

Brotherly love falls victim to lust

Wasp research flies in face of
altruism in families theory

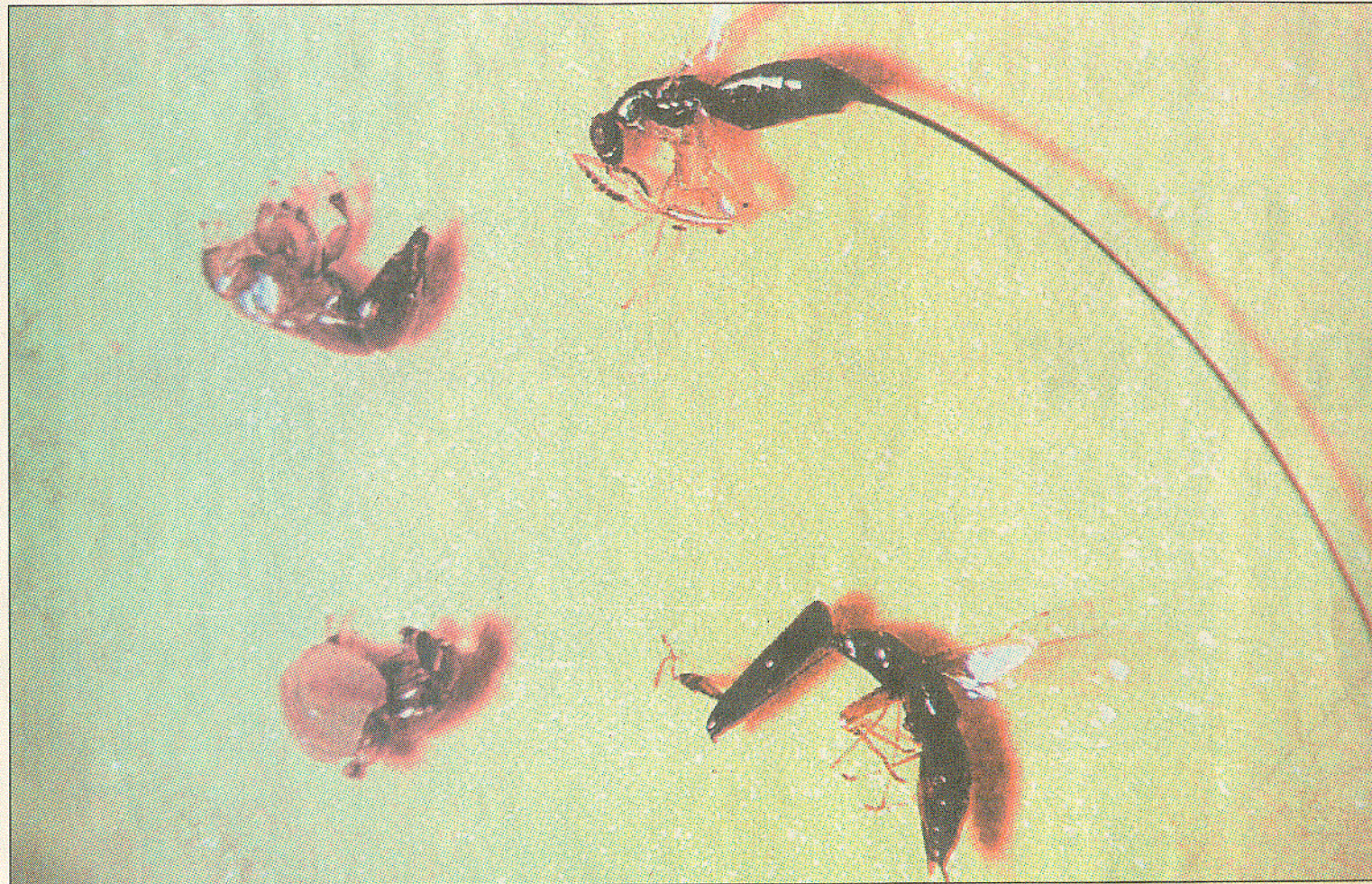
CHRIS HOLME

WHAT would make brothers tear lumps out of each other and even bite their family rivals' heads off—desperation to find a mate.

The finding from new

“After that everything happens within the fig in just a couple of days as the males seek to mate with the females before the females leave,” said Dr West.

“It is one big incestuous orgy with a lot of aggression. The males only have a couple of



FRATERNAL BEATINGS: A fig wasp family lies decimated by the sole survivor (top) after a deadly battle in the frantic race to reproduce

CHRIS HOLME

WHAT would make brothers tear lumps out of each other and even bite their family rivals' heads off — desperation to find a mate.

The finding from new research runs counter to conventional biological theory that family members are usually nice to each other and behave altruistically for the common good.

An international team has come up with evidence that, at least among fig wasp populations, brothers will kill each other if in competition to mate with a female.

Researchers Martyn Murray, Ashley Griffin and Stuart West from Edinburgh University and American colleagues Carlos Machado of Rutgers University and Edward Herre of the Smithsonian Institute published their findings in *Nature*.

Much of the work was carried out at the Smithsonian's tropical research institute in Panama which has lots of fig wasps to hand.

These are tiny insects, far removed from the black-and-yellow types known in Britain.

But what they get up to makes even the wildest Roman orgy look like a Sunday school picnic.

"Figs and fig wasps have a remarkable symbiotic relationship," said Dr West, of the Institute of Cell, Animal and Population Biology at Edinburgh.

There are 1000 kinds of edible fig. Each species has its own type of fig wasp which acts as a pollinator. In return, the fig provides a home for the wasps.

The mother lays her eggs and dies. But gatecrashers can also fly in — parasite wasps who don't bother to wipe their feet, never mind help the poor old fig with pollination. It is then all quiet for a month as the young wasps grow. Then the party starts.

"After that everything happens within the fig in just a couple of days as the males seek to mate with the females before the females leave," said Dr West.

"It is one big incestuous orgy with a lot of aggression. The males only have a couple of days, so they tend to go hell for leather."

Some species have evolved as a result of the fighting and have grown body armour and tough mandibles as weapons.

When the competition hots up they will attack any rival, including a brother, to the extent of biting off his head.

The critical factor, the researchers found, was the number of females that develop in the fruit. In other words, the fewer girls, the bigger the rammies, in traditional Scottish dance-hall speak.

So much for brotherly love. Other figs attract a single female which has allowed studies of the behaviour of siblings in a non-competitive environment.

So what happens after this great party?

"The males chew a hole in the fig through which the females leave. All the males die. At this stage the fig swells and ripens with the dead males inside and would probably get eaten by monkeys or bats," said Dr West.

"There is nothing more for the males to do, so they just die."

The research may have implications for other animals, bacteria and even humans since it demonstrates a basic principle.

Dr West has often seen the after-effects of this Gladiator-style slaughter: "The first time I opened a fig to look at the fighting, all the males were dead and just the biggest one was left."

However, the good news for fig lovers, is that most supermarket commercial crops do not involve fig wasp pollination.