



Defensio Virgaureae

GOLDENROD, laughing from every fencerow and wasteland, makes the countryside beautiful in late summer. Hayfever sufferers, between sneezes, wipe weeping eyes and curse the supposed cause of their woes.

Thereby they commit a grave injustice, though their conclusion-jumping is perhaps quite natural. They see something conspicuous that comes into flower at just about the time their sufferings begin. Having been taught that pollen is the proximate cause of their misery, they naturally blame the first pollen-producing flower they see.

But it is mechanically almost impossible for goldenrod pollen to get to a hayfeverish nose. It is heavy stuff, and sticky, adapted for insect carriage and not for strewing on the wind. Indeed, it is exceedingly difficult to get it out of the flowers at all, and if it were shaken out it would fall to the ground in anything but the stiffest kind of a summer gale.

The pollen that causes most hayfever while the goldenrod is in bloom comes from ragweeds, which happen to bloom at about the same time. There are two principal ragweed species, the low and the tall, and together they account for more than ninety per cent of all hayfever cases. They escape blame, from all except the well informed, because their flowers are green—and in a world of green plants, green flowers are as good as invisible.

Their pollen fills all the requirements for a first-class hayfever cause. It is produced in terrific abundance, is particularly adapted for wind transportation, and drifts in the lightest breeze. It gets into the densest cities, up to the tops of the highest skyscrapers, even though its nearest patch be miles away.

But the nearest patch needn't be miles

away, even in cities. The ragweeds are cockneys among plants, thriving on city dumps, along the waterfront, in railroad yards, under all sorts of slumland conditions. They also grow side by side with goldenrod in the country, elbowing their handsomer cousin for space and

sunlight. So they have a chance to assail your nostrils with venomous dust whether you are in a town penthouse or speeding along the highway.

And goldenrod continues to get the blame. There's no justice in this world!

Science News Letter, August 3, 1940

ENTOMOLOGY

Army Ants Use Fan-Shaped Advance Like Nazi Troops

FAN-SHAPED troop movement, characteristic of Nazi invasions, is typical also of the tactics of the army ant.

Many other parallels between the behavior of these marauding insects and human marching men are suggested by observations made at Barro Colorado Island, in the Panama Canal Zone, by Dr. T. C. Schneirla, of New York University.

Completely regimented are these army ants. No individual acts independently. They sweep on in their destructive raids, acting as a mass without thought or individual initiative.

It is the daylight that starts the raid, for the army ant spends the night huddled in a huge bivouac. The direction taken by the main column is determined by available roadways. The ants follow tree roots, fallen trees or vines in much the same way that a human mechanized army must go along highways and over bridges. Scouts in the advance will go beyond the main group but as soon as contact with the mass is lost, they turn about quickly and beat a hasty retreat.

The army ant follows along established lines of communication, which in this case are not telephonic or radio, but chemical. There is an idea for the German technicians to work out! The excited ant who finds prey or booty leaves his own code message of the fact for following detachments to trace. Those who get out of contact with this chemical line of communication would gladly leave for the rear except that traffic in that direction is blocked.

It is the pressure of traffic that governs the advance of army ants, just as it may have held the Nazi blitzkriegers on their relentless forward push. There is nowhere to go but forward. When an army ant hurls himself violently against the enemy or even against another of his own army, he is repelled and either retreats or turns.

This may result in a flanking movement. Another cause for flanking move-

ments is the discovery by one raiding party of rich booty. As soon as booty-laden ants begin to appear along one path, a rush is started in that direction. And, since a thinning of traffic in one territory is always a signal for other ants to move in, the flanking movement is soon under way. This extends the front and initiates a "mopping up" party which kills every foe in the way.

The ants even have their Stukas. Although the particular kind studied by Dr. Schneirla is not accompanied by aircraft, he describes another "swarm raiding" species which has swarms of flies hovering over the forward fringe of the advance, buzzing so loudly that a raid can be located from a distance from their noise. These flies dart down and suddenly attack small moving prey flushed out by the advancing ants.

But the army ants have no Fuehrer. They are a highly organized society of inferior individuals who would function very poorly if alone. "Leadership" is a function of collective behavior, is Dr. Schneirla's conclusion.

Science News Letter, August 3, 1940

Five of the dreaded Japanese *beetles* have been found in Florida.

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