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# Book reviews

**Search for the Tourette Syndrome and Human Behavior Genes**. David E Comings. Hope Press, Duarte, CA. 1996. Pp. 309. Price $29.95, paperback. ISBN 1 878267 41 8.

This book is unlikely to be useful to readers of *Heredity* unless the author wins the Nobel prize for his work on the genetics of Gilles de la Tourette Syndrome. In this unlikely event the book would serve as an interesting historical account of the trials and tribulations to be faced by a researcher whose thinking is at variance with most other workers in the field.

The author has had a distinguished career in human genetics and has been both editor of the *American Journal of Human Genetics* and a past president of the American Society of Human Genetics. He has been researching the genetics of Gilles de la Tourette Syndrome since 1980 and the present volume describes this research, apparently for a wide readership including both scientists and laymen. The central theme of Dr Comings' work is that genes involved in Gilles de la Tourette Syndrome are also intimately involved in a very broad range of other behaviours including attention deficit hyperactivity disorder (ADHD), obsessive compulsive behaviours, conduct and oppositional defiant disorder, rages, mania, depression, anxiety, panic attacks, phobias, sexual, sleep, and other disorders (this list is taken from the back cover of the book). The author describes both clinical family studies and molecular genetic studies to support his claims. A chronological account of Dr Comings' work is provided which includes detailed descriptions of arguments with other academic groups, most notably the Yale Group headed by Dr David Pauls, and the difficulties Dr Comings has experienced in obtaining grants to support his work and in having his work published in leading journals.

Dr Comings has undoubtedly made an important contribution to research on Gilles de la Tourette Syndrome and has advanced some provocative ideas. However, most of his ideas have yet to be accepted by the behavioural and psychiatric genetics research community and must be regarded as speculative. Unfortunately, readers of the book could easily gain the impression that Dr Comings' work is now a robust, well replicated body of research and that he has already identified several genes involved in Gilles de la Tourette Syndrome and a wide variety of other behavioural traits. This is not the case. Any reader of this book should be aware of the controversial beliefs of the author. In this regard, it would seem a particularly inappropriate book for the layman. Perhaps fortunately, in this regard it is likely to prove difficult for the layman to understand much of the text. The book is most useful as a summary of Dr Comings' current thinking on Tourette Syndrome and other human behaviours and the 222 references cited include 50 in which Dr Comings is the first author.

A passage from the introduction sets the tone for the whole book: '...even though I met outright hostility from many directions, I have written this, not as any form of 'I told you so', but only because I thought it might be of interest to many people, both scientists and laymen. I have attempted to simply tell the story as it happened, with no malice toward any of those legions of people who thought I was off my rocker. (I suspect that even after reading this book, some may still feel that way.)'. I suspect the author is right.

Nick Craddock
*University of Wales College of Medicine*
*Division of Psychological Medicine*
*Heath Park*
*Cardiff CF4 4XN*
*U.K.*

**Evolution of Social Insect Colonies: Sex Allocation and Kin Selection**. Ross H. Crozier and Pekka Pamilo. Oxford University Press, Oxford. 1996. Pp. 306. Price £19.95, paperback. ISBN 0 19 854942 3

Charles Darwin noted that the existence of sterile workers in social insect colonies represented a real challenge to his theory of evolution. How could evolution favour the selection of individuals willing to forego reproduction? We now know that these 'altruistic' workers can gain evolutionary fitness by rearing a large number of highly related sisters. Yet the picture of social harmony presented by ant, bee and wasp (Hymenopteran) colonies is riddled with conflict as colony members attempt to maximise their own reproductive success as the expense of colony-mates. The concept of the colony as a super-organism may be over.

Crozier and Pamilo outline the main questions considered by this book: who reproduces in social insect colonies; how are resources divided between sexual offspring and colony maintenance in the form of new workers; and how are resources divided between male and female sexuals. The stage is set with an outline of kin selection theory. Individuals can pass on copies of their genes by helping relatives, likely to share similar genes, to reproduce, as well as by reproducing themselves. Sex determination in the Hymenoptera is unusual in that males develop from haploid eggs and females from diploid eggs (haplodiploidy). Thus, the sex ratio can be controlled primarily by the laying queen, and secondarily by the workers raising the brood. Queens are equally related to sons and daughters, and should favour equal investment in the sexes of their offspring. Workers are