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, uncoiled 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 rattling snake. Although this vibration made a sound without 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. Mainers.

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 system of magnitudes.

A first magnitude star on the new scale is exactly 250 times brighter than a sixth magnitude star and 7.5 times brighter than a second magnitude star. A second magnitude star is 2.5 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 fainter than 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 necessitate 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 seventh 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 (3.2 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 Lange 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 toy outings in Sep'ember. Please consult the program, on page 11.
What Happened To The Wasp?

One day this spring I found what appeared to be the remains of a wasp hanging over a twig of a tree about five feet from the ground. All that was left of the animal were the brown paper legs and spines to which was still attached the well preserved head with its fur intact. Now I had always supposed that the wasp 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 wasp and, while carrying it off with it, the wasp's stinger had gained the throat of its captor, sucking its life blood. What was it that took this animal's life and left its bones hanging upon this tree.

Edwin P. Moineau.

Week-end outing of Girl Scout Troops 21 and 22 at the Lodge June 21st.

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. until 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 of geological specimens in Ranckin 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 tape. 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.

Revell was blown at 5:15. Saturday morning for one could see the revells were flying to leave their limestone boulders for breakfast. We had dried fruit, grapes, nuts and bacon with eggs in a D.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 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 D.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 extracled 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 bun of such smell shoved upon sack. Our evening meal was one of those 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 11:25.

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 nature, 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."

The Juniors visit Mays Farm.

On May 23, Mrs. Pickens took the Juniors to Mays Farm near Horoscope 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. Mrs. Moyer told us this was dwarf locust.

M. Moyer took us for a ramble through the fields and woods. He showed us the shooting stars which he had placed at different places, also a large mass of coral rock which he had once been at the bottom of the ocean. We saw the dry golden ridges from last year and the green ones of this year both had large wooded places in the stems which are galls, the round galls will produce a fly, the longish one a moth. We saw also galls on history oak, wild rose and other plants. The wild rose galls were interesting and we opened one. Inside, we found a very likely little worm.

We saw many wild flowers in bloom, including Yarrow, Wild Phlox, Cinquefoil, Beards-tongue, Yellow Star grass, Pussy-tos or mouse ear, sheep's tail and others.

Cont. Page 12.
ANNOUNCEMENTS FOR SEPTEMBER, 1931

Field Trips.

There will be two field trips to Nature-Study Lodge, on High Ridge Road, south of Ancro 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.

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

(Members who have never been out "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, 327 Ivanhoe Place, Webster Groves.

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

Group Meetings.

Photography Group — Tuesday evening September 9th, at the Bradley residence, 7111 Nashville Ave., Richmond Heights.

Photo enlargements.

Microscopy Group — Friday evening September 11th, 8 o'clock, at Dr. Neumers' 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 Lamps residence, 519 Westside Ave., Webster Groves.

A discussion of the families Hiodontidae, Dorosomisidae and Ogilbfshidae and some limnology pertaining to local waters.

Astronomy Group — Friday evening September 18th, 8 o'clock, at the Kuehler 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 21st, 21st, at the Raw residence, 549 East Argonne Drive, Kirkwood. Miss Martha Raw and Mr. Jones on the program.

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

Entomology Group — Monday evening September 28th, at the U.S. Entomological Laboratory, 327 Ivanhoe Place, Webster Groves.

"My Impressions of the Value of Economic Entomology" by Mrs. Margaret Akerman, and "Insects of September and how to control them" by Mr. Satterthwaite.

JUNIOR MEETINGS will be announced by phone.

CONVENTION ANNOUNCEMENT

The American Nature-Study Society will hold its Annual Convention December 22 to January 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 to "Nature Notes" see other side)
Supplement.
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The Juniors visit Meyers Farm.
Cont. from Page 10.
In the woods were different kinds of
ferns. Mr. Meyer showed us how to know
poison ivy. There were many kinds
of trees, dogwood, basswood, 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. Mey-
er will let us visit him again.
Ellen Schoene, Junior.

The Symphony at the Lodge.
In the evening, the sounds pro-
duced by the various creatures that
hunted the woods go through a succes-
sion 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 16th.

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 concholets.
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 whipped-wills
took up the refrain with their morn-
ful calls. The next number on the pro-
gram was to be an arrangement of the
ekaydids which were so numerous that
they succeeded in drowning out whipp-
who wills, frogs and everything else.
It was impossible to distinguish in-
dividual songsters among them; their
sounds were almost continuous, except
when an occasional lull gave the
scrorned owl a chance to slip in on
their ear-tune.
The Lodge is a wonderful place
to hear the great symphony of nature.
Those who have been there only in day-
time have missed one of its charming
features.

Harold J.C. 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.

Cassinia chamaeerista, Solanum rostratum,
Vernonia baldwinii, Puruarium officinale,
Russellia ciliosa, Desmanthes illinoensis,
Gleditsia Am.UserInfo, Ruscus radicans, Sil-
ium integriolatum, S. perforatum, Solanum dulcamara, S. carolinense,
Helenium tenuifolium, Balansamia chinen-
sis, Campanula americana, Daucus carota,
Anthemis cotula, Parthenium integriolat-
um, P. regens, Mentha arvensis, Mephirus
coriacea, Sauria biennis, Solidago macro-
realis, Liatris pycnostachya, Taraxacum
galegodes, Eupatorium perfoliatum, Monarda
nobilis, Euphorbia mundana, Aconitum
officinale, Lactuca sp., Verbesina
thapsus, Hypericum angustifolia,
Hedemone pulegiosides, Croton capitis,
Melilotus albus, Verbena canadensis,
V. angustifolia, Oenothera linifolia,
Pellagra ambigua, Verbena stricta, Tri-
folium pratense, Helichrysum tenellum,
Rubus occidentalis, Helianthus tenuis, Thoe-
rralis camadensis, Helianthus annuus, H.
Iurus, Convolvulus aquaticus, Asparges parisica,
Gerardia cleve, Erigeron canadensis, Sanicula camadensis,
Plantago lanceolata, P. major, Rubus
trilocolor, Physalis angulata, Convolvulus
arvensis, Croton monantho-
gynus, Mephirus praelli, Stylochites
biflora, Asclepias hypericoides, Hyperi-
com geum, etc.

On July 6, the rare Adam and
Eve Orchis, Orchis panthera, was seen
near Blackwood, Mo., in a secluded out-
of-the-way place such as Orchis
usually select.

A Spider And A Mantis.
It was the end of summer. A little
garden patch at the back of my house
had grown up with weeds. To me as a boy,
this was a favorite haunt, as the
interesting things to be found there
were grasshoppers and crickets that
sang merrily, while various weeds and remain-
ing vegetables yielded their supply of
caterpillars. Suspended between two
bushes I found a marvellous orb web of
the orange garden spider. Miranda auranti-
aca. It was interesting to see the mis-
took fly the orb and 'keeping her
loitered heart occasionally darting
out to ensnare some helpless victim
that had ventured too near the silvery
threads. As I stood there watching a
calculated 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. Nodding wilyly 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
on-devering to ensnare him with his sil-
ker web. Eventually the web broke and
the mantis escaped, continued his in-
terrupted flight.

R.F. Weiners.