

## More gene wars

In the otherwise fascinating article 'Gene wars' by Uma Shaanker and Ganeshiah<sup>1</sup>, there is an incorrect statement. The authors state, '... the interest of the offspring is not similar to that of the mother *as long as they are sired by more than one father*; selection acts on each offspring favouring increase in the offspring's own fitness by demanding more than the mother is selected to give [*italics mine*].' In sexually reproducing diploid organisms, no two siblings (even full siblings) other than identical twins are identical in all 100 per cent of their genes. The average coefficient of genetic relatedness between full siblings (from the same father and the same mother) under outbreeding is 0.5. The interests of the mother (who is related equally to all her offspring) will therefore not be similar to that of her offspring because each offspring is related to itself by 1.0 and by no more than 0.5 even to its full siblings. Thus even when the offspring are *sired by the same father*, selection should act on them to demand more from their mother than she is selected to give<sup>2</sup>. This should of course make gene wars even more common.

1. Uma Shaanker, R. and Ganeshiah, K. N., *Curr. Sci.*, 1991, **61**, 440.
2. Trivers, R. L., *Am. Zool.*, 1974, **14**, 249.

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*Uma Shaanker and Ganeshiah reply:*

We agree with the point raised by Gadagkar that gene wars could be even more common than we have envisaged in our article. The statement Gadagkar refers to was made with special reference to plants, to which our article pertains. Plants are mostly hermaphroditic and are very often highly inbred. Consequently completely homozygous plants are not infrequent. Full sibs (obtained through selfing) in such situations are bound to be identical in all 100 per cent of their genes. Thus two siblings, besides identical twins, could be completely identical genetically unless they are outbred by genetically different fathers. Our statement '... the interest of the offspring is not similar to that of the mother *as long as they are sired by more than one father* [genetically different]' (emphasis ours) was made to develop a

specific condition with reference to plants.

We take this opportunity to inform readers that, after our article was published, we unearthed an interesting study in plants. Davies<sup>1</sup> found that in *Pisum sativum* (garden peas), which is highly inbred, the genes governing production of the seed storage proteins, globulins, were active only if they were passed on through the ovule and not if through the pollen; that is, there appears to be a selective activation of alleles derived from the maternal parent. This supports our statement that in inbred plants, where siblings are related by 100 per cent, the parent-offspring conflict does not arise and offspring concede to mother's interest.

1. Davies, D. R., *Nature New Biol.*, 1973, **245**, 30.

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## MEETINGS/SYMPOSIA/SEMINARS

### International Symposium on Tropical Crop Research and Biotechnology

Place: Thiruvananthapuram, India  
Date: 14-18 September 1992  
Contact: Dr N. K. Nayar  
Secretary General, ISTRAD  
P. B. No. 2210  
Thiruvananthapuram 695 010  
Phone: (91) 471 69911; Telex: 435 309 JAS IN

### J. B. S. Haldane Centenary International Congress on Evolution

Place: Bhopal, India  
Date: 5-7 November 1992 & 28-30 December 1992  
Sessions include: Origin and evolution (cell and genic systems); Evolution strategies (plants and animals); Evolution of man; Ecosystems: Germplasm conservation; Genetics of populations; Genetics of cancer; mutagenesis; Genetic diseases; Twins, genetics and society; and Teaching human genetics.  
Contact: Prof. B. K. Goswami  
Department of Genetics  
The University campus  
Bhopal 462 026  
Phone: (91) 755 552362; Fax: c/o Maegabyte (91) 755 555751

### Ist East West Convention on Surface Engineering, INCOSURF '92

Place: Bangalore, India  
Date: 9-19 December 1992  
Topics include: Surface engineering by material removal; Surface engineering by material addition; Surface characterization, and instrumentation; Surface engineering by modification; Semantics, design and realization of textures.  
Contact: Prof. E. S. Dwarakadasa  
Convenor, INCOSURF '92  
The Electrochemical Society of India  
Indian Institute of Science  
Bangalore 560 012  
Telex: (91) 846 8349 ECSI; Fax: (91) 812 341683  
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### VIII Carbohydrate Conference

Place: Thiruvananthapuram  
Date: 18-20 November 1992  
Topics include: Carbohydrate chemistry and structure; Synthesis of carbohydrates; Fermentation; biotransformation of carbohydrates; and Polysaccharides.  
Contact: Dr K. C. M. Raja  
Organizing Secretary, VIII Carbohydrate Conference  
Regional Research Laboratory  
Thiruvananthapuram 695 019  
Phone: (471) 76774; Telex: 435-232; Fax: 471-75186