

## BOOK REVIEWS

blackest people you would ever see' (p. 238). Many interpreted his touchiness to racial slurs as 'radical politics', though the maximum extent he ever went was to campaign for Adlai Stevenson as Democratic candidate for President in 1952.

Eddington's shadow continued to harass Chandra in the form of vituperative reviews for his two major books on stellar structure (1939) and dynamics (1943). Though they were invaluable contributions to astrophysics, Eddington derided them for 'ugliness'. At the 1939 Paris Colloquium on Novae, Eddington verbally fenced with Chandra and attributed his relativistic degeneracy equations to Western scientists. In 1944, Chandra was nominated Fellow of the Royal Society by Raman, who also proposed forwarding his name for the Nobel in 1948.

Although Chandra relinquished the subject of white dwarfs in America, advances in nuclear physics eventually led to the rediscovery of his theory and realization that he had been right all along. Robert Oppenheimer and his students showed how massive stars could perish and collapse completely, but they 'did not take Chandra seriously', feeling 'he was not a "real" physicist' (p. 201). Chandra, on his part, liked complicated mathematic methods and avoided collaboration with Oppenheimer. He also declined the offer to join the 'Manhattan Project' that produced the atomic bomb.

In his middle age, Chandra moved to definitive research on radiative transfer, hydrodynamic and hydromagnetic stabilities. He collaborated with Enrico Fermi on magnetic fields of spiral galaxies and served as a consultant at Los Alamos on turbulence, upon the urgings of Edward Teller.

When Stirling Colgate's supernova research proved beyond doubt that stars really undergo ongoing and endless collapse, Chandra was elated. He carefully edited, rewrote and published Colgate's work in 1966. He also published papers proving that super-massive stars could shrivel away and disappear into a niche in space and time. John Wheeler gave this cosmic receptacle the name 'black hole' in 1967. Chandra returned to his first love and performed astoundingly complex calculations to streamline emerging knowledge into his magnum opus *The Mathematical Theory of Black Holes* (1983).

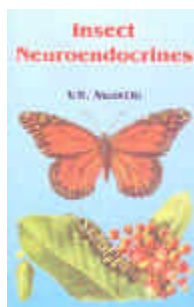
After receiving the 1983 Nobel, Chandra's unflagging productivity took him to fresh pastures of gravitational

wave collision with stars and analyses of Newton's *Principia* using 20th century mathematics. An Icarus who took risks and probed the reality behind appearances, Chandra was gifted with typical Indian humility and rarefied sense of aesthetics. Befittingly, the 1999 X-ray Observatory in space of space shuttle Columbia was named after this giant of astrophysics, whose salad days were sadly sacrificed at the altar of meanness.

How many more Chandrasekhars are being denied to the world by the subordination of science to politics?

SREERAM CHAULIA

*e-mail: sreeramchaulia@hotmail.com*



**Insect Neuroendocrines.** V. B. Awasthi. Scientific Publishers, 5a New Pali Road, Post Box No. 91, Jodhpur 342 001. 2005. 431 pp. Price: Rs 2350.

The volume gives an overall idea about the neuroendocrine system and its variation in different insect groups, as it has been known to vary in their morphological features from insect order to order. Not many Indian books have been published on insect endocrine organs and their physiology, excepting probably the volume by late K. K. Nayar. Through the 35 brief chapters, the author tries to give a brief idea about the general organization and variations of the insect neuroendocrine system, highlighting different endocrine components and identification techniques of different secretory neurons, including ultra-structural details. Different physiological influences imparted by various insect hormonal principles also have been dealt in subsequent chapters briefly. The last part of the book provides a good illustration of different epithelial endocrine glands using both photomicrographs and several

electron micrographs of different insect endocrine components, representing selected insect orders that have already been published by either the author himself or pioneering insect endocrinologists. All micrographs have been reproduced in the volume in an excellent fashion. A selected reference list also has been provided by the author at the end of the first part of the text. Hence the book forms a good source of preliminary information to both students and beginners on insect endocrine research.

However, morphological details and also various physiological and functional details of insect endocrine components have been treated briefly and that too in the light of comparatively old literature. One shortcoming that could be identified with this particular volume is that the author has restricted to picturize the scenario and status of known information on insect neuroendocrines for a period of 20–25 years earlier, as is evident from the reference list and the kind of details that the author tries to deal in this book. So the volume must definitely cater to the needs of a beginner on various aspects of insect hormones and hormone-secreting components. But the level of knowledge on insect endocrines has drastically transformed during the last decade or two thanks to the different ultra-sensitive and precise analytical techniques that enable one to identify and characterize insect hormones. In this respect, the present volume probably does not give up-to-date information on recent trends and findings on insect endocrine components. Of course, for a beginner and for students of insect endocrinology, this volume is really an asset.

D. MURALEEDHARAN

*Department of Zoology,  
University of Kerala,  
Kariavattom 695 581, India  
e-mail: dmur@md3.vsnl.net.in*

**Stress: From Burnout to Balance.** Vinay Joshi. Response Books, Sage Publications India Pvt Ltd, B-42 Panchsheel Enclave, New Delhi 110 017. 2005. 209 pp. Price: Rs 185.

'Without stress there would be no life', wrote Hans Selye who coined the term stress. Certainly, stress has been with us from the early days of mankind. Yet, the