

Not Philatelic.

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Volume I.

Number 5.

—→→→ JUNE, 1888. →→→—

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THE
AGASSIZ
RECORD

—→→→ DEVOTED TO →→→—

All Branches of Natural
Science.

OFFICIAL ORGAN OF IOWA ASSEMBLY AGASSIZ ASSOCIATIONS.

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PUBLISHED MONTHLY BY

FRANK E. WETHERELL,
819 East High Avenue, Oskaloosa, Iowa.

TIMES ELECTRIC PRESS, OSKALOOSA, IOWA.



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WASCO HILL, Va., Dec. 27, 1885. *Query*—I have already received more than 1,000 parcels of mail, many NEWSPAPERS, etc., for which I had often paid 25c. each before. I advise every body to have their name inserted at once. I know from experience your directory far exceeds all others. H. T. JAMES.

ALWAYS MENTION THIS PAPER.

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Written for the AGASSIZ RECORD.

THE EFFECTS OF ANESTHETICS

On Some of the Lower Animals.

BY SCOLOPAX.

Having experienced quite largely upon birds, mammals, reptiles, insects, etc., with chloroform and ether, it recently occurred that a few published observations might be of interest to the AGASSIZ RECORD, and with this object in view the following notes are furnished from experience with a large series of animals of many species. It must not be understood that poor creatures were shamefully treated in this manner, either to furnish amusement or gratify idle curiosity. On the contrary, only those animals which it was the intention to kill for scientific purposes were operated on, and as known to all, this manner of execution is superior to all others as regards

painless death. One of the best ways to quickly and mercifully put to death any small creature is by means of the inhalation of an anæsthetic,--the reason for my using it at first being for the purpose of saving the skeletons, the bones being liable to suffer seriously if shooting is resorted to, or the common method of wringing a bird's neck, or using compression on sternum or throat followed.

All insects almost instantly succumb to the vapor of chloroform, but the drug must be in sufficient quantity, otherwise the return to life is sure to follow. Centipedes (thousand-legged worms) and allied species are equally affected, but the still lower orders of animal life are not nearly so seriously acted upon. This is especially true of those species of the sub-kingdom mollusca, which are often cynatic in their habits. This principle ever obtains, namely, that that class of animals inhaling atmospheric air in which vapors are floating are much more easily subdued by inhalations of chloroform, etc., than other classes. It may well be doubted if the star-fish could be killed by these potent drugs unless immersed entirely.

As we go higher in the scale of animal life we observe a corresponding degree of sensitiveness to the effects of chloroform, etc. Therefore we see a

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As we go higher in the scale of animal life we observe a corresponding degree of sensitiveness to the effects of chloroform, etc.—Therefore we see a

remarkable difference in their effects upon the humming bird, which dies after a few breaths, and the turtle, capable of standing if a foot long more than a man or many other animals twenty times its weight. The great difference is not, if we may judge, in the proportional greater powers of the *chelonian* to withstand the influence, but rather the ability of the turtle, especially if it be an aquatic species, as the snapper, *chelydra serpentina*, to suppress its breathing for an indefinite time, whereas the little hummer breathes, probably when confined and excited, thirty times a second.

The largest turtle may be made to lie limp and lifeless by a proper application to his nostrils. It is a ludicrous sight to see one with his head lolling out on the ground, his now flabby and nerveless legs extended, and a general appearance pervading much like the old, dead moss-backs one sees around the borders of a pond, which, from old age or inability to withstand the rigorous winter, appear in the mud as the ice leaves them to view. At first, on application of a saturated sponge to a snapper's nose, it is eagerly darted at, seized in his strong mandibles and jerked into his shell. Now we have him, and in due time by constant attention we subdue him entirely so that his flippers cease to vibrate, and at this time his mouth may easily be opened and examined. Soon an eye opens and movements begin again, and not long after he wants to fight as badly as some men we have seen chloroformed.

That the turtles are cold-blooded, hence tenacious of life, is not proof however that all reptiles are equally difficult of subjection. As will be found

on trial, streaked snakes are easily overpowered by vapor of ether; even large serpents can be easily brought to the verge of imbecility, and frogs, toads, etc., be thoroughly and quickly subdued. This, as would seem strange on first thought, is not so easily accomplished during early spring as later in the season. The fact may be explained readily; nearly all cold-blooded vertebrates hibernate, and as they emerge from their retreats, more or less lethargic in the spring, they breathe with moderation, there being but little need of respiration at first, as the blood in the body moves sluggishly at first. Later in the season when the weather is warmer, when reptiles are in their glory, as in the swifts, rivalling in movements of the most active mammals, the breathing is much more rapid.

Birds, gentle little birds, are easily overcome, but some of the large hawks and owls can make quite a resistance and are as vicious as a wild Irishman. Cats are the most difficult animals to subdue that we meet with, and while a man may chloroform a horse by sitting on his prostrate head and applying, a cat will require two men at best, and I have seen three fail lamentably, as their lacerated hands attested. A first-class way of saving one's skin is to place the *feline* under an inverted pail along with a saturated sponge. This answers excellently also for large, dangerous birds.

An attempt to chloroform a song-sparrow, *melospiza melodia*, on its nest was a failure, for which the writer never could account, for attempt it as I would, in daylight or darkness, the wary and perhaps divining bird, for her nest was placed contrary to the accepted theory, in a hedge quite three

feet from the ground, was invariably on the alert.

To those collecting animals for skeletons the advice to use chloroform, etc., is given. Its only drawback is the expense, and with care little waste will result, and the saving to our precious birds and other interesting animals of a painless death is a factor which it is believed no one with heartfelt regard for the creatures of our forests and fields will gainsay.

VERTEBRATES.

The branch vertebrata, or vertebrates, includes all animals which have an internal jointed skeleton. The skeleton forms the frame-work of the body; to this frame-work is attached the flesh and outside of the whole is the skin, which is either naked or covered with hair, fur, wool, feathers, scales or plates, according to the kind of animal. The most important part of this skeleton, or the part which is most constantly present, and that to which all the others are directly or indirectly attached, is the axis called the *spinal column*, or backbone, at the anterior end of which is the brain cavity or cranium. This column is made of parts called *vertebræ*—a single part, a *vertebra* from the latin *verto*—meaning to turn.

The sub-kingdom vertebrata is divided into five orders, which, beginning with the lowest, are:

I. *Pices*, or fishes, or gill-breathing, cold-blooded animals, which live in the water, and have only two cavities in the heart.

II. *Batrachia*, or amphibians, cold-blooded animals, which breathe by gills in the young state, but afterward by lungs, are destitute of plates or scales,

have three cavities in the heart, and nucleated blood corpuscles,—as frogs, toads, salamanders, etc.

III. *Reptilia*, or air-breathing, cold-blooded animals, which have the body covered with plates or scales, lungs not connected with air-sacs and not separated from the abdominal cavity by a diaphragm, a heart of three or four cavities, and oval nucleated blood corpuscles.—as turtles, saurians and snakes.

IV. *Aves*, or birds, or air-breathing, warm-blooded animals, which have the skin covered with feathers, lungs connected with air-sacs, and not separated from the abdominal cavity by a diaphragm, a heart of four cavities, a complete and double circulation of the blood, and oval nucleated blood corpuscles.

V. *Mammalia*, or air-breathing, warm-blooded animals, which bring forth living young and nourish them with milk, usually have the skin covered with hair, fur or wool, lungs suspended in a cavity by a diaphragm, and unconnected with air-sacs, heart of four cavities and a complete and double circulation of the blood,—as man, beasts of prey, our domestic quadrupeds, etc.

The spinal column in the lower vertebrates has simply small processes extending from the sides, which in higher orders are more fully developed into true ribs.

CHAS. A. TRACY,

A. A. 653, Oskaloosa, Iowa.

Two robins were seen to light on the electric light wires and begin billing and cooing each other. The current was suddenly turned on, killing both of them.

You should subscribe.

For the AGASSIZ RECORD.

ON COLLECTING BIRD SKINS.

BY "SENEX FOSSILS."

The essential things for collecting birds are first of all patience, then the tools, namely: Scalpels, or a good, sharp knife with a small point will do, plenty of cotton, some poison, arsenic and pulverized alum, half and half, scissors, brain scoop, and last, but not least, a good breech-loading shot-gun, shot—sizes, 6 for the largest birds and 12 for small. Make your charges light; experience is by far the best teacher, so observe carefully and you will be surprised at the small load with which you can kill birds even as large as a robin. For carrying specimens a common fish basket is recommended by some, and if you cannot buy one, exercise your ingenuity some and weave you one from willow twigs which have bark stripped off. After boiling them thoroughly they are very easy to bend without breaking. This basket can be strapped around your waist in such a position that it will not hinder the use of the gun. After shooting a bird stuff all shot holes with cotton, then place head first in a cornicopia made from stiff, brown paper; carefully double the end down and lay in your basket. If your shot should only wound the bird it can be killed with a sharp blow on the back of the head, or by pressing under the wings with thumb and finger, or if the bird is large take a sharp, fine bladed knife and insert between the skull and first vertebra and sever the spinal cord.

But now you have your specimen killed, so what next. In your "work shop" lay the bird on its back full length and proceed to measure it; find

total length from tip of bill to end of tail; then stretch the wings to a reasonable distance and measure from tip to tip; measure girt just below the wings, then the length of bill, tarsi, setting down all as you go along. Note also color of eye, contents of stomach, etc. Now for skinning. Lay bird on the table with head towards your right hand, take a scalpel and run the hand up and down from the breast-bone to the vent, and in so doing you will notice that in most birds there is a naked place running all the way down, blow the feathers away and insert the scissors at that point of the breast-bone and cut, taking care not to go beyond the skin into the belly walls; cut into the vent, which makes a good stopping place, as it will not tear. After doing this carefully *push* the skin away from the body, —always *push*, never *pull*. If you do you run the risk of tearing the skin; carefully skin around the legs, inserting cotton all the while to keep the skin away from the body, and to keep the feathers out of the cut; when the legs are reached run your finger around them *under the skin* and close up to the body; here you can cut them off. Leaving the legs till later on, skin the wings, and treat the same as the legs. Next comes the neck and head; the skin comes off easily enough on the neck, so skin down and over the skull to the ears; take care to detach the membrane of the ear with the thumb nail, and then skin till you come to the front of the eye socket, cut the membrane covering the eye, but do not cut into the ball, and then scoop out the eyes. Now for the brain and jaws. A good way to treat the brain is to take a heavy knife and cut the top of the skull off together with all superfluous flesh and

bone that may be clinging to the base of the skull; through this opening you can easily scoop the brain out with a brain scoop, and it sometimes can be taken out whole. The tongue should be taken out from the base of the skull, and along with it be sure that you get all the flesh of the jaws and mouth; fill the head with poison and shake out, and then roll a piece of cotton up and place in the brain cavity to hold the skin out to its place in the absence of the piece of skull cut off. The head is now through with. Take the wings, skin down as far as possible and detach the quills with the thumb nail along the metacarpal bones; cut the flesh loose and be sure that you get all the tendons along with it. The legs should be skinned to the tarsus; cut all the muscles and tendons out; cut the body off at the tail, taking care not to sever it too close to the end or the quills are liable to fall out. Now reverse the skin and poison by putting considerable arsenic in and shaking around, then dusting out. Take a roll of cotton a trifle larger than the neck and roll between the hands to get it even, and with a long knitting needle insert in the neck; fill the legs, wings and body out with cotton, and the skin drawn together at the opening finishes the skinning.

Your specimen is now ready for the dryer. Go to the tinner and procure several sheets of tin of different sizes, make these into half cylinders of sizes to suit different sized birds. Your bird can now be put in here, back down, and allowed to dry for two weeks or so. Label specimens of birds with name, date, locality, size, color of eye, contents of stomach, and also sex. And, by the way, I must tell you how to tell the dif-

ferent sex. Cut through the ribs under the right wing and push away the intestines and there in the back will be the testicles of the male, which are two whitish bodies longer than round, or the ovaries of the females, a bunch of whitish bodies; sometimes one must use a magnifier to detect these.

In the above paper I have endeavored to give to you just how I made my last skin. Making skins is much better than mounting them. If the specimens are intended for the collection they take less room, and look just as well to the eye of a naturalist.

AGASSIZ NOTES.

If there are any new Iowa Chapters not on our list we would like to hear from them.

A new Agassiz paper comes to light in the shape of the *Scientist*, published by the A. A. of Fitchburg, Massachusetts. Here's to its success.

The prospects of the next Iowa Convention bid fair to be far ahead of any that have been yet held. We understand that Mt. Pleasant is going to give us a big send off.

The Oskaloosa Chapter is booming. Lately they combined collections with the Mahaska County Natural History Society, and in that way obtained 100 books, 500 geological, 600 entomological, and 100 oological specimens, besides a complete collection of woods of Mahaska county, also large cases,—in all, about four hundred feet of shelf room.

If there is no Chapter in your town or vicinity, why can't you organize one? Get three others to go in with you and send 50 cents to Harlan H. Ballard, Pittsfield, Mass., for a hand-book, and also your number and letter. Begin by

observing all that is strange in nature, and prepare papers on common objects around you. They will be interesting.

Agassiz work in Iowa is booming. Seven Iowa chapters have been newly formed or revised,—at Knoxville, Ottumwa, Cedar Rapids, Des Moines, Dubuque, and Hopkinton. This shows splendid work for three or four months time. But will not these new Chapters come into the Iowa Assembly? Write to Arthur J. Cox, President, Iowa City, for particulars.

Why don't the Chapters in other states unite in state assemblies? Here it has been a grand success. In 1883 the I. A. A. A. was organized, and at every annual meeting there has been from fifty to one hundred delegates attending. There are assemblies in New York City, Boston, Chicago and St. Louis, but so far Iowa has the only state assembly that we know of. We would like to see this work go on.

A big fossil turtle has been discovered at Serrat, near Perpignan, and, according to the report sent in to the Paris Academy of Sciences, the presence of the animal in earth of Middle Pliocene formation shows that the temperature was very warm in France before the glacial period. The turtle is about three feet and a half in length, and will be forwarded to the museum of the academy.

Questions for Agassiz Chapters--Botany.

What part of the strawberry plant do we eat? The blackberry? The raspberry?

What Botanist first gave two names to every specie of plant?

What common flower is without stamens and pistil?

REPORTS FROM A. A. CHAPTERS.

Under this heading we intend to publish from time to time the reports of Iowa Chapters. We would like to hear from all Chapters in the State.

REPORT OF KNOXVILLE CHAPTER.

Our chapter was organized October 7, 1887, with nine active members. From then until the present date we have been working hard, and, studying zoology, physiology, chemistry, natural philosophy, geology, astronomy and botany,—in fact, nearly all the branches of natural science, find favor with one or more of our members.

Since our organization we have been meeting in one of the rooms at school, but as school is nearly over we thought best to look after another room, and appointed a committee for that purpose. And then at school we had no place for cabinets, and were therefore hindered from making collections on that account; but as we have obtained another room we can now work to the betterment of all concerned.

ARTHUR M. CATHCART,
Secretary.

CHAPTER 64, CEDAR RAPIDS, IOWA.

In September, 1887, this chapter was reorganized with a membership of seven, which has since increased to thirteen. We have been spending our time this winter on the study of entomology, which we find very interesting. We have the help of Dr. Slarr, formerly of Coe College, in our collecting of specimens and the classifying of the same.

W. A. HAZARD,
Corresponding Secretary.

To every one sending 35 cents for a yearly subscription we will give five varieties of fine fossils.

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NOTICE our grand premium offers.

EVERY Agassiz Chapter in the state should subscribe, and in this way get the benefit of the reports, etc., that appear every month.

We have established a western agency with the National Mailing Department of Florence City, Arizona. Notice their "ad" in another column.

The *Hawkeye State Collector* has been changed into a weekly.

SENATOR ALLISON has our thanks for the reports of the Fish Commission for '83 and '84, memorial speeches on the life and character of the late Thomas A. Hendricks, and Vol. 3, Report of Geological Survey. The report of fish commission is concerning the government steamship Albatross, which was rigged and fitted out for dredging in deep sea.

GRAND PREMIUM OFFERS.—To that regular subscriber who will obtain for us the largest number of yearly subscribers before July 1st we will give a large collection of fossils, embracing crinoids, trilobites, etc.,—in all more than 30 varieties. To the next largest, 20 varieties. Two six months' subscriptions will be counted as one yearly. The number of subscriptions must be five or more.

IN every issue of our paper we have been presenting our readers valuable receipts that have been finding great favor among them. We have concluded to begin a series and will consist of the following and others that we may add from time to time: Articles on taxydermy, how to make plaster paris casts, how to collect eggs in a proper way, how to take impressions in paper of carved letters, etc., microscopic slides, skeletons, etc. These will occur in regular order, so subscribe and get the whole series.

SOME time ago Luther F. Brooks, a diamond merchant, bought a petrified fish in Oregon of a man who had brought it down from the mountains. The finder said it came out of a cedar on top of the mountains near Portland, about

three thousand feet above the level of sea. At the time Mr. Brooks purchased it the tail of the fish could alone be seen, but he set to work removing the rock that covered the remainder of the object. He labored carefully and slowly for several hours a day for six weeks, and was rewarded by obtaining a fine specimen of a petrified fish about seventeen and one-half inches long and six inches through the widest or thickest part. The outlines of the tail are complete, and the small rib bones are as distinct as though they had just been placed there. The upper and lower fins are also plainly seen, and the head has retained its shape, while the vertebral column is clearly defined. The stone proper is of a light grayish tint, forming an excellent relief or back ground for the dark color of the fish.

Written for the AGASSIZ RECORD

THE HERMIT THRUSH'S SONG.

Listen to the thrush's sadd'ning song
 Deep in the forest glade,
 Where, perched within the shade,
 He sings the whole day long;
 Sweet, yet sad, the notes he trills,
 His dulcet harmony thrills.

Yet, though his notes are sad, he sings of love,
 Of happiness profound;
 With joy abound

The creatures of his home, the verdant grove.
 In rivalry the happy songsters chirp and sing,
 A minstrelsy of vernal love, and he is king.

We know him by his penetrating, pleasing song,
 Sweet bird of silver tongue,
 With nature's melody strung,
 Atune with magic harp thy sweetest strains
 prolong.

Ah! during winter's grasp the grove is still,
 Then vainly do we pause to hear thy gentle trill.

—SCOLOPAX.

A. A., TAKE NOTICE.

It was lately suggested to us that a congress of the Agassiz Association would be a grand addition to our cause. Read the following particulars and write us your opinion of the matter:

Place of meeting to be held at some point in the Central States. Place of meeting to be changed each year. Place of meeting to be held in some large city which has a number of A. A. Chapters, so that all attending members could be entertained. Each Agassiz Chapter to send one delegate or representative. President of Association is to act as President of congress. Other officers to be three Vice-Presidents, Corresponding and Recording Secretaries and Treasurer. All officers to perform duties usually ascribed to them. All elected officers to be elected at first session of each congress, and to hold office until their successor is elected. The object of this congress to be the general advancement of the Agassiz

COMMITTEES FOR I. A. A. A., 1888.

Invitation—Miss Grace Robert, Chapter 700, Mt. Pleasant, Chairman; Lynds Jones, 887, Grinnell; Miss Kittie A. Voorhees, 20, Fairfield.

Printing—Hubert Remley, 514, Iowa City, Chairman; F. B. Palmer, 540, Oskaloosa.

Programme—Miss Ollie Cole, 700, Mt. Pleasant, Chairman; F. B. Palmer, 540, Oskaloosa.

Finance—Louis Block, 158, Chairman, Davenport; C. C. Trine, 110, Marshalltown; Frank E. Wetherell, 540, Oskaloosa.

Toasts—Miss Lollie Crane, 700, Chairman; Louis Block, 158.

For further information concerning the convention, address

ARTHUR J. COX, President,
 104 E. Market St., Iowa City, Ia.

Association. Papers as to modes of conducting societies upon natural science subjects to be presented, and business relating to the A. A. transacted.

TO THE MEMBERS OF THE I. A. A. A.

It is to be hoped that the Chapters have borne in mind that an exact record of excursions, field meetings, specimens collected and other work done has been faithfully kept, as urged at the last convention. Such a record is of the highest importance to an impartial award of the diplomas. The charts for the representation of statistics of work done will be issued the same as last year.

Each Chapter is expected to present a paper to be read at the convention. I would advise that the chapter essayist be elected as soon as possible, thus giving him ample time for the preparation of his paper.

The Secretary of your Chapter is requested to forward to me as soon as possible:—1. The names of the members of the Chapter. 2. The officers. 3. Date of organization—in short, a history of the work as far as you are able to give it. I will deem it a great favor, not only to myself, but to the I. A. A. A., if the above request is complied with immediately. I remain yours in I. A. A. A.

ARTHUR J. COX, President,
104 E. Market St., Iowa City, Ia.

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Beginning July 4th and closing October 27th, at Cincinnati, Ohio. This Centennial embraces historical, geological, archæology and industrial displays, and will be one of the greatest

events in the history of the west. Over 5,000,000 objects of interest will be on exhibition, covering 600,000 square feet of space. Excursion rates on the railroads. Watch your newspapers for advertisements. Correspondents and friends of Warren K. Moorehead will please note that his large and interesting display, covering over 500 square feet, can be found in "Pioneer Building." Mr. M. will attend it in person, and will be pleased to make the acquaintance of archæologists.

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We are now prepared to name fossils from any locality *for them*. You must observe the following rules in sending specimens to us for nomenclature:

1. At least four specimens of each specie must be sent, and as many more as you wish.
2. Specimens must be *perfect*.
3. Specimens *must* be accompanied with the name of sender.
4. Specimens must be prepaid.
5. Senders of specimens must keep duplicates of the ones sent and number to correspond.

Any deviation from the above rules would be the cause of trouble, so please observe carefully.

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Box 18, Dayton, Ky.

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OF THE
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ARTHUR GROSJEAN, SECRETARY

147 East 39th Street, New York City, U. S. A.

Volume I SEPTEMBER, 1904 No. 1

The annual dues are fifty cents or two shillings. Remittances should be sent in domestic or international postal money order of any country. Members receive a rubber stamp with their number and the Bulletin of the Club. Members are only obliged to answer cards received from other members, the stamp of the Club being placed in the upper left-hand corner on the address side of the cards sent out as a means of identification. While it is not absolutely necessary to write your name and address on the cards you send out, as every member has a list of all the members with their numbers, we deem it advisable to do so, as the Bulletins sometimes go astray in the mails. All members are requested to answer cards received from other members as promptly as possible and any member not receiving an answer within a reasonable time should report the facts to the secretary who will inquire into it, but members should take into consideration the time taken in transit as it takes about forty-five days each way from New York to get answers from certain parts of Australia.

In sending cards to countries where the English language is not spoken, French is the language universally understood and should be used if possible, but those members who have no knowledge of French should make use of the words and phrases that appear in another part of the Bulletin and which will be added to from time to time, and which will be found ample to make one's self understood. In publishing the names, members who collect certain kinds of cards and those who desire them from certain countries will be allowed to state so in an announcement of not more than ten words exclusive of their name and address. Those who are making a general collection should simply have their names and addresses published. Collectors of stamps are requested to make use of the Small Announcement Column.

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