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SPECIAL: Viruses - How much do we know?

This Special Issue is dedicated to Dr. Don McAllister, the first Editor of *Biodiversity*, who succumbed to a serious viral disease and passed away while serving this Journal. A special issue on viruses was one of his wishes.

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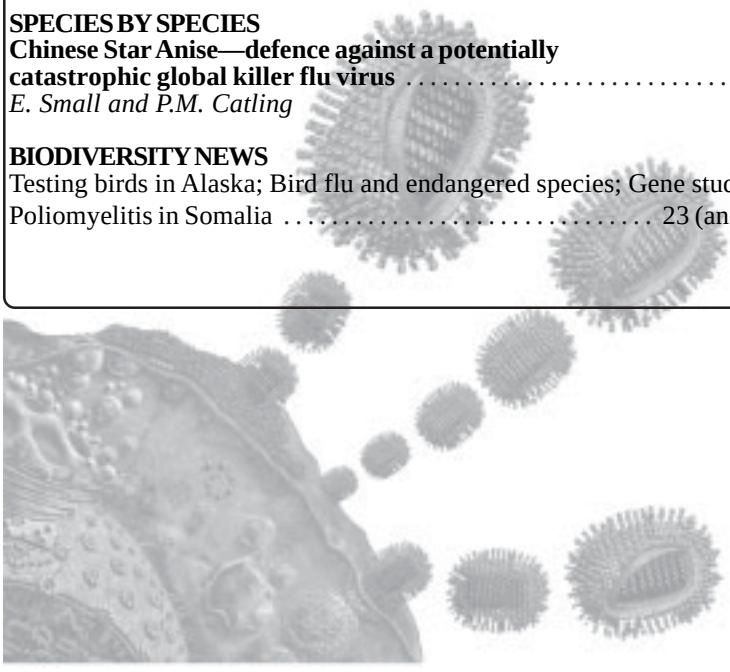

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Front cover: Reassortment of viral RNA segments in a cell infected by two strains of influenza virus (human and bird flu) leading to a new and potentially dangerous strain that could spread easily from human to human and so trigger a deadly worldwide epidemic. Such genetic mixing might occur in pigs, since a pig might be infected by both strains and then pass the new virus on to humans. Alternatively, a person might become infected with bird flu and human flu and start an epidemic of the novel virus. Influenza A virus has its RNA genome (genetic material) split into 8 segments. If two different viral types infect the same cell, then segments from both types can get jumbled together (they reassort) as the new virus particles are assembled. Consequently, new viral strains can emerge that contain a mixture of the parental genes. This image shows two different viral strains (BLUE genome at bottom right and ORANGE genome at upper middle) infecting the same cell (at lower left). During replication, new viral particles may emerge that contain segments sourced from both the BLUE and the ORANGE strains. The new strain (BLUE & ORANGE STRIPED genome, at top right) has the potential to spread rapidly (Copyright Russell Kightley Media - www.rkm.com.au (*Also see article on page 51)*.

Inside Front Cover Art: "The Diversity of Life" *by Roelof Idema*