

SMITHSONIAN

ELBOW BY ELBOW, LIKE A TINY MARINE, **Tasha** is crawling across the dirt. Her task is simple: slither under a pickup truck on the driver's side, crawl out on the passenger side. She's made it halfway, guided by the enthusiastic calls of her owner, **Sue Purvis**, who is squatting in the dirt near the passenger door. Underneath the axle, though, the black Labrador puppy pauses, looks around and abandons her mission, scrambling instead toward the tailpipe and out into the sunshine. **Purvis** quickly hustles her back to the driver's side, and again gives her the command: "Go through!" **Tasha** drops to her elbows. **Purvis** runs around the truck, shouting encouragement. "Come on, **Tasha!** Let's go, girl!" This time, **Tasha** crawls straight across, causing her owner to explode in praise. Thrilled to have made **Purvis** so happy, **Tasha** wriggles the entire back half of her body in delight.



Tasha's teammates soon follow: Jazz, an Australian shepherd; Ranger, a chocolate Lab; and Odie, a mixed breed, each do *a* flawless truck crawl. Amid hugs, praise, high fives and wagging tails, the dogs and their owners then move on to other events in this doggy Olympics being held just outside Dinosaur National Monument in northwest Colorado. One by one, the dogs politely walk on leash while a human at the other end carries an egg in a spoon. They sit patiently in a beached, rocking canoe while the crazy humans jump in and out. And in *a* new twist on the wet T-shirt contest, each dog dashes under a large tarp with its owner and, after a flurry of

flying canvas and wagging behinds, emerges triumphantly wearing a large, drooly T-shirt that moments earlier had been on the human.

Two dozen onlookers alternately cheer wildly and try to trip up the competition. But **Tasha's** team proves unbeatable. They trounce three other teams, sending both the dogs and their human handlers into a frenzy that rivals the excitement of the real Olympics.

The games are just one portion of an entire weekend of canine fun. **Tasha** is also enjoying hikes through the scrubby Colorado desert, sleeping under the stars and mingling with more than a dozen dogs from around the state. How much more fun can a 9-month-old pup have? What **Tasha** doesn't know, though, is that all her activities have been designed with a deadly serious goal in mind.

Like most of the dogs here, **Tasha**, Odie and Ranger are search and rescue dogs in training. Soon, these prancing pups will be expected to leave their fireside napping spots at a moment's notice and use their noses to find lost children and adults, track down dead bodies and locate people buried under avalanches or concrete and debris.

Sue Purvis and the other dog handlers know that people will expect a lot from their pets. Some will expect miracles. Sheriffs and tearful parents will count on them to do a job that otherwise could require dozens of people and many, many hours of work. So they have come to this remote corner of Colorado for a training weekend sponsored by Search and Rescue Dogs of Colorado (SARDOC). The humans are practicing moving through the desert guided only by map and compass, the dogs are learning how to track human scent, and both are picking up tricks of the trade from veteran search dogs and their handlers. The session, dubbed a "Confidence Weekend," helps to strengthen the trust between dog and handler, reinforcing the notion that just about anything "Mom" or "Dad" asks the dog to do is OK, whether it's fumbling with a T-shirt in the dark during a practice session or riding a chairlift to the top of a ski slope or being hoisted through the air to a noisy helicopter while on a rescue.

Tasha has been in training since she was a mere 11 weeks old. Yet it will be at least another nine months before she is skilled enough to pass the rigorous tests required to become a SARDOC-certified wilderness search and rescue dog. And that is only the beginning. “Wilderness certification is like graduating from high school, the stepping-off point to the rest of the world,” explains Wendy Wampler, who owns jazz. **Purvis** and **Tasha** will need to continually practice finding volunteer victims, to be ready to go to work day or night. They might also get specialized training for water or avalanche rescues, cadaver searches and certification by the Federal Emergency Management Agency as an urban disaster search team, the hardest specialty of all.

With lots of practice, **Purvis** and **Tasha** might someday be as good at finding lost people as are Wampler and Jazz, who have found numerous individuals in their years of search work. Wampler’s favorite rescue, she says, was the time she and jazz found a 12-year-old girl named Kendra and her dog, who were lost in the mountains near Aspen. While camping with her family, Kendra and her dog failed to return from a solo late-afternoon hike. Searchers from the sheriff’s department and other campers were unable to find her, and Wampler and Jazz had been called in at about AM. Starting at the point where Kendra was last seen, Jazz started following the girl’s eight-hour-old trail and, just before dawn, led her handler to the edge of a large field of boulders. “I called out her name again, and this time she responded,” recalls Wampler. “I was so relieved.” Kendra was cold and wet, but otherwise fine, although she told her rescuers she had panicked earlier and run blindly through the woods, screaming. “But she’d had the presence of mind to keep her dog with her, and she finally sat down and let it keep her warm.” Last year, Kendra and her parents came to a dance benefit for SARDOC. In honor of Wampler and her wonderful search dog, they announced, they had named their new puppy Jazz.

Over the Saturday night potluck supper at Dinosaur, the more experienced SARDOC handlers give the newcomers a few tips. Get your dog some earplugs for helicopter rides, they suggest. Always wear cotton so your clothes won’t melt in case of fire. They also talk about the traits that can make or break a search dog, including the dreaded “bunny issue.” Dogs of all types, from pound mutts to standard poodles, are getting into search work these days, but not all will make the grade. “If your dog chases rabbits and doesn’t come right off it when called, you may not have a search dog,” warns Kelly Pontbriand, a veteran handler and the coordinator of the weekend’s activities. Another handler warns that no matter how much training they receive, some dogs “can’t find hamburger in a phone booth.” Bunnies and noses aside, many people drop out because they didn’t realize that training and maintaining the skills of both dog and handler can require as many as a thousand hours of work a year, no small commitment of time.

Early the next morning, **Tasha** is preparing to take her first official step toward SARDOC certification—the most basic trailing test, the T1. To get to this point, **Purvis** and **Tasha** had started their training with simple hide-and-seek games in the woods near their home in Crested Butte. **Tasha**, held back by another person, had watched **Purvis** run off a few times and was encouraged to “go find” her. Once she caught on to that game, she watched one of **Purvis** friends run off and found her, then did the same with a stranger. Next, she was faced in the opposite direction while each of those people ran away, forcing her to rely on following the scent left behind. Eventually, to orient **Tasha** to exactly who she was looking for, **Purvis** began letting her sniff a scent article, an item of clothing that carries the unique odor of the “victim.” Repeated week after week, the training modifies and strengthens **Tasha**’s natural hunting instinct, turning searches into a job that **Tasha** will readily carry out whenever she is given the command “go find.” Her reward, each time she finds her quarry, is a hearty helping of praise and play with a special toy.

“**Tasha** knows what the routine is now,” **Purvis** says as she straps the puppy into her work harness. Kamala Mirchandani, another handler, is playing victim. She gives **Purvis** one of her dirty socks (in a plastic bag to prevent contamination by other scents) and walks off into a stand of stunted evergreens while **Tasha** looks away. When Mirchandani is about 500 feet away and behind a tree, **Purvis** gives **Tasha** a quick snoutful of sock and whispers “go find” in her ear. **Tasha** takes off like a little black rocket, sniffing the ground and homing in on Mirchandani while **Purvis** and the test evaluators scramble to keep up. In less than a minute, **Tasha** finds her quarry. She has passed her T1 with flying colors.

Ranger, who is nearly a year old, is doing his first overnight trail at Dinosaur. A howling wind has pushed around the scent trail that was laid last evening, making Ranger's job more difficult, but when owner Darren Weibler gives him the command, Ranger puts his nose to the ground and does his job. Weibler follows close behind. "Good boy, Ranger. Go find her. Go find." Soon Ranger is just a few feet from the victim, who returned to the end of her trail this morning, but because he is relying solely on his nose, he hasn't detected her yet. No one breathes a word or takes a step, for fear of tipping off Ranger. Just as he was taught, Ranger follows the scent on the ground right to the victim, never once using his eyes. His reward: lots of love and a chance to maul his favorite purple monster toy.

SUE PURVIS AND DARREN WEIBLER AND THEIR dogs won't be paid even so much as a bowl of kibble for their work. Yet each has decided to commit a significant amount of time, effort and money to search work. "I've finally found my passion in life," explains **Purvis**. "Nothing is more thrilling to me. This work combines everything: spending time in the woods, spending time with my dog and concern for people." Wendy Wampler says, "If someone's child is lost, we have to find him. That's what I'd want for my child."

It would be nice to think that **Tasha** and Ranger are also worried about lost children and track them down to save them from peril, just like Lassie always did. But these Labradors are doing nothing more romantic than following trails of dead skin cells. Humans shed tens of thousands of skin cells every minute, leaving behind a sort of invisible bread crumb trail that is very obvious to a dog. Those skin cells, or "rafts," along with sweat and other body secretions, are constantly being broken down into their chemical constituents by bacteria. The gases exuded during those reactions are what give each human a unique scent. As the rafts leave the body, some settle on the ground, while others float on air currents. The odor they give off can percolate through air, water, snow, mud and even porous concrete.

A dog is particularly well suited to detect those scents. Odor molecules that venture inside the snout of a large dog encounter a sea of scent-detecting receptor cells—the tissue area of a German shepherd's nose, for example, is about 17 times larger than that of a human's. Each receptor cell, in addition, has a high number of hair-like cilia, which very efficiently bond with the odor molecules. The molecules arrive, "dock *in*" at the receptors, and the receptors send an electrical signal along nerve pathways to the brain. "Aha! Scent number 4,765!" A dog's sense of smell is probably 1,000 to 10,000 times better than a human's, says Jim Johnston, director of behavioral research at Auburn University's Institute for Biological Detection Systems, where he studies the ability of dogs to detect explosives and drugs.

"For dogs, odors are a more important part of the world than for us," says Johnston. "They get a lot of information from odors—where other dogs have been, where the food is." A dog truly "sees" the world through its nose. Indeed, giving a dog a scent article to sniff is akin to showing a person a photograph.

Most SARDOC search dogs begin their training as **Tasha** and Ranger did, with nose-to-the-ground trailing. But once they learn the basics of following a scent, they are usually switched to detecting airborne rafts. Air scenting allows a dog to find a victim without having to follow his entire route, and enables it to search a larger area, as much as a square mile. To the untrained eye, it sometimes looks like chaos, as Odie demonstrates at another SARDOC training weekend.

On the edge of a grassy field at a Boy Scout camp near Colorado Springs, Odie is listening to his handler, Steve Howard, the Basalt, Colorado, fire chief "Are we going to find someone?" Howard asks in a high-pitched, excited voice as he straps on Odie's orange search dog vest. "You bet we are! You're a smart dog, aren't you, Odie?" Odie is so excited to be playing the game again that he can barely contain himself. He often gets so excited when working, says Howard, that he can't sit still long enough to eat. Once Odie is suited up, Howard gives him a whiff of a scent article. "Go find 'em!"

Nose high in the air, nostrils wide open, Odie traverses the field perpendicular to the breeze, searching for just the right scent. Within seconds he does his own particular style of "alert"—his tail stops wiggling and stands straight out—which tells Howard that he's found it. He then runs to the edge of the field to see how far the

scent stretches. The victim, in a grove of trees upwind, is shedding rafts that, it is theorized, cover a wider and wider area as the wind carries them away, like the wake of a boat. Odie runs hack and forth, finding the edges of the wake, or scent cone, all the while moving toward the source of the scent, the victim. His traversing takes him over rocky ledges, through heavy brush and up steep slopes. The wind is particularly squirrely today, shifting direction every few minutes, pooling the scent in rocky hollows and throwing Odie off track. Howard checks the wind direction with a length of yellow surveyor's tape tied to his finger and gently directs Odie to a spot where the dog will have a better chance of picking up the scent. He won't lead Odie to the victim, but he will help the dog to have a successful training session. Suddenly, Odie lifts his nose higher, makes a hairpin turn, and takes off at a clip to where the victim sits under a tree. He then does a "refind," racing hack for Howard and freezing in place when he spots him, as if to say, I've found the source, Steve! Hurry up and follow me!"

Howard yells, "Show me, Odie! Show me!" and the dog leads him straight to the victim Odie's reward: a few minutes of play with his favorite ripped-up Frisbee and a ride on Howard's shoulders.

Handlers often comment that they're "the stupid part of the team." It's true, to some extent. The dogs act primarily on instinct, sharpened by training. Handlers must learn to put their own instincts aside sometimes and let the dog do its job. "The biggest problem in training any team is the handler," says Andy Rebmann, who once trained police dogs for the Connecticut State Police and now runs search and rescue seminars. "We train the dog to become *a* reliable tool, then we're always trying to think for the dog, not trusting the dog to do the job it was trained to do." That's not to say that handlers should sit idly by waiting for the dog to do a Lassie. They must plan a search strategy, making sure they cover their assigned area and take into account the strange things that wind, rain, snow, heat and humidity can do to odors. They must watch their dogs constantly, looking for the most subtle alerts. (Not all are as obvious as one standard poodle that Rebmann says jumps several feet in the air.) They must learn how to put together all the pieces of the search puzzle and find the victim as quickly as possible. It can be enormous pressure. Based on what a dog does and how *a* handler interprets it, search and rescue teams will tear up house foundations, rappel into deep canyons, send divers into murky waters or abandon an area, declaring it cleared of victims.

"I doubt myself every time," says Wendy Wampler, who has been working with search dogs since 1982 and admits to occasionally asking Jazz to find her toddler when he is hiding in the house. "I'm always scared that I'll choose the wrong search strategy and I won't find the victim. That's why I train so hard. It's the only way I can live with myself".

TO THE DISMAY OF SOME PEOPLE, THERE ARE NO national standards for certification of wilderness search and rescue dogs, even though more than 150 groups like SARDOC have sprung up in the past 15 years. SARDOC requirements are among the more rigorous: members progress through three trailing and four air scenting tests during training, and then must complete three difficult searches, including finding multiple victims and searching at night, to be certified. Handlers are expected to be affiliated with their local search and rescue agency, to be physically fit and to have first aid and wilderness survival skills. After all, searches aren't always conducted in fields of mountain flowers on balmy spring afternoons. A person with Alzheimer's or a cross-country skier is just *as* likely to be reported missing at 5 P.M. during a snowstorm, leading to a long, cold night of searching. It is not an easy job.

"It's tough to arrange day care at 3 A.M., says Wampler. "Sometimes, in the middle of a search, I think 'What am I doing out here, I must be out of my mind.' Then, my dog picks up an alert and it's all worthwhile." Wampler and the 21 other certified SARDOC teams respond to about 100 requests for help each year. The most common scenario in Colorado is a lost male hiker or hunter.

Many victims are elderly. Marcia Koenig, a veteran handler from Washington who now runs training seminars with Andy Rebmann, her husband, spent last New Year's Day searching for an 88-year-old woman who had wandered away from *a* nursing home in *a* driving rainstorm. Searchers had already spent 18 hours looking for the woman by the time Koenig and her German shepherd, Coyote, were asked to help. "I gave Coyote *a* scent

article and she found her within ten minutes,” says Koenig. “She was less than a quarter-mile from the home, but she was lying down, concealed in some bushes. I yelled ‘Good dog!’ to Coyote, and then ran to the woman. Thank God, she was still alive,” sighs Koenig. “There’s nothing better than a live Find.”

Many SARDOC teams, such as Carla Tomaszczyk of Aspen and her standard poodle, Cassidy, take specialized search training. Cassidy is a certified avalanche rescue dog, skilled at finding bodies—dead or alive buried under snow. At least once a week in winter, Tomaszczyk and Cassidy head for the hills for a practice search. Today they hop on a chairlift and ride to the top of the Snowmass ski area. At the top of the lift, 11,835 feet up, Cassidy warms her toes in the ski patrol hut while Tomaszczyk and other handlers ear themselves out chopping up 10,000-square-foot fields of snow to resemble the chunky blocks left by an avalanche. They then dig large, L-shaped chutes five feet deep in the snow. A ski patroller is conscripted to drop into the chute and lie in the coffin like tunnel at the bottom, and the chute is filled in with snow.

In this session, two ski patrol members have been buried in a section Tomaszczyk did not dig, so neither she nor Cassidy knows where they are. Fifteen minutes after burial, their scents have had ample time to rise through the snow and the search begins. “Go find, Cass, go find!” Cassidy bounds across the snowfield, her bright orange vest the only contrast to white hair on white snow. She knows her job is to find any human scent coming from under the surface. Within seconds, she thrusts her nose into the snow at a point that looks no different from any other and starts digging. “That’s an alert,” declares Tomaszczyk. “Where’s the other one, Cass? Let’s go find ‘em.” Cassidy dances across the snow and almost immediately begins digging. Right again. It seems the burial spots couldn’t have been more obvious to her if they’d had neon arrows pointing to them. In less than a minute, Cassidy has found both victims. It would have taken 30 people 3 hours of delicate probing to find any victims on a snowfield of that size, by which time they would have been long dead.

BECAUSE NOT ALL LOST PERSONS ARE FOUND alive, Tomaszczyk and Cassidy attended a three-day course in cadaver searches. Handlers from around the country listened to Rebmann and Koenig talk about the finer points of finding dead bodies while 15 dogs rubbed noses and snoozed under the meeting room tables. Showing graphic slides, they discussed the nuances of decomposing bodies, how serial killers hide bodies and how to train your dog to find such things. Cadaver search work is different, Rebmann explained, because dead bodies all smell alike. No scent articles are needed. Instead, the dogs learn to search for a characteristic cadaver odor and a special command that means “find dead people.” Some use “Find the baby,” others, the more palatable “Find Fred.”

The students are trained using Pseudo Corpse, an odoriferous substance made by Sigma Chemical Company just for training search and rescue dogs. In a hotel parking lot, Cassidy and the other dogs lined up to get a good whiff of the chemical, then took turns finding it when it was hidden in one of several concrete blocks. “We’re not training the dogs to find bodies,” Rebmann explained. “We’re training the dogs to find scent.” Cassidy obviously learned her lesson well. When visiting family in Indiana last year, Tomaszczyk and Cassidy were called out to look for victims of a serial killer who, as it turned out, liked to bury bodies in his yard. Based on her training with Pseudo Corpse, Cassidy easily pointed the way to human remains.

Of all the search and rescue dogs now working in the United States, only 73 have gone on to be certified as either a basic or an advanced “disaster dog” by the Federal Emergency Management Agency (FEMA). It’s a relatively new specialty. Some handlers say they are reluctant to expose their pets to the dangers of searching in urban disasters, such as the aftermath of an earthquake, although few of the dogs that worked at the site of the Oklahoma City bombing sustained any injuries. (The handlers did not fare as well. Of the 50 who responded to a survey, 16 have since left search and rescue work due to the emotional impact of that event. None of the FEMA certified teams have dropped out, however.)

FEMA training is tough. Not only must the dog know basic scenting techniques, it must also know how to move safely in a chaotic scene full of potentially fatal hazards. At a basic FEMA test held on a hack lot at the Ontario, California, airport, ten dogs from around the country are attempting to earn certification. Most of them have easily passed several parts of the test, including a long stay, a drop on command, scent detection and verbal

directional control (in which the dog runs the bases on command from a handler who cannot venture beyond home plate). The agility test, however, which determines if a dog is ready to pick its way safely foot by foot through a collapsed building or train wreck, is not so easy.

Ivey, a German shepherd belonging to Nancy Hachmeister, has successfully completed the test's early stages but is balking at climbing a ladder. She climbs a few rungs and stops, quietly whimpering. Hachmeister talks to her in a low voice, "Come on, honey, go. You're not doing this very well, honey." Ivey eventually climbs the ladder, but then refuses to go on to the next step, insisting on going right back to the ground. Hachmeister is not discouraged by Ivey's failure. They'll take the test again.

"You die a slow death as an evaluator, watching a dog fail," notes an experienced handler who is judging the test. "But really, failing is not so much failing as it is just a part of the process toward Certification.

Sunny, a 95-pound Doberman pinscher sometimes called the "search pony," trembles as he climbs the ladder, guided by his 105-pound owner, Shirley Hammond. He is a bit more confident on the seesaw, walking up the plank, balancing just beyond the fulcrum while the upper portion sinks to the ground, and slowly picking his way hack down. He breezes his way through the tunnel crawl and across an unsteady pile of sheet metal and chain—link fencing.

The final part of the exam is the rubble pile. Only five of the dogs have done well enough to advance to this stage. Three evaluators in full safety gear are perched on top of a 15-foot high pile of concrete and twisted steel, and one victim has been hidden inside a concrete tube. Shouting commands from a fixed position on the ground, each handler sends his or her dog up to find the victim. Each team has just ten minutes. "While two-dozen people watch in silence, Sunny carefully picks his way, across the rubble, slowing a bit when crossing a shaky wooden pallet. After a few minutes of sniffing around, he stops. He lets out a bark and a long, plaintive howl. Another bark, a longer howl. Everyone holds their breath. Finally, Sunny lets loose with several short barks, the repetitive noisy alert that is required for urban disaster work. He has found his victim. The evaluators declare him a certified FEMA dog, one of only three animals to pass today.

When the results are announced, everyone, including those who didn't pass, gives the three teams a standing ovation. Then all begin the long drive back to homes and day jobs, to practice some more and wait to be called.

The next morning, another eight dogs gather to attempt the even more difficult advanced FEMA test. This time, six victims have been scattered among three large rubble piles, along with scent-laden clothing, noisy generators and other distractions. A. J. Frank, a firefighter from Seattle, and his 4-year-old chocolate Lab, Ohlin, approach the first site. The scenario: a two-story senior-citizen complex has collapsed. Wearing a bright orange jumpsuit and hard hat, Frank asks several questions about the potential number of victims and any known chemical or electrical hazards. He then sends Ohlin scrambling to the top of the pile, searching for the scent of victims. "Are you a search dog?" he calls when the dog reaches the top and looks back for guidance. "Go search!" Frank continues shouting directions at Ohlin from the ground until they have found two victims, and Frank figures they have covered the entire pile. At a debriefing, Frank draws a map of the pile and the probable locations of victims, while Ohlin wiggles his ears at flies and plays with his reward, a deflated soccer ball.

By the end of the exam, Frank and Ohlin have found only four of the six victims, not enough to pass. For a while Frank, who has been laughing and joking all day, walks with his eyes downcast, his step noticeably slower than before. But he isn't giving up, he says, brightening. He'll be back.

Catherine Dold is an ex-New Yorker living in Colorado. Scott Warren is delighted so many dogs make the Rockies a safer place.