concerned have been published at different times and (with minor exceptions!--Code, Article 23) the "oldest available name" is the valid name of the taxon.

The situation is slightly more complicated where a single taxon has been described under two (or more) names in the same paper--or even in different papers within the same issue of a publication. The names in question are then "published simultaneously," and "their relative priority is determined by the action of the first reviser" (Code, Article 24). The name selected for conservation MAY be that with precedence of position in the work in which the species was described; but it need not be, and indeed the "first reviser" is advised (Code, Recommendation 24A) to select the name occurring later in the work if [for example] the species is already better-known by that name. As with all other provisions of the Code, there is no ambiguity; once the "first reviser" (Wheeler in the example cited above) has selected the name to be conserved and cited the other(s) as synonym(s), the matter is finalized.

Most significantly, there is no such thing as "page priority."

Stability in nomenclature will continue to be hindered as long as people merely follow their instincts or fancies in making taxonomic pronouncements. No more than simple adherence to the published rules of taxonomic procedure, on the other hand, is required for a universally stable system. Workers not wishing to bother themselves with details of the Articles of the Code can easily refer cases in doubt to a taxonomic specialist.

Boerema, A.C. and R.Bijlsma. University of Groningen, Haren, Netherlands.
Viability of Drosophila melanogaster reared on 'natural' food.

Though little is known about the natural breeding sites of Drosophila melanogaster, it is thought to breed mainly on rotting and fermenting fruit. It might therefore be desirable in certain experiments to use these natural food sources instead of artificial laboratory food media. This study was undertaken to measure the egg-to-adult survival of D.melanogaster reared on several kinds of natural food and in different conditions.

For the experiments females were allowed to lay eggs on 2% agar gels for 14 h after which the eggs were collected and cultured in the food vials, 100 eggs per vial. The experiment was performed on 5 different kinds of natural food: orange and grape (high sugar content), banana and potato (high starch content) and coconut (high fat content). The food was given to the flies in two ways: either big lumps of food were put into the vials (denoted as "pure food") or the food was ground in a blender and 400 grams were mixed with one liter agar solution (1.25% w/v) and this mixture was put into the vials (denoted as "agar-mixed food"). The latter procedure was tried because it allows easier handling of the food in experiments. Because fermentation may play an important role in nature the experiment was both performed with fresh food and with food that was seeded with some live bakers

Table 1. Mean egg-to-adult survival (%) on the different food media for both the "pure food" (A) and the "agar-mixed food" (B) experiment. Means are arranged according to decreasing survival. (All means sharing the same line are not significantly different at the 5% probability level (Tukey's test for multiple comparisons.)

A: "pure food"

orange +yeast	banana +yeast	coconut -yeast	orange -yeast	banana -yeast	coconut +yeast	grape +yeast	grape -yeast	potato +yeast	potato -yeast
91.2	69.9	66.1	49.6	44.9	21.4	3.2	0.7	no survival	no survival

B: "agar-mixed food"

banana -yeast	orange -yeast	orange +yeast	coconut -yeast	banana +yeast	potato -yeast	potato +yeast	coconut +yeast	grape -yeast	grape +yeast
71.7	55.6	45.6	22.1	20.0	14.7	7.7	3.3	2.0	1.4

Table 2. Analysis of variance of the data (after angular transformation) of the "pure food" (A) and "agar-mixed food" (B) viability tests. (*P < 0.05; **P < 0.001).
a=(Because there was no survival on potato food, this medium was not included in the analysis of variance.)

A				B			
Source	D.F.	Mean square	F value	Source	D.F.	Mean square	F value
Kind of food[a]	3	4986.8	80.3**	Kind of food	4	2265.2	62.6**
Fermentation/ no fermentation	1	284.2	4.6*	Fermentation/ no fermentation	1	1951.0	53.9**
Interaction	3	1357.5	21.9**	Interaction	4	764.4	21.1**
Error	32	62.1		Error	40	36.2	

yeast and kept fermenting at 25°C for three days before it was put into the vials. Each combination was replicated five times.

The results are shown in Tables 1 and 2. There are significant differences in survival between the different food sources: three of them, orange, banana and coconut, show a reasonably good survival, whereas the other two, grape and potato, do not. A population cage experiment further showed that potato's are a very poor food source for D.melanogaster as very low densities were obtained on this medium. The low survival on grapes was very surprising because it is well known that D.melanogaster is found in high densitites in vineyards where they breed on fermenting and rotting grapes. A possible explanation may be that this particular bunch of grapes, bought in a local grocery, was contaminated with a pesticide or a preservative which decreases larval survival. An additional experiment with another bunch of grapes showed a good survival of 50-70%.

A comparison between the "pure food" and the "agar-mixed food" vials shows that on the average the "pure food" vials gave higher survival rates ($F_{1,78}$=4.94, P<0.05). This may be explained by the fact that in the "agar-mixed food" vials the food source is diluted by the agar solution, making it harder for the larvae to gather enough food. Table 2 shows that fermentation had also a significant effect on viability. In the "pure food" vials fermentation gave rise to a higher average survival rate; this effect was reversed, however, in the "agar-mixed food" vials. The cause of this difference is unknown at the moment. Coconut seems to be an exception by showing a strong, three-fold, decrease in viability both in the "pure food" and the "agar-mixed food" vials, and this medium is responsible for the greater part of the significant interaction between the kind of food and fermentation/no fermentation, shown in Table 2. Coconut meat is well known for its high fat content and 6-8% of this total fat is octanoic acid. Leber-Busssching and Bijlsma (1983) showed that an interaction between octanoic acid and micro-organisms can cause a food situation that is lethal for D.melanogaster adults. It might well be that a similar situation arises when the coconut meat is left fermenting for three days, and that the decrease in viability is caused by this effect.

The results presented in this paper indicate that on the average the highest viability is obtained when D.melanogaster larvae are reared on pure fruit that has been kept fermenting for a few days, but one has to be aware of special circumstances and problems that can occur as found for coconut and grapes.

Reference: Leber-Busssching, M. & R.Bijlsma 1983, DIS 59:74-75.