpark-berlin.de)

I was informed of Jack Frazier's application to stabilise the name of the Aldabran tortoise to *Geochelone gigantea*. Of course, I support this application. I am not a herpetologist, but as the director of both Berlin Zoos (Zoo and Tierpark) which are still keeping (Tierpark) or have kept (Zoo) Aldabra tortoises I am very interested in the question of the scientific name of the Aldabra tortoise. With 1463 species Berlin Zoo is the most species-rich zoo in the world, and together with the 950 species in the Tierpark we show over 3.9 million visitors a collection of biodiversity which is unique in the world. I am sure the name of the Aldabra tortoise should be *Geochelone gigantea* and so I wholeheartedly support Jack Frazier's application. We use this name in our publications (*Guidebook*, Annual Report, *Milu*) and in the labelling for our tortoise enclosures.

(18) Frank Glaw

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The permanent confusion about the correct scientific genus and species name of this prominent species is not acceptable in my opinion. Cases like this might give the impression that the current system of zoological nomenclature is not appropriate for the requirements of the 21st century and might finally lead to requests for a complete replacement of the Linnean nomenclature by a more efficient system that is entirely liberated from the burdens of history. The designation of a neotype of *Testudo gigantea* by Frazier was a reasonable act to resolve and finish the nomenclatural confusion concerning this species, at both the genus and species level. Therefore I strongly support the application of Frazier (Case 3463) for the sake of nomenclatural universality and stability.

(19) Jonathan F. Fong

University of California Berkeley, Museum of Vertebrate Zoology, Valley Life Sciences Building, Berkeley, CA 94720-3160 U.S.A. (e-mail: j_fong@berkeley.edu)

I am writing in support of Jack Frazier's petition to stabilise the name of the Aldabra tortoise by retaining the names *Aldabrachelys* and *Testudo gigantea*, and rendering *Testudo dussumieri* invalid. Frazier clearly and convincingly argues his case in the petition. In this case, *Aldabrachelys* and *Testudo gigantea* have been the norm in the scientific community when referring to the Aldabra tortoise. Changing the name based on a dubious holotype would cause terrible confusion, unnecessarily complicating future conservation and research.

(20) Uwe Fritz

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Otto Kraus

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In the heated debate on the question of whether the name *Testudo gigantea* Schweigger, 1812 should be conserved for the Aldabra tortoise there are two lines of argumentation visible: one fraction represented by Frazier (BZN 66: 34–50, 2009) and his many supporters suggests stabilising the well established name *Testudo gigantea* Schweigger, 1812 for the Aldabra tortoise, a widely known, charismatic species of common interest. Frazier presented convincing evidence for the long and frequent usage of the species name *gigantea* and we fully support his application. The other fraction, represented by Bour & Pritchard (BZN 66: 169–174, 2009) and supported by only a few others (Cheke, BZN 66: 174–176, 2009; Gerlach, BZN 66: 184–186, 2009) earlier involved in proposing or supporting competing names (e.g. Gerlach, 2004a; Cheke & Hume, 2008), challenges the stability of nomenclature and argues on the basis of historical reasons for proper allocation of the identity of a type specimen that was lost for more than a century in the Paris museum but rediscovered just when it was supportive for their point of view.

Considering the fundamental aim of the Code (1999, p. XIX), ‘which is to provide the maximum universality and continuity in the scientific names of animals. . .’, then there can be only one decision: to support the application by Frazier to conserve the usage of *Testudo gigantea* Schweigger, 1812.

As a logical consequence, when *Testudo gigantea* Schweigger, 1812 is accepted as valid for the Aldabra tortoise, the name *Aldabrachelys* Loveridge & Williams, 1957, based on the type species *Testudo gigantea* Schweigger, 1812, becomes its generic name if the species is placed in a distinct genus. Accordingly, *Dipsochelys* Bour, 1982 is a junior subjective synonym of *Aldabrachelys* Loveridge & Williams, 1957.

Additional references

Cheke, A.S. & Hume J.P. 2008. *Lost land of the Dodo: An ecological history of Mauritius, Réunion and Rodrigues*. 464 pp. A & C Black, London & Yale University Press. New Haven, Connecticut.

(21) Adrian Hailey

Department of Life Sciences, The University of the West Indies, St. Augustine, Trinidad and Tobago, West Indies (e-mail: adrian.hailey@sta.uwi.edu)

I wish to express my support for the conservation of the specific name *gigantea* for the tortoise *Geochelone gigantea*. I have used that name in several publications on ecology and physiology of tortoises, in addition to the two quoted in Case 3463, and believe that the taxonomic case for the new name *Dipsochelys dussumieri* is not sound.

(22) Miguel Vences

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Having been involved in intensive taxonomic revisionary work on the amphibians and reptiles of Madagascar over the past 15 years, I have also been following peripherally but regularly the taxonomic discussions surrounding the giant tortoises of the Indian Ocean archipelagos. More than once I have felt distressed about the discordances on both generic and specific names to be used, due to both taxonomic and nomenclatural disagreements. I feel that stabilising the situation is an urgent matter, and I therefore applaud and fully support the proposal of J. Frazier to stabilise the name of the Aldabra tortoise, even if other colleagues probably are right that another name may have nomenclatural priority. Considering the disagreements in the past, it is unlikely that the scientific community will reach a consensus on which name to use without an unambiguous decision of the Commission – and such a consensus is badly needed to make discussions on the evolution, ecology and conservation of these fascinating creatures available to a wide audience.

(23) Ross M. Wanless

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I would like to express my unreserved support for the proposal by J. Frazier to conserve the name of the Aldabra Giant Tortoise as *Testudo gigantea* Schweigger, 1812 by the designation of a neotype. There is clearly an urgent need for resolution of this extremely confusing situation. I found myself, as a practising biologist with interest and experience in taxonomic matters, too easily swayed by plausible-sounding explanations and publications. However, as a non-specialist I was ill-equipped to judge the merits of these apparently spurious arguments. Frazier's cogent and comprehensive treatment has rectified this situation. I have read in great detail the case presented by Frazier, and I am convinced of its merits.

I have previously published about this species using the name *Dipsochelys dussumieri* (Wanless, 2002; Wanless & Hockey, 2008). This was done through innocent misperception, based on personal communications with R. Bour, that the definitive solution to the taxonomic confusion had been accepted. I request that these publications be struck from the list of those in support of the use of either *Dipsochelys* or *dussumieri*. All future publications of mine will use the specific name *gigantea* until the Commission has reached a final decision. I urge acceptance of Frazier's neotype and proposed retention of *gigantea*.

Additional references

- Wanless, R.M. 2002. *The reintroduction of the Aldabra Rail Dryolimnas cuvieri aldabranus to Picard Island, Aldabra Atoll*. 156 pp. (MSc, thesis). Percy FitzPatrick Institute of African Ornithology, Zoology Department, University of Cape Town.
- Wanless, R.M. & Hockey, P.A.R. 2008. Natural history and behavior of the Aldabra Rail (*Dryolimnas [cuvieri] aldabranus*). *The Wilson Journal of Ornithology*, **120**: 50–61.

(24) Ernest H. Williams Jr.

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We have examined Aldabra giant tortoises in the wild (EHW and LBW) as well as in captivity (AMNR) and discussed crab-tortoise interactions (Nieves-Rivera & Williams, 2003) as may even have once occurred on Mona Island (Williams, 1952). In Nieves-Rivera & Williams (2003) we referred to the Aldabra Giant Tortoise as *Dipsochelys dussumieri* (Gray, 1831) instead of the more accustomed name *Geochelone (Aldabrachelys) gigantea* (Schweigger, 1812). We did not intend our use of this name as an endorsement of the validity of *Dipsochelys dussumieri*. After reading Case 3463 we now accept *Geochelone gigantea* as the most appropriate name for this species. We support the petition to conserve the specific name *Testudo gigantea* Schweigger, 1812 for the Aldabra Giant Tortoise and agree with Frazier that *T. gigantea* is the established name, as explained in Case 3463. The neotype for *T. gigantea* (USNM 269962) that was designated in 2006 should be maintained.

Additional references

Nieves-Rivera, Á.M. & Williams, E.H., Jr. 2003. Annual migrations and spawning of *Coenobita clypeatus* (Herbst) on Mona Island (Puerto Rico) and notes on island crustaceans. *Crustaceana*, **76**: 547–558.

(25) Ute Grimm

CITES Animals Committee, German Scientific Authority (Fauna), German Federal Agency for Nature Conservation, Konstantinstr. 110, 53179 Bonn, Germany (e-mail: Ute.Grimm@BfN.de)

I support the petition of Jack Frazier to conserve the names *Aldabrachelys* and *Testudo gigantea* for the Giant Aldabra Tortoise and suppress *T. dussumieri* Gray, 1831. As outlined in the comment by Frazier the name *gigantea* has been used for more than 100 years in scientific publications. A change could lead to quite a confusion. That name has also been used in conservation publications and international law. The species has been listed under the name *gigantea* in Appendix II of CITES (Convention on International Trade in Endangered Species of wild animals and plants) since 1975 as well as in many national laws of CITES Parties. I share the opinion of Anders Rhodin that not suppressing *T. dussumieri* could increase the threat to this species by creating potential loophole exceptions in national and international laws protecting this species.

(26) John B. Iverson

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I am writing in response to Case 3463 (2009, BZN 66: 34–50) currently before the Commission. This proposal by Frazier recommends retaining his designated neotype for *Testudo gigantea* Schweigger, 1812. However, this has been rendered completely unnecessary by the rediscovery of the holotype of *T. gigantea* in the Paris Museum (MNHN 95541) by Bour (2006) (see also Bour & Pritchard, BZN 66: 169–174). I was a reviewer of Bour & Pritchard's [2009] paper, and I am convinced that the authors have indeed rediscovered the long-misplaced holotype, making the name *T. gigantea* a junior synonym of *T. denticulata*, and thus unavailable for any tortoise native to the Indian Ocean (including the Aldabra tortoise). Hence, I am surprised and perplexed by the onslaught of opinions favouring Frazier's petition, when most of the opinions have no reference to or basis in the International Code of Zoological Nomenclature, which is the foundation of proper zoological names.

Most of the published comments were written by non-taxonomists, many of whom have apparently never read the Code. Rather, their comments seem to be based on personal preference for a name which they have grown accustomed to using. However, personal preference for or personal comfort with zoological names has (or should have) little value in nomenclatural decisions when they are at odds with the Code. Logical nomenclatural decisions, guided explicitly by the Code, are essential if we are ever to have taxonomic stability. Practising law without reading or understanding legal statutes is unacceptable; why should practising nomenclature with no basis in the Law (Code) be any different? It further concerns me that many authors and editors are not being held to higher standards in recognising currently accepted names. As but one example, note the use of *Geochelone elephantopus* for the Galapagos tortoise in Poulakakis et al. (2008), when the accepted name is *Chelonoidis nigra* (see Pritchard, 1986, 1996; Le et al., 2006; Fritz & Havas, 2007; Turtle Taxonomy Working Group, 2007; Rhodin et al. 2008 among many others).

In my opinion, Bour (2006) and Pritchard (1986) (see also BZN 66: 169–174; Bour & Pritchard [2009]) have both read and correctly interpreted the Code regarding 1) the inappropriateness of designating a neotype for *Testudo gigantea*, 2) the valid species name for the Aldabra tortoise (*dussumieri*), and 3), based on currently understood phylogenetic relationships (Le et al., 2006; among others), the valid genus name (*Dipsosaurus*). I urge the ICZN not to be swayed by 'public opinion', but instead to rule against the conservation of *Testudo gigantea* for the Aldabra tortoise, based on a critical reading of the Code.

Additional references

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(27) Jeanne A. Mortimer

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Systematic nomenclature was devised, not for the amusement of taxonomists, but to serve a real need in society to classify the elements of our biosphere in a way that eliminates confusion caused by common names. Sadly, the situation that currently exists for the Aldabra Tortoise is an example of taxonomy run amuck. The Aldabra Tortoise, a form of charismatic megafauna and the national animal for the Republic of Seychelles, is of great interest to virtually everyone in our country, be they conservationists, politicians, school children, visiting tourists, or the general public. Yet, for the past quarter century the vast majority of us who are not professional taxonomists have felt uncertain about which binomial to apply when publishing papers, preparing exhibits, drafting legislation, producing permits, giving talks, or writing popular accounts. A small number of people involved in taxonomic pursuits, on the other hand, seem to have revelled in each new opportunity to promote their current favourite binomial.

It is for these reasons I fully support the proposal of Jack Frazier (Case 3463) to stabilise the species name *gigantea* for the Aldabra Tortoise. Frazier's petition is based on the premise that stability of scientific names is essential and in many cases more important than trying to interpret the true taxonomic intent of the author of a name, and his designation of a neotype (Frazier, 2006a) for *T. gigantea* and submission of Case 3463 are based on a clear following of the Principles and Articles of the Code, in the latter case Article 75.8. The latter allows previous type material to be set aside and designation of another name-bearing type to act as the reference for a species name when the previous type material is not helpful in understanding what species is being dealt with. Moreover, Frazier's intention to conserve *gigantea* is entirely appropriate given that *gigantea* is indeed the most frequently used species name for the Aldabra tortoise, especially during the latter half of the 20th century with the publication of a massive body of field research conducted at Aldabra atoll.

Bour's attempt to override Frazier's neotype designation with his claimed rediscovery of Schweigger's long lost holotype, a specimen that is clearly not an Aldabra tortoise (Bour, 2006), is problematic in that it fuels continued debate and nomenclatural chaos. I hope that the Commission will accept the recommendations in Case 3463 to stabilise the name of the Aldabra Tortoise as *gigantea* by maintaining the neotype (USNM 269962). In doing so, they also will grant those of us working on pressing issues of conservation on the ground in Seychelles a much needed respite from confusion and a long overdue sense of stability.

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The arguments presented in favour of the suppression of the binomen *Dipsochelys dussumieri* Gray, 1831 are compelling in their presentation of a thorough and objective review of this admittedly complex nomenclatural debacle. Frazier made an eloquent case on behalf of stabilisation of the nomenclature of the Aldabra tortoise in 2006, with his designation of a neotype for *Testudo gigantea* Schweigger, 1812. Case 3463 is largely a cogent re-statement of the arguments presented therein, with the addition of scepticism concerning the rediscovery in the MNHN Paris of the specimen claimed by Bour (2006) to be Schweigger's *T. gigantea* – actually a yellow-foot tortoise *Chelonoidis (Geochelone) denticulata*. This large specimen, previously overlooked by Bour and by all workers since Duméril and Bibron in 1835, may have been the tortoise brought to Paris from Lisbon in 1808 as claimed. However, Fretey (1977) was familiar with this specimen (MNHN 9554), and included it without comment nor mensural data in his section devoted to *G. denticulata* (Fretey, 1977, p. 54). Thus, more uncertainty and contradiction plague the quest for clarity with regard to choosing the best binomen for the Aldabra tortoise. For the sake of stabilisation, the suppression of the binomen *Dipsochelys dussumieri* remains the wisest choice, and I suggest the Commission consider adopting the recommendations expressed in Frazier's point 29.

In 1986, both Pritchard and Crumly published papers on the topic of proper nomenclature for the Aldabra tortoise, espousing different points of view based largely on differing interpretations of Schweigger's text. Until very recently I had had no familiarity with Crumly's paper, and find his proposal in favour of adopting *Testudo (Aldabrachelys) gigantea* more cogent and succinct than Pritchard's eloquent but rambling endorsement of the species epithet *elephantina* or, as a second choice, *dussumieri*, based on Bour's thrice-published arguments.

There is more value in the stabilisation of an accepted nomenclature than in embracing the speculation and shards of certainty offered to justify the neologism *Dipsochelys dussumieri*. I urge you instead to approve the binomen enjoying widest currency, *Aldabrachelys gigantea*, for the Aldabra tortoise.

Additional references

- Fretey, J.** 1977. *Les Chéloniens de Guyane française 1. Étude préliminaire. Mémoire présenté à l'université Paris VI pour l'obtention du diplôme d'études supérieures de sciences.* 201 pp. Paris.

(29) J. Morgan

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I am writing as the Minister responsible for Environment on behalf of the Government of Seychelles. It has come to our attention that a petition has recently been submitted to the International Commission on Zoological Nomenclature (ICZN): 'Case 3463 – *Testudo gigantea* Schweigger, 1812 (currently *Geochelone (Aldabrachelys) gigantea*; Reptilia, Testudines): proposed conservation of usage of the specific name by maintenance of a designated neotype, and suppression of *Testudo dussumieri* Gray, 1831 (currently *Dipsochelys dussumieri*),' published in this year's *Bulletin of Zoological Nomenclature* (BZN 66(1): 34–50) and submitted by Dr J. Frazier of the Smithsonian Institution.

This issue is of great relevance to the Republic of Seychelles for it is our sovereign country – and only our country – in which the animal in question lives in the wild. The place where this endangered tortoise lives, Aldabra Atoll, was inscribed into the World Heritage List in 1982, an international initiative coordinated by the *United Nations Educational, Scientific and Cultural Organization* (UNESCO) in implementation of the *United Nations' Convention Concerning the Protection of the World Cultural and Natural Heritage*. Of all the forms of life that live on Aldabra Atoll and indeed in the entire country of Seychelles, it is the Aldabra giant tortoise that is most famous and the most iconic.

The Government of Seychelles does not wish to dictate to scientists what they have to do. But it is our responsibility and duty to make every effort to protect our natural resources, particularly unique forms of life that only occur in our country, as well as the areas in which they live and on which they depend. The Government of Seychelles's dedication and commitment to the environment is globally recognised and we are enormously proud to be the stewards of this unique animal and the unique Aldabra Atoll. However, protection cannot be effective if scientists cannot make up their minds about something such as the correct name to be used for the Aldabra tortoise. Legislation, customs activities, international relations, educational activities, budgets and policy decisions all become unnecessarily complicated, confused and unproductive, and difficult to administer when there are many different scientific names in circulation.

We note that Case 3463 provides an extremely detailed analysis of the scientific names involved with the long history of the Aldabra tortoise. It is not our place to dictate on the rules of zoological nomenclature but it is our place to guarantee that our wildlife is adequately understood and protected. It is clearly explained in Case 3463 that for a variety of reasons the species' name that has been established for the Aldabra tortoise for more than a century is *gigantea*. This is the name that appears in our legislation, in the legislation of other countries, in international treaties and a host of other official documents. For this reason, we respectfully request that you accept the petition made in Case 3463, aimed at stabilising the name of the Aldabra tortoise, using the established scientific name for the species.

Furthermore, to avoid needless confusion in the future, it is also necessary to invalidate the name that has come into increasing use over the last few years, a name that had been forgotten for more than 150 years. To do otherwise is to risk continuation of uncertainty.

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I agree with Dodd (BZN 66: 179) that Case 3463 is really an excellent article. I am a scientifically educated biologist but work now in ‘applied biology’ as curator for reptiles at one of Europe’s largest zoos (26 hectares, 870 animal species, 1.7 million visitors each year). I think naming of animals has so many consequences for further biological research, for education and especially for conservation and the national and international laws enabling conservation, that it is in the interest of all concerned professionals to follow and influence such discussions. In this respect I strongly agree with dozens of colleagues who have already commented on this point. I am often asked about the correct name for the Aldabra tortoise and I can’t really tell them, because it is such a complicated story with so many names for just one species. However I always point out that in the official documents of international organisations such as CITES or IUCN or ISIS the species is still referred to as *Geochelone gigantea*. I am also Vice Chair of the Reptile Taxon Advisory Group (RTAG) within the European Association of Zoos and Aquaria (EAZA). This group gives advice to all European Zoos on reptilian questions. In our regional collection plan for EAZA we have listed the species as *Geochelone gigantea* and we do not intend to change that, because we have the same thoughts expressed in Case 3463 regarding the need for nomenclatural stability. Furthermore as public zoos we have a great responsibility in educating our visitors. It is very important to understand the unique impact that zoos in the World Association of Zoos and Aquariums have on public education; it is estimated that more than 600 million visitors come to zoos each year. I know from personal visits to hundreds of zoos that the specific name *gigantea* is used by the huge majority when referring to the Aldabra tortoise. From this you can imagine how many people around the world have come to know the Aldabra tortoise by the species name *gigantea*. This fact is actually recognised by the few people who are proposing to change the name of this animal, and Case 3463 clearly gives several examples where people proposing another name (BZN 66: 40) have found it necessary to clarify that the same animal is more frequently known by the name *gigantea*. Additionally, our zoos provide training and assistance to customs officers in many countries for enforcement of conservation and trade laws. For these purposes we need a name that remains stable, and over the years we have always referred to the Aldabra tortoise by the species name *gigantea*. Changing this name produces confusion and chaos, just where we need stability and universality to be able to strictly implement laws and regulations.

Even if it should turn out that the holotype of *Testudo gigantea* Schweigger (1812) is not an Aldabra tortoise, there is still the central importance that the ICZN Code gives to stability and universality. In my opinion, the Preamble in the Principles of the Code declares the nomenclatural stability as an overriding concern of the ICZN.

So the most important question here is what is stability? Bour & Pritchard (BZN 66: 169) resist letting usage, consensus and majority decide about a scientific name. But aren’t usage, consensus and majority the features that characterise stability? The debate about Case 3463 is not about whether some name has priority over *gigantea* because this name is clearly older than the alternate names that have been proposed

for the Aldabra tortoise, but Cheke's comment indicates that he appreciates the importance of nomenclatural stability. He admits in his comment (BZN 66: 174), that 'This [using a name that does not conform to the rule of priority] should surely only be done if there is an absolutely cast-iron case to preserve a thoroughly established name, the loss of which would cause substantial confusion and upheaval amongst users'. Does this situation with the species name of the Aldabra tortoise not already now cause substantial confusion and upheaval amongst users? This is even accepted by one of the opponents: Pritchard (1986) wrote 'Of course, invalidation of the familiar epithet *gigantea* represents a rather profound upheaval'. Personally I can't recognise a significant difference in the meanings of the adjectives substantial and profound. Gerlach writes (BZN 66: 184) 'that a very strong case [for using a name that does not conform the rule of priority] would be needed for such a change to be acceptable'. Unfortunately he doesn't provide any examples, whereas in another comment Bour & Pritchard (BZN 66: 170) refer to *Drosophila melanogaster*, *Tyrannosaurus rex* and *Homo erectus*. I do not understand why these three species are regarded in a different view from *Geochelone gigantea*. Is *Drosophila melanogaster* more charismatic than *Geochelone gigantea*? Do laymen know more about *Drosophila melanogaster* than about *Geochelone gigantea*? Is *Homo erectus* really more often in the mass media than *Geochelone gigantea*, of which reports about 'birthday parties' for oldest inhabitants of zoological collections are regularly in the newspapers around the globe? At least I can tell from my experience of daily work in a zoo that a giant tortoise is one of the most popular animal species visitors are looking for.

I was very surprised to read arguments in the comments on Case 3463 for and against different genus names. As far as I know, the genus name is not a topic for this ICZN decision, other than making sure that *Aldabrachelys*, which was specifically created by Loveridge & Williams (1957) for the Aldabra tortoise and its close relatives, is available for this taxon. I also have difficulty understanding why authors who resist letting 'usage, consensus and majority' influence the name *gigantea*, in the same comment are in favour of *Dipsochelys* because '*Aldabrachelys* was rarely used until recently' (Bour & Pritchard, BZN 66: 173), a declaration which contradicts an earlier statement by Pritchard (1986, p. 532) that *Aldabrachelys* has been 'in regular use'. I don't know why 'usage, consensus and majority' should be considered for a genus but not for a species name.

Stability in the name of this unique and charismatic species is wished for by all involved parties, and the only way to reach this aim is by giving it the name it deserves, *Geochelone gigantea*.

Stability of the name of this unique and charismatic species is wished for by all parties involved. When this issue is finally resolved, I am anticipating that many unresolved biological questions and necessary conservation issues will be addressed more thoroughly. Personally I don't think stability will be established by the name *dussumieri*, as many professionals are not very familiar with decisions in nomenclatural and taxonomic debates. Therefore I think the only way to reach stability is by giving the Aldabra tortoise the name it deserves, *Geochelone gigantea*.

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I support the application of Frazier (2009, Case 3463) to conserve the specific name *Testudo gigantea* Schweigger, 1812.

Frazier (2009) provided a detailed argument concerning the nomenclatural history, confusion, and instability, including that caused as a result of a recent paper that I published (Miller & Dinkelacker, 2007) concerning turtle reproductive structures and strategies. The focus of the chapter was not taxonomic but the taxonomy should have been consistent; it was not and the error is mine. The fact that other people reviewed the manuscript and missed the inconsistency/error in the nomenclature (or at least did not comment on the taxonomy to me) suggests that I am not the only one who would benefit from a stabilised taxonomy.

Additional references

- Miller, J.D. & Dinkelacker, S.A.** 2007. Reproductive structures and strategies of turtles. Pp. 225–278 in Wyneken, J., Godfrey, M.H. & Bels, V. (Eds.), *Biology of turtles: From structures to strategies of life*. CRC Press, Boca Raton, Florida.