

Buzz Off

The amazing, varied world of flies, revealed.

By **REBECCA GIGGS**

TO THE THINKERS of antiquity, a fly's life had cryptic origins. With scant knowledge of how flies metamorphize from larvae into adults, some classical philosophers reasoned that the insects emerged through "spontaneous generation" out of fires, rotted meat, mucilage and other organic refuse; life springing forth from nonliving matter.

Such winged insects as these had no need of mates or parentage, the philosophers theorized, since they did not repro-

SUPER FLY

The Unexpected Lives of the World's Most Successful Insects

By **Jonathan Balcombe**

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duce. Iota by iota, debris was thought to transmogrify into flies. And so, as a result, something of the inanimate realm clung to them still; a state of unfeeling, the sense that flies were less beings than *things*. Whatever speck of animacy danced inside a fly, it was imperfectly drawn from its lowly genesis in muck, or smoldering waste.

Naturalists have since detailed the true life cycle of the fly (its perpetual circuit: egg, maggot, pupa, midge), but the notion that flies are tiny automatons lingers on.

REBECCA GIGGS is the author of *Fathoms: The World in the Whale*.

Flies are said to drone or buzz, sounds that connote machines. En masse, we deem them a "cloud," a presence as fickle (and sometimes as forceful) as weather. Watching flies wheel around a light bulb, like planets on an invisible orrery, the equilibrium of their motion might strike an idle mind as seeming preset, each flight path produced by some as yet unrecognized kinetic law, instead of being — as is the alternative — the upshot of a fly's moment-to-moment decision making, a trajectory led by intent.

So it comes as something of a revelation, then, to learn by way of Jonathan Balcombe's latest book, "Super Fly: The Unexpected Lives of the World's Most Successful Insects," that far from operating on autopilot, flies exhibit discerning social lives, idiosyncratic behavior and sensitivities to stimuli that are not dissimilar to our own.

Fly courtship, for instance, offers a remarkable panorama of romantic tension and strategy. There are flies that present potential mates with edible gifts, wrapped in silken bundles that scientists call "nuptial balloons." Some flies emit an aphrodisiac perfume, dance or sing to attract attention (though they do it by vibrating their wings, not vocally). Flies kiss. Bone-skipper flies, competing for territory and sexual primacy, charge one another at lightning speeds, head-butting as bighorn rams do high up in the Rockies. Females of a different species puff their abdomens to emulate pregnancy; a

semblance of fecundity, arousing to males, that Balcombe compares to "a fly bustle." Copulating tsetse flies shake and squeeze their bodies in a synchronous pattern that is thought to be some kind of inward dialogue; fly dirty talk.

The littlest fly is the size of a flake of pepper. Among the largest is the robber fly,



which can grow to nearly three inches and is capable of taking down a hummingbird, though its brain scarcely weighs a milligram. Flies have evolved to occupy some of the planet's most extreme environments. One kind lives in pools of crude oil, another in the excretory organs of a land crab. Alkali flies dash across a lake's topside, creating wavelets that then engulf them, encasing each fly in a silvery bubble that permits it to dive and feast on algae below.

Of flies that make their habitat on other animals — parasitizing skin or bodily tissue, feeding off blood — the rarest are those bonded to endangered animals. Today the rhinoceros-stomach botfly is winking out, having fewer rhinoceros stomachs to colonize, as rhino numbers plummet. Contra the mosquito, which too is a member of the fly family *Diptera*. The mosquito profits from an expanding domain of human skin. As Balcombe notes, these and other flesh flies have access to roughly 4,600 square miles of skin surface globally; and as our species thrives, their profusions do likewise.

"Super Fly" belongs within a subgenre of animal literature that sees frequent recourse to titles that begin: "The Secret Life of _____" (of bees, of cows, of wolves). But Balcombe's book does more than unfold surprising facts about flies. The effect of being keyed into this miniature world is an uneasy feeling of double vision. Where once flies might have represented tedium or torment, "Super Fly" unveils an existence that is not necessarily simpler for merely being smaller.

Learning that fruit flies suffer from insomnia may well give us cause to reimagine just what that dot, dizzily circling the ceiling, is doing. Or thinking. Is a fly a torment to itself, despairing of sleep? Astonishing, that this intricacy should play out right under our noses (or over our heads). What else are we missing? □