

OPINION 2245 (Case 3407)***Drosophila* Fallén, 1823 (Insecta, Diptera): *Drosophila funebris* Fabricius, 1787 is maintained as the type species**

Abstract. An application to conserve the current usage of the widely used name *Drosophila* Fallén, 1823 (a genus of flies widely used in biological research, particularly in genetics and developmental biology) in the face of potential taxonomic revision, by the designation of *Drosophila melanogaster* Meigen, 1830 (currently the type species of the subgenus *Sophophora* Sturtevant, 1939) as the type species of *Drosophila*, was not approved by the Commission. *Drosophila funebris* is maintained as the type species of the genus *Drosophila* Fallén, 1823.

Keywords. Nomenclature; taxonomy; DROSOPHILIDAE; *Drosophila*; *Sophophora*; *Drosophila melanogaster*; *Drosophila funebris*; fruit flies.

Ruling

- (1) It is hereby ruled that the type species fixation for *Drosophila* Fallén, 1823 is maintained.
- (2) No names are placed on Official Lists or Indexes and the issue is left open for subsequent workers to follow the precepts of the Code or to make new proposals to the Commission.

History of Case 3407

An application to designate *Drosophila melanogaster* Meigen, 1830 as the type species of *Drosophila* was received from Kim van der Linde (*Florida State University, Tallahassee, Florida, U.S.A.*), Gerhard Bächli (*Zoological Museum, Zürich, Switzerland*), Masanori J. Toda (*Institute of Low Temperature Science, Hokkaido University, Sapporo, Japan*), Wen-Xia Zhang (*College of Life Sciences, Peking University, Beijing, China*), Toru Katoh (*COE for Neo-Science of Natural History, Hokkaido University, Sapporo, Japan*), Yao-Guang Hu (*Institute of Low Temperature Science, Hokkaido University, Sapporo, Japan*) and Greg S. Spicer (*Department of Biology, San Francisco State University, San Francisco, California, U.S.A.*) on 19 January 2007. After correspondence the case was published in BZN **64**: 238–242 (December 2007). The title, abstract and keywords of the case were published on the Commission's website. Comments (three supporting, nine opposing and one additional reply from the authors of the application) were published in BZN **65**(1): 55–57; **65**(2): 137–150; **65**(3): 214–215; **65**(4): 304–307; **66**(1): 70–71 (with an additional proposal). A corrigendum was published in BZN **65**(1): 55.

Decision of the Commission

On 1 September 2009 the members of the Commission were invited to vote on the proposals published in BZN **64**: 240. At the close of the voting period on 1 December 2009 the votes were as follows:

Affirmative – 4: Bouchet, Krell, Papp and van Tol.

Negative – 23: Alonso-Zarazaga, Ballerio, Bogutskaya, Brothers, Fautin, Grygier, Halliday, Harvey, Kojima, Kottelat, Kullander, Lamas, Lim, Minelli, Ng, Pape, Patterson, Rosenberg, Štys, Winston, Yanega, Zhang and Zhou.

Pyle was on leave of absence.

Note from the Executive Secretary: As a result of the intensive scientific attention received by this case, Commissioners felt it was important to provide more extensive written commentary on the bases of their decisions than might otherwise be presented in an Opinion. The comments below have been only moderately edited for continuity and style; they are otherwise the transcripts of each Commissioner's explanation. In every other way we have treated this case in the same way as all other cases, following the processes outlined in the Code and prescribed by the Bylaws and Constitution.

Bouchet, voting FOR, explained that one did not change the name of an animal like *Drosophila melanogaster*, whatever arm-twisting and technical imperfections the original application may have had.

Krell, voting FOR, said his focus was not on the details in this case, or considerations of the stability of the currently preferred or most fashionable classification. His only concern was that the most frequently used animal name must remain unchanged to maintain stability in the scientific and wider world outside nomenclature. He agreed with one of the published Comments, which stated that there was no disadvantage in changing the type species of *Drosophila* to *melanogaster*. He felt that the occasional taxonomist might feel discomfort with breaching nomenclatural rules, however tens of thousands of scientists, journalists and other educated people might not comprehend that *Drosophila melanogaster* had to have a name change because somebody one hundred and fifty years ago chose one particular type species, and because of a formal rule of nomenclature that the type species had to be included in the genus when originally described. He felt that supporting this case best served the wider global interest.

Papp voting FOR, pointed out that he was currently the only Commissioner who had worked with drosophilids, including description of new species, and thus had known of the *Drosophila melanogaster* problem for around 35 years. He said that we all recognised that science, including *Drosophila* science, had been advancing throughout that time. On the other hand, we must admit that this nomenclature problem put a kind of a brake on the unavoidable splitting of the genus *Drosophila*, and thus did indeed restrict the freedom of taxonomic thought. Papp said that Dr van der Linde and co-authors were clear and modest in their request to the Commission. His vote FOR was cast in the firm conviction that the name *Drosophila melanogaster* was as important for mankind as that of *Homo sapiens*. Papp went on to explain that if the Commission voted against this case, two courses of action would be possible: van der Linde et al. would publish their taxonomic paper without the nomenclatural actions they proposed in Case 3407, but with the name changed from *D. melanogaster* to *Sophophora melanogaster*, or they would publish their paper without the names changed. If the latter course were taken, the problem would not be solved; its solution would only be postponed. The authors of Case 3407 or other researchers would make the split, because evidence would continue to accumulate and would force them to do so. He felt that the most probable scenario would be the same whether the results were published sooner or later: biologists of the world would continue using the name

Drosophila melanogaster. Papp promised that he would also continue using the name *Drosophila melanogaster*, and would encourage colleagues to do so. He went on to quote the Preamble to the Code (p. 2) 'The objects of the Code are to promote stability and universality in scientific names of animals All its provisions and recommendations are subservient to those ends and none restricts the freedom of taxonomic thought or actions.' and . . . 'When stability of nomenclature is threatened in an individual case, the strict application of the Code may under specified conditions be suspended by the International Commission on Zoological Nomenclature'. Papp then asked if there was any threat larger than change of a name used in thousands and thousands of scientific works. He concluded by saying he hoped he had managed to demonstrate that this was not a simple case for him. After an 'against' vote of the Commission, he would sooner or later find himself in a situation in which he would have to act in conflict with its decision.

Van Tol, voting FOR, provided some context, explaining that a few years ago van der Linde contacted him to discuss the results of her phylogenetic analysis of the genus *Drosophila*, and the consequences of splitting the genus for the name of the species known as *Drosophila melanogaster*. She considered it unlikely that the combination *Sophophora melanogaster* would ever be accepted by the biological community apart from taxonomists, and they discussed the options for preserving the combination *Drosophila melanogaster*. In his view there were only two options: (i) through classification, by defining a genus that included both the type species of *Drosophila* and the species *D. melanogaster*; and (ii) through nomenclature, most rigorously by designating *D. melanogaster* as type species of the genus *Drosophila*. Based on the phylogenetic analysis, she considered the solution as under (i) above not robust, and preferred a solution that would preserve the combination irrespective of classification. Although van Tol could not envisage the disruptive effects on the names of other taxa, designating *D. melanogaster* as the type species of *Drosophila* seemed to him the only permanent solution within the domain of nomenclature. Of course, he fully understood that the proposal would be both unconventional and controversial. Finally, he advised her to contact the community of dipterists and jointly submit an application to the Commission. He had given his technical advice as member of the Commission, without taking a position beforehand. He explained that he was basically very reluctant to change the status of generic names in any way. He agreed that there was usually no reason to believe that new combinations would not be accepted by professionals, be it for taxonomic or nomenclatural reasons, as this was the logical consequence of a system in which names reflected taxonomic opinions. This rule, however, had its limitations. Some names or name combinations were so widely used, that a name change would take an uncomfortably long time to be accepted, if ever. Under such circumstances, the Commission may and should use its Plenary Power. The present proposal deeply shook the fundamentals of the *International Code of Zoological Nomenclature*, as was duly explained in various comments, but the alternative had the serious risk that it would only be understood by taxonomists. No comment had convinced van Tol of unacceptable consequences in supporting the proposals.

Alonso-Zarazaga, voting AGAINST, agreed that as *D. melanogaster* was 'one of the world's most important model organisms', the name should be conserved for the sake of stability, but he felt that the authors of the case had not allowed the

community to have a healthy discussion of their proposals, since the ‘detailed phylogenetic studies’ mentioned in the case were still largely unpublished, and were thus hypothetical. Alonso-Zarazaga said that was not a matter for the Commission to rule in provision of future hypothetical problems and the Commission could not preclude the zoological community from discussing and perhaps finding some other solution. By pre-emptive ruling, he felt that the Commission would be ‘infringing upon taxonomic judgement’ (strictly prohibited in the Preface of the Code) by favouring only one possible taxonomic hypothesis. He did not see any problem for ‘drosophila’ to become a vernacular name for *Sophophora melanogaster*, as happened with many other names. He said that confusion in these cases was usually less than expected, since users tended to become habituated quickly. The number and contents of the adverse comments also showed that stability would not be achieved by a decision of the Commission taken today; a debate on the new taxonomic proposals should take place first. Furthermore, he felt that the acceptability of name changes for other widely used model *Drosophila* species had not been treated in the application. Alonso-Zarazaga suggested that this issue could be referred again to the Commission after a wide consensus on the systematic scenario had been reached by dipterists. He also objected to the suggested coercive implication in the authors’ sentence ‘if the Commission rules against our application, taxonomic revision of the genus *Drosophila* is effectively prevented’ and said this was the authors’ taxonomic problem as well. Alonso-Zarazaga also addressed Máca’s (BZN 66(1): 70–71) comment on the name *D. funebris* and his suggestion of using *Spinulophila* Duda, 1923 over *Chaetodrosophilella* Duda, 1923 (mentioning ‘page priority’ which in actuality is not recognised in the Code) as genus name for *D. funebris*, in the case of *D. melanogaster* being designated as type species of *Drosophila* Fallén. He felt the suggestions were quite unsatisfactory and created more problems than they solved, since they left the status of *Oinopota* Kirby, 1815 in limbo. Alonso-Zarazaga said that if a genus was needed for *D. funebris* in the future, the best procedure would be to use the oldest name *Oinopota* by designating a neotype of *Musca cellaris* Linnaeus, 1758 conspecific with *M. funebris* Fabricius, 1787, and reversing species name priority under Article 23.9. *Musca cellaris* was not a nomen nudum and this action would also validate Macquart’s (1835) subjective synonymy, that could be objective synonymy if the type specimen of *M. funebris* (if extant) were selected to be also the neotype of *M. cellaris*, thus avoiding any further problem with this name.

Ballerio, voting AGAINST, explained that he was concerned that supporting this Case would lead to requests for intervention by the Commission every time taxonomy threatened a famous name. He felt that nomenclatural stability was a good thing but should not interfere with taxonomic freedom in such a dramatic way. *Sophophora melanogaster*, if this new taxonomic arrangement proved to be stable, would make its way in the world and the clamour around this case would give it the exposure needed to bring it to public attention.

Bogutskaya, voting AGAINST, said she did so because: 1) she saw no reason to distinguish between a ‘famous’ name and an ‘lesser known’ name, for there was nothing in the Code regulating this. If the application were to be supported by the Commission it would be intervention on zoological nomenclature and scientific taxonomy; 2) preserving the genus+species combination *Drosophila melanogaster* would cause much more additional nomenclatural instability as it would result in

combinational changes for many (maybe over a thousand) other nominal species of *Drosophila* sensu lato; 3) until revision of the whole drosophilid group (maybe even wider) was done (which might take several revisions before taxonomic stability was approached, depending on methodologies and taxon sampling), the question was not 'ripe' enough to be sent to the Commission asking for such a drastic change; 4) she felt that the entire issue had been grossly exaggerated and that the rest of the biological community could and would respectfully accept and use data resulting from the research and rules of the taxonomic community; 5) finally, she saw no technical problems for referring to 'drosophila' that were formally placed in any genus – shared databases and web resources provided all necessary synonymy links for non-taxonomic users.

Brothers, voting AGAINST, agreed that this was recognised as a highly contentious issue. However, the absence of consensus on its solution, even amongst those working on the groups involved, indicated that action by the Commission to change an existing and properly designated type species would be unwise, especially since the consequential implications for other components of the current genus *Drosophila* had not been elaborated.

Fautin, voting AGAINST, said she was persuaded that ruling in favour of this application would create more instability than might be occasioned by a name change to *Sophophora melanogaster* because of the greater number of species in subgenera other than *Sophophora*. She raised the related matter that *D. melanogaster* was not the only species of fruit fly used in genetic research; among the others were those that would remain as *Drosophila* by turning down this application, whereas their generic names would have to be changed were the name *Drosophila* to be applied only to the clade containing *D. melanogaster*. Thus, Fautin felt that a name change would not result in lost information and confused scientists; it was an increasingly simple matter to do electronic searches that would return references to both *Sophophora melanogaster* and *Drosophila melanogaster*.

Grygier, voting AGAINST, said that the separation of the specific name *melanogaster* from the generic name *Drosophila* had not yet been proposed formally, but it appeared only to be a matter of time. The Commission had been asked to forestall such an event by making this nominal species the type species of this nominal genus. In his own field of carcinology, he had seen some regret at the loss of the familiar model-species binomens *Balanus balanoides* and *Balanus amphitrite*, as the result of the elevation to genus of many species groups of the barnacle genus *Balanus*. The two species were now classified in *Semibalanus* and *Amphibalanus*, respectively, and these in turn were currently in a different family and subfamily from *Balanus*. Suggestions had been made, first, to ignore the taxonomic 'splitters' above the level of subgenus and employ *Balanus* in perpetuity in an earlier, wider sense and scope, or second, not to propose or accept such taxonomic revisions until the phylogenetic relationships had been substantiated by multiple cladistic analyses based on sufficient morphological and molecular data. In either case, original binomens would remain in use, at least for a while. No suggestion had been made, however, to conserve either of these familiar binomens by making *B. balanoides* or *B. amphitrite* the type species of *Balanus* in place of *Balanus balanus*. In the present instance, Grygier would be in favour of suppressing any senior homonym or synonym of *D. melanogaster* so the species name was not lost. However, he felt that to preserve the entire genus/species combination, at the cost of

subgeneric (eventually generic) combinational changes for hundreds of other nominal species, was too much. He also felt that doing so might open the floodgates for similar proposals related to any number of other popular or model species, such as the mentioned barnacles, to reverse or forestall changes in their generic assignments.

Halliday explained that he voted AGAINST for several reasons. Firstly, the crux of the argument presented in the case was the statement that ‘The paraphyletic nature of the genus *Drosophila* is unacceptable as it violates modern systematic practice’. This was a clear statement of the particular taxonomic philosophy that the authors had embraced. If the Commission ruled that the type species of *Drosophila* was *melanogaster* on the basis of this argument, that would imply endorsement of this taxonomic philosophy, and would represent an intolerable invasion of the taxonomic freedom of zoologists who adopted other taxonomic philosophies. Whether or not a taxon is paraphyletic was not a nomenclatural question, and therefore not a matter for the Commission to consider. Secondly, Halliday said that the authors’ argument was based on a hypothetical phylogeny of *Drosophila* and related genera. This phylogeny was by no means generally accepted, and alternative phylogenetic hypotheses for the same group of taxa had appeared in recent literature. Different methods of data analysis and interpretation had produced different phylogenies, which had different consequences for classification and therefore nomenclature. It was clear that the whole group was in need of a comprehensive taxonomic revision, and until that revision was complete, it would be very premature for the Commission to take the dramatic action that had been proposed. Halliday felt that the Commission was being asked to make an extreme and unprecedented decision based on the results of a taxonomic revision that had not been published, in a classification that would continue to change and develop in the future as more taxa and new types of data were incorporated into the analysis. He felt he could not vote in favour of the proposed action while the taxonomic situation was still so unsettled. Thirdly, Halliday said that in the case and elsewhere, the authors suggested that the fact that *melanogaster* is not the type species of *Drosophila* somehow interfered with research on the taxonomy and comparative biology of the group; this argument could not be sustained. Even if all the genus and subgenus names were disregarded, and hypothetical monophyletic groups were given code numbers instead of names, scientific study of the group could continue completely unimpeded. Fourthly, Halliday said that if *melanogaster* were made the type species of *Drosophila* sensu stricto, that action would de-stabilise the names of hundreds of other species that were currently placed in other subgenera, many of which were themselves the subject of an extensive literature under their current names.

Harvey, voting AGAINST, said he felt that finding a solution to this complex case was exceedingly challenging. Designating *Drosophila melanogaster* as the type species of the genus would result in the transfer of numerous species to other genera and subgenera, but the retention of *D. funebris* as type species would see the most widely used biomedical organism change to *Sophophora melanogaster* under most taxonomic arrangements. Despite numerous and, in many cases, compelling disadvantages, he advocated that *D. funebris* should be retained as type species until a more robust solution was found. For example, the systematic position of those species currently in *Drosophila* sensu stricto would need to be resolved. He therefore voted against the case in its present form.

Kojima, voting AGAINST, said that this application tried to solve a problem that did not yet exist. The application asked the Commission to use its plenary power in order to conserve the name *melanogaster* in the binomen *Drosophila melanogaster* for the fruit fly called ‘Drosophila’, ‘Drosophila melanogaster’, ‘drosophila’, ‘d. melanogaster’ and so on, as a prerequisite for publication of a new classification system of the DROSOPHILIDAE by the authors of this proposal.

Kottelat, voting AGAINST, stated that whether a genus could be paraphyletic or not was irrelevant for nomenclature. Whether this ‘violates modern systematic practices’ was a subjective consideration and depended on an individual’s scientific philosophy. To accommodate the results of an unpublished study, the Commission was asked to make a decision that affected the names of more than 1500 species. The application did not state how many species were placed in today’s *Drosophila sensu stricto*. The ‘drosophila’ research model was not restricted to *D. melanogaster* but referred to several species, with an original focus for evolutionary studies. What made the model important was that it involved several species, and if these were now in several genera it did not weaken the model but made it more interesting. In that context the generic name of *D. melanogaster* was not really relevant. Other species were part of the model and not necessarily within *Sophophora*. The application did not mention how the other ‘drosophila’ model species would be affected by the proposed changes. Kottelat added that ‘Drosophila’ as commonly used was meant as a common name, not a scientific name. That ‘drosophila’ (lower case) was in the genus *Drosophila* or in *Sophophora* was not relevant and would not create more problems than the thousands of other names incorrectly used in non-taxonomic literature. He brought up what he thought to be a perfect parallel, the zebrafish (*Danio rerio*), another very widely used model organism, commonly referred to as ‘danio’ although placed in *Brachydanio* between about 1916 and 2005 (now returned to *Danio* by some researchers, though not accepted by all, also on the bases of new phylogenetic results). The fish *Trigonostigma heteromorpha* provided another example, as it was still considered as ‘the rasbora’ although removed from *Rasbora* for some time. Kottelat felt that the ‘drosophila’ problem was not a nomenclatural problem. It was for the concerned taxonomists to know if they wanted to have a large monophyletic *Drosophila* including several lineages, or if they preferred several smaller genera with hundreds of species changing names and *n* species of unknown generic position. Some had argued that the credibility of the Commission was at risk if it decided not to fix *melanogaster* as type species of *Drosophila*. Kottelat thought the opposite was the case, that independence and credibility were at risk if the Commission made decisions based on unpublished results. The comment ‘If the Commission rules against our application, taxonomic revision of the genus *Drosophila* is effectively prevented’ did not make sense to him. He failed to see why and how the fact that the type species of *Drosophila* was *funnebris* rather than *melanogaster* could prevent taxonomic revision. Nomenclature should not prevent a taxonomic revision (unless the word ‘revision’ was incorrectly used in this application).

Kullander, voting AGAINST, said that details of why this case should not be supported had been well explained in submitted Comments. He felt that the petitioners requested change of type species of a genus to fit their phylogeny. He mentioned that the case included a conditional argument, but would have preferred the authors found a solution without involving the Commission. He said he

considered ‘*Drosophila melanogaster*’ to be more of a vernacular than scientific name for most people (commonly expressed as ‘*Drosophila*’, ‘*D. melanogaster*’), and that if the claims of the authors were correct, the taxonomy of drosophilid flies had not been robust, so the name change had been a pending eventuality anyway. But, above all, he felt that this was a taxonomic issue, and the Commission could not alter names to fit a particular classification.

Minelli, voting AGAINST, noted that ‘*Drosophila melanogaster*’ was likely to be perceived by most people, including some biologists who did not care for taxonomy, as ‘the’ name of the species, without distinctly perceiving, or caring to distinguish, whether this meant the scientific, or the vernacular name. This was simply its name, and such it would remain, any possible change of the scientific name notwithstanding. In addition, there was a procedural problem, as the Commission had been asked in this case to vote on the eventual consequences of a potential change of generic assignment, rather than on an objective difficulty caused by conflict between current use and a strict application of the Code, and voting now, i.e. before a taxonomic decision had been actually taken in print, would equate to infringing the principle of freedom of thought in taxonomic matters.

Ng, said his vote for this case was emphatically AGAINST. He had discussed this matter at length with many entomologists and dipteran experts, and most experts did not see the real need for the proposed action. They noted that the systematics, phylogeny and ideas would continue to evolve, and many did not have problems referring to these flies technically under a different genus name, but calling them ‘*Drosophila*’ as a common name. The situation would become not unlike that of tilapia. If their opinions had been more unanimous or stronger, Ng said he might have been swayed, but they were not. He agreed that ‘*Drosophila*’ was an extremely widely used name. But to have the Commission change the type species in this case because of the reasons stated would, in his opinion, open a Pandora’s Box and reflect badly on the central tenets of the Code. He felt that the Commission should not influence the nature of scientific investigations, which was a risk from the proposed actions in this case. Ng said he did realise that some biologists would use this ruling to criticise the Commission and Code, arguing that it was unable to respond to the needs of biology and biologists. But he felt strongly that by responding positively to one group, another group would inevitably be annoyed, and the Commission would send out a message that the ‘hypothesis of one era’ (which was what he felt the proposals presented in this case were, after all) decided how a species should be named. Ng did not believe nomenclatural stability would be served if the Commission overrode the Principle of Priority in this case.

Pape, voting AGAINST, explained that genera represented one level in a nested set of ranks – the Linnaean classification – and, as such, they were subjective constructs of the human mind. He said we created names to facilitate our communication about them. The Code enabled us to determine which of the existing genus-group names would be the valid name under particular taxonomic circumstances. Case 3407 sought to ensure that possible differences in taxonomic opinion would not affect the name of one particular species: *Drosophila melanogaster*. As such, the case rested upon an anticipated adoption of a changed classification and the confusion and instability this might create. However, he stated that the Commission should not decide on what special classification or systematic approach was ‘correct’ or

'superior', nor should it be influenced by particular (existing or anticipated) scientific hypotheses or scientific paradigms.

Patterson, voting AGAINST, said that the authors and some commentators confirmed that there were taxonomic solutions to their dilemma that would avoid the necessity of an extraordinary action by the Commission and the destabilisation of the names of other species currently located within the genus.

Rosenberg, voting AGAINST, said he would have voted FOR only if the fly community was united in supporting the application. He felt that even if both names, *Sophophora melanogaster* and *Drosophila melanogaster* were in use, neither was ambiguous, and little confusion was likely to result.

Štys, voting AGAINST, reminded the Commission that his objections to the case were presented in a Comment (BZN 65: 144–145). In summary, the major reasons were: (1) Nomenclature must not be subservient to taxonomy and should retain its independence; (2) The Commission should not be used to promote any particular opinion on classification and any particular taxonomic philosophy and methodology; (3) The present application is premature as it concerns a situation which is far from being taxonomically and phylogenetically resolved and is not fully testable from published data. The proposal suggested a solution for only part of a complex problem and ignored the chaos resulting from its implementation in the rest of the taxon (*Drosophila sensu lato*, DROSOPHILIDAE). He felt that the arguments for treating the binomen *Drosophila melanogaster* as sacrosanct were purely based on quantitative current use, and had in the background the notion that the biologists, database managers, the general public and other stakeholders could not cope with a potential switch from *Drosophila melanogaster* to *Sophophora melanogaster*. He cautioned that the possibility of preserving the established usage of names, although invoked in the case, had never been intended to interfere with taxonomic progress.

Winston, voting AGAINST, felt this was a very challenging situation in that ideally the taxonomy of *Drosophila* should have been worked out before requesting Commission action, but she acknowledged that the ubiquity of the name *D. melanogaster* presented pitfalls for that approach as well.

Yanega, voting AGAINST, provided a detailed explanation, starting with the basic outline that *Musca funebris* was the type species of *Drosophila*, and *melanogaster* was the type species of *Sophophora*. Furthermore, *Sophophora* and *Drosophila* were not synonyms in van der Linde's analysis; they were separate clades, with entirely different constituent species. He felt, therefore, that there was thus neither a nomenclatural nor a taxonomic problem to be resolved. Yanega noted that this application nevertheless asked that *Sophophora* and *Drosophila* be declared synonyms simply by designating the type species of the former as the type species of the latter. He said that the only reason to do so was if it was felt that nomenclature must be changed – not to suit taxonomic opinion (because no one was claiming that *Sophophora* and *Drosophila* were synonyms) – but to suit taxonomic convenience. Taxonomic opinion indicated that these were separate clades, but the authors asked the Commission to switch the names around, because it was inconvenient that the clade containing *melanogaster* was not the clade named *Drosophila*. Regardless of how well known the name, he felt this was flimsy justification for a major Commission action. In addition, there were a great many species in the subgenus *Drosophila*, including the present type species, which would require a new (sub)generic name, as

the membership of *Drosophila* would become that of the present membership of *Sophophora*. Yanega explained further that he had looked to other cases where plenary power had been invoked, and was unaware of any where the type species of one supraspecific taxon (in this case a subgenus) was set aside in favour of the type species of another supraspecific taxon with which it was not synonymous. In the present case, *melanogaster* was not only technically ineligible to be the type of *Drosophila*, as it was not an 'originally included species', but it was not even considered a member of that same higher taxon. It appears that many, if not most, cases of the exercise of plenary power to conserve names are cases where a newer name for the same taxon was chosen in favour of a name not in common use which proved to be older, or where a name that was shown to be a junior homonym was preserved over a senior homonym. Priority and homonymy are nomenclatural problems, but Yanega felt the present case was not. All of these points ran counter to the underlying objective of stability, as he understood it, and therefore ran counter to his understanding of the purpose of the plenary power. He agreed with using the plenary power to preserve a familiar genus name or an epithet, but he did not agree with using it to preserve a single combination (and, in doing so, destroying many other combinations that would otherwise remain intact). He felt that extrapolating the concept of stability to encompass name combinations was beyond the intent of the Code.

Zhang, voting AGAINST, emphasised that his vote against the proposal did not mean that he did not support the stability of the names of important species such as *Drosophila melanogaster*; in fact, he would prefer to see no changes to names of iconic species such as this. The application asked the Commission, prematurely in his view, to vote for a proposal to preserve the combination '*Drosophila melanogaster*' when there were neither compelling nomenclatural, nor taxonomic/phylogenetic justifications to change it.

Zhou, voting AGAINST, said that plenary power should not be used to solve a nomenclatural problem resulting from unpublished taxonomic results.