

## David Goodnow: **HOW BIRDS FLY**

This time I decided not to read a childish story but a more scientific book. I have found it somewhere on the Internet for a very reasonable price and it came in just a few days, what is surprisingly quick.

First some facts about the author. He is a naturalist and a wildlife photographer whose photos have appeared in *National Geographic*, *Outdoor Life*, *Field & Stream*, *Sports Illustrated*, *Time-Life Books* and other leading publications. He took most of the pictures in the book and they are all excellent.

The book contains all the necessary information for a quick and briefly overview of birds' flight. It includes some interesting sequences of high-speed photos (this Canadian goose is one of twelve photos) taken by high-tech cameras. It describes all the basic techniques of aerodynamic, flapping flight and soaring. It is written for those who are not engineers, physicists or ornithologists and are interested in this theme.

Although it is written by an amateur for amateurs, I still miss some more detailed information about specific airfoils that soaring birds have to compare them with the sailplanes' airfoils. He wrote that the bird's or plane's efficiency depends most of the airfoil's shape and he did not include any of them. Anyway, I have found some of them in some older German book from 1967.