

Sphex Wasp

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A. DELANO

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ZION-BRYCE NATURE NOTES

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This series of bulletins is issued from time to time during the summer for the information of those interested in the educational opportunities, the natural history, the scientific features, or the scenic beauties of the region. Publications using these notes should give credit to Zion-Bryce Nature Notes and author.

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SOCIAL RELATIONS OF THE SPHEX WASPS
By A. M. Woodbury, Park Naturalist.

Elsewhere in this issue is an article dealing with a Sphecx wasp making a nest. The group of wasps (Sphecoids) of which Sphecx is a typical example is interesting as throwing prophetic light upon the evolutionary history of the more social wasps.

The wasp there described illustrates a type of mass provisioning for the young in which plenty of food is stored to rear the young larvae of the wasp to maturity. The food in this case was all in one piece. The mud daubers of the genus Sceliphron, closely related to Sphecx, collect numerous spiders and store with an egg in an earthen cell attached to a cliff, a building or other suitable place. Such food, although constituting mass provisioning consists of many individual pieces.

It is easy to understand from this how a system of progressive provisioning providing social contact of the mother with the young larvae might arise. In case where a mother collecting several pieces of food, had difficulty in finding enough all at once and was delayed with the last ones until the young larvae were hatched. Suppose this became habitual, it would be a simple step to the point where the mother brought in food only as fast as the young offspring devoured it. There would then have developed a simple case of progressive provisioning in which the mother might take direct care of the offspring, and thus lay the foundation for social colonies.

One species of Sphecx is reported elsewhere to use a pebble as a tool by holding it in the mouth and dropping it--thus pounding down the dirt around the mouth of her burrow. But the species here discussed simply used the pebble to plug the mouth of the burrow.

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ZION--HER MOODS

By J. W. Thornton, Ranger-Naturalist

Friendly and charming is Zion. Colorful and fanciful she is always. Her lovers courting, as she sits enthroned in the softest western sunlight, are ever delighted with her moods, for she makes them known gently, enticingly, firmly and with dignity. Her temples may shine with the glory of a western sunset on their spires, or may mingle with the clouds and the lightning, or may receive the bolts that Thor hurls earthward. Her walls may be painted with the delicate colors of the rainbow and carved with the master hand of nature's fantastic sculptor. Changes from light to shadow, and the cliffs but lately smiling are now in sombre attire, and the delicate color that painted your heart has fled to other parts, which but a few minutes before were serious and stern.

Changing, ever changing, but always beautiful. This is Zion. Moods that smile, moods that cheer, moods that tease, moods that charm. A mood for everybody.

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IMAGERY

By J. W. Thornton, Ranger Naturalist

You enter Zion along the smooth sand covered floor of the canyon and look up at the varied colored cliffs of the walls as you travel along. You feel a friendliness in the whole setting. The cliffs are not far off and their soft blends of restful colors issue a continual invitation to wander over their sides in search of fantastic carving and delightful color schemes. This pastime never fails to bring the gazer's constructive imagination to a fine working order and soon the walls are covered with the ethereal imagery of the mind which fits the many wall markings into countless figures which the mind with its pools of restless energy is capable of producing. These are colors with delicate shades of red, pink, lavender, yellow, blue, green, brown, and purple.

You may take a round carved figure and call it the Sister of Mercy. Another may take a peculiar shape and call it a hooded monk and yet another may see the pompous bearing of a fat bishop. You see a fisher-boy sitting on the wall with his line flung into the waters of the river. If you look carefully you will see that he is sitting on a boulder that projects far out over the bank and gives the boy a decided position of advantage as he hooks out his catch. Then again you will see the bear that went over the mountain, well on his way, leaping high into the air, in one of his splendid jumps that puts him nearer the top where, of course he will see "the other side of the mountain". Then the old sly moon with his rounded face sits on the side of Lady Mountain and winks his merry right eye at you as you go up and down as if to say, "I am sitting pretty with the lady. It is I who stands high in her favor and receives her frowns and favors.

The lovesick swain pictures his love on the wall and who knows but what he sees her there with another fellow. The young girl feeling the seriousness of those cliffs paints there her cherished ideals and ambitions and places in action many figures as she attempts to stage what she hopes the future holds in store for her. Others may see great factories or business blocks, or titian ships, or the tall smoking chimneys of industry. Everyone finds what he wants to see.

He has only to look and the walls present the pictures of his dreams.

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AERIAL ANTICS OF HUMMING BIRDS
By A. M. Woodbury, Park Naturalist

A female black-chinned humming bird sat daintily perched on a twig of our canyon monarch--the Fremont Cottonwood. The male lightly danced thru the air near her and then darted away on lightning wings, making a circle around the huge tree and alighted on a twig near that of his mate.

She took up the flight where he left off. She danced off on fairy wings describing large circles around a couple of trees and complacently resumed her perch on the twig. He responded as she had done and darted off for another tour of the ambient air surrounding the cottonwood. This journey terminated abruptly as before as he perched himself beside his mate. But the mate did not linger. She left again as soon as he arrived. An so it continued--this game of tag. It was still going when I left an hour later.

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TWO GARTER SNAKES AND A TOAD
By A. M. Woodbury, Park Naturalist

One day I dropped a common toad, *Bufo woodhousei*, into a cage containing several garter snakes, *Thamnophis o. vagrans*. One of the snakes immediately grasped the toad by the front leg and proceeded to engulf it head first. Before it had gone very far with the process, another snake grasped it by the hind leg from the opposite end. When I looked into the cage a few minutes later the two had gone so far that they had met, and one snake was engulfing both the toad and the other snake also. When the head of the one had been almost swallowed by the other, I picked up the snakes and attempted to separate them, not caring to lose one of my specimens. The snake on the outside immediately let go. Upon relinquishing its hold so the second snake was free, it also abandoned the toad and the toad hopped away apparently unharmed.

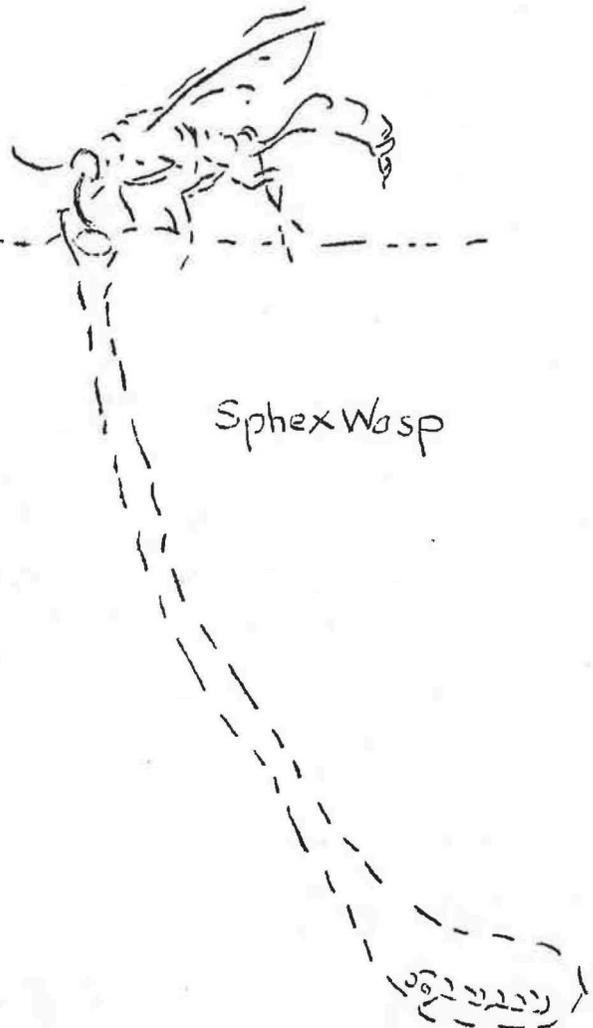
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SPHEX WASP MAKES A NEST

By A. M. Woodbury, Park Naturalist

I sat down cautiously one day in the shade of a bush where I could watch the operations of a SpheX Wasp on a sandy spot a few feet distant. It was busily engaged in digging a hole. Going down into the hole, it loosened up a piece of soil and returned with it a moment later, throwing it off to the side just outside the entrance. The opening was about one-fourth inch in diameter, just large enough to accommodate the body of the wasp, which went down into the hole head first, but came out backwards.

When it had finished digging the hole it flew away and was gone for perhaps fifteen minutes, when it returned bringing with it a Geometrid caterpillar, popularly called a measuring worm. This it carried down into the hole and was gone for several minutes. Returning to the surface without the caterpillar, it picked up a little pebble and placed it so as to block the mouth of the opening. It then scraped dirt up over the pebble and smoothed off the soil above, leaving no sign whatever of the nest. Being curious as to what had gone on down in the underground passageway, I carefully dug down beside the hole, tracing it down to the bottom. The passageway sloped out to an enlarged chamber at the end, where I found the caterpillar carefully deposited and attached to its abdomen was a small white egg, evidently deposited by the wasp. The caterpillar had been stung and was paralyzed, so that it could not move, but was still alive. Undoubtedly the parent had provided fresh meat which the young larva, soon to hatch from the egg, was to use as food--sufficient to last until fully matured--a case of mass provisioning for the young. Such mass provisioning would prevent any social contact between the parent and offspring. The young wasp, when fully matured, would never have seen its parent, but when ready to build a nest of its own, it would undoubtedly do likewise, digging the same type of gallery, catching the same type of caterpillar, and laying its egg on the caterpillar in the same sort of way: a case of instinct, perhaps an inherited habit.



VETERAN OF 91 YEARS MAKES NARROWS TRAIL
By J. W. Thornton, Ranger-Naturalist

On July 14 a Civil War Votcran 91 years old made the trip up the Narrows Trail. He pronounced the trail the best he had ever been on and the canyon scenery most wonderful. A two mile hike on the Narrows Trail was pic to the veteran. He stayed with the crowd, listened to the Naturalist, commented with onthusiiasm on what he saw, and heard, and seemed as fresh as any of the crowd when the bus loaded him on for the return four miles to the Lodge.

The same day a babe in arms, only 2 months old, was carried by a proud papa along the trail. The little fellow kicked his foot and cooed with delight as the cool canyon breeze played antics with his hair and toes.

The rest of us were all ages in between. We had gathered from many states to see Zion and all, as if with one voice, pronounced it beautiful.

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