

# In the Wabe

by Robert Chilson

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The nameless planet's newest and most deadly species arrived at dawn, a swarm of aerals lifting and circling above the two still forms. The aircar landed with but a swish of coarse, dry grass. Two Scouts emerged, then the Team commander, Gunter Sirdey, who stalked stiffly over to the bodies.

It was not immediately obvious which had been Keough and which Simms; the Penetration Service working dress had no insignia and all exposed flesh was gone. The aerals worked fast. Sirdey's lieutenant of Scouts, Ellyria Chang, handed icons to the Scouts and they began to record the scene almost inch by inch around the bodies, to a distance of twenty feet. The dome tent of the outpost was just twenty feet from the dead men. A couple of medics had emerged and were bending over the bodies as Vixie Anthony came out hesitantly. The Scout lieutenant nodded wordlessly to the younger woman.

Just then one of the medics frowningly unsealed a shirt. A crouching, concealed aerial instantly lifted a blood-covered head, leaped into the air, and pounded desperately away. Vixie's face went white; she pushed past Ellyria and stumbled blindly around the aircar to be helplessly sick. The Scout lieutenant, though the younger woman's reaction weakened her own self-control, methodically dug out a cup and filled it with water from the cooler. This she took to Vixie, steadying her with an arm around her shoulders.

"How c-can you people stand it?" the redhead whispered weakly.

"We don't like it any better than you do," Ellyria told her. "It's a matter of self-control." She studied the white face with its broad stripe of tiny freckles reaching from cheekbone to cheekbone, almost from ear to ear. The beautiful red eyes were focused on nothing. "You never get used to it, but you learn to stand it. On your next planet, you'll be as steady as any of us."

Vixie shuddered. "Not me," she said. "Next time he can send Lynn."

Ellyria's forehead wrinkled. "I've never really understood why you came."

"I know. I'm not trained in any kind of penetration work, but Vandine Combine couldn't spare any observers on such short notice. So they called us. I've had experience on a lot of planets with Dan, and he's always willing to cooperate with Vandine."

"I have heard that the Royal Independent Company was connected with Vandine."

"Not formally, not anymore. Dan Macon was Vannivar's partner in an enterprise when I first met him. But where did you hear that?"

"Penet Service depends on the Combines and planetary governments for its very existence, not to mention the funds and equipment for operating. We make it our business—have to—to know as much about you as you do about us."

Gunter Sirdey inflated a pair of stretchers and the medics, finished with the preliminaries, carried the rags of bodies to the car. They were sacked and strapped to the floor. Brereton, a Scout taking training

in microecology—soil—volunteered to hold down the post. Langtry, the other Scout, joined him. Sirdey glanced at the striped, dull-yellow dome and said, "No. We'll leave it on robo. Deflate the dome."

They glanced at each other but said nothing. The inflated spars of the geodesic frame hissed as the air left them; the camouflaged dome sagged. Elly Chang, leading the girl from the Independent Company, came around the aircar's bow. She caught his eye questioningly.

"We can't risk any more personnel loss," he told her woodenly. "Much more of this and we won't be able to complete the penetration of the planet." The redhead gulped. He looked at her curiously; her whitening face made the band of freckles stand out boldly under her wide eyes, making her look like some masked animal. "We'll switch all meadow outposts to robo, at least until we find what's causing our losses," he said abstractedly.

"If there *is* anything," said the Scout lieutenant.

"It's no coincidence," said Sirdey grimly. "Seven fatalities, all on isolated outposts in the meadows, in one month. All without the smallest clue to the cause. In a Team this size, we usually only get seven or eight fatalities in a Standard year."

There was a moment of bitter, brooding silence while the Scouts folded the tent and bundled it into the car beside the remains of its late occupants.

"The best Scout on the Team, too," muttered Elly moodily.

"Sinmis was a good man, too," said Sirdey soberly.

And that made them think of Jim Halder; the Penet Team had never quite got over his death—especially Ellyria. He had been their other Lieutenant of Scouts; a good thing for her she had all his work to do in addition to her own. Between him and Catia Husak, their best botanist, the Team had seemed crippled at times, though there were enough botanists and trainees to take up the slack. And Penet men got very good trailing; the lack of one Scout lieutenant was not critical. But there was a distinct difference in the tone; Jim Halder had had an air that neither Elly nor he, as Team commander, had.

They reentered the aircar silently, stepping over the spray gun mounted in the door. The car lifted off and reached for altitude and speed, and the "meadow," an area of typical prairie, covered with yellow grass and low scrub and small trees, gave way to the forest. There was no intermediate zone; the transition was as abrupt as a cliff. The forest was a typical temperate-zone forest, neither rain forest nor jungle.

There was nothing unusual about either forest or meadow; what was odd was their proximity. The planet's entire temperate zone was light forest heavily mottled with such meadows, frequently fifteen by twenty miles long, scaling down to little spots half a mile across. The Penet Team had dubbed the planet "Freckles," though, of course, it would not be officially named until a group of prospective colonists got together and incorporated.

The Penet Team's base camp was in a forested range of hills, on top of a particularly craggy one, inaccessible except on one side. Even in the hills there were meadows, though much smaller than in the flatlands.

Sirdey saw to the disposition of the bodies, called up Arn Kielgaard to perform the autopsies, and strode blackly to his office, cursing the luck that laid up Doc Joubert when he was needed the most. Not

that anyone's autopsy would tell them anything. His wife, Sana, was waiting with a tray of sandwiches; she had got up when the correlation robots awoke him to report that the Scouts at the stricken outpost did not answer.

He nodded to her wordlessly, not feeling like discussing the tragedy, stepped to the unicorn and punched "General Attention." His words went out by satellite relay to the secondary camps on the other continents, and to all stations and outposts on all three. On the night side, coms recorded them; "Alert" would have awakened all Team members, but that was not necessary. Tersely and tonelessly, announced the tragedy, gave what details were known, and stated that funeral arrangements would be announced after the autopsies. While he had their attention, he added that all meadow outposts were to be abandoned to robot monitor beginning immediately.

Sana knew him well enough not to mention the topic. Drawing a cup of heaven-tea from the dispenser, she said, "We've completed a preliminary on the flora differences of meadow and forest."

"Have you found why half the land won't grow trees?" he asked tiredly, not tasting his sandwich.

"Not yet; the mystery deepens. Listen to this: of two hundred and fourteen plants found growing vigorously in the meadows, *not one* has been seen, even stunted and sapped, in the forest. That includes everything from grass, through brush, to those small trees that dig the meadows."

Sirdey looked at her. "That's one for the records," he said. "How about plants normally found on a forest floor? Have any of them been found in the meadows?"

"Not so far, and the correlation robots bet we won't. I agree, but checking all the weeds in the meadows is not an easy job."

"You've checked everything, of course," he said, and ran through the list musingly, "Fertility, rainfall, soil count, soil number, sunlight, cover. But the trouble is distinguishing between effects and causes."

"Fertility and rainfall and sunlight are identical, cover extensive in the forest but sparse in the meadows. The soil count is markedly lower in the meadows, naturally. The forest has a low soil number and the meadows a high. That may be it, but it may just be an effect. Forests are usually acid, prairies frequently alkaline, though not forest meadows."

Sirdey recalled having heard of the difference in soil number. "The difference is not great here, but such small differences are frequently ecologically significant. Soil acidity is usually a function of decay, which would be higher under the trees. A single year's fall of leaves would probably kill off the meadow in a given spot, but there must be some preventive factor. A different decay cycle, perhaps, or something that blots up acid. It will turn out to be one of those fearfully complex ecological mechanisms that make me wish I'd joined Exploration Service instead. I wonder what connection there is between it and the killer agent in the meadows?"

Husband and wife looked at each other for a moment, thinking, then Sana said, "There caa't be any direct connection; the killer agent is not that widespread or our losses would be ten times as high. But it *must* be an integral part of the meadow ecology."

He nodded gloomily; they'd come to that conclusion a long time ago. It might mean destroying the meadows entirely, a simple matter, that, once the ecology was unraveled. More likely the ecology could just be altered. He always liked prairie for first settlements. Usually the simple ecology compensated for the lack of rain. Here there was no lack of rain—or sun—and the ecology was consequently more complex, but the physical advantages were still great. It would save cutting and disposing of trees, allow

uninterrupted fields of view for spotting carnivores, permit the agrirobots to get the first crop in the ground immediately, and so on.

With literally millions of colonists landing in a couple of years' time, every shortcut to building a minimum network of industry must be taken; hence agriculture for food staples. Colonies have to be self-sufficient in everything from fibers to machine tools within a decade, able to start paying off their debts, or they fail. Fighting the forest would tend to slow them unless they gambled on widespread destruction of the ecology.

Sirdey did not want to have to destroy the meadows, but at the moment considerations of morale made it impossible to continue the study of them.

His dark brown brooding was interrupted by Ellyria Chang with a handful of record cards, her golden face expressionlessly intent. "Wyan has finished his report on grazing animals, but he says he's not satisfied with the conclusions on their food supplies. He wants half a dozen Scouts assigned to him, full-time, to watch them and prepare an estimate on what percentage of their food is found in the forest. He thinks it's over, rather than under, fifty percent."

"Give him two."

She grinned impishly. "Ralph Putnam called from Northeast. He was upset about abandoning the outposts; said it'll cost him a whole project on the soil ecology. It'll take another week to complete it."

"It's night over there. What's he doing up so late?"

"Going to give him a week?"

Sirdey went grave. "That continent is almost all prairie, and all our losses, but Teroa, have been in the meadows. Didn't you and Ralph agree that the meadows were isolated areas of prairie, identical in every important way?" he asked Sana.

"Yes. But the meadows on the two continents have heavier rainfall."

Freckles' three continents were all in the southern hemisphere; Northeast sprawling a short distance across the equator. It was the driest; Southwest's southern point and outflung islands reached the subarctic and it was the wettest, largely covered by trees. The continent chain reached three-quarters of the way around the nameless planet, and though they were not large, a great number of islands of all sizes brought the land area up to a quarter of the planetary surface. The islands and continent were all well-watered.

"Come to think of it," said Sirdey, "there haven't been any losses on Northeast. If it's the meadow that're killing our men, it should have the highest losses."

"There are more of us here in Middle."

"True." Middle was the largest continent, half forest, half meadow. He hesitated a moment and said, "Very well, he can ask for volunteers for this project."

"Brace yourself," said Sana, drawing more tea. A rumble, or a volcano, heralded Beri Cavour, a big brown bear of a man with an arm in a sling. It was he who had rescued Doc Joubert, the Chief Medical Officer, from the carnivore from under which he, in turn, was trying to pull Teroa, a Spec. Cavour had not been badly hurt; he had wrapped up his arm, bedded him for a day, and given him a mild regeneration treatment to speed the healing. One result had been to regenerate the destroyed hair follicles, and as he had not redepilated yet, his lower face was covered with a coarse black stubble, a

sight to daunt the boldest Scout.

"Gunter!" he bawled, fixing his eyes on his commander. "What's this nonsense about abandoning the outposts? You're not going to bring in the instruments, are you?"

"We'll put them on robo."

The Chief Maintenance Officer kicked a chair over in front of the desk, picked up a sandwich, and nodded at the dispenser. "Wasn't sure," he rumbled, around about a third of the sandwich. "Just got up. Romita told me." He swallowed. "What a thing to hear before breakfast." He half-emptied a cup of heaven-tea and scowled at it—his personal cup held three times as much—but said mildly, "We can't do it. We haven't got enough transport to service all the meadow outposts more than once a day. And, even if we could do it twice a day, it would still double the length of our stay."

Sirdey sighed. "I know," he said somberly. "Well just have to do the best we can with, what we have. We can't risk any more losses just yet."

"Odds are this wont decrease the exposure any," grumbled Cavour. "How can you avoid danger when you don't even know what it is?"

That was one of the primary purposes of the outposts. They contributed as much to the knowledge of a planet as the sorties. Ostensibly just a group of sensors monitored by a robot that relayed all data to the correlation robots, they usually included a tent and at least one Scout on duty. His purpose was to adjust, or replace, sensors and move them around at the orders of the correlation robots, to move and set traps and examine and dissect the bugs and small animals caught in them, and the like—nothing that couldn't be done by robotic equipment, but robots with such versatile waldoes are complex mechanisms with many moving parts. They have no business in the field.

The sensors detected vital data—winds, precipitation, air pressure and temperature, humidity, light-intensity, gravitic and magnetic variations, ionic content of the air, soil temperature, animal sounds, and so on and on. In addition, icons recorded the passage of all animals and all their activities; other icons focused down on small areas and recorded the activities of bugs and other small life, and plant life cycles. The correlation robots sorted the data as it was observed and tried to correlate life activity with time of day and hundreds of other variables, constantly watching for data bearing on hundreds of questions.

Except in total volume of data digested, the result was inferior to human observation, due to the machine's lack of judgment. Most of the key data on every new planet was discovered by Scouts at the outposts, ostensibly doing nothing, actually watching, and setting up sensors to watch, the movements of animals, the flights of aerals, patterns of growth of plants and which are eaten and which not by the local animals; bug dens, diseased plants, fungi; and scores of other things that caught their highly trained interest.

Vital clues to penetration of the planet were constantly being turned up. Though officially the lowest-ranking members of a Team, usually Specialists in training, it was the Scouts who made penetration work. Hence the Service's tradition of saluting Scouts first. Pulling in the meadow outpost Scouts would cut off most of that information.

"What you need is a wife," said Elly to Beri, setting a full cup in front of him and drawing a finger along his scruffy jaw.

He tousled her soft black curls with his big, blunt-fingered paw. "You volunteering? When I was a Scout, I learned not to volunteer for anything." He swung around and greeted Vixie Anthony. "Look at this bandit," he said to Elly. "She volunteered for what looked like a vacation on a paradise planet and

got sent to this hole in space. Be warned!"

"What is it?" Sirdey asked her.

The redhead said, "There are about fourteen people waiting to give you reports; they thought you were in special conference on the—tragedy. Carnaby has a line, I think, on why some areas are forest and apparently identical areas are meadows."

"I can tell you that," said Cavour, washing the last of the sandwiches down with a final cup of heaven-tea. "Freckles is diseased!" He lumbered out.

Sirdey stood up to follow, already dreading to meet the Team, knowing what its morale would be. "Let's go face them," he said unhappily, and they followed him out into the Operations Room, Sana shaking her head over her husband's breakfast—a sandwich and a half.

A Team commander does not, of course, have time to read the millions of words of frequently highly technical reports produced in a year or more of indepth investigation of a whole planet. Penet Service's philosophy was fill it and forget it—the records were turned over to the colonists. The commander had to know what was happening, of course, but verbal briefing was sufficient. Hence the true office was the big Operation Room, with its correlation robot, assorted testing equipment, ecological charts, planetary maps, models, seawater and botanical and micrological tests for which there was no room in the labs; flowering plants, fossils, bones, mineral samples, first-aid kits, empty cups, half-eaten sandwiches, hats without owners, and similar impedimenta; the tracks of hardworking men and women who value—and get—results more than a "business-like" atmosphere.

Carnaby, a tall thin man with bushy red eyebrows and hair, the Team's best biochemist, had been studying orbital photos and aerial surveys, spectro-studies of the forest and meadows. "I have some evidence here tending to prove that the forest is replacing the meadows," he began. "Apparently some inhibiting factor in the meadows prevents young trees from rooting; perhaps the slight alkalinity, probably the ecological complex, whatever it is, that maintains the alkalinity. Outstretched limbs of adult trees drop leaves and twigs on the meadow edges, building up enough duff to flip the soil over to acid. If it weren't for the ecological complex that maintains the alkalinity, the meadows and prairie would all have been gone long ago. The meadow ecology must be a tough web."

Sana laid down the graphs and charts he had made. "You're buying Ralph Putnam's thesis that the meadow ecology evolved on Northeast and the forest ecology evolved on Southwest, then," she said.

"Not exactly . . . but it will probably come to that in the end. Any objection?"

"No. His argument that animals conspicuously adapted to the meadows evolved on Northeast and those conspicuously adapted to the forest on Southwest, is good. But now you're saying that the forest came up the easterly wind belt and got a substantial foothold on Northeast, almost a quarter of the continent, before it succeeded in overrunning Middle. It only half covers this continent."

Carnaby shrugged. "It's not my argument; let Ralph worry about it."

Sana frowned at nothing. "Still, I have a feeling that we're missing something important here."

After a moment Carnaby said to Sirdey, "I've already checked the correlation robots for their data on the meadow ecology; so far they have only the superficial pattern. The key is in the soil ecology. I'll wade as far into it as I can on this new slant, but I'm only a biochemist; it needs a microecologist—soil bacterial count, bugs, worms, burrowing animals; the whole energy-flow cycle. Who can you let me have?"

Sirdey had an uneasy stirring at the thought of any immediate sortie into the meadows. Team morale would collapse if there was another death so soon after the double tragedy; he had seen too many drawn faces and heard too little of their usual good-natured banter that morning as it was. And this time Carnaby could well be one of the victims; they couldn't afford to lose any more of their top specialists.

"I think you're oversimplifying somewhat," he said tonelessly. "You assume that, since the forest must be replacing the aboriginal prairie, simply discovering this inhibiting factor will give you the key to the planetary ecology. Besides, I remember some surveys showing rather large patches of weakened, or dying, trees. I believe someone—you, wasn't it?—proved by the spectros that they weren't diseased. Could it be that the meadows are replacing the forest?"

Carnaby shook his head. "Mayly Kara has been checking on those for me. She says they're all areas where fire went through. Creeping groundfire is common here; thunderstorms, you know. Most of them will recover. Individual trees may die, but the forest will survive."

Sirdey hadn't heard that. He said, "Still, I think you're oversimplifying. We don't yet understand the ecology of the forest, either. Not that there seems to be anything mysterious there, but you know just how subtle any ecology can be. Your inhibiting factor may be in the forest."

Sana, the ecologist, nodded agreement to that. "Or it may not be confined to either. I mean, it may be a cycle, or chain, between them—pollination tied to bug life cycles hundreds of years long, or something. I've seen planets like that."

"Well," said Carnaby, unconvinced, "you both know more about ecology than I do."

"Ralph is in the middle of a prairie-soil micrology project right now," said Sirdey. "Most of our micrologists are tied up in that and other ones. I can let you have Sana just now, and Brereton. This should put him up for Spec rating," he added to Elly. She nodded. "And, if you can get anyone to volunteer, you're welcome; you have Mayly Kara already. But since Ralph is already working on the prairie, do up a good analysis of the forest ground-level ecology—the whole cargo, not just soil. No point in duplicating effort. Later we can put the pieces together."

He had used his official Team commander tone. They looked at him a moment and nodded wordlessly.

The next report was by Broughton, another biochemist specializing in medicine. It was more like the ones Carnaby usually turned in—an elaborate and dry account of Freckles' protein population. On charting the planet, Exploration Service had spectroed it to get the general range, so that the first Penet men who stepped out on it wouldn't drop dead just from breathing the air, but the complete analysis had to be done on the surface. Some planets had to be bypassed completely because their evolutions were built on incompatible proteins.

While he was listening and picking out the main points that were all he could understand or needed to know, Pat Shih, a Scout medical-trainee he knew slightly, came in with Langtry and laid an apod on a table in front of Sana. Sana interrupted her preparations for the project and examined it. It was between three and four feet long and quite thick for an apod, with bark-patterned skin and an outsized head with outsized jaws filled with outsized teeth.

"Arboreal," explained Pat.

Sana pried an eyelid open. "Carnivore," she explained to Vixie Anthony. Vandine's observer had been helping her. "Apods usually evolve from burrowing or ground-living animals; and the burrowing

niche is occupied by those echinodermous armored motes. Forced out of the ground in competition, I'd say, and evolved carnivorousness after taking to the trees."

"You said there was a gap in the ecology," observed Pat. "When I saw those teeth, I figured this would fill it."

"Yes. We'll have to find out whether it's nocturnal, diurnal, or both; whether or not it had color vision, how well it can hear, and whether it's oviparous or viviparous to determine its exact place in the ecology."

The Scouts took the apod off to the labs. Vixie asked, "How did you know there was such an animal in the forest?"

"For one thing, forest aerials either den on the ground, in logs or among rocks, or they build nests high up and far out on slender branches."

After a moment Vixie said, sounding lost, "Sana, how can you go about your work after the last tragedy, especially knowing that another victim may fall anytime? Why aren't you looking for the cause of the deaths?"

"We already know we don't have enough information," said Sana gently. "Our work itself will reveal the killer agent sooner than any specific search could. When we have the planetary ecology unraveled it will be a simple matter to feed in the necessary characteristics and have the correlation robots tell us where to look for the agent. Even then it's doubtful if there'll be any record anywhere of it; there are too many potentially deadly things on any new planet. Now, if we had a sample of the poison, we could take a spectro of the meadows and spot the killer that way; we have some fantastically delicate instruments. Anything less than that would be futile."

The redhead's voice came lowly, "So no one will bother to try to find out what's causing these deaths?"

"We consider any direct search a waste of time. As for the possibility of more deaths, we've done what we can in abandoning the meadow outposts. Planets are bought with blood; we all knew that before we joined the Service."

When he had heard the morning's accumulation of reports, Sirdey helped Ellyria Chang with the reassignment of the Scouts pulled out of the meadows. Specialists with forest projects had a day to remember in requisitioning personnel, but when they enthusiastically began to set up new outposts, he had to call a halt; there were only so many sensors and monitors, and even manned outposts had to be visited frequently for various reasons. They didn't have enough transport.

Then he had to help Beri Cavour set up a servicing schedule for the meadow outposts. They had aircars enough to service all once a day and to spare, but the slack wouldn't stretch enough to permit all to be serviced twice a day. They pulled it as tight as they could, alternating daily and twice-daily service at some outposts, and managed to get by without shutting any down.

But, he thought as he shuffled wearily into the lounge in search of food, there was not going to be enough play for the inevitable interruptions in the schedule. Accidents, he thought, emergencies, and sudden urgent demands for transport—frequently to bring in specimens. They all seemed to be big, carnivorous, and ragingly alive. Sooner or later he'd have to shut some of them down.

If only they had some clue to the nature of the killer agent. One thing they were certain of was that the killer was poisonous; a rare and instantly fatal nerve poison. *Instantly* fatal; on every Penet Service utility



bracelet was a separate fingernail notch for medical emergencies, and every Scout is taught the symptoms of poisoning—by experience. It's one of the most common causes of death on new planets, frequently caused by harmless plants or animals whose leaf powders, or exoskeletal waxes might be anything but innocuous to off-planet men and animals.

The trouble was, there was no pattern. It was not just a matter of checking the area near where they'd fallen; Wells and Jali Kileng were found in their tents, Keough and Simms just outside theirs. Halder had died in his aircar, inspecting outposts and servicing a soil number that were still on red. Bella Arnimian and Catia Husak were the only ones who were actually found out in the field. The rest must have carried the poison back with them.

The timing was equally without pattern: Kileng, Wells, Jim, and Bella had all died by day; Catia, Keough, and Simms by night. And weather; Catia had been out servicing sensors in a thunderstorm in that little two-by-three mile meadow where she was conducting one of her unsurpassed studies of meadow flora. Others had died on windy and calm days and nights, on clear and lightly overcast days.

Either the killer agent, he concluded again, was ubiquitous with respect to weather and time of day or night—like a plant—or there was something mere they'd overlooked. The correlation robots had analyzed the complete record of every sensor at each death site beginning several hours before estimated time of death and continuing several hours after. They had been unable to find any pattern in such things as magnetic or gravitic variations, stellar flares, and so on.

If only the poison didn't break down so fast. Jali Kileng had been found within an hour and a half of death, yet there was no trace of the poison.

That night Gunter Sirdey slumped into his office chair, bone-weary after one of the most trying days of his life. That afternoon, while he was trying to bring order out of the chaos created by the decision to abandon the meadow outposts, Ralph Putnam, in charge on Northeast, had called up Sana to protest vociferously Carnaby's theory that the forest was replacing the meadow, for no good reason. For no better reason, she had defended the idea spiritedly. At the height of the argument, Elly Chang had come in with a drawn look and proceeded to jump down both their throats, claiming that neither could be supplanting the other, that both evolved side by side on all three continents.

Elly's only fault was an occasional fit of temper like that, not always bad, as it frequently cleared the air. She had grown more erratic, her temper a greater liability, since Jim's death. This argument rapidly had reached the acrimonious stage, where it raised more tensions than it released, and he had had to break it up.

Then Beri Cavour had come in, raging. He and his technical department had been sitting up late at night, building free-floating sensor-buoys to check on the great herds and schools of fish in the northern oceans; Sirdey's pet project. He had just learned that two Specs had lost a whole carload of them. They were down on the surface with the tail doors open when a sudden subsurface eruption turned the aircar over, flooding and sinking it. They had clawed their way to the front and saved the car—and themselves—but the load of buoys was gone. Not having been instructed as to what depth to maintain, they simply went to the bottom.

The components were irreplaceable, of course. Cavour, cursing the whole contaminated planet, did not mention the wasted work. But he did say that the ocean survey would have to be abandoned until after the next ship planeted with more supplies, and that, of course, was completely unacceptable. The whole Team was on the edge of breakdown, thought Sirdey morosely. Maybe Beri was right; maybe the planet was diseased.

It was late and the lounge was nearly deserted when Sirdey got around to eating lunch the next day. Vixie Anthony came in shortly after he did and, with some hesitation, joined him. She had been rather shy about bothering the more important Team members, though as official observer for Vandine, a heavy supporter of the Service, she was free to investigate anything that caught her interest. The Services did not attempt to hide their cost/effectiveness or even their techniques, many of which had been adopted by various industries.

"What can I do for you today?" he asked her. He hadn't done much for her yet; she didn't seem to be conducting a very thorough investigation of them. She certainly wasn't much like the trained observers they usually got from the Combines. Odd that Vandine should have sent her.

"Oh—nothing. I mean, I'm satisfied with what I've seen of your methods. I was just wondering though, why you don't mount a special project to discover the killer."

"You said something like that to Sana yesterday," he remembered. "We did; the correlation robots are programmed to look for data beaming on that along with everything else. Every so often, they get through all the data we have to see what can be worked into a consistent pattern, or if at least some classes of possibles can't be eliminated. The answer is always the same; insufficient data."

"That's what I meant; why don't you look for the necessary data?"

"We were," he said somberly. "Every Scout and Spec in the meadows had the problem in their minds all the time. But their kind of random search couldn't pay off until we knew more about it; we not only don't have a trace of the poison, we don't even have any of the primary breakdown product."

"Is that kind of—random search—the only kind you don't make?"

"Actually, it is; without more data, what specialty would be likely to turn up the answer? We'd have to search every category. Some are larger than others, but the larger bugs, numbers millions. Plant are not so numerous, but still—" he shrugged. "We can't even look at the usual poison indicators such as thorns or stingers, since the apod might not be poisonous to native life."

"I know; Dr. Joubert told me. But how can you ever hope to find it if you don't look for it?"

"Every member of an ecological system can be defined within pretty narrow limits," he told her patiently. "Life is flexible and an ecology is a dynamic structure, but still, given sufficient knowledge of the ecology, every niche or link in it can be mapped. Once we have the ecology of the meadows unraveled, the correlation robots will scan all data again, looking for a niche that fits all requirements. If it's a minor niche, it won't show on the first approximation, but new data for later approximations will come in very rapidly; just a matter of carrying it out to a few more decimal places then."

"What if it's so unimportant that it can't be found that way, a minor member of a minor niche?"

He frowned. "The odds are against that; if it's so rare, it wouldn't have been found the hard way seven times in one month. But we don't depend solely on the robots. The human mind is far better at abstracting patterns from large masses of data than any robot yet built. The robots have to do it the hard way, one logical step at a time, using all the information they can get." She was nodding impatiently. "It'll probably be seen by one of the Team members. But there's a more important way of finding the killer," he told her. "Elimination."

"You mentioned that before," she said.

He nodded. "Take bugs again," he explained. "We've only seen twenty or thirty thousand species, some only in glimpses, but of those, Bedourian has established that roughly a quarter are found only in either the forest or meadows. Assuming the proportion holds for all the rest of them, we can eliminate three quarters of Freckles' bugs at once—including the half that are found in both."

She nodded, eyes lighting.

"Of the remaining bugs, we can eliminate about eighty percent because of Bedourian's lights—most of the victims fell inside their tents or aircars."

"How do the lights work?" she interrupted.

"That's simple enough," he told her. "Bugs always have low orders of nervous systems, and frequently have a high order of sensory equipment. Color vision is the rule among flying bugs and common among others. A few small lights of the right color, maybe UV, sometimes polarized or flickering, will paralyze bugs by disorienting them. They freeze, unable to decide which way to move, and soon die. Sometimes the disorientation is so severe it kills almost instantly; sometimes it just slows them and makes them indecisive. It takes considerable experimentation to determine the proper setting," he added. "Specific stimuli, species-adjusted, can have quite specific effects on known bugs; it can sterilize or increase reproductivity, for instance, or cause all gravid females to lay eggs out of which will hatch only a given sex of bug, and the like."

That was not all new to her. She nodded thoughtfully. "Doesn't the type of poison give you any clues?" she asked. "Dr. Joubert said it must be very rare; that it was the fastest-acting poison he'd ever heard of."

Sirdey had a sudden feeling that there was something important there. It eluded him. Frowning, he said, "That's right. None of us have ever seen anything like it." The feeling came again, stronger. "But remember that every planet has hundreds of compounds found nowhere else. Planets with so deadly a poison are rare, but we just happened to hit the jackpot. You've heard of the ratepillars of Faerie, of course."

"Yes, I have."

Again he had that tantalizing feeling.

"Any progress to report?" Gunter asked Sana next day.

She shook her head. "The correlation robots are making all the progress worth mentioning. You know that big section of swamp on the northern part of Southwest? They say it should not be drained until it has been very carefully investigated. There's a flying and biting bug there that's one vector of a disease that keeps wood-eating moles in check. Without such checks—and there's no knowing how many others are maintained by the swamp—the moles will ravage the forest. They eat the bark off the roots."

The swamps covered a fifth of the continent—the warmest fifth. Sirdey said, "Can we exterminate them?" Anything that ate wood had a low negative rating, functionally positive because it returns nutrients to the cycle—he caught himself. Bark eaters cause a great deal of disease in addition to their own damage, killing enough trees to give them a disproportionately high negative rating. They were needed to maintain the growth and death cycle of the forest, and all kinds of niches and subecology would depend on them to make clear spaces available for varied important ground-level plants.

"We'll have to find substitute vectors or maybe diseases," said Sana.

Sirdey nodded. "Any idea how many vectors there are?"

"The robots just said one flying and biting bug; that usually means there's half a dozen vectors. I don't have enough data yet to be that specific, I think."

Elly Chang came over to the table. "Ralph's already getting results on Northeast. You know those little mice we found over the meadows? They're more important than we thought; they're not only at the bottom of the food chain for all meadow predators, they're what keeps the cellulose grass in line. They eat the nitrogen-fixing bulbs off the roots, killing the grass and forcing it to seed early. They'll be exterminated by colonization."

"Anything wrong with that, particularly?" asked Sana.

"Not in itself; they'll just have to be replaced; they mainly eat bugs. Point is, agriculture will largely wipe out the cellulose grass; it's got too tough a root-complex. They'll replace it with more efficient off-planet legumes. But the mice depend on those bulbs for all kinds of vitamins. You know that when farmland is abandoned under competition from sea farms and food synthesizers it won't just go back to the native state. The mice—and quite a few bugs, too—will have to be replaced."

"That's simple enough, or will be when he figures out the ecology," said Sirdey. Every planet has its equivalent mice, moles, and the like, each unique yet all alike. It was no tragedy for a given type to become extinct; it could be replaced with a little selective breeding and adaptation of off-planet equivalents.

"He hasn't found any . . . clues, has he?"

Elly shook her head. "Vixie Anthony has flown over to Northeast to watch the project. Beri Cavour arranged it, on account of the tight schedule. He said she was asking him about spectro-searches for nerve poisons. It's funny she'd concentrate so on the killer agent."

In the Ops Room that afternoon, Sirdey found Beri Cavour, the busiest man at Base, sitting alone and drinking heaven-tea. Maintenance must be temporarily ahead of what Beri called Erosion. The Ops Room was nearly deserted, a couple of Specs at the correlation robots. There were rarely many here at this time of day, but this was unusual.

"Where is everybody?" he asked, joining Beri by the dispenser.

"Down on the west coast. A couple of Scouts at an outpost down there saw one of those big herbivores Sana calls 'wopperjaws' come ashore. They had an idea it had island-hopped all the way from Southwest. They live in the swamps, you know."

"So they've all gone down to catch it?"

"Check. Sana said something about examining its internal parasites to see if they're the kind found on Southwest. Say, Gunter, you're at the center of things here. Does Freckles seem odd to you?" Beri spoke intently, peering into Sirdey's eyes.

Sirdey took his time about answering. "The only thing that could be called odd, or strange in any way, is this mysterious killer agent. It *is* odd that we don't have a better line on it. Other than that, there's nothing unusual about the planet. And don't make anything of the killer," he added. "We don't have enough data yet on the meadow ecology to be able to pinpoint it. We couldn't normally expect to for months."

"Still, that poison must be very strange stuff, to hit before a trained Scout can notice the symptoms and signal for help," Beri rumbled. "Don't you have a sort of feeling there's more here than meets the eye?"

Sirdey looked at him for a long time. He had never had any such feeling about the planet. He was no Specialist, but as a Lieutenant of Scouts and later Team commander, he had had to have a good overall grasp of ecology. Furthermore, he had been married to a brilliant ecologist for many years and had absorbed a great deal more. His hunches were as reliable as anyone's.

He shook his head. "All planets are unique, of course," he said, "but we haven't seen anything strange here." By the time you've seen a dozen planets, the parallels outweigh the differences. He asked, "What makes you think so?"

Beri Cavour shook his big head. "Nothing positive. I picked up some impressions from Vixie Anthony and I discussed nerve poisons with Doc. He says he'd like to get his hands on the poison; it sounds very interesting to him."

Sirdey had an uneasy feeling that he was missing something; mentions of the poison had done that before. "Vixie Anthony was asking about spectro-surveys. She had one good idea, though: to build a deadman circuit into our utility bracelets so that we can reach the next victim before the poison breaks down. A good idea, but we don't have the sensors; there are over two hundred Team members. I get the idea that Vixie Anthony knows something we don't."

It was preposterous to think that anyone could know more about the planet than they. Before they had arrived, it had been discovered and surveyed by a ten-man scout from X Service. It had plotted the orbit, charted climate and weather patterns, determined the general range of proteins by spectro, and landed one man to take samples. It had taken a couple of months to move this expedition, of course, but nobody could have learned much about Freckles in that time; it takes hundreds of men months of time to crack a planet.

They were interrupted by a mass of Scouts and Specs pouring into the Ops Room. Field dressings were common among them; there were arms in slings, and bruises and bloodstains everywhere. In middle of the mob was Elly Chang, face flushed, shouting: ". . . no, they've got to have cover! They'll be another along in a minute. The Team lives are more important—"

"Who denies it? But that's no excuse for destroying valuable specimens; he could've turned it . . ." Sana Sirdey, equally furious.

The Scouts and Specs separated into two silent, battered groups and Beri Cavour and Sirdey were treated to a fine verbal fight. He kept his face straight, but Beri openly rocked with laughter. Sirdey pieced events together from their words and the muttered explanations of the others.

It seemed that the two-ton swamp dweller had not been slowed much by the anesthetic. It got loose and was in among them before they could net it; that couldn't be done from the air without stampeding and maybe injuring it. They had a Scout flying cofer—they had only the one aircar—but instead of diving on it and trying to turn it away, he had spun the car around and broken out the big double-barreled spray gun just inside the tail doors.

He saved several lives, including Sana's, but she and the other Specs were frothing because he had churned its insides to mush and they couldn't trace its wanderings. The spray guns were solenoidal projectile weapons, throwing a hundred tenth-inch soft-lead pellets per second from each yard-long barrel. The big base-mounted doubles had opposed gravitronic motors under the barrels to kill recoil.

Vixie Anthony came in and shied at sight of the battle. He gestured her over and he and Beri explained it.

She peered at him. "You sound pleased by it," she accused.

Sirdey grinned faintly. "I am. There's no harm done, and this kind of fight is good for morale. They've been brooding too much lately. Now we should begin to see some progress."

The funeral for Keough and Simms had been held the day before. The autopsies, as expected, had told them nothing. The ashes were strewn in the memorial garden at Base. That usually caused an argument; some insisted that a man's ashes should be strewn around the cairn where he fell. This time there'd been no argument, a bad sign.

She nodded, enlightened. "Speaking of progress," she said after a moment, "Ralph Putnam is making some on the prairie. He says the alkalinity is essential; all of the plants and most of the bugs need it. It seems to be maintained by microbes protected by the plants, or something. He doesn't have all the details. It has to do with there being less duff and a lot of nitrogen-fixing plants."

Sirdey nodded. "Soils like that are common enough."

"I haven't had as good luck myself. I've been trying to eliminate possible killer agents, the way you mentioned," she said. Sirdey nodded in surprise. "I almost eliminated bugs and plants; there were no bugs in the tents, and none of the thorns or seeds in their clothing could have been it, according to Carnaby and Dr. Joubert. So it must be either a slow-acting poison, or something we've missed. There's something very strange here."

Another one. Her arguments had merit enough; those points had been made any number of times. Obviously it was something they'd missed.

Beri Cavour, whom he'd forgotten, leaned forward and stabbed a thick finger at her. "I've been a Scout myself," he rumbled, "and I know the kind of training they get. Rule out slow poison; there isn't any that doesn't have *some* symptoms."

The bandit blinked her startling eyes. "Then it must be something we've overlooked—something very strange."

"Not necessarily," Beri said mildly. "We have so little information we could look right at it and not notice it. It's our experience that the harder a thing is to find, the simpler and more common appearing it is. We're trained to look for strange things; anything usual is apt to be dangerous. It has to be pretty common to have claimed so many victims, but with all our Scouts, not to mention the correlation robots, constantly looking for strange life forms, it would surely have been noticed after almost two months of the outposts."

"Well . . . if it's that common," began Vixie doubtfully.

Sirdey nodded. "Not as common as all that, but common enough. You notice that we had no casualties while we were still running sorties."

Sirdey's prediction of future progress came true the next morning. On returning from a tour of the labs, he found the Ops Room crowded with an excited multitude jostling close to the correlation robots. They made way for him, babbling excitedly, and at their center he found Carnaby, Sana, Kenya Argen, little Mayly Kara, and others who'd been on the forest ground-level ecology project. On the robots'

readout visiplates were a series of ecological formulas flowing endlessly past.

"You were right, Gun!" exclaimed Sana. "We *were* oversimplifying our approach to the ecology. I had a feeling we were missing something all along—there it is."

"What is it?"

Carnaby answered. "We forgot that whether forest or meadow was replacing the other, they existed side by side and had done so for ages. That meant, if we'd stopped to think, that they were units of the overall ecology. What counts is the interrelationship between them. When we realized that, we had the key to both meadows and forest."

"What is the interrelationship?"

"Coexistence," said Sana. "It was Mayly who pointed it out." The shy little Spec smiled demurely. "You know how common creeping ground fire is here. If an area just happens to be burned off pretty intensively, say every year for, oh, a decade—you can figure the odds against that—the forest subecology will collapse. Fire increases the alkalinity of the soil, and all of the plants and animals depend on soil acidity at least indirectly. The bottom of the chain, as usual, is soil-eating bugs and worms, and they cannot eat alkaline soil; wrong kind of microbes in it. You get the idea?"

"How about the trees? Their deep roots should take them through it."

They shook their heads. "Those roots have to be aerated by the moles and soil-living bugs and worms. And the meadow bugs and worms can be disastrous, once the topsoil goes alkaline. It works out that forest changes over to meadow just fast enough to replace meadows swallowed up by the forest. A very small change is all it'd take to flip it over to one or the other. The colonists will have to be warned."

"How fast does the forest close the ring on the meadows?" someone asked over Sirdey's shoulder.

"About sixty feet per century. That's two tree diameters; one average lifetime of the trees. It's the duff they drop that does it," explained Sana. "But it takes a long time to break the meadows' ecological web."

"You have the forest subecology pretty well worked out," said Sirdey, watching the equations slide down tile visiplate. Judging by the number of unknowns in them, the robots must be on third or fourth approximation and running out of known plants and animals to fill the niches.

Carnaby made room on one of the tables and spread out an ecological chart. "Adult trees seem to be independent of soil number; but seedlings can't root in alkaline soil. The colonists will have to mutate and adapt all their plants to one or the other or they'll upset the ecology and maybe turn the planet into a desert." That had happened.

The chart showed file negative half of an ecological cycle, with three spaces in the chain. On the right was half a page of biochemical equations, showing the "before" condition of the soil; in the first box, a question mark and the note, "trash-eating bugs & worms—no. unknown". The next box was occupied by the armored moles of the forest floor plus "other burrowers and surface eaters of box 1 occupants". Box three was also unknown, an unknown number of bugs, worms, and microbes that ate the waste products of the occupants of the first two boxes. There were other boxes, usually of unknown occupants, both above and below the line, adding to and subtracting from the final product.

"It was Kenya who finally realized where our logic was leading us and took a good look at the meadow/forest boundary," said Sana. "Catia Husak mentioned it a long time ago, but we didn't investigate."

"It's certainly a striking effect," agreed Kenya. She slipped a record card into one of Ops' big visiplates. In it appeared a view of the boundary, meadow plants to the left, dominated by the coarse yellow cellulose-grass; on the right, forest-floor plants, lower, greener, and more scattering. It was five feet wide, marked by a tape rule. Inch number twenty-five was right in the middle of a little strip where neither type of plant grew; it varied from one to two inches wide and was covered with algae like a coat of bright green paint. Behind the tape was a soil multimeter, thrust into the median. It was adjusted to *number* and read seven-point-zero Other multimeters at five-inch intervals in each direction showed the gradual increase of soil number toward the meadows and decrease toward the forest.

Sirdey examined a chart correlating plant height with soil number at each meter; the growths became progressively more sparse toward the center, until they were tall enough to shield the algae from the sun. They were only half their normal height halfway between the median and the ends.

"Very good," he said. "A very unusual effect; normally ecologies shade into each other. This is as abrupt as the shoreline, though in oceans a one-degree temperature difference frequently gives a similar effect."

"Catia Husak mentioned it and some of the rest of us noticed it," said Carnaby, "and maybe we should have investigated. But there are too many unimportant strange things on any planet; we couldn't know it'd turn out to be the key. These things have to be done systematically, solving one subecology at a time and fitting them together. We can't consider special cases until we've found what's normal for the planet."

"Don't worry about it; I've never seen a planet yet that couldn't have been penetrated sooner if the right tack had been taken," Sirdey told them. "This, with what Ralph has learned about the meadows, will give us a skeleton on which to hang the rest of it, as fast as we learn it. The robots will probably continue their correlations and deductions the rest of the day. It should soon be possible to have the meadow outposts manned again."

This first crack in Freckles' mottled mask disrupted work all over the planet. When the robots got their heads above the surface again, many lines of investigation would have to be opened to supply specific data; many present lines would have to be abandoned as being too general. The phase of general data-gathering was over now and they were ready for correlated research; they were over the first hump.

When Ralph called for help to find a missing ecological link in a strip of shoreside forest, almost everyone at Base responded; it was the best excuse for a party they could find. Sirdey, though aching for a chance to relax, himself, had to stay behind with the skeleton staff in case of emergencies.

Vixie Anthony had gone with them. Sirdey was a little surprised that the Scouts lieutenant would permit it. True, the young woman was a surprisingly good shot, but that does not qualify one for field duty on a frontier planet. Would she know when *not* to shoot? But Elly would look after her.

It seemed odd that an observer should have to be looked after, but Vixie had seemed odd from the beginning. She had been rushed aboard the ship just a couple of hours before they lifted off from Kelson. It was as if Vandine had heard of some lab or field technique of theirs just before they left and sent out an observer to see how it was used.

But no; Vixie had not taken any particular interest in their techniques; not the kind an observer would who'd been ordered to investigate—just normal curiosity. Not that the Services cared; their techniques were not kept secret. But that was odd, now that he thought of it.

The only other reason for sending out an observer was to make sure that credit and material donated



to the Services was not being wasted, but if that was her purpose here, she'd certainly have been interested in his northern ocean project. That had been expensive, though it would pay off yet.

She had got interested in this killer agent, of course. Before, though . . . wait a minute. She had found items that interested her. That dark horn some Team members had started carving in their spare time, those coarse dark furs from Southwest, the big nuts from broad-leaved trees, the aromatic sap of certain bushes on Northeast. Seashells, too.

That was just a waste of an observer's time. Those things were worthless. Though not necessarily worthless; furs and seashells and other plant and animal products, those are the things that may just turn out to be the most valuable to a Combine.

Not one planet in a dozen had a valuable bioproduct; most products were too common to be worth shipping. If this one did, it would be worth a fortune to a Combine to get an early lead on it. Though how anyone could have guessed there was anything here was more than he could say. They might have sent a ship on first reading X Service's report on the planet—but even then they must have found it by accident.

So far nothing she'd checked had panned out, but, if he'd known that she was looking for something valuable, he could have told her that the killer agent's poison was it. Such deadly, fast-acting poisons have many uses in medicine and biochemistry. This one should be even more useful than the widely-used RP-derivatives: ratepillar poison.

A strange, tantalizing feeling came over him at the thought. He traced it back, frowning. It was about poison, the killer agent, and Vixie Anthony. Finally he ran it down.

She seemed to be looking for something valuable here.

She was from an Independer Company; and Independents were known for their ruggedness.

This was an incredibly, unnaturally, deadly poison.

She had checked and found that the Penet Team was making no special effort to identify the killer agent, that it was relying on standard techniques—which were as likely as not to be ineffective, he added uneasily.

What kind of business would a Combine use an Independent for? Either something too small to handle—or too hot.

That afternoon Gunter Sirdey stopped Langtry, When Sana took most of the personnel at Base to Northeast, the crews of the aircars servicing outposts in the meadows had had to be cut; Langtry was flying alone.

"Yes?" he asked. He looked at the Scout for several seconds. Langtry. Older than most Scouts; a five-year term as a Scout was required for all personnel, but most specialized and were promoted. Langtry had never studied any specialization, though he had lately taken an interest in zoology. Such unspecialized Scouts frequently became ecologists, the broadest specialty; some became Scout lieutenants, the most exacting specialty of all.

Langtry should have been holding down a station, taking over part of Jim's duties. He could be trusted. "I want," Sirdey said, "icons, mikes and half a dozen implant radio bugs from one of the outpost equipment lockers. I am," he added deliberately, "on the track of something that *may* be the killer agent, but I don't want to raise false hopes, so don't broadcast it."

Langtry looked back steadily, nodded. "Yes."

When the Chief Maintenance Officer was finally dragged exhausted to the visiphone that afternoon, he immediately began a tirade on the constant interruptions of the schedule; some of the outposts hadn't been serviced in two days. Sirdey cut through it.

"Could there be a ship here on the planet?" he demanded.

"A *ship*?"

"That's right, a hidden ship. Would it show on any of your instruments?"

"Why, it'd sound on the com as soon as they got in range," returned the other, mystified. "They'd call us first thing. Why'd they hide?"

"For any number of reasons, none of them pleasant," returned the Team commander crisply, not feeling like discussing it.

Beri Cavour stared at Sirdey, then he began to catch on; his eyes narrowed. "They'd have to be down on the surface, say near the south pole, with all gravitronic equipment off except little things like aircars. Maintaining com silence, of course. But if they were investigating the continents . . . looking for something, say . . ." He hesitated grimly. "I wouldn't waste time looking for the ship. The aircars would avoid our outposts." After a long moment of concentration, he grinned suddenly. "Your sensor-buoys! Well mount gravito-inertial radiation detectors in them and lay them in the ocean between here and Southwest and the pole. There must be a lot of coming and going."

"That should do it," said Sirdey, relieved.

"Have it done in four, five days—and under the flower, too. Gun, tell me," he said seriously, "whatever could they be looking for? So far as I know there's nothing really valuable on the planet—just a few things that'd bring in a little credit. Has someone found something too hot to tell the Team about?"

Sirdey shook his head, equally puzzled. "As far as I know, there is no such thing. And there's nothing valuable here. It's just an ordinary planet; nothing at all unusual about it."

Team commander Sirdey was among the first notified; he got up out of his bed and reached the area near the medical dome by the time the medics completed their preliminaries. The group that Sana had taken to Northeast that morning had just returned and were milling silently around the aircar out of which came Beri Cavour, face gray, carrying one end of a stretcher.

Langtry, servicing the outposts, had been working alone. His robo-pilot had brought him in, someone said. Blood samples had already been taken and rushed into the lab, and the cold-eyed crowd was murmuring that perhaps this would solve the mystery.

One of Beri's talented assistants explained rapidly what little was known; luckily the robots were programmed to report the unusual. When nobody got out of the aircar, the pilot had notified the correlation robots who called a tech to fix the door-sensor switch.

Sirdey personally checked the aircar. He found the sensors he had asked for; he'd almost forgotten them. There was nothing else of interest.

The crowd made way for the Chief Medical Officer, Doc Joubert, back on his feet at last. He had

been very nearly eviscerated by a carnivore; only regeneration had saved his life, and even now he was wearing a corset-like body cast. Vixie Anthony, face as pale marble, supported him. Sirdey studied her face dispassionately.

"How long ago did it happen?" Doc asked.

"Not more than half an hour. At the last outpost; he had time to tell the pilot to bring him back to Base."

"This may crack it, then. Got to get right on it. Tell Arn I'm going ahead."

Sirdey took his other side and helped support him, taking the opportunity to activate one of the radio bugs and attach it to Vixie's shirt collar.

Returning to bed, he discussed briefly with Sana, but neither felt like talking. No point in speculation anyway. But *could* this be the attack of a Combine? He had to consider the possibility. There were two questions: the valuable product Vandine was after; and the way the poison was administered.

Passing over the question of how anybody could find anything by accident that a Penet Team could not find on purpose, the product must be of the extremely valuable type that could dominate the luxury market of a sizable sector of space. To be worth the gamble of attacking one of the Services, the item must be in a class with onglor-skin, seonana, heaven-tea. The noncommercial Services enjoyed very good public relations; such an attack as this was excuse for destroying a Combine. Planetary governments would declare boycotts and embargoes, and; the other Combines would join for the loot.

Presumably Vandine proposed to prevent penetration of the planet; if the Team could not identify the killer agent in the meadows, the Service would have to declare penetration incomplete and make up another Team. There were no rules, of course, restricting colonization of even unpenetrated planets, as in the old days. A corporation of colonists—or a Combine—could colonize without waiting for that second Team. There was no interstellar government; planets were too far apart. Even the Services had no administrative centers.

The giant Combines rarely colonized planets; it was too much of a risk and it took too long to pay off the investment. They made their profits by transporting the tens of millions of colonists and their gigatons of goods—factories and the like—overspace, and making and selling those goods. Only if they were sure of a massive profit would one colonize on its own. The whole planet would have to be turned into a giant factory producing this mysterious item to pay them to set up a colony, let alone to buck Penet Service. The Service had thoroughly earned a reputation for ruthlessness.

Baffled, Sirdey turned to the administration of the poison, and the poison itself. That was the strongest argument for a natural killer agent. How in sanity could they even get close to the meadows without being spotted? The gravitic meters were incredibly sensitive, though not adapted for picking up the frequencies generated by gravitronic motors. The killers would have to hike miles overland. And then how could they ambush the superbly trained Scouts?

The poison could be shrugged off if it was produced by the espionage division of Vandine. That would explain both its deadliness and the lack of pattern in the deaths. Sirdey had checked with the correlation robots late that afternoon, when they had completed the correlation of present data. Most of what they had already gathered had been woven into a web covering the planet. There was no place in any of it for such a poisonous native killer agent.

That was not conclusive; the ecological mode was not the only way of thinking about a planet. And if a poison did not affect native life, the ecological mode was all but worthless. There was still no evidence,

but hunch insisted that the killer agents must be men.

Sirdey checked the time; it was nearly midnight. Before he could lie back down, the correlation robots called him again.

He had known that Vixie Anthony had joined the group of women who were sitting up with Langtry's fiancée. Now they reported that she had started back to her own quarters—and then that an unidentified person was at the door to her dome.

"Call Elly Chang and report to her!" he snapped, catching up his Service Special beamer.

At a run, changing to a trained Scout's undetectable advance, he made his way to Vixie Anthony's dome, approaching from behind. The correlation robots reported through his utility bracelet that the stranger had entered the dome but had not turned on the lights. There were no icons inside anyway. Vixie got there just before Gunter and Elly Chang, who came up behind him.

He had started around the front of the hut when he saw the open door and hesitated. Dim movement was visible; heavy breathing came from it. Before they could decide whether to advance or retreat, the dim opening was outlined in a bright, reflected flash; a soft crack accompanied it. A heavy weight collapsed to the floor.

They were at the door in an instant, long-barreled Specials ready. Sirdey turned on the lights. They revealed Vixie Anthony, hand to her mouth, bandit-stripe of freckles stark against her white features, wide red eyes staring at the huddled shape on the floor. In her other hand, tightly gripped, was a tiny hideout beamer.

She gasped with relief on seeing them and sank back into a chair, beginning to cry. Gunter Sirdey stalked forward, covering the huddled shape. His tension had given way to a vast, icy calm. Like a frozen man, he rolled the body over and looked.

The brown face of Beri Cavour was relaxed, almost peaceful in death. One black eye looked dead up at the glowing ceiling; the other had ceased to exist. Sirdey noted that, though the eyelashes were, of course, gone, the lids were untouched, and his estimation of the red-eyed bandit's competence rose sharply.

Near the body's outstretched hand was a tiny, sponge-bodied brush, wet with some clear, oily fluid.

"This will have to be secret tonight," Sirdey told them grimly an hour later. "The Team will need to be told in the morning. I suppose you begin with the poison."

The Chief Medical Officer was exhausted and had a look of suffering, despite the painkillers. Beri Cavour had saved his life not two weeks before.

"I've never seen anything like it. It's a complex compound, neutral to the body. In this case, it was mixed with dernal, the common dermabsorptive agent; that carried it through the skin undetectably. It was carried to the liver, which oxidized it, but that gave a time-delay of twenty minutes to a quarter of an hour. Oxidation breaks it down into a number of unstable compounds, one of which happens to be a very deadly nerve poison. As we guessed, very minute quantities of it are fatal, and it breaks down rapidly. I knew industrial poisons were advanced, but never suspected anything like this," he added unhappily.

Sirdey grunted. Man was the most poisonous animal known; a Service truism with unexpected point.

"There's only one way he could have administered it," said Elly. "He smeared a drop on one sensor in each of several meadow outpost equipment lockers. It was highly problematical just when it would be touched, once the outposts were up, because new sensors are not set up every day. All those lockers must be checked tomorrow; a spectroanalyzer set for dermal would be the quickest. Dermal-proof gloves for those that're charged."

They all nodded. "I could shoot myself for not seeing the obvious sooner, even when I thought it was an outside job," Sinfey said. "I asked Langtry to bring in bugs from one of the outpost lockers because I didn't want anyone to know."

Vixie Anthony was under control again, though still pale. When he nodded at her, she said, "It's like you guessed. I was sent to check out the planet to see what there was on it that was so valuable to Darien Combine. Vandine had learned somehow that Freckles was important to them, that they had some big project on hand concerning it. I haven't had espionage training, but I'm the nearest they could get; I *have* had very good training in luxury products from frontier planets; that's Royal's main item of trade. Vandine doesn't maintain a sector base on Kelson like Darien and most of the others."

"You say you didn't find anything," prompted Elly.

"Check. I wasn't doing the actual field search anyway, just checking the things you turned up. With two-hundred-plus trained Penet men here, that was all that was necessary. You never found anything; and Darien couldn't have made a better search than you did. Ergo, there's nothing here."

"But there must be," insisted Sirdey. Sana and Doc nodded.

She shook her head. "If they didn't find a condition here promising a big profit, they must have been making oae. I think Vandine suspected so all along; my job never seemed very important. You know an 'incompleted penetration' decision wouldn't prevent a group that wanted to from colonizing. This mysterious killer in the meadows doesn't sound so bad; not with the rest of the planet so known. It's obviously not an integral part of the meadow ecology. I don't know their plans, of course, but I'd guess they intended to announce a colonization venturing the usual rates—transport, key industries, private equipment in quantities at the usual low rates—aircars, agrirobots, housing units, all the things colonists would need—and insurance for those who want to leave if the colony fails.

"Any other Combine that cared to could join, but none of them would dare offer insurance at the usual rate. You know that the Combines run very narrow margins in their colonizing ventures, under competition; their profits come through sheer quantity. Darien would take a lion's share of the trade, both selling goods needed for the colony and in transportation, because it's all part of the usual package. The colonists would have to buy from them to get their low insurance."

"That's a new one on me," said Sirdey, turning the idea over. It did fit better than anything he'd thought of. Sana was nodding, and Elly agreed after a moment.

"You can make up a lie detector," said the Independent emotionlessly. "I'll have to insist on being questioned. But that won't guarantee that what I'm saying is the truth; I don't know very much."

Most of Sirdey's suspicions were gone. Of course, it could have been Vandine as easily as Darien. He shrugged that aside; Svoba at Base on Kelson could handle that. "We'll have to question everyone, especially in the Maintenance Department, just to be sure," he agreed. "But we'll find no others. Bribing one man in a strategic place is all it took."

"By the way," said Sana to Vixie, "what was he doing down in your quarters?" She shook her head.

Sirdey smiled humorlessly. "I spooked him. He realized I was looking for a human killer agent, and it must've seemed like time to plant some evidence on someone else. There was only one suspect on the planet, after all—the only non-Team member here. He had a little packet of equipment with him. My guess was he intended to make it look like she had been preparing her poison and had accidentally got some on herself, then gone to bed and died. He couldn't have known she wouldn't be at home. Of course, that would have blown the plan and cost him his pay."

Vixie shuddered and Sirdey felt a sympathetic chill. "Ordinarily," he added soberly, "we find dangerous animals, or plants, on a planet when we arrive. That's no problem; nothing that gets in Man's way lasts long. But this time we brought one with us. Those are the most dangerous kind. Inside, there are hundreds of planets crawling with that kind. But there's no safety even on the frontier."

Beri Cavour had been a Penet man and a friend.