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Mayflies mistake asphalt roads for water, with disastrous consequences.

Hornbills, previously thought to be sedentary, actually track seasonally variable fruit resources. Exactly how far the birds travel is at present unknown, but preliminary radio-tracking studies by Kimberly Holbrook (San Francisco State University) indicates they may travel as much as 290 kilometres.

The researchers say these results show that *Ceratogymna* hornbills rank among the most important seed dispersers in Afrotropical forests and will become increasingly important in forest regeneration as populations of larger mammalian seed dispersers, such as elephants and primates, are diminished through hunting.

—R.S.

Auto-Erotica

Asphalt roads are proving to be a fatal attraction for mayflies in the throes of passion. As thick clouds of these water-seeking insects gather for their mating dance, they are being lured towards the reflected light of roadways, and females, instead of laying their eggs in water, are tricked into laying them on the asphalt surface where they are doomed to desiccation.

György Kriska (Eötvös University, Hungary) and colleagues have been studying these entomological road fatalities. By offering mayflies various surfaces on which to lay their eggs, the researchers have established that mayfly navigation is guided by horizontally polarised light. They discovered that polarised light bounces off asphalt in the same manner that light reflects off water. The darker and smoother the asphalt, the higher the degree of polarisation and the more enticing the road is to mayflies. The detour of the open road is irresistible to mayflies as they prefer habitat free of dense vegetation for their sex swarms, and the warmer temperatures of the tarmac prolong copulatory activity.

Mayfly species have undergone severe declines in recent years due to habitat destruction and pollution, and asphalt road traps near riparian (water) habitats may further threaten the survival of many future generations. The road toll may also affect stream ecosystems, as mayflies are an important food source for fish. The researchers are currently testing lighter-coloured asphalt with a rougher surface, to see if they can curb the mayflies' fatal fetish for hot tar and gravel.

—K.H.

Light-fingered Sponges

Plants need light to produce food, and in the murky depths beneath the Antarctic seas, a sponge and an alga have come to an ingenious arrangement that enables the plant to photosynthesise in almost complete darkness.

In the chilly depths of the Ross Sea, tiny unicellular algae (diatoms) flourish deep inside living sea sponges. These sponges are supported by a network of silica spines, called spicules, around the base of which the algae grow. Now Italian researchers have discovered these spicules may be acting as optical fibres to mop up what little light penetrates to 120 metres, where the sponges grow.

Riccardo Cattaneo-Vietti, from the University of Genova, and colleagues extracted long spicules from the demosponge *Rosella racovitzae* and shone beams of laser light through them. They found that the spicules were excellent conductors of light, even when bent at various angles. In one experiment, the amount of light carried a centimetre beyond a 90°-bend in the spicule was still 65 per cent of the original beam intensity. Each spicule looks a little like a palm tree, with a cross-shaped structure at the top. The researchers showed that this serves to increase the spicule's light-collecting capacity. In fact, spicules deprived of their apex con-

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