A chick to the slaughter

REPRODUCTION House martins with bugs to die for.

Many birds produce more chicks than they raise to fledging, and it's often the last chick to hatch that fails to survive, even if food is abundant. So why don't parent birds simply produce one less chick in the first place? New research on house martins *Delichon urbica* suggests that the extra chick may divert the attentions of parasites from the rest of the brood.

Philippe Christe of the Université Pierre et Marie Curie in Paris and colleagues investigated whether the body condition of chicks in a brood affects the ability of their immune systems to respond to parasite infection. In broods infected with house martin bugs *Oeciacus hirundinis*, chicks in poor condition showed a lower immune response than those in good condition and were more likely to die before fledging.

Because the last chick to hatch is likely to be undernourished compared with the rest of the brood, which gain a head start, parasites may be expected to pick on this unfortunate individual. The sacrifice of this one chick may allow the others to grow more efficiently or prevent failure of the entire brood by parasite infection (*Oikos*, vol. 83, pp175-9). STUART BLACKMAN

Siblings sorted

In many species, the last chick of a brood to hatch will survive only if there is a plentiful food supply. In blue-footed boobies, food shortages may lead to the deaths of the youngest chicks through being attacked by their older siblings. But the youngest chick doesn't always have such a hard time. In crested penguins, the mother lays two eggs, the second of which is bigger than the first. The large chick that hatches from the second egg is usually the only one to survive. No one knows why crested penguins adopt this peculiar strategy.

Stephen Dalton/NHPA

◆ **Flying visit. The last chick to hatch is often the least well fed and the most vulnerable to parasites.**