

*R. S. Adams*

THE  
COLLECTORS'

SCIENCE MONTHLY

A Magazine devoted to the Interests of Collectors of Natural History  
Specimens, Stamps, Coins, Etc., Etc.

VOL. I. No. 1.

G. S. M. Publishing Comp'y,  
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VOL. I.

BATTLE CREEK, MICH., MARCH, 1886.

NO. 1.

THE OSPREY.

**T**HE Osprey, better known perhaps by the name of Fish Hawk, is but little known among the lakes of Southern Michigan, although it is taken with comparative frequency on its spring immigration. Being a fish eater, it must necessarily fix its habitation in the vicinity of some considerable water course or lake. This it finds in the secluded lake regions of the north.

The Osprey will readily attract attention by its easy, graceful flight. It will circle for hours over the glassy surface of a lake, ready to close its wings and plunge with the rapidity of thought upon the luckless member of the finny tribe that prompted by hunger or curiosity seeks the surface of the water. It is well worth an hours' watching to see them take a fish in this manner.

The Bald Eagles have the same surrounding as the Osprey; they also love fish. Unable to take them in the same manner as do the Osprey, they imitate the example of man and take from their weaker brother.

It seems strange that a bird, inoffensive in itself, should be thus persecuted. They live in peace with small birds, even allowing them to rest in the hollow places of their own nest. Like the Eagle they are said to be strictly monogamous, and re-

turn to the same nest year after year.

The Osprey is simply yet richly colored. Dark mottled brown on back and tail, shading to white on head, neck and under parts. Legs are perfectly smooth, and in this they differ from other hawks, whose leg feathering are characteristic markings. Feet are slaty blue; claws are black and long. It nests in May, laying from two to three eggs, which do not differ from the majority of hawks eggs in color, but are very variable in size.

CONCHOLOGICAL WORK IN  
MICHIGAN.

BRYANT WALKER.

**T**HE State of Michigan, by reason of its geographical position and physical conditions, is peculiarly adapted for the development of molluscan life in great abundance and variety, and for these reasons affords to the conchologist a field of operations unsurpassed by any of the northern States of the Union.

But, notwithstanding that nearly half a century has passed since the first catalogue of the shells of the State was published, owing to the extent of territory embraced within its limits and the small number of those who have interested themselves in this particular branch of science, our knowledge of its fauna is fragmentary and incomplete in the extreme.



Although the number of catalogued species has increased from 75 in 1839 to more than 200 at the present time, yet it may be safely said that scarcely half a dozen of the eighty-one counties have been explored with any degree of thoroughness; that the precise range through the State of scarcely a single species is known with any degree of exactness, and that but a tythe of the valuable material lying within reach has been utilized.

A careful compilation of the several catalogues that have been published of the species of shell-bearing mollusks of the State as a whole, or of particular districts, gives the following summary of the number of species and varieties which have thus far been cited as belonging to our fauna:

Selenitidae	1
Limacidae	15
Helicidae	30
Pupidae	10
Stenogyridae	1
Succinidae	7
Auriculidae	1
Limnaeidae	49
Physidae	18
Ancylidae	5
Valvatidae	7
Viviparidae	11
Rissoidae	15
Streptomatidae	11
Corbiculidae	27
Unionidae	85

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Of these twenty-one are admitted to be varieties and have no claim to specific distinction. Sixteen are clearly extralimital and erroneously attributed to this State. About thirty more are either of doubtful authenticity, requiring further proof to establish their occurrence within our boundaries, or are of doubtful specific validity, needing further investigation to determine whether they shall be considered as distinct or relegated to the list of synonyms. This leaves some 226 species, whose presence within our borders may be considered as reasonably well established. Of course, even this number is subject to reduction by reason of errors in identification on the part of those

who have compiled the different catalogues, and such will probably be the case in some instances. But in the main, the species are cited by several collectors and their claims to a residence in Michigan may be considered as definitely established. And, on the other hand, there can be no doubt but that, as the area of explored territory enlargens, many forms now known to inhabit adjacent States will be found within our limits. This expectation is justified, not only by the past experience of those who have been interested in developing our fauna, but also by the position of the State in reference to the several faunal regions which are known to exist in this country.

With reference to the land shells, the State forms part of the Eastern Province as established by Mr. W. G. Binney, and occupies an intermediate position between the Northern and Interior Regions. Of the 32 species considered as characteristic of the Northern Region, fourteen are now known to occur in this State, and the list is likely to be considerably increased as the northern parts of the State are more carefully examined. While of the 69 species belonging to the fauna of the Interior Region, 46 are recognized inhabitants of Michigan, and the well known occurrence of other species in the States immediately south affords good reason to believe that the proportion will be increased in the future. The range of the southern species towards the north and of the northern forms southward is one of the questions that can only be settled by observations based on extensive collections from all parts of the State. There is also a wide and fruitful field of investigation in regard to the habits, anatomy, and embryology of all our species. For, although our knowledge in these particulars, especially with reference to the terrestrial species is considerable, yet a great deal of that which has been published is very unsatisfactory and needs careful revision. As an example of this class of work, an interesting problem, which is

waiting for solution, with reference to our Michigan *Succineas* may be mentioned. There is a group of forms belonging to this genus very abundant throughout the State, of which *S. ovalis*, Gld. is the type, and to which perhaps all are to be referred. In 1866 Mr. G. W. Tryon, Jr., described one of these forms from this State as *S. De Campu*. Another variety has received the mss. name of *S. Peoriensis* Wolf. Mr. Binney, in his recent "Manual," refers the *S. De Campu* to Gould's *S. ovalis*, but makes no allusion to Wolf's species. Are these several forms distinct, or are they simply local varieties referable to a common type? This is the question to be settled by future investigation based upon large suits of specimens from all parts of the State, supplemented by a careful anatomical examination. And it seems not at all improbable that careful dissections of these various forms might result in the discovery of some well marked specific character in the internal structure that would render the determination of the various species of this perplexing genus a matter of comparative ease.

But the work to be done with reference to the land species, interesting and important as it is, is small in comparison with that which awaits the student of the aquatic forms. This arises, partly from the fact that less work has hitherto been done in this department, and partly from greater variability of the fluviatile species which not only renders all specific lines apparently more or less doubtful, but also, by introducing an element of uncertainty into the work of his predecessors plunges the student into a synonymical chaos, out of which it seems almost impossible to bring order. But a great deal of the perplexity which now involves the subject can be solved by careful study and thorough and systematic collecting.

And here again, Michigan affords abundant opportunity for successful work. Surrounded by the great lakes, dotted with inland lakes and ponds innumerable,

and traversed in every direction by rivers and streams, it is not surprising that more than three-fourths of her molluscan fauna is fluviatile, nor that under such favorable conditions for abundance and variety it should present many intricate problems to the conchologist. All the families and nearly all of the genera of fluviatile shells found in the United States are represented in our fauna, and nearly all of our species occur in great abundance. The northern portion of the State is peculiarly favorable to the development of the fresh water pulmonates, and we consequently find *Limnaea*, *Physa*, *Planorbis* and associated genera in great abundance and variety. In all these genera, particularly in *Limnaea* and *Physa*, the lines of specific distinction are often very vague, and some of the most interesting questions in American conchology are presented by different so-called species belonging to them. In the northern part of the State especially these genera are to be found in the greatest abundance and perfection. And not only do these northern localities furnish much finer specimens than the more southern portions of the State, but they are almost wholly new ground to the conchologist and offer possibilities of the most enticing character.

The *Valvatidae*, *Viviparidae* and *Rissoiidae* are all well represented in Michigan, and most of the species are to be found in abundance. Several forms from the State have been described as new species, but their exact relations with other forms are somewhat in doubt and much will have to be done before we can claim to have any very accurate knowledge of the extent and character of our fauna.

The *Strepomatidae*, so abundant in the prolific waters of the southern States are but poorly represented in Michigan. But the few species that do occur, though inferior in size and beauty to their southern brethren, are very abundant in individuals, and under peculiar local influences present many interesting varieties. One

of these has been described as distinct by Dr. Lea as *Goniobasis Milesu*; but it's right to be considered more than a variety of wide-spread *G. livesceus* Mke. has been questioned and further observations are required before its status can be definitely settled.

The *Unionidae*, so characteristic a feature, in American conchology, from their size and beauty form perhaps the most conspicuous element of our fauna. Nearly one-third of the whole number of species credited to the State belong to this family. And in no one direction can better work be done by the collector than in accumulating material that may aid in deciding the many problems in nomenclature and synonymy which it now presents to the student. While the greater part of the drainage of the State pertains to the St. Lawrence system, yet in the southern part several streams have their origin which are tributaries of rivers flowing south to the Mississippi valley. This fact, together with the western position of the State brings within our limits many species that are characteristic of the Ohio river and its branches, in addition to those considered peculiar to the great lakes and their tributaries. Although at the present time we have perhaps a reasonably accurate knowledge of the number of species that are to be found in the State, very much necessary information is yet lacking as to the range of the different species throughout the State. And in the prosecution of this work, not only is there the probability of making new additions to our list, but also a possibility of re-discovering the long lost *Unio Ellipsiformis* Con. of which nothing is now known except the original description and figure, the types, said to have been received from Michigan, having disappeared.

The most characteristic feature of our *Unionae* fauna, however, is the great development of the genus *Anodonta* among the inland waters of the State. No less than 30 of the 85 species of *Unionidae*

in our catalogue are anodons, and of these the types of 15 came from Michigan waters. To be sure only two of the fifteen are admitted by Dr. Lea to be valid species. But, however that may be, the wonderful abundance and variety of forms belonging to the genus to be found within our limits still remain. And what ever might be the result, the definite settlement of the synonymy of our Michigan *Anodontas* would be a contribution to science, of which any one might be proud. The only other family of mollusks represented in our fauna is the *Corbiculidae*, which is credited with 27 species and varieties. Owing to the small size of a greater part of the species of this group, and the similarity of many of the forms described as distinct, a great deal of confusion exists in regard to the distribution of many of the species, and some doubt as to the actual occurrence in our waters of some species that have been catalogued by various collectors. All these questions, as well as that of the occurrence within the State limits of the species brought by Agassiz from the north shore of Lake Superior, remain to be settled by the diligence and study of our local students and collectors.

Having thus cursorily reviewed the present state of our knowledge of the various families of mollusks inhabiting the State, and to some extent pointed out its deficiencies and indicated the lines along which future work should be directed, it only remains to urge all who are interested in developing the natural history of the State, to assist in this most fascinating department. It is not too much to say that, in many respects, it is the study in which the amateur can spend his leisure with the most profit to himself and to the cause of science. There is no department of natural history in which the material for study is more abundant; none in which the aids to study can be obtained with so slight expense; none which requires so little labor for the proper preparation and preserva-



tion of specimens, and none in which the work of the local collector and amateur are of greater real value. There is not one of the 200 species of mollusks found in Michigan in regard to which information is not needed as to its local distribution, variation and habits. And every collector, who adds something to the vast amount of material that is necessary before the natural history of our mollusca can be known as it should be, can felicitate himself that to some extent at least his labors have been a contribution to the advancement of science.

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### DISCOURAGEMENTS.

M. L. LEACH, M. D.

**S**OME writer has affirmed that the proper study of mankind is man. A more comprehensive statement, and one equally true, is that the proper study of mankind is nature, of which man forms a part.

The utilitarianism of the present day, is the bane of natural science. The study of nature for the love of it, is so out of harmony with our nineteenth century American civilization, that the latter, instead of a help, is often a hinderance to it. The average American regards as good for nothing that which does not possess a market value that can be expressed in dollars and cents. The young man who stands behind the dry goods counter, thinking of nothing but the profits of trade, and hoarding up his wages for the establishment of himself in business, or who contentedly follows the plow or wields the spade, with no other ambition than to sometime become himself the owner of a valuable estate, is a model of wisdom and prudence; the one who climbs out of the rut of common pursuits, and gives rein to the better instincts of his nature, reveling in the luxury of com-

munion with that immense and measureless collection of wonderful and beautiful things that constitutes the world he lives in, is a crank or a fool. To get bread—and money, is the only legitimate object for the employment of our faculties. The youth who is inclined to spend valuable time in a practical study of natural history, in preference to mastering the details of some manual labor pursuit, subjects himself to parental reproof. He who goes about with a hammer knocking rocks to pieces, in search of some hidden record of creation, or dips up from the muddy waters of the road-side ditch the tiny shell that testifies of the Creator's art, is an object for the pitying sneer of the gaping multitude.

Nor when we come to the public schools is the matter helped much. The idea of the popular educators of the present day, is the formation of a so-called symmetrical, well-balanced character. There must be just so much grammar and mathematics, just so much botany and zoology, and no more. The course of study in a given case is not arranged with reference to the natural ability and taste of the pupil, but his ability and taste must conform, to the established, inflexible standard. He may be but a few grades removed from an idiot in the ability to master arithmetic, but especially capable in grammar; nevertheless he must not advance in grammar beyond the landmark established for his class, till his deficiencies in arithmetic have been made up. The youth with a mind which, with proper encouragement and cultivation, would place him in an honored position as a student of some branch of natural history is persistently held back for lack of proficiency in some other branch of study for which he has neither ability nor inclination. However, the signs of the times, as seen in the recent multiplication of schools in which special courses of study are allowed, point to a better state of things.

## THE COLLECTING HOBBY.

CHAS. E. BARNES.

**E**VERY person should have a hobby. I do not mean by this that we should become a crank upon some one subject, think of nothing else, talk of nothing else, and bore our friends to death by a constant discussion of the theme. We should have something to engross our attention, after business hours and outside of our regular avocation, which will give us pleasure and serve as recreation. Among the most delightful of hobbies is the collecting of coins and stamps, archaeological and natural history specimens. What a fascination there is in collecting. What satisfaction and pleasure it gives a person to look over, examine, think and reflect upon his collection. No matter how exhausted and dispirited one may become from his day's work, or how much he may be suffering from the trials and vexations of business, communion with his cabinet of specimens drives away the blues, creates a restful condition of mind and body and makes him a happy and contented man while he is living in his little world of relics and specimens. It is this relief from business cares and rest from a hard day's labor, experienced by those interested in hobbies, that makes the hobby a necessity. Hence I say, we all should have a hobby. The pleasure and recreation derived from it is recompense enough, but in addition practical knowledge is obtained from the study of the specimens, which constantly gives use to reflection and thought. As a means of education the collection of specimens is invaluable. It is a pastime that every boy should become interested in. While engaged in collecting his time will be so engrossed that he will have no desire to indulge in mischievous sports or vacuous acts. It will keep him away from bad company and give him something for a study; something to deliberate upon, and de-

velop an intelligent boy. By all means encourage the young people to become collectors.

When the collecting hobby once becomes a fixed habit with a boy he will never relinquish his interest in it, and he will continue the collecting mania through life. It will become second nature to him.

When we meet a man who is a collector, and interested in *our* particular hobby, although perfect strangers, we immediately become friends, and talk and act as if we were old acquaintances. As collectors we become akin. There is no social distinction or caste. In fact, I never knew a low, vulgar and ignorant person to become a collector. Collecting requires intelligence.

The hour of ecstasy and rapture in a collector's life is when he discovers, purchases and becomes the sole possessor of something rare which he has long desired. When he knows that the coveted prize is now his own, great is his rejoicing. He examines it over and over again in the most critical manner, continually fondling it, and the pleasure that he experiences can only be appreciated by those who have themselves been in the same happy situation.

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## MY VISIT TO A HERONRY.

W. F. ELY, M. D.

**T**HE sight of a great Blue Heron, whether in action or repose, always impresses my mind with a sense of the picturesque. Oftentimes when wandering about the woods with an eye open to the beauties of nature, I have come suddenly upon an isolated pool hemmed in by a fringe of green, that was reflected back from the cool depths with an accuracy no picture can excel. Standing knee deep in the still water, as motionless as those stone sentinals of the Egyptian desert, is one of these magnificent birds. The thought forces itself upon our mind,

what a perfect picture of solitude; not even a breeze moves the leaves, not a ripple appears on the smooth surface of the water, life even, in this repose, seems absent. Wait a minute or two; a black knob slowly rises above the surface of the water, and soon we see crowning it two great staring eyes; some unwary frog has ventured too near this seeming statue; a motion too quick for the eye to follow, tells us that one more victim has been sacrificed to tickle this epicurian palate, and our heron, the object of his visit to this pool having been accomplished, slowly unfurls his broad wings, and turns his flight no doubt, to that distant home where his little ones clamor for food. The picture still lies before us, but robbed of its central figure, now presents but the mere back ground awaiting the artist's inspiration.

When one day Dame rumor brought to my ears the report, that a heronry, where numbers of these birds carried on their domestic relations in one colony, was to be found in a piece of wood only twenty-five miles from where I lived, I was of course immediately desirous of visiting it, and one morning in spring, with two companions, and all the necessary accoutrements of guns, ammunition, etc., a start was made for this Mecca of Blue Herons. A railroad train quickly carried us the greater part of the distance so that it was still early when we began our tramp.

Nature on this particular morning seemed to have awakened in the worst of humors. The sun was completely hidden behind a dark mass of threatening clouds, while the air was still and oppressive, even the accustomed hum of insects being for the time quieted. A drizzling rain that soon commenced literally dampened our enthusiasm, and compelled us to seek shelter. But there is a sunny side to every cloud, and soon light began to break through the rifts here and there, the rain ceased, and suddenly the sun came out, all the brighter for its short concealment. All nature seemed to awake

with its appearance; the air fairly teemed with insect life; the singing of the birds harmonized into a melody, that came to our ears, as one vast chorus; and from the thousands of raindrops that hung from every leaf and blade of grass, the sun's light, reflected, glistened and scintillated, transforming the soft carpet beneath our feet into an endless casket of sparkling gems.

Before us stretched for miles on either side a piece of wood, beech and maple on the higher ground, then oak, and on the lower levels ash and sycamore, and from its midst a chattering little brook flowed, that seemed to sing

"I come from haunts of coot and heron,  
I make a sudden sally  
And sparkle out among the fern,  
To bicker down a valley."

The occasional appearance of a heron winging his way toward the centre of this wood admonished us that here was our hunting ground, so we made a bold dash into its depths.

To one unaccustomed to look for birds, the first entrance into a large forest carries only an impression of solitude; silence seems to reign supreme, and all life, except perhaps mosquito, seems repressed. But give him an observing eye, and a keen ear, soon bird life will be both seen and heard. First, perhaps, the clear bell like notes of the Wood Thrush come to the ear, swelling into a strain of continued melody, that gradually dies away, as if receding into the distance, or perchance, a softer more silvery note, growing louder and clearer until the very air seems to vibrate with the melody, may indicate the presence of another member of the thrush family, and watching closely we catch a glimpse of that shy habitual of the deepest thickets, the Hermit Thrush flitting about in yonder tangled mass of underbrush; but his keen eye has discovered our presence, and off he goes to his secret fastnesses in the depths of the swamp. How different is he from that brilliant little warbler the Red Stark who flashing in and out among the green leaves, seems

endeavoring, in the thousand attitudes which he assumes to display to the best advantage his varicolored plumage of reddish orange, black and white. As he drops his partially spread wings, flirts his fan-shaped tail and coquetishly turns his head side wise, does he not irresistibly remind you of a simple minded woman as decked out in a new bonnet and dress she sails up the aisle in church?

Now a loud clear song, calls our attention to yonder pool, there is a little dark brown bird wading in the water, evidently in search of food among the inhabitants of this pond world. At first we fail to recognize him, but as he hops upon a decayed log and diligently see saws upon his legs like a sand piper, he introduces himself as that retiring little songster the Water Thrush. Just a moment he eyes the intruders in a half curious manner, and then away he flies to continue his work in some more hidden spot.

Thus we could study an almost endless procession of birds as they flitted constantly before our eyes. There goes one of those brilliant meteors the Scarlet Tanager, his fiery red coat seeming to have been marred by the accidental dipping of wings and tail into an inky block; a carmine stain on a background of pure white, and a loud clear note, calls our attention to a Rose Breasted Grosbeak warblers and sparrows there are in abundance, and kinglets and titmice seem associated together in a round of endless motion, as they diligently search every hole and crevice in the bark for their insect food. But unless we keep moving the day will be gone, and herony, the principal object of our visit will not be reached.

(To be continued.)

The government stamp of England used to stamp their patent medicine bottles causes many of the ignorant class of people to believe that the government has an intention to thus guarantee or warrant the excellence of the compound contained therein. For the future all the stamps

used to stamp patent medicines will bear the inscription: "This stamp implies no government guarantee."

### THE CHINCHILLA.

The chinchilla is an odd-looking little animal, and its fur is much prized, it is so fine. The rounded head, broad ears, long whiskers, and bright eyes of the chinchilla gives it something of the look of a large mouse. These little creatures keep together in troops, and feed on the roots of the plants that grow near their abodes. They are mild and timid. When taken up, they neither bite nor try to escape, but stay as still in the captor's bosom as in their own nest. The chinchilla is cleanly in its habits, and may be safely caressed or made a pet of, for it has no bad odor. It is a native of South America, where great numbers are caught by boys with dogs. It abounds in Chili and Peru. The two short, strong fore limbs of the animal, armed with strong claws, help it to dig in the ground; its hind legs are much longer. The ancient Peruvians used to make coverlets for their beds out of its fur.

### SOCIETY NOTES.

Notes from New Milford Conn. Philatelic Socy.

Our meetings have been well attended lately. Two members have joined the society, but two have resigned, one being our vice president, T. E. Starr. The election to fill the vacancy resulted in the choice of Maurice U. Levy. We have received several interesting letters from our Suffield member.

The stamps of Egypt and Sweden have been discussed recently, and at our next meeting we take Brunswick as a subject.

We have spent considerable time in perfecting our constitution, and would be glad to receive a copy of the constitution of any society.

JNO. W. TURBILL, SEC'Y.



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In presenting this, the first number of the COLLECTOR'S SCIENCE MONTHLY, we do so feeling confident that the better class of collectors, those whose patronage we desire, will give us their hearty support and aid in making this magazine a valuable and interesting assistant in their studies. Rest assured the publishers will spare no pains or expense in making the C. S. M. worthy of attention from the most advanced scientist as well as the youngest collector.

Our articles will be well illustrated, and productions from the ablest writers will appear in every issue. The matter will be original and of such a nature as will instruct and interest all. We shall insert a limited number of advertisements of well known and reliable dealers, and

our readers need have no hesitancy in placing their orders with any whose cards may appear in our columns. Should we discover any fraudulent dealings on the part of any firm, we shall at once caution our readers against them when we have obtained sufficient proof to warrant such action. Our exchange columns will be open for the use of our subscribers, and will be a valuable aid in exchanging duplicate specimens, and in establishing correspondence between collectors in various localities. Full and complete information as to the best methods of collection and preservation of specimens will be given. Under the head of "select formulae" we will give recipes which have been thoroughly tested and proven to be of value. We shall always take pleasure in answering questions from subscribers, and as we have access to a fine library of scientific works feel confident that we can render valuable assistance in this department. To the members of the Agassiz Association, we would state that we are relying on their support, and shall do all in our power to further the interests of that organization.

We will, for the present, accept subscriptions at 75 cents per annum. This price will soon be raised, and we think that every scientist and collector will take advantage of these low rates and send in his name at once. We shall endeavor to make this magazine as indispensable to the naturalist as is the fish hook to the angler. Every issue will contain articles of untold value which you cannot afford to lose. We shall always be glad to receive original contributions from our friends. Give others the benefits of your discoveries and experiences.

Owing to the carelessness of the proof-reader there are quite a number of typographical errors in this issue. We shall hereafter attend to this ourselves, and trust that we may never again be compelled to apologize for this feature of our magazine.



**CHRONICLE.****CONGO FREE STATE.**

This new African State has emitted the following values:



Five centimes, green—see annexed cuts. 10 centimes, rose; 25 centimes, blue; 50 centimes, green. Card 15, reddish brown, on chamois.

**HONG KONG.**

The following surcharges are announced:

Twenty cents, reddish orange and black; 50 cents, brown and black; \$1.00, grey-green and black.

**JHIND.**

The current stamps of India have been surcharged "Jhind State" for this province. The one-half, one, and two annas have been surcharged "Service" in addition to the "Jhind State."

**NABHA.**

This Indian State has also issued Indian stamps with surcharges "Nabha State;" also service stamps of one-half, one, and two annas.

**GIBRALTAR.**

The stamps of Bermuda have been surcharged "Gibraltar;" the Barbados 2d registration envelope has also been surcharged the same.

**LIBERIA.**

The following values of various designs have appeared: One rose, 2 green, 3 violet, 4 brown, 6 grey, 8 ultramarine, 16 orange-yellow, and 32 cents dark blue.

**MADAGASCAR.**

The British Consul has issued the following type-set stamps: One, 2, 3, and 6d; the colors are all brown.

**SANTANDER.**

This province of the U. S. of Colombia has omitted 1, 2, and 10 centavos; colors are respectively blue, red, and violet.

**BELGIUM.**

The annexed cut represents one of three new values:



Twenty centimes, reseda; fifty centimes, gold brown; two francs, violet.

**ROUMANIA.**

Roumania has issued four new stamps: 1½ bani, black; 3 bani, reseda; 15 bani, reddish-brown; 30 bani, yellow-brown.

**SURINAM.**

This Dutch colony has emitted unpaid letter stamps of the same design as the Holland unpaid stamps. Values: 2½, 5, 10, 20, 25 and 40 cents. All have the same colors, violet and black.

**PERU.**

This home of the surcharge sends forth two new unperforated stamps of rough designs: 5 cent, blue, and 10 cent, brown. The annexed cut gives an idea of the design.

**SOCIETY NOTES.**

The Ft. Worth Stamp Society has been organized, and the following officers elected: B. G. Chaney, Pres.; R. Van Zandt, V. P.; T. P. Martin, Sec.; Robt. Littlejohn Treas.

The Chicago Stamp Collectors' Union is the most successful and best organized society, as it is well supported.

The Centennial Philatelic Society is in a flourishing condition, and reports its treasury full, with no means of depleting it. They meet every week, Thursday evening, at 112 Clark street. One meeting is devoted to pleasure and one to business, which we think to be an excellent plan. Articles are read at each meeting; the President giving a subject and the member who writes the best essay on

same receives a prize. The officers are J. C. Feldwisch, Pres.; J. T. Drysdale, V. Pres.; D. W. Osgood, Jr., Treas.; F. W. Feldwisch, Sec.; C. H. Murray, Librarian.

A Society is about to be formed in Washington, we learn by the *National Capital Philatelist*.

while some species are very rare, specimens bringing over two hundred dollars. The *Conus Textilis* is found in the Eastern seas. Its eyes are placed near the base of the tentacles; the foot is narrow and long, and furnished in the middle with a large opening. Its color is varied, the general color being a golden or orange,



TEREBRA OCULATA. (From *Standard Natural History*.)

### TEREBRA OCULATA.

This is one out of about two hundred species of Terebridae. It is a long, slender many coiled shell from the Indies. Its color is a cream-white, with spots of brown; they are commonly known as "augur shells" or "marline spikes." The tentacles are short and the eyes near the tips.

with brown reticulating lines, and bright colored spots.

The question as to whether the English Sparrow shall be exterminated, is now being agitated all over the country. We shall be glad to have the opinion of ornithologists on this subject.

Our next issue will contain more philatelic articles, exchange and correspondence



CONUS TEXTILUS. (From *Standard Natural History*.)

### CONUS TEXTILUS.

The *Conus Textilis* belongs to the family Conidae, which receives its name from the conical shape of the shell, and is probably best known among collectors as the different species are very beautiful.

columns. Items of interest, society news, and contributions solicited from all.

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THE  
COLLECTORS'

SCIENCE MONTHLY

A MAGAZINE DEVOTED TO THE INTERESTS OF COLLECTORS OF NATURAL  
HISTORY SPECIMENS, STAMPS, COINS, ETC., ETC.

VOL. I. NO. 2.



Howes & Spaulding, Pubs.  
Battle Creek, Mich.





ESTABLISHED 1877.

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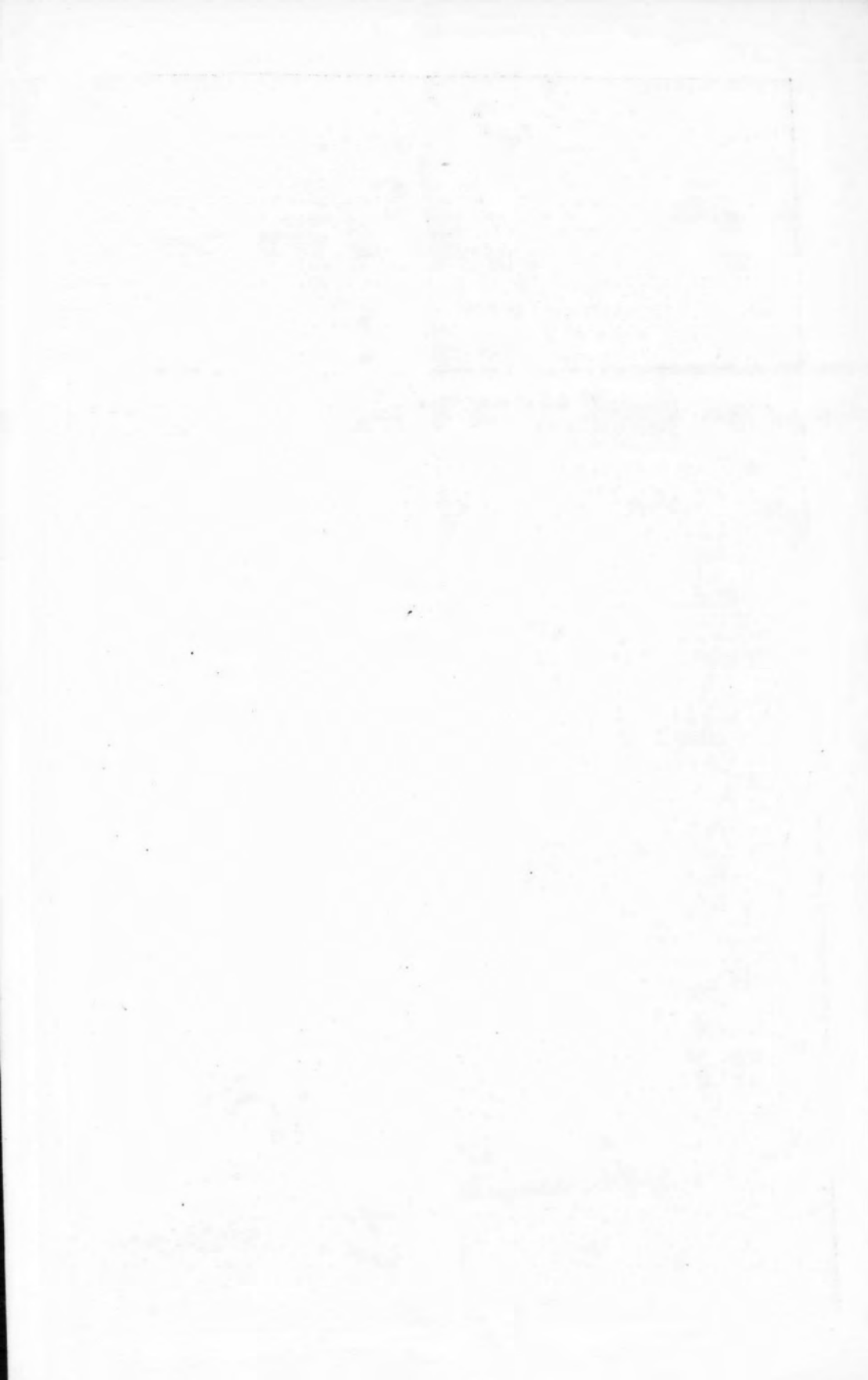
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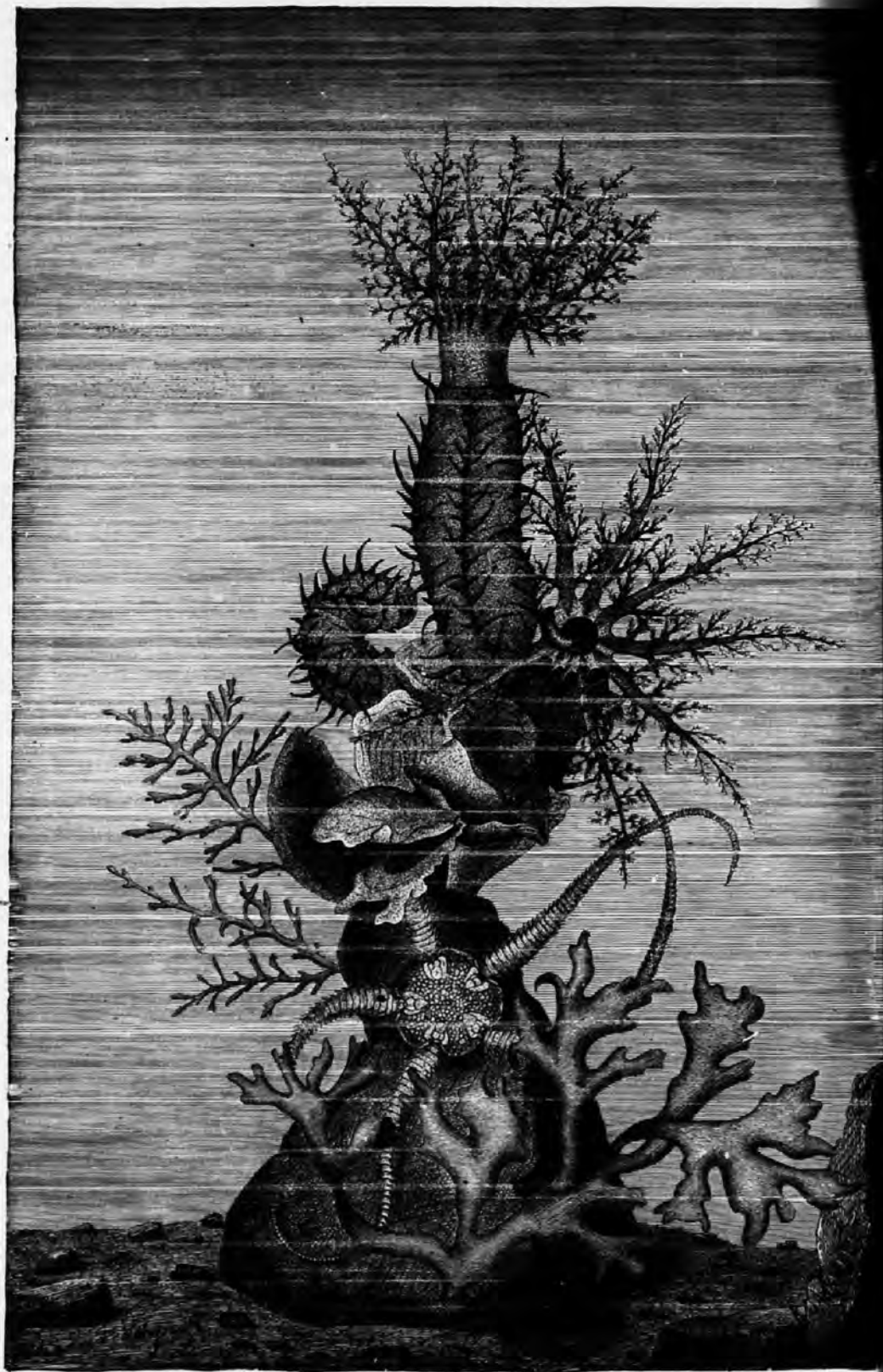
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THE SEA CUCUMBER.

—From *Standard Natural History*.

COLLECTORS'  
SCIENCE MONTHLY

VOL. I.

BATTLE CREEK, MICH., APRIL, 1886.

No. 2.

**NATURE AND THE CHILD.**

TO AGASSIZ.

It was fifty years ago

In the pleasant month of May,  
In the beautiful Pays de Vaud,  
A child in its cradle lay.

And Nature, the old nurse, took  
The child upon her knee,  
Saying: "Here is a story-book  
Thy Father has written for thee."

"Come, wander with me," she said,  
"Into regions yet untrod;  
And read what is still unread  
In the manuscripts of God."

And he wandered away and away  
With Nature, the dear old nurse,  
Who sang to him night and day  
The rhymes of the universe.

And whenever the way seemed long,  
Or his heart began to fall,  
She would sing a more wonderful song,  
Or tell a more marvelous tale.

So she keeps him still a child,  
And will not let him go,  
Though at times, his heart beats wild  
For the beautiful Pays de Vaud;

Though at times he hears in his dreams  
The Ranz des Vaches of old,  
And the rush of mountain streams  
From glaciers clear and cold:

And the mother at home says, "Hark!  
For his voice I listen and yearn;  
It is growing late and dark,  
And my boy does not return!"

—LONGFELLOW.

**THE SEA CUCUMBER.**

THE term *Holothuria*, or, in more common parlance, *Sea Cucumber*, suggesting to the mind, of one ignorant of ocean life, a marine cousin to our garden vegetable, is merely a name, expressing at once the form and habitation of a curious little animal. There are a number of varieties, varying in length from one to thirty or forty inches, and in appearance, from a dull unattractive mass of flesh to a blending of the most beautiful colors.

A close examination shows a cylindrical body, covered with a thick, tough skin, furnished with muscles, and studded with short hooks or spines. At one extremity of the body is the circular opening answering as a mouth, around which is a crown of plume-like tentacles which serve at once for adornment, organs of prehension, and a means of conveying the captured food to the mouth. Their anatomical structure is simple. The circulation is carried on through a simple circuit without the aid of a heart, and the nervous organism consists of five nervous cords. The sexes are separate and the ova, instead of producing young that must pass through a number of intermediate stages before assuming the form of their parents, are developed directly into forms like those from which they sprang. In gen-

eral their movements are limited to a crawling motion produced by undulations of their bodies.

Like many of the lower forms of life, by central contraction and succeeding fission two perfect forms can be produced from one; more singular still is their power of, at will, ejecting all the internal organs, leaving a mere shell, like the cast off coat of the *Chrysalis*, but unlike it, capable of reproducing the lost organs and resuming again the normal functions as if no remarkable change had occurred. Some species of *Holothuria* secrete an acrid fluid, which lubricating their bodies renders them very disagreeable to handle.

In general a sea cucumber is not what you might term a table luxury, but the Chinese regard one species, commonly called the *Trepang*, a most tempting morsel, and annually send thousands of fishermen to capture and prepare them for use.



## MUSEUMS FOR SCHOOLS.

M. L. LEACH.

**F**ASHION rules in matters of education, as well as in style of spring bonnets. She is less fickle, however, in regard to the former than the latter, effecting her change more slowly. For some time the tendency of the fashion has been to crowd all the study of the sciences into the common schools, requiring the pupil of fourteen summers to master in a term of twelve or fourteen weeks branches on which mature minds have spent years of labor, only to find themselves still little more than novices advanced but just beyond the threshold. While this state of things has its objectionable features, it has its bright side also. The home facilities for acquiring a practical knowledge of the natural sciences have been largely increased. The boy or girl who would learn something of botany, or zoology, or geology, has no need to go beyond the

"high school" of the village to get at least a correct knowledge of the rudiments.

One thing, however, is lacking. Very few of our "high schools," (I refer more particularly to the schools of Michigan, with which I am better acquainted than with any others,) have suitable material for illustration in this line, if indeed they have any at all. What one, for instance, has a set of fossils adapted to illustrate lessons of a three months' course in geology? The text books have fine engravings, it is true, but no picture can convey to the pupil so correct and so vivid and lasting an impression of the thing described as the thing itself. No description or delineation of the *glyptodon*, or the *mammoth*, can fix in the mind of the learner the lesson of the hour, as will an examination of the fossilized remains of the animal. Not every school, however, can have a *glyptodon* or a *mammoth*; all may have, and ought to have, such collections as will fully illustrate the natural history lessons taught.

A school museum should not be merely a miscellaneous collection of curiosities. Everything in it should be there for a definite purpose; all should be correctly named and arranged according to a scientific classification. The teacher should be able to present to the class, from day to day, sets of specimens corresponding to the lessons, in the order of their sequence.

"Such a collection would be a fine thing, but we cannot afford it," is the remark that will drop from the lips of some member of a school board, on reading the foregoing. Let me whisper in his ear that his school cannot afford to be without globes, or maps, or blackboards or air pumps. The time is at hand when an intelligent public will demand that the people's schools shall be furnished with all appliances necessary for the instruction of their young men and women, in all the elements of a liberal English education.



## MY VISIT TO A HERONRY.

(CONCLUDED.)

W. E. ELY, M. D.

**R**EACHING the brook we turn to follow its course, now finding a stagnant pool, where its channel had been dammed by falling trees, and now a noisy little fall, where the waters chatter merrily over the stones. But hark, a new sound now reaches our ears, growing louder and louder as we advance until it seems as if a veritable pandemonium were turned loose in this unfrequented spot. The loud trumpeting of the herons as they approached their nests, mingled with the shriller cries of their young, combined to make a noise that was fairly deafening. In a great sycamore just before us, we see a high shapeless mass of sticks and twigs, above which appears the head of a young heron; here is another nest, and another, in this one tree we count thirteen, and as the clamor arises from all sides, we allow our eyes to roam from one tree to another, only to encounter the same profusion of nests.

Scarcely have we time to recover from the surprise occasioned by this unexpected sight, when an enormous heron, measuring at least six feet from tip to tip, sails down towards one of the nests; his bill projects in front like the rostrum of some Trojan ship, while behind him trails his ungainly legs. Irresistably our gun is raised, and with the discharge a confused mass of wings, neck, and legs, whirls over in the air, and crashing through the branches, strikes the ground with a dull thud. Nothing daunted by his fall, up springs Mr. Heron ready for war. One wing is broken, but with the other extended to its utmost, with outstretched neck, and angry eyes, he makes a vicious dash at our face with his formidable beak. This unexpected move, and the enormous size of the bird, magnified no doubt by the attitude he assumed, startled us at first, but a quick stroke of

the gun laid him lifeless at our feet, where we can admire at our leisure.

A long yellow bill, sharp-pointed, and very much like a bayonet in shape; forehead black, with a frontal patch of white, and plumed with two long pointed feathers of coal black; neck, cinnamon brown; back, bluish ash, the elongated feathers from the scapulars becoming lighter near their tips; under parts, sooty black, more or less streaked with white; legs bare as far as the middle third of the tibia, and appearing much longer than they really are; a sum total making a bird that is by far a predominance of legs, wings, and neck, with the body added as a mere appendage. The young, lacking the elongated feathers which would apparently increase the size of their bodies, seem even more grotesquely ill-proportioned.

It was evident that this heron had just returned from a still hunt in some neighboring frog pond, for on investigating the cause of his distended month and throat, we found a number of these batrachians, destined, no doubt, for the little ones, whom we had mercilessly orphaned.

The Great Blue Heron, in his domestic affairs, seems to love company. In this particular colony there were in the neighborhood of one hundred nests, so closely aggregated that all could be seen from one standpoint. Only the largest of trees, generally sycamore or ash, had been chosen, and each contained from two to a dozen nests. One tree had fallen carrying with it the homes of several herons, and the whitened bones that were scattered about mutely testified to the death of helpless little ones. A closer examination of the nests shows a rough platform of inter-woven sticks and twigs, with occasionally a few reeds; the size and shape varies with the surroundings, and the whole reveals an attempt at architecture that compares very poorly with the neat and tasty efforts of many smaller birds.

There seemed to be a continual stream of arriving and departing birds, for the young, like the young of all birds, are always voraciously hungry. Frogs and small fish was the bill of fare for that day, and from the number we found in the mouths and craws of all the birds we examined, I should judge these herons were conferring a favor on some community by relieving it of the dreadful din of croaking, that always proceeds from a pond where the frog has taken up a residence.

But the sun is rapidly approaching the horizon, and hastily skinning our birds we strike a bee line for the depot, wading through mud holes, clamoring over logs, crashing through tangled brush, and arriving at the hill-top just in time to see our train pull out, leaving us the prospect of several dreary hours wait for the next train. Even a country depot, however, will sometimes afford amusement, and as our eyes encountered about a dozen Swedes, fresh from the old country, and redolent with the odors of all the filth they had brought with them, and accumulated on the voyage, thoughts of fun ahead flashed through our minds. Soon they settled themselves comfortably for a few hours nap, and as their peaceful snores filled the air with a discord ranging from a deep bass to a shrill treble, a few judiciously aimed paper balls added all the sharps and flats that were necessary to make a true melody.

Here is our train at last, and stretching myself out on a bench, with a roll of heron skins for a pillow, I am soon lulled to sleep by the regular clanking of the car wheels. In my dreams a brobdinagian heron stands over me waving his single uninjured wing in a threatening manner, his eyes glare like coals of fire, and every feather of his plumage stands on end, and stretching himself up to his greatest height he raises his huge beak with a menacing air, that creates just such a tremor in my breast as must be

experienced by the unfortunate frog, when he perceives the swiftly descending shadow, that too surely portrays his coming doom.

— o —

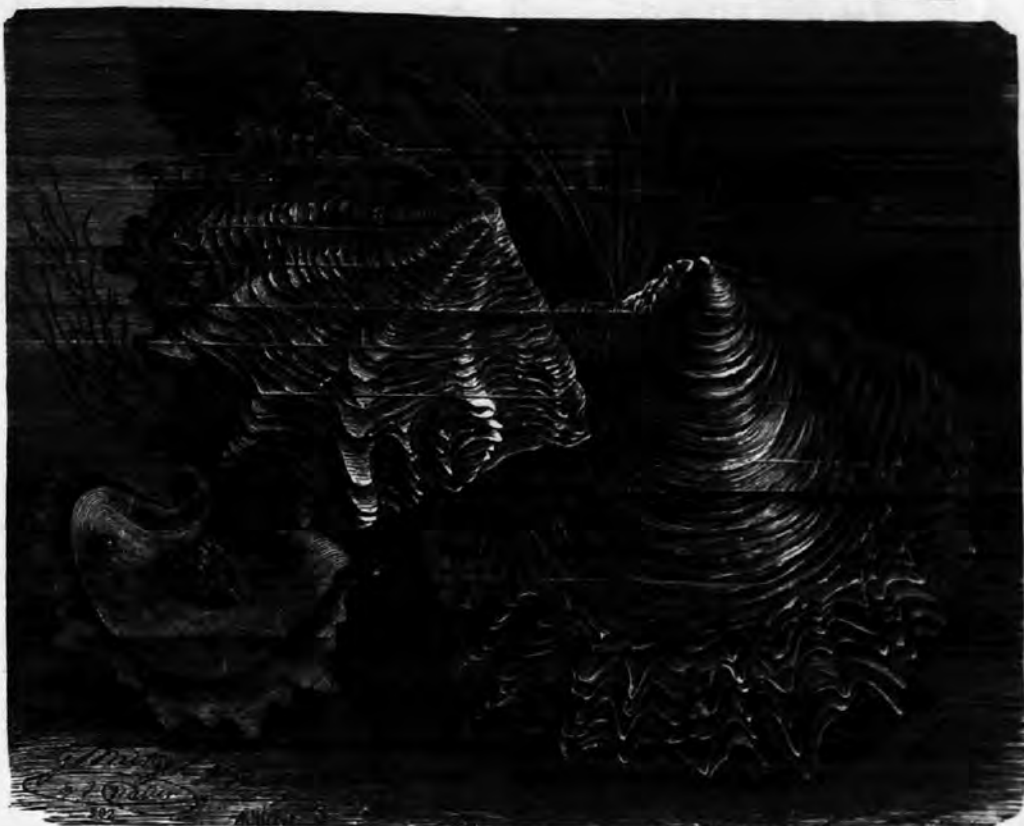
### PEARLS.

"And precious the tear as that rain  
from the sky,  
Which turns into pearls as it falls  
in the sea."

**P**EARL, or Nacre, as it is called by zoologists, is a fluid secretion with which certain molluscous animals line their shells, giving them an extremely smooth surface, which prevents any unpleasant friction upon the tender body of its inhabitant. When a grain of sand, or other foreign substance is accidentally deposited in the valves, the oyster, in order to protect itself against the harsh surface of the intruding substance, which it has no power to remove, covers it layer by layer with the nacreous fluid, constantly increasing it in size until it becomes a pearl.

The Chinese, taking advantage of this knowledge, compel one species of fresh water mussel, *Unio Hydria*, to produce pearls by introducing into the shell small leaden shot or spherical particles of mother of pearl.

The Pearl Oyster, *meveugra margaritifera*, sometimes called the pearl mussel, is the most interesting of all nacre bearing shells, from which the finest pearls are procured. The shell is nearly round; they are found together in great numbers, attached to sub-marine rocks, on the coasts of tropical countries; they attain a large size and there are several varieties. The time for gathering the shells varies in different localities. The natives in diving for pearls, are perfectly naked, with the exception of a calico cloth around their loins. In order to accelerate their decent a large stone in the form of pyramid, and weighing about fifty-five pounds, is attached to a cord, which carries in its lower part a stirrup, into



THE PEARL OYSTER.

—From *Standard Natural History*.

which the diver places his right foot, holding with his left foot a net in which to place the bivalves, then seizing the spiral cord in his right hand, and pressing his nostrils with the left, he dives, holding his body in an upright position. They seldom remain under water more than thirty seconds at one time, although they frequently repeat the operation fifteen or twenty times. They are exposed to great danger from sharks, and the labor is in itself extremely severe.

The shells are piled up on the shore on mats of esparters grass, and are left until the mollusc dies and becomes decomposed. when they are thrown into vats of salt water, opened and washed. The valves furnish nacre and the pearls are found in

the decayed substance of the mollusc. The pearls which are adherant to the body are more or less irregular in shape, and are sold by weight. Those found isolated in the body are called virgin pearls, or paragons. They are then sized and threaded on white and blue silk, when they are ready for the market. At the Paris Exposition, in 1855, the Emperor of France had on exhibition a collection of 408 pearls, each one weighing over nine pennyweights, all of perfect form and of finest water.

The fresh water mussel of Britain and America sometimes produce pearls of considerable beauty, and instances have occurred of pearls being found in pinnae, and even in limpets.

### "AS YOU LIKE IT."

**S**TAMP collecting, like a contagious disease (pardon the comparison) runs through a community every few years, and nearly all are more or less affected; some have violent symptoms, and the fever is high while it lasts: then comes the crisis, the stamp patient recovers with never a trace of the fever left to show what has been; others are not so violently affected, but are deeply impregnated with the disease and retain the impress through life. Such one has no desire to discontinue the study of his stamps, even though he may not always feel able to buy all the new stamps he sees. He collects what he can and studies each one until he is as familiar with every stamp as he is with his own name.

It is not merely a pastime with him, but a science; while the other class of collectors, eager to see who can secure the largest and costliest collection, spend all their energy in increasing the number of their stamps, knowing very little of the history of the stamp or its country.

They have formed no intimate relation with their stamps, so when some new excitement offers them amusement they cast aside the stamps, and thus many valuable specimens are forgotten and destroyed.

I have in mind now several collectors who have from three to six hundred stamps, who are just now in the cooling off state, the fever has had its run, skating rinks and parties have begun to work on their young and tender affections.

Still others who were collectors ten years ago have nothing to show for it now. Ask them about their collection. "Oh yes! I spent lots of money getting a collection—had the mania bad." "What became of your stamps?" "O! they laid around the house a long time, I don't know what did become of them." Did these collectors *study* their stamps? No! they were simply *getting*.

Some collectors are like would-be min-

eralogists who don't want anything in their collection but *showy* specimens, as amethyst, pyrites, &c. Ask them what amethyst is, or where it is found and they can't tell you anything more than that they bought it of such and such a dealer, for so much; so it is with some stamp collectors.

Now one great help to such collectors is a philatelic club; but the trouble in small towns is in getting such a club organized and keeping it alive.

Another thing which such collectors need is to be a regular subscriber to a wide-awake, common-sense Stamp Journal. Many of them, when asked to subscribe for this or that paper, say: "I get sample copies enough sent me. It isn't worth while to subscribe for a paper."

How beneficial this study might be made in the school room, if teachers and patrons would only realize the importance of such helps in geography and history. But it is not my purpose in this article, to speak of the importance of philately in the school room, but to induce young collectors to preserve their collections, and add to them as they can; not lay their books away and look at them only when they have a new stamp to put in, but to take up each country issuing stamps and read everything they can find pertaining to its geography or history. For instance the islands of the Pacific and Atlantic Oceans. How many of us have more than a definite idea of their location? I dare say many well informed people have a very vague idea of the importance of these apparently insignificant islands. Yet are they not small nations in themselves?

If mothers would only encourage their children in some such study how much good might be accomplished. Help your boys and girls make a nice book, and then help them arrange their stamps in proper order, teaching them to study up the history of each country. Keep them interested at home, study the contents of

your children's pockets, take an interest in their interests, provide healthful and instructive amusements at home, and let your children see you care more for their amusement and companionship than you do for the freshest bit of gossip, or the latest fashion. There would be less need of home missions if mothers would realize the importance of home amusements. If we could interest more girls in philately! I think less fancy work and more wide awake interest in the history of one's country would be beneficial.

Many young ladies have glanced at my album and exclaimed: "It must be an awful lot of work to arrange all those stamps!" and "How could you make such a book? Why I'd never the patience!" and yet they will drawl away whole hours over some piece of lace edging, or a tidy, or a smoking-cap for some gentleman friend, who, I dare say, smokes without it.

Young ladies leave school and time hangs heavily on their hands; they seem to be "only waiting" while they lose their roses trying to find amusement in balls and parties.

Now what more interesting study, recreation, amusement can a girl find than in making a collection of stamps?

Isn't it far preferable to autograph collecting, bangles,—by the way, girls, it would be far better if that poor clerk who gives you a coin engraved for your bangle-bracelet, would save up those coins against the day he has a wife to support—crazy patchwork, and other crazes? If we must have crazes let them be instructive.

Many of our so called collectors are only traders. They get as many stamps as they can and then trade them off for a printing press, a pair of roller skates, or something of the kind. What benefit do they derive from their stamps?

How many beginners fail to notice various little peculiarities about their stamp; such as grills, watermarks, silk threads, letters in corners, shades of paper on

which printed, final "e" or not on German pfenning; or numberless other shades of difference which to the initiated make a new variety, while to those who do not study their stamps they are passed by as only duplicates.

How many noticed the English stamps with letters in lower corners and stars in upper corners, or the bluish tint of the paper on which the first English stamps were printed? I confess I did not until I had been collecting some months.

There is one class of stamps which is gradually becoming extinct, and that is *revenues*.

I'd advise every one who really collects for the purpose of making a valuable and interesting collection, to begin at once, and get on good terms with their druggist.

I am collecting revenues, extinct, and tobacco, beer, snuff and the revenue stamps used now.

Through the kindness of our druggists, who permitted me to look over some old bottles of medicine and take such stamps as I could find. I succeed in getting quite a start in revenues; and by overhauling all the old perfumery bottles and boxes around the house, I found a number of other stamps, and thus my collection grew. Now had I bought all of these they would have lost half their value; for hunting them up was as exciting as prospecting for gold must be.

Stamps are but an open history.

Of the changes on this sphere:

Monarchs fall new issues follow,

Thus they increase year by year.

HER.

The deepest mine in the world of which we find any authentic record is situated at Wieliczka, a town of Austrian Galicia. This town is literally undermined by excavations, which extend 9,000 feet from east to west, 3,000 from north to south, and 1,800 feet in depth. The mine produces about 62,000 tons of salt a year. There are four stories, one above the other, in the second a salt lake is situated.



THE COLLECTORS'  
SCIENCE MONTHLY

HOWES & SPAULDING, PUBLISHERS.

BATTLE CREEK, MICH., U. S. A.

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sample copies has been so great that we  
are compelled to issue another edition,  
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front; let all earnest collectors join the  
ranks and subscribe.

OUR thanks are due Messrs. Cassino  
& Co., who have kindly loaned us the  
electrotypes used in their Standard Nat-  
ural History, which is without doubt the

finest work of the kind ever published.  
Those who wish to purchase standard  
publications should read their list in this  
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COLLECTORS, when in the city, should  
not fail to call upon us. We have many  
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supplies needed by naturalists, Reily  
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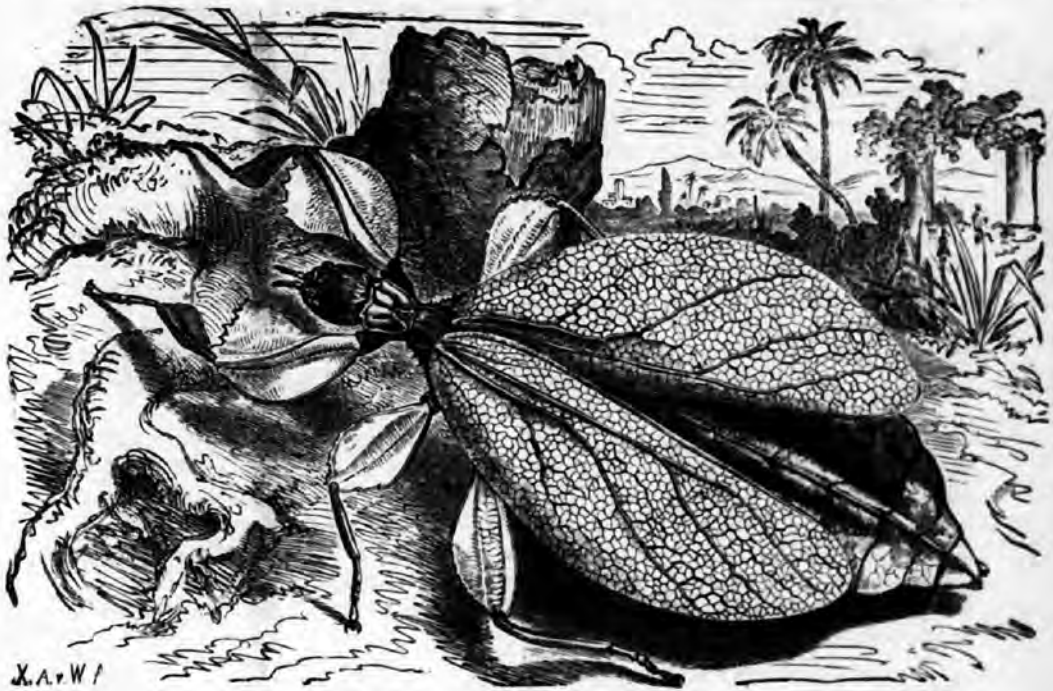
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Address at once, E. R. ATLER,  
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Address, J. E. WHITE PUBLISHING CO., Battle Creek, Mich.

Mention Science Monthly

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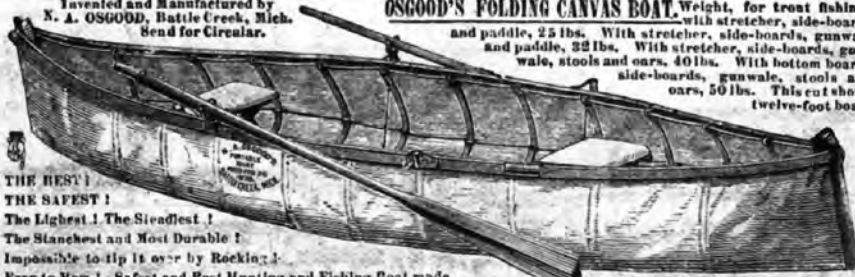


The most practical roadster and best all around machine now made. By the use of this wheel you will do away with dangerous falls and headers. It is a machine that should be ridden to be appreciated. As many who would buy defer doing so on account of thinking it hard to learn to ride a Star, we would say that we will agree to teach anyone to ride in at least half a day (generally in half an hour), so that they will be able to ride with safety. Catalogue and circulars on receipt of Stamp.

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Easy to Row! Safest and Best Hunting and Fishing Boat made.  
Oars and paddle are joined and pack in chest with boat without extra charge

Makes up four different weights, the same as four boats combined in one.

SCIENCE & MONTHLY.

VOL. I.

BATTLE CREEK, MICH., NOVEMBER, 1886.

No. 3.

INSECT COLLECTING NEAR NEW ORLEANS AND IN THE LOW COUNTRY.

C. H. T. TOWNSEND.

FOR the benefit of those interested in collecting insects, there has been prepared at the request of the publishers of this magazine the following sketch of some collecting done in the southern part of Louisiana in the spring and summer of 1884.

In early spring, when the forests of the North are bare and all is shrouded in snow, there lies far South on the borders of the Gulf a land clothed in the greenness of the sub-tropics, where multitudes of insects are already astir and following their pursuits as busily as in summer at the North. With the view of visiting this land, the writer left Chicago on the evening of the 27th of March of the year before mentioned, there being at the time a light fall of snow upon the ground, while the air was chill and frosty. Down through Illinois the snow continued for a part of the way, but in the Southern half of the state a difference was perceptible, the grass began to show greenness and many of the earliest birds were to be seen, having lately arrived from more Southern parts. After crossing the Ohio, the train sped on through Kentucky. The weather was beautiful; it was a lovely day. In Tennessee peach-trees were loaded with bloom, and cotton plants were likewise in flower. In Mississippi the trees were all leafing out—oaks and all; from here on, the farther south, the greener the land-

scape, until the woods were full of bloom and still we were 125 miles from New Orleans. Sub-tropical vegetation set in at about 50 miles from the city of our destination. Scrub-palmettos and great cypresses heavily hung with festoons of Spanish moss were the leading features in the landscape. A two-hour swamp was encountered just before reaching the city.

Having thus presented a very cursory view of the changes met with at this time of the year in going nearly a thousand miles due south, the reader will understand that by this time the land of summer had been reached; everything was as green and as far advanced at the first of April as it is at the first of June in Michigan. The weather was very hot at the time, being more noticeable on account of the change from a cold climate.

In regard to the collecting, some of the localities visited and the insects to be met with will be given. A list of the coleoptera or beetles collected has been published in the *Canadian Entomologist*, vol. xvii, p. 66-73; some notes on some of the species in the list have been published separately in *Psyche*, vol. iv, p. 219-222; and a list of the Hemiptera Heteroptera or true bugs collected has been given in the *Canadian Entomologist*, vol. xviii, p. 116-118.

About the only accessible places in the vicinity of New Orleans, where much will be found, are the dummy roads running through the swamp from the city to the resorts on the Lake Pontchartrain, about five or six miles north. These enable one

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to collect right through the swamp in several different directions, and many in sects are to be found on the vegetation and under logs by the side of the roads. The following are some of the results of my collecting here during the first part of April. Going out the Milneburg road, before reaching the wooded part of the swamp, under unused ties or sleepers by the side of the road there were taken an abundance of weevils of the genus *Listronotus*, *L. callosus* Lec. and *nebulosus* Lec. being the most common, and *tubrosus* Lec. and *frontalis* Lec. occurring more sparingly. *Brachynus fumans* Fab., a bombardier beetle which is also found northward, was taken in the same same situation with the weevils. Farther out, at about two-thirds of the distance on the way to the lake, where the road enters the wooded portion of the swamp, was found a quite fertile collecting ground. From this point on towards the lake, on the left-hand side of the track, there was at this time, extending a good distance, a regular succession of old railroad sleepers that had been thrown out next the swamp as new ones were put in. Under these were to be taken many specimens of the very large bombardier beetle *Brachynus tormentarius* Lec., with numbers of the fine carabs *Galerita junus* Fgb. and *bicolor* Drury. Here also were to be taken such carabs as *Searites substriatus* Hald. and *subterraneus* Fab., *Chlaenius fuscicornis* Dej. and *laticollis* Say; and the fine weevils *Sphenophorus pertinax* Oliv. and *placidus* Say. Among the true bugs, there were taken in the same places fine specimens of *Sirthenia carinata* Fab., which is a large and robust, but rather elongated bug red and black in color, *Melanolestes picipes* H. Schf. smaller and wholly black, nymphs of *Rasahus biguttatus* Say, all of which belong to the family *Reduviidae* and can sting severely with the proboscis. Near the lake, under old wood in dry places, were taken numbers of *Opatrinus notus* Say, a plain black punctured beetle belonging to the *Tenebrionidae*; and also numbers of *Proxys punctulatus* Pal. Beauv., a dark and rather pretty bug of the family *Pentatomidae*.

TO BE CONTINUED.

## OPALS.

BY HELIM.

This mineral is composed of siliceous combined with 5 to 13 per cent of water. Of the many varieties the most valuable are the precious opal, exhibiting a peculiar play of delicate rainbow-like tints, which makes valuable as a gem, and the fire opal, which is less transparent, and of the color of flame. Pliny speaks of the precious opal's presenting a variety of brilliant tints in succession, first one color, then another. It is conjectured by scientists that the splendor of the opal is due to the presence of water in its composition or to the disintegration of the limine or layers of stone.

Mexico and Central America abound in opal bearing districts but the finest opals found at present are in Hungary. The fire opal is found in the porphyrite rocks in the greatest perfection but although it is the most beautiful of any variety, it is also the most sensitive, and is often ruined by the damp or exposure, or even by a sudden change of weather, however this may be expected as there is no mineral more subject to injury than the opal. Exposure too light even injures it, but this is true also of nearly any precious colored stones, as the garnet and amethyst.

When first extracted from their matrix the gems are soft, pliable, tender, and easily broken. The first thing to be done is to expose them to the air and light a few days, until they have become hard and then their colors begin to appear. At the time this change takes place in the gem it also becomes reduced in size from the evaporation of the quarry water contained in its veins.

## STAR BICYCLE.

A 48 full nickel, American Star, in fine condition. Price \$75.00. Time and easy payments allowed on good security.

H. G. SPAULDING, Battle Creek, Mich.

**F. Stahl alias H. C. Jones, Acquitted.****SPECIAL.**

Ferdinand Stahl, Jr., who was accused of using the mails for illicit purposes has been adjudged not guilty by a Minneapolis jury. Stahl is a youth of 18 with rather peculiar features, prominent among which are a retreating chin, and rather thick lips. In regard to his relations with Jones, Stahl said he had received several communications from him including ad. which was cashed at the Germania bank (submitted as evidence), furthermore that he had never seen Jones, nor had ever taken letters from the Minn. P. O., that he was a stamp merchant in connection with Frank Reed, of his own age, that he has been employed and still was, by Henry Bockstruck, in the jewelry store at 11 East 7th W. (not 78 E. 11th W.—Ed. Judge Shiras delivered the charge to the jury, and said that was undisputed that there was a scheme to defraud and that it was successful; that said scheme was concocted by Horace C. Jones; that the point to be determined was whether Jones was Ferd. Stahl or not. Special attention was called to the writing of Stahl which was considered an important point. The evidence of his good character carried great weight with it.

In conclusion it was emphasized by the judge that these was a necessity of being absolutely certain of Stahl's identity as mistakes had happened before and were liable to occur again. The jury was out eight hours and returned a verdict of not guilty. Stahl sat with his mother and sister in the court room all day. He was not at all nervous. Beyond a slight smile he received the verdict with the utmost calmness, and as the jurors left the court room, he quietly shook hands with them.

**BICYCLING.**

As many of our readers are interested in this sport and especially at this season,

we have decided to devote a small amount of space to same.

Battle Creek, although a prosperous city has only about two riders to every 1,000 population. This may in a measure be explained by the poorness of the roads in this section.

H. G. Spaulding was the first one to introduce the Star in this city.

While in Coldwater a short time since, we had the pleasure of meeting several prominent cyclers, and also of visiting their club rooms.

By all means join the L. A. W. You'll get that first-class weekly the *Bulletin*, besides being able to get "rates" at all League hotels whether on a tour or otherwise.

Merton Terry, Michigan's champion "slow rider" has discarded his old Standard Columbia and now rides a Rudge. We are afraid he will lose his slow record as it is hard work to hold back such an easy runner.

The bicycle riders of this city have organized themselves into a club called the Battle Creek Wheelmen. C. G. Mechem, Capt., W. R. Wooden, Pres., E. C. Adams, Sec'y. and Treas. Club rooms are fitted up in Upton Block in central part of the city.

Messrs. Mann & Kendig are both enthusiastic bicyclists.

J. T. Trowbridge, the author, is a tricyclist.

L. A. Bryan, of Homer, Mich., has just purchased a new lever tricycle for his wife. There will soon be a great many riders of the gay and festive trike.

Barlow & Starr, Gen. Agents for the Star, are getting rapidly to the front and have sold a large number of machines this year.

W. L. Archer, of this city, canvasses for rubber stamps by the means of his Victor bicycle. On an average he makes about 300 miles per week. Is a bicycle a toy and useless?

J. C. Winne, a prominent lawyer of Adrian, Mich., has just bought a Pony Star. He says it is the wheel for business men and that there will soon be more riders among them there.



THE COLLECTORS'  
SCIENCE MONTHLY

HOWES & SPAULDING, PUBLISHERS.

Subscription 50 cents per annum. Single copies, 6 cents.

Advertising Rates made known on application.

All correspondence requiring a reply must contain the necessary postage for same.

EDITORIALS.

Although the MONTHLY may seem like a stranger to some of our readers we assure them that it will soon become friendly again and make its regular monthly visits as before. You may expect us as we shall surely come. Our vacation is over and we shall now attend to business. Our dress may seem a little changed but we have adopted it to economize space and make room for more reading matter. Hereafter we shall have from 10 to 12 pages of the very best of articles.

All entomologists should secure the entire portion of Mr. Townsend's article. It will probably be continued through three issues and will prove very interesting to this class of scientists. This is an especial feature of our magazine. We shall present some finely illustrated articles on the subject in the near future.

The Am. Philatelic Association has been organized. This is a step in the right direction and if carried on rightly and given the support of philatelists, not merged into a mercantile agency, it will surely succeed.

We are making arrangements to secure somebody to conduct a numismatic department for us, in which case we shall give the many collectors something in this line worth of their perusal. Anyone having any knowledge on this subject would do well to put it in a readable form

for us to publish and in this way draw out the opinions of others and in a sense make an exchange of ideas. Send in your correspondence.

Agents wanted in all schools and colleges. We offer liberal terms and good inducements in the way of premiums. If you want a bicycle go to work getting subscribers and you will soon have a good mount, at least by spring. Try it.

No better paper for the young publisher than *Youth's Companion*. It is strictly moral and good reading for old as well as young.

PUBLISHER'S NOTICES.

As an inducement for entomologists to subscribe to our magazine we will give them our little book, "Hints on Insect collecting," free with each subscription.

We have dated this number ahead so as to be able to catch up with the month. hereafter we shall appear promptly at the middle of each month. All subscribers shall receive twelve numbers and new ones shall get back numbers free.

We hope soon to own our own office and be able to do our own work, in which case our readers shall receive a much larger and better paper than this one. Send in your subscription and help us along.

Next issue will contain some fine philatelic articles.

We will give a Tammen's Cabinet for the best geological article received. At least five must be received in competition.

FOR SALE.

50-inch Expert Columbia Bicycle ball bearing to both wheels, cow-horn bars. Brooks' lever tension, long distance saddle. Backbone, forks and spokes enamel. Will sell for \$35. (Too small for present owner. For further particulars, address CHAS. E. ZANG, P. O. Clerk, Battle Creek, Mich.

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Punnett's Celebrated Jersey Cloth Knee-breeches, only \$4.00 a pair. Knee-breeches out of Cassimere, Corduroy, Flannel, Chevots, etc., at same price. Best long bicycle stockings, \$1.00 a pair. Improved Acme Belt Hose supporters, 25c a pair. Send for samples and measure blanks. PUNNETT, Merchant Tailor, Rochester, N. Y.

Hints on Insect Collecting and Nos. 1 & 2 of "C. S. M." for 12c. or the whole given free with a year's subscription to Collectors' Science Monthly.

FOR SALE—50 inch Special Club, ball bearings both wheels and pedals, cost \$135, in first-class shape throughout. Tires worn but little. Will sell cheap for cash. S. A. HOWES, Battle Creek, Mich.

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## Wants, Sale or Exchange.

Ads will be inserted in this column for ten cents a month. For over three lines, the rate will be five cents for each extra line.

FOR SALE—A thoroughbred Red Irish Setter dog. For price, etc., address H. G. Spaulding, this office, or S. S. Walker, Tom kins, Mich.

FOR SALE—An American Star Bicycle, 48 inch, nickel, all in good condition. Owner wishes to get Special Star. For price and terms, address H. G. Spaulding, Science Monthly.

FOR SALE—Subscription to Scientific American or the Scientific American Supplement. Any reasonable offer accepted. Science Monthly.

FOR SALE—A 50-inch English Club Bicycle. In extra good order. Fred Howes, Battle Creek, Mich.

WANTED—Forty-seven one-hundredths dollars for a year's subscription to this magazine. C. S. M. Publishing Co., Battle Creek Mich.

WANTED—A Special Star Bicycle, 50 to 54-inch. Send price, condition, etc. to N. E. Hubbard, Battle Creek, Mich.

FOR SALE—An Expert Columbia, 50-inch, in good order throughout, address C. E. Zang, Battle Creek, Mich.

FOR SALE—A 50-inch Columbia Standard in good order. Owner desires a larger wheel. Address Miles Riley, Battle Creek, Mich.

FOR SALE OR EXCHANGE—A silver, hunter case watch, good movement, in order, warranted. Worth at least \$10.00. H. G. Spaulding, 40 Poplar ave., Battle Creek, Mich.

FOR SALE—A set of Caponizing Instruments. New. With instructions. Price \$2.25. H. G. Spaulding, Battle Creek Mich.

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FOR SALE—A receipt for 85c. entitling you to Tammen's Mineral Cabinet of 40 specimens and a year's subscription to *The Collectors Science Monthly* for 85c. Address at once Howes and Spaulding, Battle Creek, Mich.

Exchange—A Giant upright steam engine. Filling cap, funnel, and a good spirit lamp for minerals. Aaron Hamberger, North Wales, Pa.

Send 10c for a copy of the "Cactus Plant" and vegetable buffalo peas. J. H. Ritchie, Crane, Kansas.

FOR SALE—Guinea Pigs. Fine large specimens. \$2.50 per pair. S. A. Howes, Battle Creek, Michigan.

Exchange—I have many curiosities, coins and minerals, which I will exchange for other specimens of equal value, or I will send any one a fine cloth bound book, worth \$1.25, who will send me a box of curiosities by mail. F. A. Thomas, Mexico, N. Y.

FOR SALE OR EXCHANGE—Wyandotte cockerels from 1st prize stock. \$1.00, \$1.50 and \$2.00 each. Would like some Y&C pullets. H. Spaulding, 40 Poplar Ave., Battle Creek, Mich.

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" cheaper.....	30	Disinfectant cones per doz.....	20
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ENTOMOLOGISTS.		Spirit Lamp, glass.....	50
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Electrotypes of nearly every breed for sale cheap, from a cock's head to a breeding pen. H. G. SPAULDING, Battle Creek, Mich.

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