

A Snake Story.

One day last summer as I was walking along a woodland path, a blue racer suddenly glided in front of me and into the bushes. Wanting to get a better look at it I followed after it a short distance. The snake suddenly stopped, turned about and began slowly to come towards me. Not knowing anything about the viciousness of this variety, I wondered whether it was by any chance preparing to attack me. I stood still and it continued to move nearer for a few feet. Then it stopped, raised its tail and vibrated it in fashion of a rattle snake. Although this vibration made a faint rattling noise I could see there were no rattles present. After a few minutes of this performance the snake came a few feet nearer to where there was a hole in the ground into which it disappeared.

I am not well informed about the actions of snakes but I have been told this is a characteristic of this family of snakes. To me it was a curiosity I had never witnessed before.

Edwin P. Meiners.

A Stellar Magnitude Scale.

We are all more or less familiar with the first magnitude stars, fifteen of them being visible from the latitude of St. Louis. For their names and magnitudes the reader may refer to the August, 1930 issue of Nature Notes. These brightest stars have long been known as first magnitude; the next as second magnitude and so on to the faintest stars that can be seen with the naked eye which are known as sixth magnitude stars. With the coming of more accurate means of measurement it became necessary to devise a more accurate magnitude scale than that of the ancients; one that would be based on a certain standard. This was done so that it would conform as near as possible to the old system of magnitudes.

A first magnitude star on the new scale is exactly 100 times brighter than a sixth magnitude star and is  $2\frac{1}{2}$  times brighter than a second magnitude star. A second magnitude star is  $2\frac{1}{2}$  times as bright as a third magnitude star and so on down the line. There is no limit to the system as it can be extended to include any star however faint it may be. The greatest telescope in the world enables astronomers to photograph stars as faint as the twenty-first magnitude; only one millionth as bright as the faintest stars visible to the naked eye and one hundred millionth as bright as a first magnitude star.

This magnitude scale can be extended to include objects brighter than first magnitude by taking them as negative magnitudes. The Sun, for instance, on this scale is minus magnitude twenty-six (-26); Venus often reaches minus four (-4), and Jupiter minus two (-2).

With their accurate instruments astronomers can detect very small differences in brightness which necessitates the subdivision of magnitudes. However, for most work magnitudes given in tenths are accurate enough and rarely is it necessary to carry them to three decimal places. Incidentally, one can make fair estimates of stellar magnitudes to tenths with a little practice without the use of light-measuring equipment.

It is to be noted that the magnitudes mentioned above show only the apparent magnitudes of the stars, that is, as they are seen from the earth. Their real brightness may be, and in most all cases is, quite different than they appear to be. For instance, Sirius appears to be more than six times as bright as Deneb but in reality Deneb is more than 250 times as bright as Sirius. The reason for this is that Sirius is less than one seventieth as far away as Deneb. If we know the magnitude and distance of any star, we have the key to its real brightness. The real brightness of a star is known as its absolute magnitude. The absolute magnitude is the magnitude a star would be if it were placed at a distance of ten parsecs (32 light years) from the earth. The relative brightness of the stars is known only as well as we know their apparent magnitudes and distances; the latter, in many cases, is somewhat uncertain, so also are their absolute magnitudes.

Since our knowledge of the stars depends almost wholly upon the light which we receive from them, all those who study the stars at all should become thoroughly acquainted with the magnitude scale.

Stuart L. O'Byrne.

The Juniors 22 strong and the Junior Secretary Mrs. Pickens visited the Langs Home. Mrs. Lange gave an interesting talk on aquarium toy fishes. After seeing all fish, Mr. Lange showed his collection of Missouri butterflies with an explanation as to their feeding habits and distribution. All Juniors are invited to the Lodge for the two outings in September. Please consult the program, on page 11.

Nature Notes.

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What Happened To The Weasel ?

One day this spring I found what appeared to be the remains of a weasel hanging over a twig of a tree about five feet from the ground. All that was left of the animal were the bones of the legs and spine to which was still attached the well preserved head with its fur intact. Now, I had always supposed that the weasel was quite immune from the attacks of other animals, especially birds of prey. I remember at one time reading a story of an eagle that had captured a weasel and, while soaring aloft with it, the victim succeeded in gaining the throat of its captor, sucking its life blood. What was it that took this animals life and left its bones hanging upon this tree.

Edwin P. Meiners.

Week end outing of Girl Scout Troops 21 and 71 at the Lodge June 21, 1931.

Maybe you would like to know what Girl Scouts do on a week end; if not read no further.

The city's dust left behind by fond parents' cars loaded- and when I say loaded, I mean loaded with Girl Scouts, their blankets, tents, clothing, food and such non-essentials as cameras, raincoats and pillows, was not breathed from Friday 3 P.M. untill Sunday 5 P.M. Above Sentence purposely confusing to induce thought.

Although Scouts are supposedly able to pitch a tent, under any circumstances, in five minutes, Troop 21 spent the entire afternoon getting theirs up. This delayed pitching may have been due to the abundance geological specimens in Rankin soil. However tents pitched and lunch eaten, we took a hop step and jump to the farmers in quest of milk for the next day. Then a campfire, limited star study and taps. A bit of poetry may be properly interpolated here.- We like this one by Sara Teasdale,

Stars over snow  
And in the west a planet  
Swinging below a star  
Look for a lovely thing  
And you will find it-  
It is not far-  
It never will be far.

Reveille was blown at 5:15 Saturday morning for one could see the rascals were itching to leave their limestone beds. For breakfast we had mixed dried fruit, grape-nuts and bacon with eggs a la G.S. Rocks were heated and then extracted from the fire. Bacon was fried on these rocks, then a slice of bread with a hole punctured in center was placed gently but firmly on the spot where the bacon had been. into this

Cont. next column.

hole the raw egg was broken-rather, I should say was to be broken. You would have been surprised to see where some of these eggs landed. When the egg was fried, the bread was toasted and all found their way into G.S. tummies ( we hope ).

While one squad had been preparing breakfast, another group was building a fire in a rock-lined pit dug the evening before. This fire was kept burning from 6:30 to 10:30 A.M., at which time the coals were extracted and branchlets with leaves put in. Water poured in small quantities over the leaves causes steam to rise. Into this mess of stewing greens were trust potatoes stuffed with little pig sausages. Then more leaves, one large bur-lap sack and much soil shoveled upon sack. Our evening meal was on-our nose bag lunches were ready and so off to the woods where nature was forcibly studied with the aid of a good stick. You'd be surprised how much knowledge a Scout can acquire when it's a matter of life and death.

Saturday evening we had a party which ended in rope-jumping by request-at 11:15.

Sunday camp was broken, pictures taken and home by 3 o'clock, tired but happy.

And so-

"Ten thousand things we may have fretted about, uselessly or worse". But to have lived in the sun, to have loved natural beauty, to have felt the majesty of trees, to have enjoyed the sweetness of flowers and the music of the birds-so much at least is not vanity or vexation of spirit.

Towhee.

The Juniors visit Meyers Farm.

On May 23, Mrs. Pickens took the Juniors to Meyers farm near Meremac Highlands. As we entered the yard, we noticed some bushes about 2 or 3 feet high with clusters of pink flowers which looked like sweet peas. Mr. Meyer told us this was dwarf locust.

Mr. Meyer took us for a ramble through the fields and woods. He showed us the shooting stars which he had planted at different places, also a large piece of coral rock which he said had once been at the bottom of the ocean. We saw the dry golden red stems from last year and the green ones of this year; both had large swollen places in the stems which are galls, the round gall will produce a fly, the longish one a moth. We saw also galls on hickory, oak, wild rose and other plants. The wild rose galls were interesting and we opened one. Inside, we found a very lively little worm.

We saw many wild flowers in bloom, including Yarrow, Wild Phlox, Cinquefoil, Beards-tonque, Yellow Star grass, Pussy-toes or mouse-ear everlasting and others.

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ANNOUNCEMENTS FOR SEPTEMBER, 1931

Field Trips.

There will be two field trips to Nature-Study Lodge, on High Ridge Road, south of Antire Road and about five miles south-west of Valley Park.

The first one Saturday/Sunday Sept. 12/13

The second one Saturday/Sunday Sept. 26/27-

Come, stay over night, bring food, blankets, cots and flash light. The Astronomy group will have something on during the evening hours.

(Members who have never been out to "The Lodge" are especially urged to come out and see what the place looks like, and the fine opportunities there are available to all members for nature-study in the open).

General Meeting.

Friday evening September 4th, at the U.S. Entomological Laboratory, 527 Ivanhoe Place, Webster Groves.

Mr. K. L. Baker, who has charge of Tree Pruning for wires along the State Highways, will give an illustrated talk on correct tree pruning, - a subject that every one who has a tree in the yard should be interested in. Invite your friends.

Group Meetings.

Photography Group - Tuesday evening September 8th, at the Bradley residence, 7111 Nashville Ave., Richmond Heights. Photo enlargements.

Microscopy Group - Friday evening September 11th, 8 o'clock, at Dr. Meiners' office, 6600 Delmar Ave., University City. Bring microscopes and favorite microscopic slides. A general Microscope Discussion.

Ichthyology Group - Monday evening September 14th, 8 o'clock, at the Lange residence, 319 Westside Ave., Webster Groves. A discussion of the families Hiodontidae, Dorosomidae and Clupeidae and some limnology pertaining to local waters.

Astronomy Group - Friday evening September 18th, 8 o'clock, at the Mueller residence, 12 Armin Ave., Glendale Heights. "Astronomy of the Ancients" by Mr. Jones, and "Constellations" by Mr. O'Byrne. If the night is clear, the talk on constellations will be given somewhere under the stars.

Botany Group - Monday evening September ~~22nd~~ 21st, at the Rau residence, 542 East Argonne Drive, Kirkwood. Miss Martha Rau and Mr. Jones on the program.

Ornithology Group - Friday evening September 25th, 8 o'clock, at the Jones residence, 690 Bonita Avenue, Webster Groves.

Entomology Group - Monday evening September 28th, at the U.S. Entomological Laboratory, 527 Ivanhoe Place, Webster Groves. "My Impressions of the Value of Economic Entomology" by Mrs. Margaret McDonough, and "Insects of September and how to control them" by Mr. Satterthwait.

JUNIOR MEETINGS will be announced by phone.

CONVENTION ANNOUNCEMENT

The American Nature-Study Society will hold its Annual Convention December 28 to Jan 2, in New Orleans. We have assumed the responsibility of providing a morning's program. Who, of our members, will either prepare a paper for this program or will attend the meeting and take part in it. Please advise the Secretary as early as possible.

Supplement.  
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The Juniors visit Meyers Farm.

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In the woods were different kind of ferns. Mr. Meyer showed us how to know poison ivy. There were many kinds of trees, Dogwood, Sassafras, Elm, several different Oaks and others.

We visited an old quarry where we saw some lizards. On our trip were three snake hunters, Miss Boyer, Mr Schwartz and Jake, the dog. They caught four snakes, none of which were poisonous. The largest one was a blue racer found by Jake in the grass, who stood guard over it till Miss Boyer came and captured it.

We had a very delightful and instructive afternoon and hope Mr. Meyer will let us visit him again.

Ellen Schoene,  
Junior.

The Symphony at the Lodge.

In the evening, the sounds produced by the various creatures that hound the woods go through a succession comparable to that of a symphony orchestra in which each of the various instruments takes its turn in carrying the tune. This was forcibly impressed upon me at the Lodge on the evening of August 16 th.

Before dark, the shrill sounds of the cicadas gradually succumbed to the continuous ear-splitting buzz-saw noise of a species of long-horned grass hopper--probably one of the coneheads. Later the din died down, and only a few insect sounds could be heard, so the frog chorus in the lake provided entertainment until the whippoorwills took up the refrain with their mournful calls. The next number on the program was the raucous rasping of the katydids which were so numerous that they succeeded in drowning out whippoorwills, frogs and everything else. It was impossible to distinguish individual songsters among them; their sounds were almost continuous, except when an occasional lull gave the screech owls a chance to slip in their eerie tune.

The Lodge is a wonderful place to hear the great symphony of nature. Those who have been there only in daytime have missed one of its charming features.

Harold I.O'Byrne.

Botanizing from an Auto.

This list will give an idea of what can be seen from the seat of an automobile traveling at an average speed of 40 M.P.H. This list was made August 2, and does not include grasses sedges and rushes.  
Cont. next column.

Cassia chamaecrista, Solanum rostratum, Vernonia baldwini, Taraxacum officinale, Ruellia ciliosa, Desmanthes illionensis, Cichorium intybus, Tecoma raticans, Silphium integrifolium, S. perfoliatum, Solanum dulcamara, S. carolinense, Helenium tenuifolium, Belamcanda chinensis, Campanula americana, Daucus carota, Anthemis cotula, Parthenium integrifolium, P. repens, Mentha arvensis, Euphorbia corolata, Gaura biennis, Solidago memorialis, Liatris pycnostachya, Tanacetum vulgare, Eupatorium serotinum, Monarda mollis, Ipomoea pandurata, Saponaria officinalis, Lactuca sp. Verbascum thapsus, Hypericum angustifolia, Hedeoma pulegioides, Croton capitatus, Melilotus alba, Verbena canadensis, V. angustifolia, Oenothera linifolia, Polygala ambigua, Verbena stricta, Trifolium pratense, Heliotropium tenellum, Rudbeckia fulgida, Talinum tertifolium, Teucrium canadense, Helianthus annuus. H. tuberosus, Commelina communis, Asclepias tuberosa, Gerardia flava, Erigeron canadense, Sambucus canadense, Plantago lanceolata, P. major, Rudbeckia triloba, Phytolacca decandra, Convolvulus arvensis, Croton monanthogynus, Euphorbia preslii, Stylosanthes biflora, Ascyrum hypericoides, Hypericum gentianoides.

After we left the car at Pickle Springs we saw the following plants in bloom:

Desmodium nudiflorum, Lobelia leptostachis, L. inflata, Clitoria mariana, (rather rare) Crotonaria sagittalis, Epipactis ? decipiens.

On July 19 the rare Adam and Eve Orchid Aplectrum hycmale was seen near Bloomsdale, Mo. in a secluded, out-of-the-way place such as Orchids usually select.

D.A.B.

A Spider And A Mantis.

It was the end of summer. A little garden patch at the back of my home had grown up with weeds. To me as a boy, this was a favorite haunt, as many interesting things were to be found here. Grasshoppers and crickets were singing merrily, while various weeds and remaining vegetables yielded their supply of caterpillars. Suspended between two bushes I found a marvellous orb web of the orange garden spider, Miranda aurantia. It was interesting to see the mistress of the orb keeping house at her lettered hearth occasionally darting out to ensnare some helpless victim that had ventured too near the silvery threads. As I stood there watching a male mantis came flying through the air and landed in the middle of the web. He could not extricate himself readily and in a moment the spider had pounced upon him. Immediately there was a terrific struggle for the mantis is not a lamb in the insect world. For several moments the battle continued, the mantis fighting with tooth and claw and the spider endeavoring to ensnare him with his silken cord. Eventually the web broke and the mantis, escaping, continued his interrupted flight. E.P. Meiners.