6-18-1882

Eighth Annual Report of the Principal of the Southern Illinois Normal University Made to the Board of Trustees

Southern Illinois State Normal University

EIGHTH

ANNUAL REPORT

—OF THE—

PRINCIPAL

OF THE

SOUTHERN ILLINOIS NORMAL UNIVERSITY,

MADE TO THE

BOARD OF TRUSTEES,

JUNE 18TH, 1882.

ADVOCATE PRINT, Greenville, Illinois.

ANNUAL REPORT

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SOUTHERN ILLINOIS NORMAL UNIVERSITY,

MADE TO THE BOARD OF TRUSTEES,

JUNE 13, 1882.

To the Trustees of the Southern Illinois Normal University:

GENTLEMEN: I have the honor to make the Eighth Annual Report of the Principal of the Faculty in charge of the Normal University, placed under your care by the State of Illinois. The tokens of increased confidence shown by the people toward our school have been frequent, and in many respects, flattering. First of all, there has been an increased attendance in the higher grades of the Normal Department. Nearly twice as many young men and young women, holding First Grade Certificates, have come to us and entered on that special kind of work which is to prepare them for a life profession of teaching. This fact gives us great encouragement. It shows that our work of educating teachers is better appreciated by directors and by parents ; and more particularly by those who are desirous to obtain the best qualifications for that most delicate and difficult of all the operations of skilled labor, the mental and moral instruction and training of the young. And it also proves that the community is coming to see that the patient, unpretentious and efficient work of teachers is the most valuable contribution made to the prosperity and virtue of a nation. It further encourages us to believe that there is a greatly increased demand for well educated, modest and conscientious instructors of youth for our public schools, and these young people come to us to prepare to meet that demand.

A second fact cheering to us is, that notwithstanding the short crops in our almost exclusively agricultural region, the total num-

ber of pupils has substantially increased. Time enough has elapsed since our university began, for any novelty or local excitement to wear away, and for feelings of hostility to develop themselves, and cause reaction from the first popularity and hopefulness raised by the State aid, to increase the educational facilities of this part of the commonwealth. Yet that we have not only held our own, but made a creditable advance, and of the higher classes of pupils too, is a matter of genuine congratulation.

But a better foundation for pride, if possible, than either of these, has been the added fact, that many applications for teachers, whom we can heartily recommend, have come to us from directors and boards of education, more than enough, indeed, to take up all our graduates and the higher class of our students. These letters asking for good teachers, have been received from Kentucky, Tennessee, Missouri, Kansas, Iowa and from our own State. Most of the schools in our own State were supplied with candidates, and several, who were employed on our simple certificate of qualifications and character, have given, as we have been informed, complete satisfaction. In fact, these applications for better trained teachers, are so frequent and urgent, as often to diminish our higher classes. The present term we have found it very difficult to retain in our school some to whom offers of schools next year have been made so tempting, as almost to compel us to advise them to go out and teach, trusting to a future time to finish the course of study. Every class which approaches graduation, is more or less depleted by this demand of the people or directors, for teachers somewhat better educated than the majority, but not yet having gone through a regular Normal course. It is a temptation to a young man or young woman to be offered a good situation as teacher at higher wages than the average, though the sum is really small, but which will, nevertheless, afford a comparative independence instead of the sacrifices to be made to continue at school another year or two, and perhaps incur a debt, and have the prospect of losing that particular position the next year if it is not accepted now; and not a little courage is needed to resist the allurement and remain to study and improve with a remote prospect of a place when the graduation shall come.

We also find County Superintendents offering to accept our certificates of study and recommendations, and now and then, one is willing to grant second grade certificates in his respective county on work done and examined by us. While all this is complimentary to us, and is, we believe, allowable by the law, permitting the County Superintendents to examine by proxy or by one appointed to make the examination and while it tends to make attendance in our schools very valuable to our pupils, it really has one element of doubtful propriety, since it may discriminate against those who could not attend a Normal School. And it may annoy us to be compelled as we sometimes are, to deny to a worthy student and possibly a personal favorite of some one of our teachers, a commendation, which should entitle him to a certificate. There is an impersonality about a county superintendent which

cannot be expected to be found in a teacher. The first should really know no individual; the second should indentify himself closely with his scholar by sympathy and interest, so as almost to preclude the idea of impartiality. Hence the public will almost by an instinct of nature, be a trifle suspicious that certificates based on examinations made by a teacher of a particular student, will always have about it an odor of charity which may cover many sins of omission or negligence. Do we not find this suspicion gathering itself like a mist about some of the certificates granted by a County Superintendent who issues them to the attendants at County Institutes conducted by himself for the purpose of helping out his too meager salary?

But such suspicions ought not to lie against any papers we may give as teachers to pupils as simple recommendations for faithfulness in duty and correctness in deportment. These are well understood to be mere introductions to public favor, and not in any sense as licences to discharge the duties of an office and receive its emoluments. A diploma from our school ought very properly to count for something in the estimation of the public, but in our State it does not amount to a licence permitting the public to employ the person bearing it as a teacher of youth. I have no hesitation in saying that no harm seems to me likely to grow out of giving it such authority. This would in fact add to our idea of duty an increased responsibility, and would tend to give us more caution in allowing students to graduate, unless in our opinion, they were by nature as well as by education, clearly adapted to the work of the teacher. As it now is, we are constantly tempted to do exactly what we do not always approve, and give commendations of doubtful value.

While some of these things perplex us they also give us hope that the time is surely approaching when we shall find our halls so crowded that we shall be obliged to make a more rigid examination of candidates for admission, and to accept only those who have been fully prepared at the graded schools taught in the cities and at the ungraded ones of the towns, into many of which our graduates and students shall have introduced better methods. At present we do receive some students who ought to be in lower schools—not because they do not receive excellent instruction with us, but because they would be an advantage to the home schools, and would cost less to their parents if educated there. We do, however, receive them, partly because the law, possibly loosely drawn at first, encourages them to come to us; and while there are places for them in our building, we can hardly refuse them admission, especially if they are sent, as many of them are, by properly attested appointments, or bear suitable recommendations; and partly because we find that they are not likely to be as well taught in the schools they would attend as they will be in ours. For an example we find that children of twelve or thirteen and sometimes as young as ten or twelve with us, do learn to spell so much more readily and accurately, that by the time they are fourteen they are able to lay that business aside and attend to other things,

while the young people coming to us from the town and ungraded schools at eighteen or twenty, are still quite unpracticed in that sign of civilized culture. We find it the same in arithmetic, in which branch we can save to a child at least a year of precious time. The case is stronger with grammar, and as strong, if not possibly stronger, with geography. While in writing and drawing there is really no comparison. There are places, as in Carbondale and a few other cities, where the deficiencies alluded to are not felt. In these places no necessity arises for parents to send to us. We do not intend to compete with the schools in cases like these. But cannot, with show of reason, refuse to receive such as are sent to us when we have classes suited to the exact wants of such pupils, and when the act incorporating the University encourages it.

Besides their presence is valuable to us, as it compels our teachers to keep themselves in sympathy with that part of the work of the public schools, which is really most important of all, the primary, and also affords to our Normal students the best opportunities for observation and practice teaching. We can form classes of the younger and less advanced scholars, and thus we can give our students who are seeking to prepare themselves for teaching, opportunities in experimental classes to see the best methods in use. These classes are equivalent to Clinics in the Medical schools. A pupil of our Pedagogic classes learns in these classes of primary work, how the skilled teacher can ask questions which shall cover the book lesson completely, and apply it too, or suplement or extend it, or even criticise and guard against any tendency to error it may contain. He learns a practical lesson by a sort of unconscious activity of his own mind, which profits him more than any reading, and knows how inattention may be indirectly rebuked without disturbing the thought of the class, or interrupting the easy progress of the work ; how a careless preparation by a pupil may be exposed to the pupil's own mind without a discouraging rebuke or a freezing expostulation, which shall hurt others more than the lazy one ; how industry may be applauded by the eye and manner ; how brilliancy may be acknowledged and mere smartness and flippancy may be awed into modesty. These lessons are in the nature of experience, guided by reason and example, and are far more beneficial than solitary practice in a school room ; for in this plan the scholar marks imitates the best teacher who is working at his best under the best surroundings. He may also learn how to repress incipient disorder, and check rising impertinence before they have really become disturbing elements ; and how a disposition to fritter away time in a recitation by frivolous questions may be discovered and removed without allowing it to grow into an abuse. In short, the scholar of pedagogics, as in our training classes, may by these modes of observation be impressed with the fact that hearing recitations is not a teacher's whole duty, and in short, may come to feel, to see and to know by the surest of all methods of learning, by a common and valuable absorption, perhaps it may be called, how great an art is the quiet, unobtrusive control of a master mind, and how it

will raise all around it by its compelling influence.

It is therefore a matter of congratulation and advantage to our school, especially to our students in the training department, to have so many of this class of quite elementary pupils, and it is also a benefit to them, and most of them receive a greater profit than they could have had elsewhere, or in ungraded schools at home.

There has also been a small addition of students in our middle grades and also those who come to us for the purpose of obtaining culture, or making a preparation for future study or a profession. Such pay tuition as the law prescribes and receive an education and training without taking any pledge to teach. Whenever the two classes named before—those seeking a strictly technical training, and those in elementary branches who serve as model classes—come in numbers sufficient to crowd our building it will be our aim to discourage the attendance of this class. At present they do not in the least interfere with our technical or professional work, and many of them after being in our University and breathing the inspiring spirit of our corps of teachers and professional students, become imbued with the same spirit and conclude to enter the school room to teach. Some—as will some graduates of our colleges—will teach only temporarily while on the road to another profession. But, by our course of study and our daily thought, all of these will be made better teachers, even for the short time they will be engaged, than they would have been; and when they cease to teach and become citizens they will better appreciate and promote the grand educational work of the age and will better discharge all their duties to the State, as members of boards of education, directors and other school officers.

There is one question to be raised here concerning the price of tuition to be paid by this class of scholars. It has been put very low: $14 per year in the Preparatory Department and $21 in the Normal. But this is lower than even in very cheap schools and private establishments. And it is below the actual cost to the State, which varies from about $31 to nearly $50. These figures are less than in most other Normal schools, as scarcely one of them charges less than $30 and many are as high as $75 a year. The Act of the Legislature, making appropriation to carry on this University, provides that the cost of the Model and High School shall be paid from the tuition collected. Now this is the point of this inquiry: Does not the spirit of the law require a price of tuition, on the average, nearly or quite equal to this cost? It is true that we do not have the Model and High School in names, and we have properly no such schools in practice; but it does seem that while we charge tuition fees to any, these fees ought to be somewhat near to the cost of the education to the State. At the State Normal University in McLean County the fees are $30 a year for the High School while the Training Department receives the very small pupils who compose it and give them gratuitous instruction.

Facts like what are cited above have been stated both for the information of the people and the satisfaction of this Board of Trustees. It is your privilege to know how the institution is prospering and what are the hopes of its continued usefulness, in order that you may give a rational account to the Governor of the State and to the General Assembly of what it is doing, and how its work is appreciated by the public, and that you may not be disheartened by any criticism which may be made concerning the numbers of our pupils or any other matter of interest connected with it.

The old question still haunts us, "Do the Normal Graduates and Students teach?" We can show that they do and more than enough to make up the full number of months or days which could be required by any fair interpretation of the laws of the State. In our late Report to the Superintendent of Public Instruction it was shown by facts, that so far in our history, with so few graduates, and in such a time when the demand for young men in business and young women for wives, is so constant and imperative, the students who go away from us have taught a third more than the actual requirements of the law, and vastly better than they could have done without our instructions. During the year now last past the proportion has increased rather than diminished. We have had since our inauguration 1693 students enrolled in all the departments; 76 of these were in a Model or Primary School not now in operation. Of this number 913 have been employed as teachers in the public schools, subsequent to their attendance here. About 675 have paid the tuition charged to them, and 407 have been in the school the current year. Putting these figures together properly and they will show at least 302 who have taught above the demands of the law. And when the fact of the growing demand for teachers is taken into account we must infer either that the people believe it pays to hire a Normal Student for a teacher, or that nearly the whole public with the most intelligent school officers is deceived.

It is believed that every interest of the school has prospered during the year. The Library has been largely increased by the liberal appropriation made for it by the General Assembly, and the addition to it of many valuable books has made it more useful to the pupils and to the teachers. During our last summer vacation the Principal was in the East and improved the opportunity afforded to purchase many necessary works of reference, science, history and literature. While it really needs an appropriation larger than last year to give us all we need, it is now excellent, and is especially rich in works on pedagogics, in which line it probably excells any library in the land, and certainly any one west of the Alleghanies. The whole faculty have made it a business and a pride to sacrifice much each year that this means of improvement may be annually increased. For the eight years of the life of the school they have labored on less salaries than men in the same grades of professional work in other similar institutions, and the difference has each year gone toward improvements in the

means of instruction and very largely to the building up the library. They have the substantial satisfaction of knowing that their sacrifices have contributed to the facilities for the growth and culture of mind in the Southern section of the State, which is thus enabled to enjoy the benefits of a most excellent working library.

The apparatus has been increased by many additions which need not be enumerated here. It is enough to say that every branch of Physical and Chemical Science can be fully illustrated, and in as ample a manner as in many of the best universities in the land. Particularly are our facilities for Chemical analysis valuable, and they enable any student to receive the best of instruction in this department of practical research.

To the Cabinets and Museum many specimens of great interest have been added by the Curator and by the Principal, and by purchase. Professor French has collected and preserved large numbers of insects, shells, birds, fishes, etc., and has received from Professor S. A. Forbes of the State Laboratory specimens of value, and Professor Parkinson has done very much to arrange and increase the department of Geology and Mineralogy. Both Library and Museum require larger accommodations of shelves and cases, and should have additional appropriations from the State.

Many slight improvements have been made about the building, and several others are greatly desired. Some considerable work of pointing joints in the stones around windows and cornices should be done. The steam heating apparatus should be thoroughly examined by an expert. Some new cases should be put in the Museum and new shelves in the library. It would be very advisable to make better accommodations for the Department of Drawing. It is suggested that Rooms No. 11 and 12 could be thrown into one, and a small room taken off the south end of 12 so as to accommodate both the teacher and the classes with more blackboards and better opportunities for study and practice.

It will be seen that the appropriation for Fuel made by the General Assembly has been insufficient for the last two years, the deficiency being about $150 a year. The sum for this item cannot be diminished, and it ought to be equal to about $1,000. The other items of the appropriation are ample for the purposes, as the institution is conducted though every one of them might be increased, and the State would profit thereby. In several of them there is now a small balance unexpended, which was left by calculation, as we shall need to make some purchases of larger apparatus and make improvements during the coming year.

It has been deemed advisable, after quite mature deliberation, to institute a more radical and complete examination for the candidates for graduation and an account of the plan which has the sanction of the Superintendent of Public Instruction, is inserted in the catalogue. We call your attention to its provisions and invite your concurrence ; and ask authority for the Faculty to appoint a Committee of Examination to consist of County Superintendents and teachers who shall be graduates of Normal Schools, whose duty it shall

be to examine and grade the papers written by the students, and to recommend what in their judgment shall be just to do in case of each candidate.

The Principal believes that every teacher has been faithful in work and wise in method, and each one is undoubtedly better qualified for his particular duty during another year than ever before. There has been little to produce friction between students and teachers, and among the students there has been so general a disposition to attend strictly to business and obey the regulations of the Trustees, that there has been little occasion for discipline and reproof. Indeed so devotedly have these given themselves to study that temptations to school mischief have been rare, and scarcely have they been at all reproved.

We are grateful for your continued kindness, and offer our sincere thanksgiving to the Father of all for His mercy which has kept us in health, and which has crowned the year with blessings.

The following young women and young men have completed Classic English and the Pedagogic Courses of Study as prescribed by your By-Laws, and having maintained a good character, are unanimously recommended by the Faculty as candidates for Diplomas, as follows, viz. :

For the Classic and Pedagogic.—Adella Brownlow Goodall.

For the Classic. — Walter Jay Ennisson, Henry Alexander Stewart.

For the English and Latin.—Arthur Eugene Parkinson.

For the English.—Wezette Atkins, Lizzie Mary Dierdorff, Alice Krysher, Albert Edward Mead, John W. Wood.

We recommend that the Principal be instructed to confer these Diplomas on the day of the Annual Commencement.

With sincere respect, we remain your obedient servants, the Faculty by

ROBERT ALLYN,
Principal.

DEPARTMENT OF LATIN AND GREEK.

ROBERT ALLYN, LL. D.,

Principal Southern Illinois Normal University.

DEAR SIR:—I have the honor herewith to present a statement of the classes and the work of this department during the scholastic year 1881—82:

In the Fall term the classes under my charge were as follows, viz: Greek Rudiments, eight members; Latin Elements, Section A, thirteen members; the Æneid of Virgil and Latin Grammar, nine members; Cæsar's Commentaries on the Gallic War and Latin Grammar, ten members; Anabasis and Greek Grammar, four members; Latin Elements, Section B, sixteen members.

During the Winter term my classes advanced as follows, viz: The class in the Rudiments of Greek advanced to exercises in the translation of Fables, Anecdotes, Jests, Grecian Mythology, etc.; Latin Elements, Section A, advanced to Latin Reader and Grammar; the Virgil class read the Orations of Cicero; class in Cæsar's Commentaries advanced to Sallust's Catiline and continued the Latin Grammar; class in Anabasis passed to the Memorabilia of Socrates and continued the Greek Grammar; the class in Latin Elements advanced to Latin Reader and Grammar.

During the third term, and at this writing, the classes in this department are pursuing the studies of Xenophon's Anabasis and Greek Grammar, Roman History, Section A, and Latin Grammar, *Tacitus de Germania,* Sallust's Catiline and Latin Grammar, Homer's Iliad, Roman History, Section B, and Latin Grammar.

During all the year I have also had charge of one division of Section D, in Orthography, composed of thirty-two members. It affords me pleasure to state that Miss M. Lily Houts, Henry A. Stewart, Richard T. Lightfoot and William J. Eddy have rendered very valuable assistance in correcting the spelling. I am also indebted to Miss Esther C. Finley for services rendered in hearing the recitations for a few weeks of two students in Rudiments of Latin at an hour that they could not be accommodated in my own classes.

It appears from the above that there have been nineteen classes in this department during the scholastic year, comprising in the aggregate over two hundred and fifty students. Most of the pupils have been prompt and faithful, and deserve great praise. A few from irregular attendance and a want of disposition to improve opportunities, will fail to carry their work. The grades in most cases have been highly satisfactory.

The classical course embraces three years of the Latin, and two years of the Greek. Three students this year will complete the full classical course, and six will in like manner finish the entire Latin course.

Added to my duties of the school and recitation room, I have performed the labors of the Registrar of the Institution. These at times have been multifarious and onerous. I have carefully enrolled each term the names of all students who have entered during the year, have collected all incidental and tuition fees and, on receipt, have transferred the same to the Treasurer of the University; have transcribed the minutes of the Board of Trustees into the general record book; have placed on file all original bills; have prepared all vouchers, as the law directs, in duplicate, for current expenditure; have issued money orders on the Treasurer for the payment of all bills of indebtedness, and have kept a faithful account of amounts received and paid out; and I have performed such other duties as pertain to the office of the Registrar of the Institution.

Respectfully submitted,

CHARLES W. JEROME.

IV. DEPARTMENT OF HIGHER MATHEMATICS AND PRACTICAL PEDAGOGICS—1881-82.

ROBERT ALLYN, LL. D.,
Principal Southern Illinois University.

DEAR SIR :—The following table gives the usual work in my department, by terms, for the school year :

HOUR.	FALL TERM.	WINTER TERM.	SPRING TERM.
1	Analytic Geometry.	Differental Calculus.	Intregal Calculus.
2	C Algebra.	B Algebra.	A Algebra.
3	C Prac. Pedagogics.	B Prac. Pedagogics.	A School Law and Prac. Pedagogics.
4	*Surveying.	E Algebra.	D Algebra.
5	B Geometry.	A Geometry.	Trigonometry and Surveying.
6	E Algebra.	D Algebra.	

*Work of class out of school hours.

Few words will be needed to make the scheme plain. The algebra classes are of two grades, Elementary and Higher. The former requires two terms, the first of which is marked E, and the second D ; while the latter requires three terms and are marked in their order from beginning, C, B and A. The practical pedagogics requires three terms, and the classes follow the lettering of those in the higher algebra. The geometry requires two terms, the first of which is marked B, and the second A.

Two classes in elementary algebra are formed each year, the first beginning with the Fall term and the other with the Winter term. Together these make the advanced class in algebra in the following year.

The usual recitation hour being too brief for good results in trigonometry and surveying, the Spring term class in these branches has the time of two recitations, as the schedule shows.

The Analytic Geometry and the Calculus are optional studies and are not counted a part of either the English or the Classical course.

The work in this department for the year now closing has been that indicated by the tabular statement at the beginning of this report with the following exceptions :

No class was formed in the Analytic Geometry in the Fall term, a conflict of studies preventing those desiring that branch from agreeing on an hour at which I could take the class. The failure to have the Analytic Geometry in the Fall term prevented the organization of the class in the Differential and the Integral Calculus in the following terms:

The number entering the Elementary Geometry Class in the Fall term was so large as to require a division of the class for best results. One of these divisions was made to take the place of the Analytic Geometry.

A class in Elementary Algebra was organized at the beginning of the Spring term for teachers and others not able to enter the regular classes.

All my classes, with but one exception, show a marked improvement over past years in the matter of attendance. Seven of them—three of the Fall, one of the Winter and three of the Spring term—have completed their terms without the loss of a member ; five have lost but one each ; two but two each , three but three each, and one, the irregular class in Elementary Algebra, lost six. The membership by classes has been as follows :

Fall Term.—E Algebra 31 ; C Algebra 28 ; B Geometry, Division one, 9 ; Division two, 13 ; Surveying 8 ; C Practical Pedagogics 15 ; Spelling 35.

Winter term.—E Algebra 15; D Algebra 27; B Algebra 28; A Geometry 21; B Practical Pedagogics 19; Spelling 30.

Spring Term.—E Algebra 15; D Algebra 17; A Algebra 24; Trigonometry 19; Surveying 19; A Practical Pedagogics 18; Spelling 35.

Total in classes 426.

During the first two terms of the year, I gave one hour each day to the supervision of pupils in Normal Hall.

The members of my classes have generally been quite faithful and have made good progress in their studies. The work of the year now closing has been more than usually pleasant to me, and I believe, more than usually profitable to my classes.

One thing I wish to call attention to before I close my report. The classes in Practical Pedagogics very much need a primary school in which to test methods of teaching and management, under careful supervision. Whether it is possible at this time for the Trustees to put in successful operation a school of this kind, I do not know; but of the profit of such a school, to our pupils, there can be but one opinion. I trust that some way will soon be found of giving to our professional students a good school of practice.

Respectfully submitted,

JOHN HULL.

DEPARTMENT OF PHYSICS, CHEMISTRY AND GEOLOGY.

ROBERT ALLYN, LL. D.,

Principal of Southern Illinois Normal University.

DEAR SIR:—Herewith is presented a summary of the class work done in the above department during the scholastic year of 1881—82:

FALL TERM.

Elementary Natural Philosophy	Enrolled	28,	Passed	25
Higher Natural Philosophy	"	22,	"	22
Descriptive Chemistry	"	10,	"	9
Spelling Class, B	"	28,	"	—

WINTER TERM.

Book-keeping (two hours)	Enrolled	33,	Passed	—
Elementary Natural Philosophy	"	29,	"	12
Analytical Chemistry (two hours)	"	13,	"	11
Spelling, Class B	"	48,	"	—

SPRING TERM.

Book-keeping (two hours)	Enrolled	35,	Passed	24
Higher Natural Philosophy, Sec. 1	"	19,	"	12
" " " Sec. 2	"	24,	"	18
Geology and Mineralogy	"	9,	"	9
Spelling, Class B	"	50,	"	—

The record of attendance for the school has remained in my charge; the results of which are not as satisfactory as they should be. For want of time a percentage of attendance based upon the entire number of days, has not been estimated. The reports read at the close of the several terms have a wholesome effect upon the general attendance; yet they have not always represented the facts in the case. If reports are kept they should represent actual facts. Heretofore a number of our students who were constant in their attendance have been placed on the Roll of Honor, with no indication that their attendance was less complete than those who were present from the first of the term. I recommend that hereafter only those who have been present during every roll call shall have their names placed on this special roll, and some other credit given to those who are not enrolled at the beginning, but who are regular in attendance the remainder of the term; also that the attendance record of all others shall be estimated on the entire number of days in the term.

During the first and third terms considerable attention was given to the Mineral Cabinet of the Museum. A small sum has been expended in procuring a set of typical specimens for analysis and scales of hardness, color and crystallization.

The Book-keeping has been placed in my charge; in order to have more ample facilities in this work, room No. 4 was fitted up with suitable tables and a temporary case for holding the blank books; each student having an allotted place for his outfit. In this branch it has been the purpose to give the student a good understanding of accounts, business paper and forms; it has been thought inadvisable to extend the work farther than can be accomplished in one term by devoting three hours each day. Many are unable to appropriate this amount of their time to accounts; in such cases they are allowed to continue the study the next term till it is completed. It is recommended that the walls and ceiling should be calcimined and the black boards repaired. By a few such improvements the department could be made very attractive and pleasant. With the present facilities a commendable zeal and interest have been manifested.

The instruction in Natural Philosophy has been similar to that of last year. But little additional apparatus has been purchased; it was thought more desirable to carry the larger portion of this year's allowance over, and add it to the amount for the coming year, which would enable us to purchase a few more costly pieces that could not have been purchased otherwise. A servicable plunge battery has been made in the shop of the University which adds much to the interest in the study of electricity. The Holtz Induction electrical machine has been altered to the Tœpler form. The greatest addition has been made in the Laboratory. Two new analytical tables were made and a full set of reagent bottles procured for each. There is sufficient material in the University to construct two more, but at present they are not so much needed as a suitable case for keeping the mineral specimens and products of applied chemistry which are used in class work. It is but justice to say that the care of the apparatus and the preparations necessary to use it to an advantage requires much time on the part of the instructor. During the present term, valuable service has been rendered by Charles N. Davenport in making preparations for experiments. While this has required not a little of his time, the experience has proved very profitable.

Among the articles much needed for more efficient instruction may be mentioned: A better air-pump; a set of Prof. Crook's Tubes for "Radiant Matter;" a Ruhmkorff Coil; a Distilling Apparatus; a Differential Thermometer; a Sononometer; a strong foot bellows; and a turning lathe. Again expressing my appreciation for your deep interest in the above department and valuable counsel in time of need, I subscribe myself,

Yours obediently,
D. B. Parkinson.

DEPARTMENT OF ELOCUTION AND LITERATURE.

ROBERT ALLYN, LL. D.,

Principal Southern Illinois Normal University.

DEAR SIR:—For the department of English Literature, Elocution and Vocal Music, the following report for the year 1881—82 is submitted:

FALL TERM.

Elocution	Enrolled	12,	Passed	8
Reading A	"	17,	"	12
" B	"	40,	"	29
Vocal Music	"	21,	"	12

WINTER TERM.

English Literature	Enrolled	22,	Passed	20
Elocution	"	13,	"	13
Reading, A	"	29,	"	20
" B	"	30,	"	23
Vocal Music	"	16,	"	10

SPRING TERM.

English Literature	Enrolled	20,	Passed	19
Elocution	"	20,	"	13
Reading, A	"	23,	"	16
" B	"	20,	"	13
Vocal Music	"	21,	"	14

In addition to the above classes, I have had charge of a division in orthography and have given my services, so far as other duties permitted, to students needing private instruction in elocution, in preparing for exhibitions and for graduation.

ENGLISH LITERATURE.

The first half of the Winter term was devoted to the literature of America; the remaining half and the ensuing term to English authors. The text book in use heretofore, Shaw's, has been continued, but the pupils have not been required to recite the entire text, and thus time has been found for the reading of copious extracts from the best authors, and for criticism upon their style. A good degree of interest in this delightful study has been attained, and it is hoped and believed that a love for good reading has been planted in the hearts of the pupils to go with and bless them through life. It is pleasant to be able to say that, with an occasional exception, the

students have studied diligently and with increasing intelligence and appreciation and deserve commendation. But it is not so pleasant to know that a majority before beginning formally the study of literature have read to little purpose and not sufficiently in a right direction. Many seem to have actually entertained the astounding belief that all good literature is dull and uninteresting. With some familiar authors they are utterly unacquainted. It is sad to know how little the English classics are read in this age of serial story papers and wish-washy novels. Our youth are being made mental starvelings by feeding their intellects upon the unutterable bosh which is scattered by the press over the land. A literary revival is needed; and a crusade ought to be preached against demoralizing literature. A poor book is dear at any price. "Reading," said the mighty Gibbon, "is the nutriment of the mind." How can the mind make a healthful growth if fed upon the unwholsome and often poisonous stuff which is offered at such seductive prices at the news-stands? The teachers can speedily bring about a reformation by directing the reading of their pupils into pure and profitable channels.

ELOCUTION AND READING.

It is a matter of regret that many teachers of otherwise intelligent views, hold elocution in light esteem, and for this elocutionists are largely responsible. "Dialect readers," profoundly ignorant of the art of correct speech, swarm over the state thick as harvesters in June. They can counterfeit the brogue of the Irishman, the broken-English of the German and pigeon-English of the slant-eyed Chinaman; can contort the face into a hundred grimaces, and assume all kinds of ridiculous attitudes. Therefore, they style themselves "Elocutionists." No wonder if some teachers, disgusted with this clownish mimicry, and thinking it to be elocution, value it lightly.

But this is not *true elocution*, which is not the art of attitudinizing, of ostentation, of showy gesticulation. It is the art of expressing thoughts, clothed in sweet words, in the most natural and effective manner. All mimicry is antagonistic to it. The simple fact is that elocution is daily and hourly taught in every school room, and good or bad habits of utterance are forming every exercise in which the voice is used is an exercise in elocution and hence *every exercise in the schools should be an elocutionary exercise.* Oral-reading is taught for a short time only each day, but elocution is taught continuously. It logically precedes reading and our first lessons were learned at our mother's knee. Surely it has a place in the common school, for all means of expression are inferior to oral discourse.

The tones, inflections and emphasis should be the same in reading as in conversation. That they are so often different, and hence, unnatural, is unfortunate. The source of the fault is generally in the method of the primary teacher. Oral reading calls into use two sets of faculties, viz: The *perceptive* and the *expressive.* Through the agency of the former, the thought of the author is apprehended,

through that of the latter it is communicated to others. The logical order is, first understand then express. Teachers fail to teach this branch successfully because they so often reverse this order, and permit their pupils to read orally before the thought is fully mastered by the pupils. The perceptive faculties must do their work before the expressive are brought into exercise. Then, when the work of communicating thought to others through the avenues of hearing and sight is begun, the whole conscious power of the mind can be given to expression. I would not be understood as asserting that one who grasps intelligently an author's meaning, *therefore* can adequately express it. The ability to clearly grasp thought and strong emotion are *two* things. But without a good conception of that which is to be conveyed, the most harmonious voice and expressive manner are vain.

A more specific account of work done may be desired. Artistic respiration has been carefully considered, and frequent exercises in breathing introduced to assist in the development of the chest, and secure the formation of a habit of full and free respiration. The attributes of voice, quality, force stress, pitch and time, have been reviewed and their use in delivery exemplified. The good qualities of the voice have been improved by exercise, and the bad suppressed.

The elements of speech have been thoroughly studied in the reading classes, and practice upon them separately and in difficult combination has been thorough, as affording the best means of improving careless and defective articulation. Syllables, words, phrases and paragraphs, accent, emphasis, inflection, slur, monotone, cadence, etc., all have been considered and reviewed. The cultivation of manner has not been neglected. Propriety of attitude and a correct manner of holding the book, have been insisted upon in the reading classes, while in the Elocution Class a good degree of attention has been given to action. The method of teaching reading in primary grades have been given thorough consideration as well as methods for variety in recitation. The progress of pupils has been fairly satisfactory.

VOCAL MUSIC.

One term is devoted to this pleasing art. The classes have been interesting and have done good work. Only State beneficiaries are required to take this branch, but as others may enroll themselves at their option, many avail themselves of the privilege, and no study is more popular. The pupils learn to sing ordinary church music with facility. This refining art is so taught, that our pupils not only know the score themselves, but are prepared to instruct others, and thus diffuse a knowledge and love of music among the people.

The calisthenic exercises, for seven years under my direction are now under the control of Miss Finley.

All of which is respectfully submitted.

JAS. H. BROWNLEE,
Teacher of Elocution and Literature.

DEPARTMENT OF PHYSIOLOGY, HISTORY AND GERMAN.

ROBERT ALLYN, LL. D.,

Principal of the Southern Illinois University.

DEAR SIR :—Twenty-three classes have been taught in this department during the year. At the beginning of the Winter term an exchange was effected between the Department of Geography and this one in the matter of two classes. A class in U. S. History was assigned to Miss Finley for a class in G eography, which latter was taught throughout the term in this department. At the beginning of the Spring term Miss Finley also consented to conduct another class in U. S. History. Neither of these classes are included in the enumeration above or in the statistics below, but will appear in Miss Finley's report.

As usual, the classes in Physiology have consisted of earnest, faithful students, and the plan of teaching has not deviated materially from that pursued in previous years. Dissections performed by the members of the class have been this year more frequent than ever before. Small animals, such as rabbits, have been unsparingly used, as well as hearts, livers, spleens, eyes, etc., from the sheep, pig and ox. At one time, during the Spring term, a whole sheep was procured, and its dissection being performed solely by the members of the class according to instructions and directions previously given, created an enthusiasm, which I am sure will not easily wear away. To make the work the more interesting, a division of labor was resorted to until twenty persons were engaged, thus: To two students was assigned the dissection of the brain; to two the dissection of the viscera, etc. As to result there was entire success. Unaided, except by previous instruction and drill, the two students to whom were assigned the dissection of the brain, removed without injury to the delicate membranes; the skull-cap showed the divisions and ventricles of the brain, even laying bare such small parts as the *pituatary body* and the *pineal gland.* The eye was dissected as follows: Being *carefully* cut from the orbit, and oval aperture through the *sclerotica* and underlying *choroid* was made a short distance from the line which marks the boundary between the *sclerotica* and the cornea. Care was especially taken not to cut or injure the *hyaloid membrane.* By letting the sunlight shine through the aperture upon the retina, the student was enabled to see that delicate membrane of the eye magnified by the *lenses,* simply by looking down through the pupil of the dissected eye, care being taken by the observer to shade his own eye from the glare of the sunlight.

In this way all the ramifications of the *apteria centralis retinæ* were seen distinctly as that artery divided up into the nervous screen of the eye, the red and scarlet color of these vessels contrasting vividly with the other retinal elements. Then by cutting and removing the cornea, the *iris crystalline lens* Zonule of Zinn, etc., could be easily shown. With equal success were the heart, liver, spleen, etc., dissected. But enough has been said to show what can be done by earnest students. enlivened and enthusiastic *to do* and thus *to learn*. This work any teacher, even in our district schools, can have done if he only will. The dry details and often distorted diagrams of a text-book must have the teacher to breathe into them the breath of life that they may become a living soul ere they can so appeal to the living pupil as to interest and instruct.

Of the seven German classes taught in this department during the year, three, one in the Fall term and two in the Winter term, were conducted by Miss Anna Wiegmann, who evinced a peculiar fitness for this work, because, in addition to the fact that she was a native born German, her earnestness, attention to duty, patience in correcting the many ludicrous mistakes which pupils will necessarily make in acquiring a foreign language gave her eminent success. In the classes under my own charge commendable progress was made by the students. During the first and second terms of the year Otto's German Conversational Grammar, from beginning to end, was fully mastered, while during the third, some fifty pages of Zimmerman's Handbook of German Literature were carefully read and translated, the use of the Grammar and conversation in German continuing during the term.

It has been my experience that in order to give the student *materials* for conversation in a foreign language, while at the same time the literature of the language is more or less studied, both "The Grammar Method" and "The Natural Method" must be used. Judging from my experience I cannot concur with those instructors, eminent though they may be, who would have the grammar entirely discarded from the class-room; nor with those indeed, who still tenaciously stick to the time honored fashion of teaching a new language solely through the medium of grammar and dictionary. During the past year I have endeavored to teach the German grammar through the medium of conversations in the German tongue, upon the noun, verb, preposition, etc., and also upon the construction of phrases and sentences.

The fact, that throughout the Southern half of Illinois there are many communities in which none but German is the medium of conversation, makes it, it seem to me, imperative that in an institution like ours, there should be afforded an opportunity to learn either the German or the English. Students whose mother-tongue is German, have come to our institution and failed of the highest success, not at all because they were naturally dull or lazy, but simply because they could not clearly comprehend the meaning of the English technical terms; and their knowledge even of English in ordinary use was so poor that no possible explanation of these terms, except in their mother-tongue, would avail anything to make

the meaning plain to them. It has been my pleasure on several occasions to assist such students in arithmetic, geography or grammar who had become puzzled over terms they could not understand, a few words in German clearing away the difficulties at once.

It may be well to say here that the teaching of German has been, for the two years during which I have taught it, a *voluntary duty*, for which I have received no compensation whatever, and yet this duty has entailed on me very much extra labor in examining and correcting written exercises and in teaching some classes out of the regular school time.

The classes in United States History have been large and interesting, but do not require special mention, as the plan of teaching has not materially differed from that pursued in the previous years. In deference to the opinion that our curriculum was too difficult for the time that pupils were required to complete it, at the beginning of this year, the Ancient and Modern History Classes were stricken out of this department, and in their place a class in General History was formed.

Besides the regular work mentioned above, I have performed the work of Librarian, my report as such being found below, and have also spent one hour per diem throughout the year in charge of the students in the Normal Assembly Room.

Appended hereto are the statistics of my department for the year:

FALL TERM.

Physiology, A	Enrolled	22,	Passed	16
General History	"	7,	"	7
History of U. S. A	"	16,	"	8
" " B	"	56,	"	28
Spelling, C	"	37,	"	32
German, A	"	8,	"	5
" B	"	13,	"	6

WINTER TERM.

German, A	Enrolled	4,	Passed	4
Method Class in U. S. History	"	13,	"	11
General History	"	2,	"	2
Geography, B	"	23,	"	16
Physiology, B	"	20,	"	20
U. S. History, C	"	29,	"	15
German, B	"	12,	"	8
" C	"	2,	"	2
Spelling, C	"	35,	"	35

SPRING TERM.

Method Class in U. S. History	Enrolled	17,	Passed	16
Physiology, A	"	17,	"	15
" B	"	14,	"	9
U. S. History, B	"	28,	"	16
German, A	"	4,	"	4
" B	"	6,	"	6
Spelling, C	"	29,	"	27

REPORT OF THE LIBRARY.

I have endeavored to perform as satisfactorily as possible, as during preceding years, the duties of Librarian. The library has been largely used this year, especially during the First and Second terms. I cannot but repeat with emphasis, what I said last year, "As the library increases the work increases," and it will soon become an important matter of consideration, whether it would not be better for the Board of Trustees to employ the services of one person who could devote his whole attention to this work, rather than in the attempt to divide one's time between the work required in the class room and that required in a large library, one or the other or both in the necessity of the case should be more or less neglected.

Very truly yours,

GRANVILLE F. FOSTER.

DEPARTMENT OF ASTRONOMY AND ARITHMETIC.

ROBERT ALLYN, LL. D.,

Principal of Southern Illinois Normal University.

DEAR SIR :—I herewith have the honor to present my annual report for the year 1881—82 :

The aggregate number of pupils that have been instructed in this department during the year has been 530. Number of classes, 23. Five of these classes were assigned to pupil teachers ; three the first term, and two the second.

About 85 per cent. of the pupils in arithmetic were successful. This is the largest average that has ever been made. The text-books were Milne's Practical and Ray's New Higher. The most of the work was in the New Higher.

What we consider a very important feature of our work this year, has been the very large amount of original work done by the classes. After the text-book examples had been thoroughly discussed, the definitions and principles well considered, the classes have then solved and explained examples of their own composing. This exercise has sometimes been varied by one pupil making an example and another pupil immediately solving and explaining it.

This kind of work has developed more thought, and led to more earnest consideration of the meaning of the definitions and to an understanding of the principles discussed, than anything we have ever before tried. It seems to us to be almost the *ne plus ultra* of success.

In all of our instruction, we have ever kept in view the fact that our pupils are to be teachers, and that the leading elements of a successful teacher are the power of original inquiry, ability to dissect the members of a great question, analyze the parts of any great truth, command the attention, and have a pleasing and ready capacity to impart to others, or lead them to investigate and find truth for themselves.

The Astronomy class this year consisted of fifteen members. All but three carried the study, and two of those were obliged to leave the University before the end of the term on account of sickness in their families.

Spelling, class A, has been under my instruction during the year. The whole number of pupils that have passed in spelling has been 68.

During the third hour of each day, throughout the year, I have had charge of the Normal Hall.

I have endeavored to do the work of the year faithfully and well, and hope it has met with your approval, and trust it will be satisfactory to the Board of Trustees.

Respectfully submitted,

A. C. HILLMAN.

DEPARTMENT OF GRAMMAR AND BOOK-KEEPING.

ROBERT ALLYN, LL. D.,

Principal Southern Illinois Normal University.

I hereby submit to you a report of the work done during the eighth year in the Department of Grammar and Book-Keeping.

During the Fall term I had six classes as follows:

FALL TERM.

Analysis	No. of Members		15
Grammar, B	"	"	28
" C—1st Division	"	"	30
" C—2d "	"	"	25
" D—1st "	"	"	23
" D—2d "	"	"	22

During the Winter term I had five classes as follows:

WINTER TERM.

Book-keeping, A	No. of Members		13
Grammar, B	"	"	33
" C—1st Division	"	"	28
" C—2d "	"	"	39
" D—2d "	"	"	23

During the Spring term I had five classes as follows:

SPRING TERM.

Grammar, A	No. of Members		21
" B—1st Division	"	"	31
" B—2d "	"	"	24
" C	"	"	36
" D	"	"	9
Total number of pupils for the year			400

At the opening of the Winter term, Professor Parkinson relieved me of the care of the B Book-keeping Class, consisting of 23 members; and during the Spring term he has done the entire work in that science.

The labor has been much facilitated by the fitting up of a room for that especial purpose—a need that has long been felt as pressing.

As pupil teachers, Miss Wezette Atkins and Miss Maggie Bryden both did satisfactory work in the Grammar Department during the Fall term, each one having a division of the D Class.

The first two terms' work were very gratifying in their results. The pupils studied faithfully, and were regular in attendance, thus making rapid advancement. This term is somewhat disappointing, as in some classes not more than half the number remains, owing to the fact that our term does not close in time for the harvest, in which so many of our pupils must assist.

Respectfully submitted,

MARTHA BUCK.

DEPARTMENT OF NATURAL HISTORY.

ROBERT ALLYN, LL. D.,

Principal Southern Illinois Normal University.

DEAR SIR.—I have the honor of presenting the following as my report upon work done in this department during the year 1881–82:

As during former years, the teaching work has been done during the Institute or Summer session; the Fall, Winter and Spring terms, the same number of classes in each as last year. As heretofore no record of class work was kept in the Botany and Zoology Classes during the Summer session, nor were any particular text-books required, though the topics of daily work were arranged with reference to the text-books usually used here rather than others. In Botany, besides the class room drill and analysis, considerable field work was done. The same plan was pursued in Zoology, though I think more field work was done in this branch than in Botany. As an aid in this study, we found the tables published in the Principal's Report last year very beneficial in identifying such specimens of that interesting genus *Catocala* as were obtained in the afternoon excursions. Another year's use of those tables of insects, together with the calls for them from other places convinces me of the wisdom of their preparation and publication, though I am fully aware that they contain imperfections. The number of students engaging in the practical field work, was, I judge, equal to that of last year. Though no class record was kept of either study, several took examinations in the studies at the close of the session for record on our book.

During the Fall term I had the regular class in Elementary Zoology assigned me on the programme, and besides a called class in Advanced Botany, of such as for various reasons could not well take the study in the spring.

The record shows the following condition of the two classes:

Elementary Zoology...	Number, 15	Left Class, 1	Passed, 14
Advanced Botany....	" 7	" 0	" 6

Besides this, I had charge of a spelling class during this term, in which thirty different ones were enrolled. No changes have been made in text-books during the year in this department.

In the Winter term only one class, aside from spelling, was conducted in this department with results as follows:

Advanced Zoology....	Number, 20	Left Class, 4	Passed, 16

At the opening of the term quite a number of those not familiar with our diacritical marks, were assigned to me for such instruction, after which thirteen remained in my room for spelling, continuing with me the most of the term. I may say that unfortunately sickness prevented my hearing my class for three weeks of this term, but during that time the recitations were conducted by one of the senior's, who was at the same time a member of the class.

During the Spring term I have had four classes, those regular in course, Elementary and Advanced Botany, and the two grades of Zoology, as called classes, with results as follows:

Advanced Botany.....	Number, 30	Left Class, 4	Passed, 26
Elementary "	" 19	" 4	" 15
" Zoology...	" 13	" 2	" 11
Advanced " ...	" 14	" 5	" 9

The work in Botany this term has been more than usually interesting, and I trust profitable to the classes. Early in the term a quantity of boxes were obtained, made similar to those in use in our herbarium, each capable of holding about 100 sheets of plants. With these as an incentive, twenty-five of the students filled more or less completely, from one to several of the boxes, part of the plants being their own collecting and pressing, and a portion such as I could furnish from some of my old duplicates. Besides the extra knowledge acquired by this practical work, they will have collections, that judiciously used, may furnish profitable topics for many an object lesson in the schools over which these students may be called to preside. Some practical work has been done in Zoology, both in insect work and taxidermy, but the work that claimed most attention was botanical. It is, perhaps, unnecessary to state that the microscope, herbarium and cabinets have been freely used as aids in this department.

Respectfully submitted,

G. H. French.

DEPARTMENT OF PHYSICAL GEOGRAPHY.

ROBERT ALLYN, LL. D.,

Principal Southern Illinois Normal University.

DEAR SIR :—I herewith submit a report of the work done in my department during the school year just closing :

In the different classes in Geography, during the Fall term, 102 pupils ; Winter term, 80 ; Spring term, 61. The class in Physical Geography, Spring term, 16. I also taught a class in United States History numbering 12. During the Spring term, and in the same branch, Winter term, a class of 42. The pupils here in most cases have been diligent in their application, and their progress has been gratifying.

In addition to the study of the text all of the Geography classes have done work in map drawing, which they have found to add definiteness to their geographical knowledge.

My class in spelling, a division of the C work, numbered 22 during the Fall, 15 during the Winter term.

During a greater part of the Spring term Mr. J. O. Duncan taught, under my supervision, one of the C classes in Geography, and the interest and progress of the pupils under his care show he that did very faithful work as a pupil teacher.

It will be noticed that the number studying geography has not been as large as in some previous years. The reason of this difference I believe to be found in the fact of the more advanced grade of our pupils. A larger number than usual having taken this work by examination.

In the fall the Calisthènic Drill was transferred to my department and has since been under my charge. We find that those young ladies who have had for some time the benefit of the calisthenic practice show an improvement in bearing and in the freedom and ease of their movements which give them an added grace, conducive to more perfect health, and prepares those who desire to teach to conduct such exercises in their schools.

Respectfully submitted,

ESSIE C. FINLEY.

DEPARTMENT OF DRAWING AND PENMANSHIP.

ROBERT ALLYN, LL. D.,

Principal Southern Illinois Normal University.

DEAR SIR :—The following report of work done in my department for the year 1881—82 I submit for your consideration.

The number in classes this year has been as follows :

	DRAWING.	PENMANSHIP.
Fall Term.....	68	108
Winter Term.....	59	78
Spring Term.....	55	48

Students in drawing have manifested more than ordinary interest in work this year, owing partly, no doubt, to the favorable condition of the weather, which has not been warm and enervating as usual. Twenty-two have finished the course, making the Diploma Drawings required to indicate the work accomplished. Classes have been fuller than ever before and pupils have labored zealously throughout the entire year.

Object drawing, so important to the prospective teacher, has been practiced with much success, and with a view to rendering it highly practical.

The classes in penmanship, always large, could not be accommodated the Fall term, owing to lack of seating capacity. Provision should be made in future against this want, and also for more blackboard room. Pupils need blackboard drill in penmanship as well as in drawing, but with our very limited space, this is impossible.

A class in spelling was assigned me at the beginning of the Winter term, which continued through the year, and I have presided at the piano for devotional exercises and for calisthenic drill.

Very respectfully,

JENNIE CANDEE.

DEPARTMENT OF MILITARY.

ROBERT ALLYN, LL. D.,

Principal Southern Illinois Normal University.

DEAR SIR:—I have the honor to submit, this, my second annual report, for the collegiate year ending June 15, 1882:

The new rule of the faculty requiring all male students, except such as may be excused for special reasons, to attend military drill, etc., has been productive of good, which was especially the case in the Fall term, as the young men enrolled their names in the Military Department as a matter of course. There have been 187 cadets enrolled this year against 165 last, and 48 in attendance for at least a part of all three terms against 40 last year. There were 120 in the Fall, 124 in the Winter and 104 in the Spring terms respectively.

About 60 cadets got the prescribed uniform this year. I recommend that all be required to get them who come to remain for more than one term at a time, as a uniform is the cheapest clothing a cadet can wear, and the proper thing for military purposes.

The Military Department was more of a success during the Fall term than it has been at any other period of my two years duty here; which may be accounted for by the addition, during that term, of numerous military pictures, the adoption and enforcement of a set of cadet regulations, the organization of a brass band, the grass on the drill ground being cut short, the rifles being cleaned, etc. I must say that at best the accommodations for an efficient military department are not as good as they should be; the hall used as an armory is a very fine one, but there are too many steps, 100, to climb to reach it, besides, as the building was not constructed to accommodate a Military Department, the marching of troops in the cadenced step in the large hall is likely to shake and injure the building. None of the places free from trees now, used to drill on, are large enough, nor is the ground even enough, and the grass is not cut as often as it should be. To obviate the necessity of climbing up stairs to the armory in pleasant weather, gun racks were put up in the basement hall, which not being well lighted, the cadets cannot readily find their proper rifles. These facts, taken as a whole, prevent the obtaining of anything like good military discipline, and as the large majority of the young men who have been in this department for the past two years, want to learn correct views of military duties, and as the State of Illinois has done so much for the Military Department at Champaign, and

as it takes rank among the first in military education, it would, undoubtedly, if the matter was properly presented, be glad to make this department a model for the militia of this part of the State to pattern after, therefore, I now earnestly recommend what I suggested in my annual report of last year, *i. e.*, to ask the Legislature at its next session to make an appropriation for an armory and improvement of a portion of the campus for a drill ground and for other purposes.

I have carefully examined the grounds and would suggest that a building to cost about $75,000 be put up on the west side of the Normal building, and $10,000 be asked for to make a suitable parade or drill ground, an even, grassy plat, 40x80 yards, free from trees or other obstruction, on the west side of the proposed armory building, which, besides its use for military purposes, could be made to contain rooms for a library, museum, the two literary societies, etc., on the same level with Normal Hall, and connected with it by an iron passage way, with the water closets, storerooms for coal and the artillery carriages, etc., in the basement on a level with the basement of the Normal building, having the armory proper, with galleries around it for visitors, on the first floor, when viewed from its front on the west side. At my request, Mr. C. E. Brush, an experienced architect of this city, has examined the site and made a plan and elevation of a building that meets my approbation, and to these drawings I respectfully ask the attention of the Trustees and of yourself.

The Rev. J. J. W. Place having moved from the city, Dr. J. Y. Aitchison, also of the Baptist Church, has been tendered and accepted the position of Chaplain, and he has delivered one very appropriate sermon to the corps.

I respectfully renew my application to the Trustees, made through you for a sum of money, say $25 per quarter be set aside to be expended by me for the benefit of this department. I trust that shelter will soon be provided for the artillery carriages, and I insist that the grass on that portion of the campus to be used for drills, etc., be kept cut short all the year around, at least during the collegiate year, and that a man be employed as often as once a term to clean the rifles, cannon, etc. The rifles have recently been put in fair condition, a fact I am pleased to note, thanks to you.

I regret that the Governor has recently decided by letter to me, from his Adjutant General, that he would make no more honorary appointments of our graduates as Captains on his staff.

I take pleasure in commending Cadet Henry A. Stewart, First Lieut. and Quartermaster D. C. C., as worthy of a cadetship at West Point. Cadet Stewart has been in the Military Department continuously since its establishment, and has done his duty faithfully in every grade of rank in the corps.

The military instruction has been about the same this year as last, and I am pleased to observe that offices in the corps are looked upon with more favor.

The cadet band since its organization in December last, has furnished music for all competitive drills between the cadet com-

panies and for all public entertainments given by the two literary societies, thereby redounding to the credit of the whole institution as well as adding greatly to the interest of this department.

Very respectfully, Your Obedient Servant,

H. T. Reed,

Lieut. U. S. A., Prof. Military Science and Tactics.

REPORT OF THE CURATOR OF THE MUSEUM.

ROBERT ALLYN, LL., D.,

Principal Southern Illinois Normal University,

DEAR SIR :—I would respectfully submit the following as my report upon the work done in this department during the year 1881—82: The general plan of the work has been much as it was last year, viz: keeping up work in the general collection by classifying and placing in the museum such miscellaneous material as is constantly coming to us from our friends, while at the same time pushing work more actively in about two directions. Last year these two directions were in the line of insects and shells, using the large collection of the first made during the summer to obtain by exchange material in the last, of which we stood in need. This year a large collection of insects was made during the summer and some exchanges were made as the detailed statements following will show, but the greater share of my time has been devoted to work on the herbarium. Valuable assistance has been rendered in this work by the following students, Fall term, Mary D. Pope, Mary A. Brown, Fannie Aikman and W. J. Eddy. Winter term, Alicia E. Beesley. Spring term, Mary Buchanan, Clara Buchanan, Lizzie Unruh, Bettie C. Anderson, Anna R. Shinn, E. S. Houts, Denard Williams, Jacob Gruenig and O. N. Gibson. This assistance consisted in fastening the plants and their labels on the paper, after I had written the labels and recorded them in our catalogue. This enabled me to do much more than could have been done had I been compelled to do the pasting as well as the label writing.

ARCHEOLOGY.

Considerable has been added during the year to our collection of relics of the early inhabitants of this locality. Three trips have been made with Dr. Cyrus Thomas, Archeologist of the Smithsonian Institution for the purpose of obtaining specimens and information. Prof. J. Hull, one trip to some part of Union County, from which was obtained a very fine urn, perfect in every respect, except a slight scratch in one place from the spade. Dr. Allyn, one trip to Missouri, from which a similar urn was obtained, but in a broken condition; and one trip by myself to a place not far from town. Aside from some bones, broken pottery and flint implements, the only things of value I obtained were two bone stillettoes that must have been used in making holes through skins for the purpose of fastening them together with thongs. They

looked as though they might be made from the shaft of such bone as the tibia of a deer, and one of them was very smooth as though it had been used considerable. Besides these, quite a number of arrow heads, axes, flesh scrapers and other implements have been obtained from Mr. Geo. H. Center, at the time living at Carterville, among which is also a set of stones used for grinding grain. A number of specimens have been contributed by students and friends of the school.

Before closing this topic I would recommend that more case-room be supplied to the museum the coming year, partly with a view of providing suitable place for the specimens of this department.

MINERALS AND FOSSILS.

Aside from three collections of minerals obtained from A. E. Foote, M. D., of Philadelphia, but little has been added to our stock. Prof. Parkinson and his geology class have rearranged and classified much of that we had last year, together with the new minerals obtained. But little has been done in fossils. Some plaster casts of rare fossils were obtained in part exchange for some obsidian Indian disks and a few fossils have been donated. It is my intention to devote extra time to this group next year to place it on a par with the other departments.

BIRDS, ETC.

Early in the year 56 specimens of bird skins were received from Professor S. A. Forbes, of the State Laboratory of Natural History, the work being done by Mr. C. W. Butler, of Anna. Later 16 mounted birds were purchased from Geo. H. Center, of Carterville, and a number of Colorado bird's skins were contributed by Mr. J. G. Allyn. Besides these a number of specimens have been mounted by myself some fresh and some of the dry skins of rare birds, foreign to our locality, relaxed and mounted.

BOTANY.

As intimated in another place, the most of the work done this year has been done upon the herbarium. At the beginning of the year there were 1,374 specimens or sheets of specimens. During the Fall term 626 were mounted and placed in the boxes, and during the Winter and Spring terms 1,140 more were added, making now 3,140 in the herbarium. These represented about 3,000 different species and well marked varieties. These plants were, aside from quite a quantity collected by yourself in the White Mountains and some collected here during the summer, those that had been obtained by exchanges, remained unmounted and what we lacked from my old duplicates. There are a few still to be worked up, all of our algæ, a few lichens and mosses, and a small package collected by Miss Sara Saul in Colorado, that I have not yet had time to identify.

SEEDS AND FRUITS, ETC.

Some addition has been made to this part of the museum, very little to the fruits, but more to the seeds, so that there are now 480 different kinds of seeds in labeled show bottles, besides several kinds now on hand that have not been put in the bottles.

In addition to these Mr. E. Kirkpatrick, of Anna, has kindly furnished for the museum a nice collection of the woods of Union County, which was first exhibited at the State fair and then sent here.

CONCHOLOGY.

A few shells have been donated and one exchange has been made of plants for shells with Jos. F. James of Cincinnati, by means of which 24 species of unionidæ were obtained, 22 of which were new to our collection. All but a few unclassified donated shells have been labeled and placed in the cabinet. I am satisfied that by use of material easily attainable here we can increase this department from year to year so that it will not be long before we shall have a cabinet that will compare favorably with that of any other institution. The principal thing needed now is more books for the determination of species where shells come to us unclassified.

ALCOHOL SPECIMENS.

But little change has been made in this department since reporting last year. As heretofore some things have been added from time to time, and these have mostly been labeled and placed in the museum. Our shelving, as now arranged, is not sufficient to properly display this class of specimens, even what we now have on hand. There is one division of this group—spiders—in which work needs to be done soon in classifying what little material we have, and adding to it what can be found in our locality, at least. I have already named a few species but those named are far too few to represent the group as it should be to place it on par with with other parts of the museum.

NEW LONDON COLLECTION.

Reference should be made to the valuable collection from New London, Conn., obtained by Dr. Allyn, while on his visit to that place last summer, and contributed by J. J. Copp, Esq., Hon. J. Allyn, Chas. Allyn, Esq., T. M. Allyn, Esq., Mr. John Crandall, Capt. J. O. Spicer, Frank Washburn, Esq., Chas. M. Douglas, and many others, all residents of that place. Without enumerating all of the specimens in the collection we may mention the lower jaw bones of the right whale, a vertebra of the sperm whale, two horns of the sea unicorn, several swords of the sword fish, and snouts of the saw fish, walrus heads and tusks, fan, pen, brain and other kinds of coral, a model of a kyack, or the Esquimax boat, and the duck traps he uses in catching ducks, many valuable minerals and rare woods from various parts of the world. There is no collection

in the museum that attracts more attention than this, which has been placed in the southwest corner of the room.

CONTRIBUTIONS.

It is with pleasure that I append here the following list of those who have helped to add to our collection during the year, together with the objects contributed. It is possible that some names may be omitted, especially if the objects were handed to some other member of the faculty, and found their way into the museum without my knowledge of donor or object donated. If any names are omitted I wish to assure our friends it is not intentionally done. The following is a list of all of which I have at time of writing any record:

George Brush, *Papilio Asterias*, *Gortyna Nebris*, two Indian arrow heads.

Tyler McWhorter, Aledo, 13 species of Coal Measure fossils.

Isaac Farner, Rattle Snake.

C. W. Butler, Anna, Cotton Mouth Snake.

Belle Rice, Cobden, *Tolype Villeda* larva.

S. E. Harwood, Coffee Tree pods and shells.

Benj. Eckles, Wheel Bug.

Miss Freddie, Payne, Palestine, Water Scorpion.

Miss Lizzri Unruh, Spiders.

Mrs. Beard, Water Scorpion.

Prof. J. T. Moulton, Jr., Knob Lick, Mo., quartz gueode, Canoe or Paper Birch bark.

Huldah Dollins, Mantis.

George Bachtel, Cold Springs, Shelby County, Indian drill.

Ira Clarke, Summit Station, N. Y., four packages of seeds.

E. H. French, Lawrenceville, nine packages of seeds.

Robert Allyn, New England *Algæ* or Sea Mosses, several packages of mosses, ferns, linchens and other plants from the White Mountains; minerals and other things in the New London collection.

Prof. A. C. Hillman, Trap Door Spider from Arkansas.

Lieut. H. T. Reed, Water Beetle; fiber from roots of Palm tree, long moss and shells from the South, cedar twig from President Garfield's grave.

Edward C. Hughes, Corn Snake, Spreading Adder.

Kate Thomas, Water Scorpion.

Kate Ingersol, *Sphinx* larvæ, Cabbage *Pleusia*, *Plusia Biloba*.

Izzri Loomis, Water Beetle.

G. C. Roberson, Villa Ridge, Indian spade.

Hon. W. H. Lemma, petrified cedar from Arizona.

Sara Saul, Boulder Colorado, Salamander.

Hettie Stokes, *Cermatia Forcipes*, *Plusia Biloba*.

R. G. Sylvester, *Rhyssa*.

May Duff, a snail.

Della Nave fossils from Union County.

Lucien W. Gordon, Equality. *Eperia Stellata*.

Eddie Foster, a Spirifer fossil.
C. R. Miller, a Mud Fish.
Geo. Ennison, Bee Moth *pupæ* and *larvæ, Sphinx pupa.*
T. E. Williamson, Belknap, Johnson County, some Pentrimite and other fossils.
Rev. E. H. Parkinson, Garrison, Kansas, Coffee Beans and some curious seed pods.
C. E. Kirkpatrick, Anna, 150 specimens of wood from Union County.
Edward M. Hanson, Indian relic.
Mrs. Mary McBride, Grand Ledge, Michigan, *Corydalis Cornuti* and two fossils.
O. S. Marshall, Salem, False Scorpion.
William Underwood, Campbell Hill, a fine Ammonite from Cook County, Texas.
J. W. Wood, Shiloh Hill, Buffalo Horn and Indian arrow heads.
T. S. Marshall, Salem, *Cermatia Forcipes.*
John Borger, 3 kinds of seeds.
Susie Storm, Rhinoceras beetle.
Mr. Simons, *Sphinx Pupa.*
Wm. Williams, *Cecropia* Cocoon, Pentrimite stem, Japan Quince, fire brick from blast furnace at Carondelet, Missouri.
May Elliott, Sparrow Hawk.
Charles Marten, specimen of sole leather.
J. B. Harnsberger, Water Scorpion.
Mary Brown, pods of Enslenia.
E. Hindman, 2 kinds of seeds.
Maud Thomas, Salt crystals from St. Johns.
Arista Burton pebbles from the bed of the River Rhine.
Joseph G. Allyn, six birds from Colorado, viz.: a Blue Crow, a Clark's Crow, a Water Ouzel and three Mountain Blue Jays.
John Marten, Pagonia Pendula plants.
Wezette Atkens, Coffee Tree pods.
Wilson Cook, Saline County, a Stalagmite.
Capt. Spencer, *Vinaigaroo* from Fort Stockton, Texas.
W. W. Colvin, Lamellate sand stone.
E. J. Ingersol, Confederate $20 bill.
Frank Woolsey, Water Beetle.
G. M. O'Hara, Horned Owl.
Jacob Gruenig, vegetable ivory, a cross made from the same, and spun glass.
Mrs. J. Hull, 12 species of plants.
David Rigdon, Galena, Kansas, Galena ore.
Mary D. Pope, Teasel Cucumber.
E. S. Houts, several species California plants.

INSECTS.

During the summer quite a number of insects were collected, a few of which were new to the cabinet, and have been set aside to

be placed in the classified collection. Of the rest, those in good, fresh condition have been reserved for exchange for other insects, a part of them having been already so used; those of the Lepidoptera not quite perfect, have been used as material for analyzing in the Zoology classes. The whole number pinned during the season was 1,635, including all the orders.

Insects have been sent to the following persons in exchange as follows: To Joseph F. James, Cincinnati, in exchange for fresh water shells; to Eugene M. Aaron, Philadelphia, in exchange for *Diptera*; to A. Conradi, Bethlehem, Pennsylvania, in exchange for European insects; to C. E. Worthington, Chicago, in exchange for other insects; to Jennie E. Clay, Cobden, the same.

I may say that the exchange for the Diptera was conducted by Mr. John Marten, and was a very valuable one for us. The flies were not named, but we have gone over a part of them, and find several species new to science, the names and descriptions of which Mr. Marten will soon publish. The principal thing now needed in working up our Diptera is more books. A few works devoted specially to that subject were purchased during the year, but a few more of the German and English works in which many species are described are greatly needed.

A portion of my out of school time has been devoted to rearing and noting the life history of some of our insects, making these notes the basis of articles for publication in scientific periodicals. So little of this has been done that comparatively little is known of the early stages of the most of our common insects. I have concluded to do more of this the coming year, as it not only adds to the stock of knowledge of these animals, but enables me to secure much finer specimens for the cabinet and for exchange than could be had by chance captures.

But little has been done in arranging insects in the cabinet, they being left arranged very much as they were last year. Those received new to the cabinet have been placed in empty drawers, to be put in their proper places when the number is sufficiently large that rearrangement seems necessary.

I present with this an addition to the tables for analyzing insects for use in Zoology classes. I have received so many encouragements from the success of their use in my own classes, and from those using them in other places, that I feel justified in doing this. The tables prepared this time are upon the *Noctuidæ*, one genus of which formed the subject for last year's work, and I have not reproduced the work here that was done last year, but when that genus is reached the student is referred to the synopsis of last year for the species. My synoposis of the *Noctuidæ* of Illinois lacks descriptions of several species, because I failed to get insects from which to make descriptions, but I hope to remedy that before I revise.

SYNOPSIS OF THE NOCTUIDÆ OF ILLINOIS.

By G. H. FRENCH.

At the beginning I would say that I do not claim the following to be a synopsis of all the species of *Noctuidæ* that have been found in Illinois. I have, in fact, 74 species on my list that are not found in this synopsis for the reason that my descriptions have been made, with very few exceptions, from the insects instead of from what had been written before, and I could not get specimens of these species in time to use them. In the arrangement and names I have followed the new check list recently published by Mr. A. R. Grote, of New York, as that will be the basis of the arrangement of our cabinet, and will probably be taken as authority by the majority of those working in this family. In seeking for characters by which to distinguish the genera and species, I have endeavored to take such as would be the most easily recognized by our students. Some characteristics commonly used, and, perhaps among the best, require higher magnifying power than we can place in the hands of the students, and they have been rejected. This has served to render the tables somewhat artificial, but it has seemed that the end would justify the means. When color is referred to without location being given, it is intended to apply to the fore wings, as they are more often characteristic in color than the hind wings. As in former tables, the specimens are supposed to be spread as prepared for the cabinet. That the student may more readily understand some of the terms used in the descriptions, the following brief definitions are offered:

Anal angle—The inner posterior angle of the hind wings.

Antennæ—Two organs projecting from near the top of the head.

Apex—In general the anterior outer angle of the wings.

Anteapical—Near the apex towards the body.

Basal line or basal half line—A line on the fore wings near the body from the costa to the median vein.

Costa—Front edge of wings.

Dash—A long mark of some other than the ground color, basal dash from the middle of the base of the fore wings outward; posterior dash near the posterior angle, subapical dash below the apex near the outer margin.

Hind margin, that opposite the costa on the fore wings.

Inner margin, edge of hind wings next to the body.

Dentate—Toothed.

Subdentate—Only slightly toothed.

Discal cell—A space between the subcostal and median veins.

Orbicular—A round spot near the middle of the fore wings.

Palpi—Two organs projecting from beneath the head between which the tongue is coiled when not in use.

Porrect—Straight out.

Posterior angle—Juncture of the outer and hind margins of the fore wings.

Posterior margin—The hind margin.

Reniform—A kidney shaped spot near the end of the discal cell.

Subreniform in Catocala—An inflexion of the t. p. line below the reniform, sometimes closed and nearly or quite separate from the rest of the line.

Stigma or Stigmata—Used for the orbicular and reniform.

T. A. line or transverse anterior—A transverse line on the fore wings about a third of the distance from the base of the fore wings.

T. P. line or transverse posterior—A line about two-thirds of the distance from the base of the fore wings.

Truncate—Cut square.

TABLE OF THE FAMILIES OF LEPIDOPTERA.

A. Antennae filiform, terminating in knob or club.

a. Having six feet adapted for walking.

b. Body rather slender, width of thorax from one-eighth to one-sixth the length of the hind margins of fore wings.

c. Colors black, white or yellow, size generally from medium to large - - *Papilionidæ*, (*Book 1, Page 31*).

cc. Colors blue, coppery or blackish, size generally small. *Lycaenidae*, (*Book 1, Page 32*).

bb. Body robust, width of thorax from one-fourth to one-half the length of hind margin. - - - *Hesperidae*, (*Book 1, Page 32*).

aa. Having four feet adapted for walking - - *Nymphalidae*, (*Book 1, Page 31*).

AA. Antennæ not knobbed, variable.

1. Body stout, spindle shaped; head free, not sunken into thorax; palpi very stout and hairy; compressed, close together so as to appear as one; third joint concealed; wings narrow; hind wings much shorter than fore wings. *Sphingidæ*, (*Book 2, Page 27*).

2. Body moderately slender; head free; palpi slender; approximate, the third joint free; wings narrow, mostly hyaline; the hind wings nearly as long as the fore wings; small moths. *Ægeridæ*.

3. Body moderately robust; head free; antennæ simple or pectinate; palpi slender; third joint not concealed; wings of medium width or narrow, outer margin oblique; thorax without tufts. *Zygaenidæ*, (*Book 2, Page 27*).

4. Body moderately robust or robust; head generally small and apparently sunken into the thorax; palpi very short or obsolete;

third joint when present mostly concealed; antennæ simple, serrate or pectinate; wings ample; narrow in only a few species.
Bombycidæ, (*Book 2, Page 27*).

5. Body stout, thorax and abdomen often tufted; antennæ simple, serrate or slightly pectinate; palpi well developed, the tips at least of the third joint not concealed; wings of moderate size or ample; fore wings oblong or triangular. *Noctuidæ.*

6. Body slender; head free; antennæ simple or pectinate; palpi rather small, slender; scales fine; wings broad, thin. *Geometridæ.*

7. Body moderately slender; head free; antennæ simple, moniliform or ciliated; palpi mostly long, compressed; fore wings triangular or oblong. *Pyralidæ.*

8. Body slender; size small; head free; palpi very short, beak like; fore wings oblong, crossed by bands that are often metalic. *Tortricidæ.*

9. Body slender; size small, many minute; head free; antennæ long, filiform; wings pointed, heavily fringed on hind margins. *Tineidæ.*

10. Body slender; head free; fore wings trifid or bifid to or near the base; hind wings trifid. *Pterophoridae.*

NOTE.—Only one family of the above is represented here. The families of butterflies being introduced for a more convenient reference of cabinet or spread specimens to their appropriate families, and the others the better to distinguish the Noctuidae by comparison. In all cases I have given the expanse of the insects from tip to tip of the fore wings, but this must not be taken with too rigid an application, as the insects in a species are apt to vary in size on account of sex, climate or abundance of food. The figures can, however, be taken approximately. I would acknowledge the assistance I have received from the writings of Mr. A. R. Grote and others who have made this difficult family a special study, especially the new check list prepared by Mr. Grote. While some of the names, on account of changes, are unfamiliar, I am not prepared to say that they ought not to be, as they are for the discussion of nomenclature is entirely beyond the province of this paper.

TABLE OF GENERA.

* Eyes naked.

A. Thorax and abdomen tufted.

a. Tufts of thorax two posterior crests.

b. Posterior angle of fore wings projecting back by at least the fringe; palpi surpassing the front by the length of the head.

c. Apex of fore wings produced; palpi ascending - - *Pseudothyatira, 1.*

cc. Apex of fore wings not produced; palpi porrect - - *Habrosyne, 2.*

bb. Posterior angle rounded; palpi surpassing the front by the length of the head, erect.

c. The whole terminal space of both wings pale yellowish, rest dark - - - - *Zale, 90.*

cc. Only a part, if any of the terminal space lighter than the rest.

d. Abdominal tufts not white.

e. One small abdominal tuft on the third joint - - *Pheocyma, 91.*

ee. Several small abdominal tufts - *Homoptera, 92.*

dd. Abdominal tufts white or tipped with white - - *Ypsia, 93.*

aa. Tufts of thorax one posterior crest, posterior angle projecting backward, outer margin entire - - - - - *Plusia, 58.*

aaa. Thorax with one posterior tuft, posterior angle round.

b. Outer margin of fore wings dentate or subdentate.

c. Apex of fore wings not produced.

d. Abdomen longer than the hind wings.

e. Hind wings dark, palpi ascending, markings of fore wings,

f. Light spots on the outer half - - *Bryophila, 8.*

ff. A light space in the center - - - *Chytonix, 9.*

fff. A dark dash below the stigmata - - *Hyppa, 18.*

4f. A dash at the base - - - - - - *Actinotia. 19.*

ee. Hind wings white with very little dark, or outer border; palpi porrect - - - - - *Prodenia,21.*

dd. Abdomen equaling the hind wings in length - - *Perigea, 16.*

cc. Apex of fore wings produced so that the outer margin is oblique.

d. Abdomen longer than hind wings, fore wings narrow, hind wings nearly the same color as fore wings - - - - - - - - - - - *Anytus, 11.*

dd. Abdomen equal or scarcely longer than hind wings ; fore wings broad.

e. Under side not banded with black and some other color - - - - - - - - - *Euclidia, 76.*

ee. Under side, at least, with bands, black with white, red or yellow - - - - *Catocala. 78.*

bb. Outer margin of fore wings entire, palpi ascending.

c. Apex of fore wings not produced.

d. Abdomen longer than the hind wings.

e. Ground color of fore wings brown or brownish gray - - - - - - *Laphygma, 20.*

ee. Ground color of fore wings sordid white with dark basal and terminal markings - - *Chamyris, 67.*

dd. Abdomen equal the hind wings, or scarcely longer.

e. Terminal space of fore wings pale reddish or whitish - - - - - *Eustrotia, 68.*

ee. Terminal space of fore wings brown - - - - - *Lithacodia, 66.*

cc. Apex of fore wings produced, color wood brown - - *Sphida, 30.*

4a. Thorax with two posterior tufts, or the tufts double; palpi short; ascending.

b. Outer margin of fore wings dentate.

c. Abdomen equal hind wings, posterior angle projecting backward, apex not produced - - - *Euherrichia, 69.*

cc. Abdomen longer than the hind wings, posterior angle not projecting backward, apex produced - - *Brotolomia, 24.*

bb. Outer margin of fore wings entire, abdomen longer than the hind wings, apex not produced - - - - *Euplexia, 23.*

5a. Thorax with one anterior tuft, but no posterior.

b. Outer margin of fore wings dentate, palpi porrect, apex of fore wings not produced - - *Luceria, 13.*

bb. Outer margin entire, apex produced.

c. Palpi porrect, not projecting beyond the head - - *Calocampa, 46.*

cc. Palpi ascending, projecting beyond the head one-fourth its length - - - - - *Telesilla, 56.*

6a. Thorax with two anterior and one posterior tufts, outer margin of fore wings entire, abdomen longer than the hind wings - - - - - - - - - *Dipterygia, 17.*

7a. Thorax with one anterior and two posterior tufts; outer margin of fore wings dentate or subdentate.

b. Apex of fore wings not produced.

c. Reniform if white not narrow, nor oblong and oblique from above outward - - - - - - - *Hadena. 14.*

cc. Reniform white, narrow, oblong, oblique, running below median vein - - - - - - - *Helotropha, 26.*

bb. Apex of fore wings produced.

c. Color yellowish brown, stigmata not white or yellow - *Apamea, 27.*

cc. Color wood brown; stigmata concolorous or white or yellow - - - - - - - - - - *Gortyna, 28.*

8a. Thorax with one anterior and one postertor tuft, outer margin of fore wings entire, apex not produced *Achatodes, 29.*

AA. Thorax tufted.

a. Thorax with one anterior tuft - - - - - *Gortyna, 28.*

aa. Thorax with one posterior tuft.

b. Outer margin of fore wings dentate or subdentate.

c. Abdomen longer than hind wings, apex of fore wings more or less produced.

d. Palpi ascending.

e. Wings not banded with black - - - - - - - *Trigonophora, 22.*

ee. Wings banded with black, at least on the under side *Catocala, 78.*

dd. Palpi porrect, surpassing the head by one-half its length - - - - - - - *Lithomia, 45.*

cc. Abdomen shorter than the hind wings, the latter with numerous bands of black and yellow - - - *Parthenos, 80.*

bb. Outer margin of fore wings entire.
c. Abdomen longer than the hind wings.
d. Base of fore wing not colored differently from the rest of the wing - - - - - - - *Ingura, 52.*
dd. Base of fore wing carneous - - - *Abrostola, 57.*
cc. Abdomen equal or scarcely exceeding the hind wings.
d. Hind wings white or smoky - - - - *Oligia, 15.*
dd. Hind wings yellow with a black border - - *Allotria, 79.*

AAA. Abdomen with small dorsal tufts, palpi porrect, wings narrow - - - - - - - *Hypena, 102.*

4A. No dorsal tufts on thorax or abdomen.
a. Outer margin of fore wings entire.
b. Abdomen longer than hind wings.
c. Covering of thorax scales, apex obtuse.
d. Palpi porrect, end of fore wings round, not oblique *Diphthera, 3.*
dd. Palpi ascending.
e. Palpi surpassing the front by half the length of the head, end of fore wings not oblique *Microcoelia, 7.*
ee. Palpi surpassing the front by the length of the head, end of fore wings a little oblique *Marasmalus, 51.*
cc. Covering of thorax hairs and scales.
d. Palpi porrect and
e. Surpassing the front by half the length of the head or less.
f. End of fore wing rounded, a little or not at all oblique.
g. Apex acute, color gray or blackish gray *Apatela, 4.*
gg. Apex obtuse.
h. Abdomen more or less hairy - *Agrotis, 10*
hh. Abdomen not hairy.
i. Center of fore wings not pale *Caradrina, 33.*
ii. Center of fore wings pale, base of hind wing black - - *Lygranthœcia. 62.*
iii. Center of fore wings pale, base of hind wings yellow - - *Anthœcia, 63.*
4i. Color olivaceous, fore wings with whitish transverse lines - - *Schinia, 59.*
ff. End of fore wings quite oblique, nearly straight, apex acute, costa falcate - *Cucullia. 47.*
ee. Surpassing the front by the length of the head, end of fore wings round, not oblique; apex obtuse *Scolocampa, 31.*

eee. Surpassing the front by twice the length of the head, apex acute.
f. End of fore wings round - *Hypsoropha, 55.*
ff. End of fore wings angled - - *Calpe, 53.*
dd. Palpi ascending, surpassing the front by the length of head.
e. Posterior angle projecting backward - - *Plusiodonta, 54.*
ee. Posterior angle not projecting back - - *Parallelia, 84.*
ddd. Palpi erect, surpassing the front by twice the length of head, end of fore wings rounded, apex obtuse *Philometra, 99.*
ccc. Covering of thorax hairs, fore wings oblong, apex obtuse *Arsilonche, 5.*
bb. Abdomen equal the hind wings.
c. Covering of thorax scales, palpi ascending, wings white with black markings - - *Polygrammate, 6.*
cc. Covering of thorax scales, palpi porrect.
d. Palpi surpassing the front by one-fourth the length of the head.
e. Color of fore wings brown with lighter markings *Crambodes, 48.*
ee. Color yellowish with black fringe - - - *Xanthoptera, 71.*
dd. Palpi surpassing the front by the length of the head.
e. Outer half of fore wings not rose color - - *Nolaphana, 49.*
ee. Outer margin of fore wings rose color - - *Prothymia, 72.*
ddd. Palpi scarcely, if at all, surpassing the front - - *Tarache, 65.*
ccc. Covering of thorax, hairs and scales.
d. Palpi porrect, surpassing the front by not more than one-half the length of the head.
e. End of fore wings oblique, apex acute - - - *Spragueia, 70.*
ee. End of fore wings not oblique, apex acute, the wing twice as long as broad, pale brown - - *Galgula, 73.*
dd. Palpi ascending; surpassing the front by one-half the length of head or less.
e. Fore wings not twice as long as broad, color drab *Remigia, 87.*
ee. Fore wings twice as long as broad, color vinous *Aletia, 50.*
ddd. Palpi ascending, surpassing the front by the length of head - - - - *Agnomonia, 84.*
4d. Palpi porrect; surpassing the front by the length of head - - - - - *Hypena, 102.*
5d. Palpi erect.

e. Surpassing the front by one half the length of head; apex of fore wings square - - *Epizeuxis, 96.*

ee. Surpassing the front by twice the length of head, apex of fore wings obtuse.

f. fore wings blackish - - *Pseudoglossa, 95.*

ff. Both wings ochraceous with two faint brown lines - - - - - - *Chytolita, 97.*

fff. Both wings ochraceous with two brown transverse shades and three lines - - - *Phalenophana, 100.*

4f. Brownish ochraceous, two faint brown lines, reniform dark brown - *Zanclognatha, 98.*

5f. Brownish ochraceous; distinct brown transverse shade; reniform not prominent - - - *Bleptina, 101.*

bbb. Abdomen shorter than hind wings, covering of thorax scales and hairs, apex of fore wings acute, brownish ochraceous species - - - *Hypena, 102.*

aa. Outer margin of fore wings dentate, or subdentate.

b. Abdomen longer than the hind wings.

c. Covering of thorax hairs and scales.

d. Palpi erect, surpassing the front by the length of head, hind wings coppery - - - - *Pyrophila, 34.*

dd. Palpi ascending.

e. Surpassing the front by less than one-half the length of head. outer margin a little oblique, apex obtuse.

f. Hind wings with broad black border containing a light spot - - - *Melipotis, 77.*

ff. Hind wings without distinct black border.

g. Fore wings without arcuate, reddish brown transverse lines - - - *Orthosia, 38.*

gg. Fore wings with arcuate, reddish brown transverse lines - - - - *Cosmia, 39.*

ee. Surpassing the front by the length of the head, outer margin not oblique, apex acute - - - *Celiptera, 83.*

ddd. Palpi porrect; surpassing the front by less than half the length of head.

e. Fore wings less than twice as long as broad.

f. Hind wings without distinct border - - - - *Glaea, 40.*

ff. Hind wings with distinct border. - - *Pyrrhia, 64.*

ee. Fore wings more than twice as long as broad - *Lithophane, 44.*

cc. Covering of thorax hairs.

d. Palpi porrect, surpassing the front by half the length of head or less, outer margin a little oblique, apex acute.

e. End of fore wings angled - - *Eucirroedia, 41.*

ee. End of fore wings round.
f. Fore wings with three oblique bands, the outer not close to the margin - - - *Chloridea, 60.*
ff. Fore wings without three bands - - *Heliothis, 61.*
dd. Palpi ascending.
e. End of fore wings rounded - - - *Xanthia, 43.*
ee. End of fore wings strongly angled - - *Scoliopteryx, 42.*
bb. Abdomen equaling hind wings.
c. Palpi ascending.
d. Surpassing the front by one half the length of head.
e. Apex of fore wings square.
f. With anteapical spots - - - - *Drasteria, 74.*
ff. Without anteapical spots - - *Panopoda, 86.*
ee. Apex of fore wings obtuse - - - *Litosea, 75.*
dd. Surpassing the front by the length of the head.
e. Apex of fore wings acute - - - - *Trama, 88.*
ee. Apex of fore wings obtuse - - *Homopyralis, 94.*
cc. Palpi porrect.
d. End of fore wings not oblique, apex square, color gray - - - - *Strenoloma, 81.*
dd. End of fore wings a little oblique, apex square, color drab - - - - - *Phoberia, 82.*
bbb. Abdomen shorter than the hind wings, palpi erect, outer margin straight, oblique, apex acute. - *Erebus, 89.*
aaa. Outer margin of the wing of males bifid, of females slightly angled; palpi erect, surpassing the front by twice the length of head; abdomen shorter than hind wings - - *Eulintneria, 103.*

**Eyes hairy.
A. Thorax and abdomen tufted, outer margin of fore wings dentate *Mamestra, 12.*
AA. Thorax tufted, outer margin of fore wings subdentate - *Nephelodes, 25.*
AAA. Thorax and abdomen without tufts.
a. Outer margin of fore wings entire, palpi porrect.
b. Transverse lines and stigmate not very distinct - - *Heliophila 32.*
bb. Transverse lines and stigmate distinct.
c. Outer margin brown - - - - *Orthodes, 35.*
cc. Outer margin bluish gray - - *Tæniocampa, 36.*
aa. Outer margin subdentate. - - - *Ipimorpha, 37.*

TABLE OF SPECIES.

1. PSEUDOTHYATIRA.

Pale gray moths, the fore wings tinged with reddish, thorax and abdomen tufted, posterior margin excavated before posterior angle. Expanse 1.75.

a. The base, the t. a. line, two spots on the costa and one at the posterior angle, heavy black - - -
P. Cymatophoroides, Guen.

aa. Lacking these heavy marks - - var, *Expultrix*, *Grt.*

2. HABROSYNE.

Brownish gray, pinkish white along the costa and outer margin, a silver spot on the basal half line, thorax and abdomen tufted, hind margin slightly tufted. Expanse 1.50 - - -
H. Scripta, Guen.

3. DIPHTHERA.

Pale green with seven black costal spots and six more or less triangular ones in the interior of fore wing. Expanse 1.35 -
D. Fallax, H.-S.

4. APATELA.

Gray or blackish gray, outer margin entire or slightly subdentate, more or less oblique, usually a psi mark near posterior angle, antennæ filiform, no tufts.

a. Color of fore wings gray, not heavily clouded with black.

b. Psi mark prominent.

c. Color yellowish gray, the t. p. line a series of scallops, a black dash at base. Expanse 1.50 - -
A. Occidentalis, G.-R.

cc. Color clear blueish gray, t. a. and t. p. lines faint.

d. With slender basal and subapical dashes. Expanse 1.75 - - - - - *A. Morula*, G.-R.

dd. With basal, subapical and central dashes. Expanse 1.80 - - - - *A. Lobeliæ*, Guen.

ccc. Color tinged a little with brownish, no distinct basal dash but a dark cloud in its place. Expanse 1.60
A. Spinigera, Guen.

4c. Color very pale gray, no dashes, the lines prominent only on the costa, hind wings whitish. Expanse 1.80 - - - *A. Lepusculina*, Guen.

bb. Psi mark not prominent.

c. Posterior wings smoky gray, paler at the base.

d. A dull black suffusion parallel with the hind margin. Expanse 1.25 - - - *A. Connecta*, Grt.

dd. Ferruginous gray, the center paler, the spots and lines blackish, hind wings whitish. Expanse 1.40
A. Rubricoma, Guen.

ddd. Whitish gray, center of fore wings paler, spots and lines indistinct, hind wings whitish. Expanse 1.25
A. Dissecta, G.-R.

4d. Clear gray, the center not pale, lines partially defined, black, hind wings whitish. Expanse 1.75 - -
A. Clarescens, Guen.

cc. Hind wings dull, smoky, black.

d. Clear gray, lines faint. Expanse 2.50 - - -
A. Americana, Harr.

dd. The gray tinged with pale ochre, a dark cloud in the middle of the t. a. and basal lines. Expanse 1.40 *A. Ovata*, Gr.

ddd. Fore wings dark gray, markings black, hind wings dark. Expanse 1.25 - - *A. Hamamelis*, Guen.

ccc. Hind wings white, fore wings narrow, pale gray. Expanse from 1.50 to 2.00 - - *A. Oblinita*, A.-S.

aa. Fore wings heavily marked with black.

b. The clear black, occupying most of the terminal space, the stigmata a space below these and the lower part of the t. a. line. Expanse 1.50 - *A. Noctivaga*, Gr.

bb. A black suffusion parallel with the hind margin and a broad transverse shade. Expanse 1. 85 - - - *A. Superans*, Guen.

bbb. Brownish black, spots and lines paler, hind wings sordid white. Expanse 1.75 - - *A. Afflicta*, Gr.

aaa. Sordid white, hind wings a little smoky, t. a. and subterminal lines and basal dash, the t. a. line broken. Expanse 1.30 - - - *A. Vinnula*, Gr.

5. ARSILONCHE.

Eyes naked, palpi porrect, short, fore wings entire, a little oblique, pale buff, a little pale brownish between some of the veins. Expanse 1.75 - - - - - - *A. Alborenosa*, G.

6. POLYGRAMMATE.

White, the lines and spots prominent, black, abdomen equal or but little exceeding the hind wings, outer margin entire, hind wings dark. Expanse 1.00 - - - - - *P. Hebraicum*, Hub.

7. MICROCOELIA.

Pale green, marks black, slender, a large black spot from the costa to between the stigmata. Expanse 1.25.

a. Transverse lines rather eistinct - *M. Diphteroides*, Guen.

aa. Lines obliterate - - - - - var. *Obliterata*, Gr.

8. BRYOPHILA.

Body slender, abdomen but little longer than the hind wings, fore wings subdentate, less than twice as long as broad, color greenish white, the basal half except the orbicular and a basal spot, black. Expanse 1.25 - - - - - - - *B. Lepidula*, Gr.

9. CHYTONIX.

Similar to the last in form, color greenish black, a large whitish spot in the center. Expanse 1.25 - - *C. Palliatricula*, Guen.

10. AGROTIS.

Eyes naked, without lashes, thorax and abdomen without tufts, middle and hind tibae spined, sometimes the anterior.

a. Color reddish brown, transverse lines but little darker, distinct no white olong the costa.

b. Dark brown spots before and between the stigmata.
c. Basal dash present.
d. Costa reddish ash, with dark brown spots at the beginning of t. a. and t. p. lines. Expanse 1.25 *A. Sigmoides*, Guen.
dd. Costa scarcely reddish, costal spots not prominent. Expanse 1.25 - - - - *A. Perattenta*, Gr.
cc. Basal dash absent, a dark brown ante-apical patch. Expanse 1.50 - - - - *A. Normaniana*, Gr.
bb. Inter stigmatal spot but little if any darker than the transverse shade.
c. No ante-apical dark brown spots. Expanse 1.60 - - *A. Phyllophora*, Gr.
cc. Three small anteapical dark brown spots. Expanse 1.60 *A. Baja*, S. V.
aa. Color purplish black, or reddish except the base and terminal portion.
b. A nearly triangular carneous patch from the middle of the costa back including the orbicular. Expanse 1.60 *A. C-nigrum*, L.
bb. A carneous patch inside the t. a. line and one outside the t. p. line. Expanse 1.60 - *A. Bicarnea*, Guen.
aaa. Color blackish gray, brownish white along the costa to beyond the reniform and above the median vein.
b. Hind wings smoky, fore wings dark blackish gray.
c. Stigmata, subterminal space and hind margin whitish. Expanse 1.90 - - - *A. Auxillaris*, Gr.
cc. Subterminal space and below the stigmata paler, terminal border of hind wings dark, the rest pale smoky. Expanse 1.50 - - - *A. Tricosa*, Lintn.
ccc. Subterminal space and below the stigmata some paler than the rest, nearly all of hind wings dark. Expanse 1.50 - - - - *A. Herilis*. Gr.
4c. All outside the t. p. line and an oblique spot from the orbicular purplish, the rest blackish gray, hind wings pale except the outer border. Expanse 1.40 *A. Obeliscoides*, Guen.
bb. Hind wings white with very little dark along the outer end.
c. Most of fore wings pale purplish gray, with some blackish spots. Expanse 1.30 - *A. Subgothica*, Haw.
cc. Fore wings nearly uniform reddish brown, black below the costal white. Expanse 1.15 - - *A. Plecta*, L.
4a. Color reddish brown, sprinkled with dark brown atoms, lines obliterate, dark brown if present, no white along costa.
b. Subterminal space not darker than the rest of wing.
c. A dark brown ante-apical spot. Expanse 1.25 to 1.60 *A. Cupida*, Gr.
cc. Color dark brown, ante-apical spot small, wing tinged with grayish. Expanse 1.50 - - - *A. Brunneicollis*, Gr.

bb. Subterminal space darker than the rest, the wings tinged with grayish, no ante-apical spot. Expanse 1.50 *A. Alternata*, Gr.

5a. Color uniform dark blackish or brownish gray, lines and spots obliterate.

b. Blackish gray, hind wings smoky, orbicular oblique. Expanse 1.60 - - - *A. Clandestina*, Harr.

bb. Almost black, hind wings white with veins and apical half of border smoky. Expanse 1.50 - - - *A. Velleripennis*, Gr.

bbb. Thorax and base of wings gray, shading into brownish gray, lines a series of scallops. Expanse 1.50 - *A. Fumalis*, Gr.

4b. Brownish gray, lines and spots mostly distinguishable, black in the outer part of reniform, hind wings dark smoky. Expanse 2.00 - *A. Haruspica* Gr.

6a. Color pale chocolate or ashy gray, the terminal space brown or ferruginous, hind wings white.

b. Terminal space, except the apex, ferruginous, reniform ferruginous with black atoms, t. p. line a series of black dots. Expanse 1.25 - *A. Incivis*, Guen.

bb. Terminal space brown, lines only visible on the costa, a few black scales in place of reniform. Expanse 1.25 - - - - *A. Lubricans*, Guen.

7a. Color brown tinged with gray or bluish gray, the stigmata at least distinct.

b. A broad black spot between the stigmata and before the orbicular.

c. Grayish brown, all the lines and transverse shade distinct, hind wings nearly uniform smoky. Expanse 1.40 - - - - *A. Tessellata*, Harr.

cc. Tinged with bluish gray, the lines not prominent, base of hind wings pale. Expanse 1.30 - - - *A. Redimicula*, Morr.

bb. A black line between the lower part of the stigmata and a small black spot before the orbicular, hind wings whitish.

c. Pale brown with a basal dash. Expanse 1.25 - - *A. Rudens*, Harv.

cc. Dark brown, pale along the costa to the reniform. Expanse 1.60 - - - - *A. Annexa*, Tr.

bbb. No prominent black spot between the stigmata, hind wings pale, smoky with dark outer border.

c. Uniform grayish brown tinged with buff, lines, spots and shade distinct. Expanse 1.60 - - - - *A. Messoria*, Harr.

cc. Dark grayish brown, darkest along the costa, a dark lance from, reniform nearly meeting two from the subterminal line. Expanse 1.75 - - - *A. Ypsilon*, Rott.

ccc. Grayish brown, orbicular paler, tinged more or less

with buff along the costa and in the subterminal space. Expanse 2.00 - - *A. Saucia*, Hub.

8a. Color pale bluish gray tinged with brown in the center and a little in subterminal space, hind wing smoky, lines brownish black. Expanse 2.35 - - - *A. Occulta*, Hub.

9a. Color yellowish green, spots and veins gray, a white patch outside the reniform, hind wings smoky black. Expanse 2.15 - - - *A. Prasina*, Fabr.

11. ANYTUS.

Eyes naked, thorax and abdomen tufted, palpi ascending, short, wings dentate, gray shaded with black along the submedian vein. Expanse 1.40 - - - - - - - *A. Sulptus*, Gr.

12. MAMESTRA.

Eyes hairy, thorax with dorsal posterior tufts, abdomen more or less distinctly tufted, all the tibiæ without spines.

a. Subterminal line making an M in its middle when seen from the base.

b. Color ash gray, more or less tinged with yellow or brown.

c. Not white along the costa.

d. Stigmata prominent, whitish, terminal space pale with black terminal lunules. Expanse 1.90 - - *M. Imbrifera*, Guen.

dd. Stigmata pale brownish as also the subterminal space, terminal and substigmatal spaces dark. Expanse 1.75 - - - - - *M. Grandis*, Bd.

ddd. Stigmata concolorous with the base and terminal space, median space with black below the stigmata, three terminal arrows projecting inward. Expanse 1.25 - - *M. Capsularis*, Guen.

4d. Nearly uniform brownish gray with a slight yellowish tinge, lower part of reniform blackish, base of hind wings pale. Expanse 1.35 - - - *M. Trifolu*, Rott.

cc. Pale gray with distinct reddish brown tinge, whitish along the costa. Expanse 1.40 - - - *M. Atlantica*, Gr.

bb. Color dark gray.

c. Tinged with purple, a reddish costal spot at the base and another outside the reniform. Expanse 1.75 - *M. Subjuncta*, G.-R.

cc. Blackish gray, stigmata and terminal space whitish, subterminal M not very distinct. Expanse 1.40 *M. Adjuncta*, Bd.

aa. Subterminal line not making an M, or if it does, it is very obscure.

b. Color brown or brownish yellow.

c. Browish yellow, darker through the middle. Expanse 1.25 - - - - - *M. Lorea*, Guen.

cc. Uniform dark reddish brown, fore wings narrow, reniform gray, hind wings pale yellowish. Expanse 1.50 - - - - - *M. Picta*, Harr.

ccc. Dark reddish brown sprinkled with gray, hind wings dark. Expanse 1.30 - - *M. Meditata*, Gr.

bb. Gray, light or dark.

c. Pale gray, tinged a little with purplish.

d. Clouded with black between the basal and t. a. lines, and along the costa above the stigmata, Expanse 1.60 *M. Latex*, Guen.

dd. Brownish over the anterior half to near the apex, lower part of reniform blackish, claviform dark brown. Expanse 1.35 - *M. Legitima*, Gr.

ddd. Middle of wing pale brownish, stigmata pale, claviform barely discernable. Expanse 1.40 - - *M. Lustralis*, Gr.

cc. Dark gray.

d. Hind wings black, prominent black claviform. Expanse 1.20 - - - *M. Detracta*, Wlk.

dd. Hind wings whitish with black outer border.

e. Posterior part of fore wings from the costa near the base to the posterior angle pale gray. Expanse 1.30 - - - - - *M. Distincta*, Hub.

ee. Suffused with pale gray, hind wings almost white. Expanse 1.30 - - - - *M. Vicina*, Gr.

eee. Reniform, a spot near the base and one near the posterior angle pale green. Expanse 1.20 - - *M. Renigera*, Steph.

4e. Dark blackish gray, slightly tinged with olivaceous reniform and terminal space a little paler, hind wings with broad dark border. Expanse 1.00 - *M. Olivacea*, Morr.

13. LUCERIA.

Eyes naked, thorax tufted in front but scarcely behind, abdomen slightly tufted, lines obliterate, stigmata of the same color as the rest of wing, annulate with black, claviform black. Expanse 1.65 - - - - - - - - - - *L. Passer*, Guen.

14 HADENA.

Eyes naked, thorax with divided dorsal longitudinal and posterior tufts, abdomen more or less distinctly tufted, all the tibiæ armed.

a. Subterminal line not making an M in its middle.

b. Color dark brownish gray.

c. Stigmata partly annulate with white, concolorous, lines dark brown. Expanse 1.65- - - - - *H. Devastatrix*, Brace.

cc. Stigmata and lines indistinct, two more or less distinct small dark brown spots below the stigmata. Expanse 1.15 - - - *H. Vulgivaga*, Morr.

bb. Color dark brown with or without a wine tinge.

c. Very dark with a distinct wine shade, lines obliterate, reniform and sometimes orbicular with pale scales. Expanse 1.75 - - - *H. Sputatrix*, Gr.

cc. Clear brown, darker patches about the stigmata and two in the terminal space, very few pale scales in the outer part of reniform. Expanse 1.75 - - - *H. Apamiformis*, Guen.

bbb. Color gray, the center of wing and clouding at base wine color. Expanse 1.85 - - *H. Arctica*, Bd.

4b. Color pale brown.

c. Basal two-thirds strongly clouded with dark brown, lines dark brown. Expanse 1.40 - - - - *H. Mactata*, Guen.

cc. Slight olivaceous tinge, a black patch across the middle of wing. Expanse 1. 25 - - *H. Modica*, Guen.

5b. Collor yellowish green, veins gray and lines black, reniform large, white or whitish. Expanse 1.35 - - *H. Miselioides*, Guen.

aa. Subterminal line making an M in its middle as seen from the base.

b. Color reddish brown.

c. Uniform reddish brown with darker shadings. Expanse 1.80 - - - - *H. Lignicolor*, Guen.

cc. Costal part paler, posterior margin gray, preceded by dark brown. Expanse 1.40 - - - - *H. Verbascoides*, Guen.

bb. Color grayish brown.

c. The veins and two terminal shades and one below stigmata dark brown. Expanse 1.75 - - - *H. Vulgaris*, G.-R.

cc. Costal and posterior margins suffused with gray, shadings and marks dark brown. Expanse 1.50 - - *H. Cariosa*, Guen.

15. OLIGIA.

Similar to Hadena, but differs in the abdomen, not being tufted, or if tufted only at the extreme base.

a. Base of wings spotted with yellowish brown, a white shading outside the t. p. line. Expanse 1.15 - - *O. Chalcedonia*, Hub.

aa. But little shading darker than the ground color, dark brown or black spot outside the reniform. Expanse 1.00 *O. Arna*, Guen.

16. PERIGEA.

Eyes naked, thorax and abdomen tufted, body moderately robust, abdomen equaling or passing slightly beyond the hind wings, palpi ascending.

a. Color saffron yellow, mottled with brown, stigmata concolorous. Expanse 1.10 - - *P. Xanthioides*, Guen.

aa. Color dark brownish gray.

b. Lines moderately distinct, lower part of reniform white. Expanse 1.30 - - - - *P. Luxa*, Gr.

bb. Lines obliterate, reniform with very few if any white scales. Expanse 1.20 - - *P. Fabrefacta*, Morr.

17. DIPTERYGIA.

Eyes naked, thorax and abdomen tufted, palpi porrect, color blackish brown with a clear patch at posterior angle. Expanse 1.50 *D. Scabriuscula*, L.

18. HYPPA.

Eyes naked, thorax and abdomen tufted, palpi ascending, color gray, a dark brown stripe near the hind margin between the t. a. and t. p. lines, shading out towards the middle of the wing. Expanse 1.60 - - - - - - - *H. Xylinoides*, Guen.

19. ACTINOTIA.

Eyes naked, thorax and abdomen tufted, palpi ascending, pale gray, a brown shade from the base to the reniform where it divides and goes to the apex and posterior angle, veins and terminal zigzag line white. Expanse 1.25 - - - *A. Ramosula*, Guen.

20. LAPHYGMA.

Eyes, thorax, abdomen and palpi as in the preceding; wings narrow, hind wings white, iridescent, an oblique pale mark from upper part of orbicular to below reniform; outer margin entire, only slightly oblique.

a. Color gray with a brownish tinge more distinct posteriorly, apex whitish. Expanse 1. 40 - - - - *L. Frugiperda*, A.-S.

aa. Less brown, no white at apex and oblique mark indistinct var. *Obscura*, Riley.

21. PRODENIA.

Eyes naked, thorax and abdomen tufted, palpi porrect, outer margin subdentate, an oblique light mark from upper part of orbicular to below the reniform, a white apical spot.

a. Color vinous gray marked with black brown, hind margin ashy, fore wings very long. Expanse 1.75 - - *P. Commelinæ*, A.-S

aa. Color dark gray marked with black brown.

b. Wing distinctly yellowish in the middle below the oblique mark. Expanse 1.50 - - *P. Flavimedia*, Harv.

bb. Center of wing not yellow below the oblique mark. Expanse 1.50 - - - *P. Lineatella*, Harv.

22. TRIGONOPHORA.

Eyes naked, thorax tufted, palpi ascending, wing subdentate, color reddish brown, a brown space across the middle between the lines making a rude V anteriorly. Expanse 1.75 - - - *T. Periculosa*, Guen, var. *V-Brunneum*, G.

23. EUPLEXIA.

Eyes naked, thorax and abdomen tufted, palpi ascending, wings entire; middle third of fore wings blackish brown, purplish on the basal third, the outer third pale with a purplish tinge, reniform whitish. Expanse 1.25 - - - - *E. Lucipara*, L.

24. BROTOLOMIA.

Eyes naked, thorax and abdomen tufted, palpi ascending, wings dentate, outer margin oblique; dark olive green, pale at base and outside the t. p. line, purple on stigmata and terminal space. Expanse 1.65 - - - - - - - - *B. Iris*, Guen.

25. NEPHELODES.

Eyes hairy, thorax tufted, palpi ascending, wings subdentate; reddish brown, a brown patch between the t. a. and t. p. lines not reaching the costa, stigmata the ground color.

a. Pale reddish brown. Expanse 1.80 - - - - *N. Minians*, Guen.

aa. Dark reddish brown. Expanse 1.75 to 1.90 - - - var. *Violans*, Guen.

26. HELOTROPHA.

Eyes naked,thorax and abdomen tufted, palpi porrect, wings subdentate, tibiæ unarmed; color brownish black, subterminal space pale, the reniform annulate with white, the white extending into the median vein and veins three and four. Expanse 1.75 - - *H. Reniformis*, Gr.

27. APAMEA.

Similar to Gortyna. This genus contains the yellowish or reddish brown species with the stigmata similiarly colored.

a. Quite heavily shaded with dark brown, the stigmata faintly annulate with gray. Expanse 1.25 to 1.40 - - *A. Sera*, G.-R.

aa. Rather pale, brown lines distinct, reniform ochraceous or whitish. Expanse 1.05 to 1.30 - - - *A. Nictitans*, Bkh.

aaa. Lines brown, pale outside the t. p. line, stigmata of the ground color. Expanse 2.20 - - - - *A. Immanis*, Guen.

28. GORTYNA.

Eyes naked, thorax and sometimes abdomen tufted, palpi porrect, wings dentate, apex acute, fore wings nearly oblong; males smaller than the females.

a. Color ferruginous, melting to violet brown, veins and median shade violet brown, yellow apical spot, reniform large, white, a white basal spot. Expanse 1.85 - *G. Marginidens*, Guen.

aa. Color wood brown.

A spot at base, stigmata, two spots below the orbicular and

one at apex yellow, middle washed with yellow. Expanse 1.75 - - *G. Cataphracta*, Gr.

bb. Stigmate concolorous with the wing, t. p. line whitish, pale outside this line. Expanse 1.10 to 1.60 - - *G. Nitela*, Guen.

bbb. Stigmata white or yellowish white, reniform a cluster of dots.

c. Color, t. p. line and subterminal space the same as in *Nitela* - - - *G. Nitela*, var *Nebris*, Guen.

cc. Two white dots below the orbicular and one basal, middle of wing clear brown. Expanse 1.80 - - - G. *Cerussata*, Gr.

ccc. Two white dots below the orbicular, center and apex yellow. Expanse 1.50 - - *G. Rutila*, Guen.

29. ACHATODES.

Eyes naked, thorax and abdomen tufted, palpi ascending, but very little surpassing the front, wings entire. Color rust red mottled with gray, a tawny spot at the apex. Expanse 1.30 - - - *A. Zeae*, Harr.

30. SPHIDA.

Eyes naked, thorax and abdomen tufted, palpi ascending, short, wings entire, long, oblique, the stigmata oblique; color buffy brown, gray along the costa below which the brown is more prominent, outer border purplish, stigmata inclining to fulvous. Expanse 2.00 - - - - - - - *S. Oblipuata*, G.-R.

31. SCOLEOCAMPA.

Eyes naked; palpi porrect, wings entire, costa scarcely longer than the hind margin; color pale buff, only t. p. and subterminal lines present and these indistinct, reniform blackish, a blackish spot beyond in the terminal space, two black dots on subcostal vein. Expanse 1.50 - - - - - - - *S. Liburna*, Geyer.

32. HELIOPHILA.

Eyes hairy, palpi porrect, surpassing the front by half the length of head, wings entire.

a. Color pale buff.

b. Scarcely any brown tinge below the median vein; a black dot at the end of the median vein and on veins 1 and 4. Expanse 1.30 to 140 - - *H. Pallens*, L.

bb. Median vein white, a brown shade below median vein, along the costa, in the outer margin and from this to end of discal cell. Expanse 1.40 - - - *H. Albilinea*, Hub.

bbb. Median vein white, brown shade below this with mere traces of brown shading between the veins in subterminal space, very faint subterminal row of black dots. Expanse 1.50 - - - *H. Phragmitidicola*, Guen.

aa. Color fawn.
b. With black brown longitudinal marks.
c. Mark at base below median vein, brown shadings over the wing, the t. p. line a row of black dots on the veins. Expanse 1.40 - - - *H. Adonea*, Gr.
cc. Mark below median vein, two short ones near, hind margin, with umber shadings above median vein and end of wing. Expanse 1.45 - - - *H. Commoides*, Guen.
bb. No black brown marks.
c. Stigmata yellowish, a white dot on the end of median vein, a brown shade below the apex. Expanse 1.75 *H. Unipuncta*, Haw.
cc. Pale fawn, stigmata a little paler, lines moderately distinct, three faint brownish shades before, between and after the stigmata and below the apex. Expanse 1.60 - - - *H. Pseudargyria*, Guen.

33. CARADRINA.

Eyes naked, palpi porrect, wings entire, rounded.
a. Color reddish brown, lines whitish, orbicular black, annulate with gray, reniform constricted, black at the ends the rest buffy gray. Expanse .95 - - *C. Rasilis*, Morr.
aa. Color gray, basal two-thirds buffy, stigmata and lines blackish. Expanse 1.30 - - - *C. Multifera*, Wlk.

34. PYROPHILA.

Eyes naked, palpi erect, surpassing front by the length of head, wings dentate, nearly oblong; blackish brown pale beyond the t. p. line, hind wings coppery except along the costa. Expanse 1.75 to 1.95 - - - - - - - *P. Pyramidoides*, Guen.

35. ORTHODES.

Eyes hairy, palpi porrect, short, wings nearly oblong, entire, rounded.
a. Blackish brown, lines and outlines of stigmata buffy. Expanse 1.25 - - - - - - - - *O. Infirma*, Guen.
aa. Gray, slightly brownish with a very faint violet tinge, four dark brown spots, one at base and three on submedian vein. Expanse 1.25 - - *O. Cynica*, Guen.

36. TAENIOCAMPA.

Eyes hairy, palpi porrect, short, wings entire, apex slightly produced.
a. Reddish brown, rather dark, t. a. and t. p. lines gray, outlines of stigmata and end of wing buffy. Expanse 1.20 *T. Oviduca*, Guen.
aa. Reddish brown, basal third and end of wing suffused with bluish gray. Expanse 1.45 - - *T. Incerta*, Hub.

37. IPIMORPHA.

Eyes hairy, palpi porrect, short, wings subdentate, apex scarcely produced; color brown, rather pale, buffy tinted posteriorly, lines lighter, stigmata paler, reniform a little blackish in lower part. Expanse 1.30 - - - - - - - *I. Pleonectusa*, Gr.

38. ORTHOSIA.

Eyes naked, palpi ascending, short, wings subdentate, apex slightly produced.

a. Brownish fulvous, marks brown, reniform black in lower half, hind wings smoky black. Expanse 1.55 - - - *O. Helva*,Gr.

aa. Brownish yellow, lines and shades brown, a little black in the reniform, hind wings smoky. Expanse 1.35 - - *D. Ferrugineoides*, Guen.

aaa. Reddish ferruginous, marks and lines black, hind wings blackish. Expanse 1.15 . - - - - - *O. Aurantiago*, Geun.

39. COSMIA.

Similar to Orthosia, but differs in the transverse lines, being smoothly arcuate and reddish brown, while in Orthosia they are composed of small scallops; color ochreous yellow, hind wings yellowish. Expanse 1.70 - - - - *C. Infumata*, Gr.

40. GLAEA.

Eyes naked, palpi porrect, short, wings dentate, oblong, hind wings blackish, with a more or less distinct reddish tinge to the fringe.

a. Reddish ferruginous tinged a little with brown, lines not distinct. Expanse 1.80 - - - *G. Viatica*, Gr.

aa. Wood brown.

b. Stigmata very large, their outlines and subterminal space reddish brown, basal, t. a. and t. p. lines dark brown. Expanse 1.70 - - - - - *G. Inulta*, Gr.

bb. Stigmata of moderate size, lower part of reniform black, lines and shades brown of a slightly reddish cast. Expanse 1.50 - - *G. Anchocelioides*, Guen.

41. EUCIRRŒDIA.

Eyes naked, palpi porrect, wings dentate, apex produced, outer margin angled; color saffron yellow tinged and shaded with reddish brown, hind wings reddish brown, pale at base. Expanse 1.60 *E. Pampina*, Guen.

42. SCOLIOPTERYX.

Eyes naked, palpi ascending, wings dentate, outer end strongly angled; carneous gray, costa whitish, reddish in terminal space, lines white, basal and discal spots yellow. Expanse 1.75 - - *S. Libatrix*, L.

43. XANTHIA.

Eyes naked, palpi ascending, wings subdendate, rounded, lemon yellow, subterminal space and two costal patches reddish brown. Expanse 1.20 - - - - - - - *X. Togata*, Esp.

44. LITHOPHANE.

Eyes naked; palpi porrect, short; wings subdentate, rounded, narrow.

a. Color rusty brown, ashy along the costa and stigmata. Expanse 1.50 - - - - - *L. Ferrealis*, Gr.

aa. White, marked and shaded with brownish yellow, black atoms on the veins in place of the transverse lines. Expanse 1.45 - - - *L. Bethunei*, G.-R.

aaa. Color gray, orbicular extends below the median vein, often double, wing shaded in the middle with brown, lines indistinct, subterminal a series of angular dots.

b. Reniform gray. Expanse 1.32 to 1.82 - - - *L. Antennata*, Wlk.

bb. Reniform stained with red. Expanse 1.40 to 1.80 - - *L. Laticineriea*, Gr.

45. LITHOMIA.

Eyes naked, thorax tufted; palpi porrect, short; wings subdentate, narrow, outer margin oblique: color gray, reniform whitish with black and white annulations, a prominent blackish transverse shade. Expanse 2.00 - - - - - *L. Germana*, Morr.

46. CALOCAMPA.

Eyes naked, thorax and abdomen tufted, palpi porrect, very short, wings entire, oblong, narrow; yellowish brown, paler anteriorly, marked with black brown dashes through the middle of wing.

a. Reniform distinct, a dash extending from it outward. Expanse 2.25 - - - *C. Nupera*, Lintn.

aa. Orbicular with a curved mark each side of it. Expanse 1.75 to 190 - - *C. Curvimacula*, Morr.

47. CUCULLIA.

Eyes naked, palpi porrect, short, wings entire, narrow, outer margin oblique, costa falcate.

a. Gray, brown along costal and hind margins, curved mark near posterior angle. Expanse 1.75 - - - *C. Asteroides*, Guen.

aa. Gray, marks obliterate. Expanse 1.85 - - - - *C. Intermedia*, Spey.

48. CRAMBODES.

Eyes naked; palpi porrect, short; wings entire, moderately broad, outer margin rounded; dark brown streaked with buff, reniform buff. Expanse 1.10 - - - *C. Talidiformis*, Guen.

49. NOLAPHANA.

Eyes naked, palpi porrect, surpassing the front by the length of the head, wings entire, broad; gray, white along the costa, the lines black. Expanse 1.10 - - - *N. Malana*, Fitch.

50. ALETIA.

Eyes naked, palpi ascending, wings entire, triangular, apex produced, color vinous, slightly olivaceous, reniform two contiguous gray spots circled with black, lines reddish brown, not very distinct. Expanse 1.35 - - - - *A. Argillacea*, Hub.

51. MARASMALUS.

Eyes naked, palpi ascending, surpassing the front by the length of head, wings entire, rounded; olivaceous gray tinged with reddish brown at base and apex, pale gray posteriorly, lines faint. Expanse 1.10 - - - - - - *M. Histrio*, Gr.

52. INGURA.

Eyes naked, thorax tufted, palpi porrect, surpassing the front by the length of head, wings entire, rounded.

a. Dark gray, lines black, two black marks near the apex. Expanse 1.20 - - *I. Abrostoloides*, Guen.

aa. Dark gray, black Y mark at base and curved black double line from hind margin to below the apex, the enclosed space containing a white spot, white above both marks. Expanse 1.00 - *I. Oculatrix*, Guen.

53. CALPE.

Eyes naked, palpi porrect, surpassing the front by twice the the length of head, wings entire, blunt angled, apex produced, hind margin with prominent projection at end of basal third; color fawn tinged with olivaceous, crossed by an oblique line from apex and a great number of short fine white lines. Expanse 1.40 - - *C. Canadensis*, Beth.

54. PLUSIODONTA.

Eyes naked, palpi ascending, compressed, surpassing the front by the length of head, wings entire, a prominent projection on hind margin near the middle; purplish between t. a. and t. p. lines and at base the rest yellow with golden marks and a white mark from apex down. Expanse 1.15 - - *P. Compressipalpis*, Guen.

55. HYPSOROPHA.

Eyes naked, palpi porrect, surpassing the front by twice the length of head, wings entire; purplish gray except along the costa and subterminal space which are blackish, three silver spots along the t. p. line from hind margin towards the costa. Expanse 1.20 *H. Hormos*, Hub.

56. TELESILLA.

Eyes naked, thorax and abdomen tufted, palpi ascending, short

wings entire, rounded; purplish gray, a lilac stripe outside the t. p. line. Expanse 1.10 - - - - - *T. Cinereola*, Guen.

57. ABROSTOLA.

Eyes naked, thorax tufted, palpi ascending, surpassing the front by by the length of the head, wings entire; gray tinged with violet, large carneous spot at base, whitish at posterior angle. Expanse 1.45 - - - - - - - *A. Urentis*, Guen.

58. PLUSIA.

Eyes naked, thorax and abdomen tufted, palpi ascending, short, wings entire, triangular, apex a little produced, hind margin more or less excavated before posterior angle.

a. Without silver spots in the middle of fore wings.

b. Olive brown, t. p. line regularly arched outside the reniform. Expanse 1.40 - - *P. Aereoides*, Gr.

bb. Violet brown, t. p. line wavy outside the reniform. Expanse 1.60 - - - - - *P. Aerea*, Hub.

aa. With silver marks in the middle of fore wings.

b. Fulvous gray tinged with brown.

c. Longitudinal silver spot bilobed in front, parts of t. a. and basal lines and reniform silvery. Expanse 1.50 *P. Biloba*, Steph.

cc. Silver mark in two parts, basal and t. a. lines and reniform with some silver. Expanse 1.50 - - *P. Dyaus*, Gr.

bb. Purple, marked with fulvous below the silver spot and end of wing, silver mark somewhat 8 shaped. Expanse 1.50 - - - *P. Precationis*, Guen.

bbb. Gray, tinged more or less with purplish.

c. Silver spot a dot and a V like open mark, color purplish gray. Expanse 1.35 to 1.50 - - *P. Ou*, Guen.

cc. Silver mark united but open posteriorly, some silver in the ordinary lines; color blackish gray with little purple. Expanse 1.30 - - *P. Ni*, Hub.

ccc. Outlines of silver mark straight anteriorly but angled posteriorly. Expanse 1.30 - - - - *P. Oxygramma*, Gey.

4c. Silver mark elbowed beyond which it divides, the basal part curving backward to the hind margin. Expanse 1.40 - - - - - - *P. Simplex*, Guen.

59. SCHINIA.

Eyes naked, palpi porrect, surpassing the front by about one-fourth the length of head, wings entire, triangular, apex moderately obtuse.

a. Olivaceous, crossed by three silvery lines, each bent before reaching the costa, golden gloss in terminal space. Expanse 1.35 - - - *S. Gulnare*, Streck.

aa. Fore wings green crossed by three oblique white lines, the outer next the margin, hind wings white with a little

blackish at outer margin. Expanse 1.10 - - - *S. Trifascia*, Hub.

60. CHLORIDEA.

Eyes naked, palpi porrect, wings subdentate, triangular; green with three oblique pale lines, hind wings reddish brown on outer border. Expanse 1. 15 - - - - - *C. Rhexiae*, A.-S.

61. HELIOTHIS.

Eyes naked, palpi porrect, short, wings subdentate, moderately broad, rounded, hind wings whitish with black outer border having a pale spot in its middle.

a. Buff, transverse shade brownish, reniform black, a brown spot on costa above the reniform and before the apex, discal spot of hind wings large. Expanse 1.30 - - - - - *H. Phlogophagus*, G.-R.

aa. Clay yellow, males with an olive tint, no costal spots. Expanse 1.65 - - - - *H. Armiger*, Hub.

62. LYGRANTHOECIA.

Eyes naked, palpi porrect, short, wings entire, rounded; color dark grayish brown, the median space gray the outer boundary of which is a well marked compound curve, the inner arcuate, hind wings black. Expanse 1.10 - - - - - - - *L. Rivulosa*, Guen.

63. ANTHOECIA.

Similar to the preceding in form; color dark brown with a slight yellow tinge, median space pale, the outer boundary nearly straight, the inner arcuate, hind wings yellow with a broad black border. Expanse 1.05 - - - - - *A. Spraguei*, Gr.

64. PYRRHIA.

Eyes naked, palpi porrect, very short, wings subdentate; color saffron yellow marked and shaded with reddish brown, hind wings with a reddish brown border. Expanse 1.35 - - - *P. Exprimens*, Wlk.

65. TARACHE.

Eyes naked, palpi porrect, surpassing the front by the length of the head, wings entire, but little rounded, outer margin somewhat oblique.

a. Dark gray, purplish outside the t. p. line, two large white costal patches. Expanse 1.15 - - - *T. Aprica*, Hub.

aa. White, inclining to yellowish, end of wing lead color, darker posteriorly and tinged with olive, reniform annulate with white.

b. One costal spot. Expanse .80 - *T. Candefacta*, Hub.

bb. Five costal spots. Expanse .80 - - - - - *T. Erastrioides*, Guen.

66. LITHACODIA.

Eyes naked, thorax and abdomen tufted, palpi ascending, wings entire, moderately broad and rounded; gray, a white V mark below the reniform, open toward outer margin, reniform and terminal space yellowish brown. Expanse .80 - - *L. Bellicula*, Hub.

67. CHAMYRIS.

Eyes naked, thorax and abdomen tufted, palpi ascending, short, wings entire, rounded, moderately long; color white olivaceous gray, marked with black at base and outer margin, transverse shade bluish. Expanse 1.15 - - - - - *C. Cerintha*, Tr.

68. EUSTROTIA.

Eyes naked, thorax and abdomen tufted, palpi ascending, wings entire, triangular somewhat rounded at the end; dark except at the end of wings.

a. Blackish gray, end of wing and an oblique line from the costa to meet this pale carneous. Expanse 1.00 - - *E. Carneola*, Guen.

aa. Black gray, end of wing and reniform dark carneous. Expanse 1.00 - - - *E. Apicosa*, Haw.

aaa. Olive gray, lines black, stigmata and end of wing gray. Expanse .85 - - - *E. Muscosula*, Guen.

69. EUHERRICHIA.

Eyes naked, thorax and abdomen tufted, palpi ascending; color reddish brown with silver spots.

a. A few silver scales in the stigmata, a rosy band outside the t. p. line and one inside the t. a. line. Expanse .95 *E. Mollissima*, Guen.

aa. With seven silver spots and the subterminal line silver lunules. Expanse 1. 10 - - *E. Monetifera*, Guen.

70. SPRAGUEIA.

Eyes naked, palpi porrect, short, wings entire, somewhat oblong, outer margin a little oblique; color two longitudinal stripes of black alternating with two of white, three black costal spots and three more or less distinct transverse bands of fulvous. Expanse .65 - - - - - - - - - - *S. Leo*, Guen.

71. XANTHOPTERA.

Eyes naked, palpi porrect, short, wings entire, triangular; pale yellow with a black fringe. Expanse .85 - - - - *X. Nigrofimbria*, Guen.

72. PROTHYMIA.

Eyes naked, palpi porrect, supassing the front by the length of the head, wings entire, rounded; basal half of fore wings pale yellow, outer part and portion of costa rose red. Expanse .85 - - *P. Rosalba*, Gr.

73. GALGULA.

Eyes naked, palpi porrect, surpassing the front by half the length of the head, wings entire; reddish brown, outlines of stigmata and t. p. line yellowish, subterminal space paler than the rest of wing and containing a row of black dots on the veins. Expanse .90

G. Subpartita, Guen.

74. DRASTERIA.

Eyes naked, palpi ascending, wings dentate, broad, triangular; color gray with shades of brown from the lines out, or brown with similar shades of darker brown, black brown ante-apical spot composed of an oblong and a triangular piece, two brown lines to hind wings. Expanse 1.40 to 1.60 - - - *D. Erechtea*, Cram.

75. LITOSEA.

Eyes naked, palpi ascending, antennæ of male pectinate, wings subdentate; drab, faint grayish brown lines, one brown transverse line to hind wings, fore wings with subterminal row of black dots beyond which they are gray. Expanse 1.35 - - -

L. Convalescens, Guen.

76. EUCLIDEA.

Eyes naked, thorax and abdomen tufted, palpi ascending, wings dentate, triangular; gray, terminal space pale, transverse shade brown gray, three transverse black brown marks, one in the region of the t. a. line, one the t. p. and one ante-apical. Expanse 1.30 - - - - - - - - - - *E. Cuspidea*, Hub.

77. MELIPOTIS.

Eyes naked, palpi ascending, wings dentate; deep violet gray, variegated with brown and clear gray, one oblique band of yellowish white, with two fine reddish lines and a large angular spot. Expanse 1.40 - - - - - - - *M. Limbolaris*, Gey.

78. CATOCALA.

Eyes naked, thorax, and in most cases, abdomen tufted, palpi ascending, wings dentate; fore wings some tint of gray shaded with brown or black, or the prevailing color brown shaded with gray, hind wings uniform black or black with a white band through the middle, or some shade of red or yellow with one or two black bands. On the under side the wings are banded with black and either white or the ground color of the hind wings.

With the exception of the following varieties and species found to be in the State since the publication of the "Synopsis of the Catocalæ of Illinois," the descriptions of the species of this genus will be found in that paper.

C. Robinsonii var *Curvata*, French. Of the same color as the species with a curved black shade from the middle of the costa to the outer margin below the apex, and a very slender basal dash. Expanse 2.50.

C. Palaeogama var *Amnida*, Fager. This varies from the usual form in the posterior part to the submedian vein, and the terminal

space except in the middle, being suffused with blackish brown, often the base also.

C. Cordelia, Hy. Edw. Color sordid white with a greenish tinge, subterminal space brown, except at costa, inside the t. a. line and a costal patch, including the reniform blackish with a scattering of olive scales, terminal space gray, median band of hind wings not recurrent, outer band broken before anal angle. Expanse 1.75. This should follow *C. Amasia* in classification.

79. ALLOTRIA.

Eyes naked, thorax tufted, palpi ascending, surpassing the front by the length of head, wings entire, color gray, whitish medially and blackish at base, hind wings yellow with heavy black outer border. Expanse 1.45 - - - - - - *A. Elonympha*, Hub.

80. PARTHENOS.

Eyes naked, palpi ascending, surpassing the front by one and a half times the length of the head, wings dentate; fore wings gray, hind wings yellow with four irregular black bands. Expanse 2.50 - - - - - - - - - - - *P. Nubilis*, Hub.

81. STRENOLOMA.

Eyes naked, palpi porrect, short, wings dentate, broad, rounded at the end; both wings gray with a faint purplish tint, four black brown costal patches, a double line from posterior and inner margins extending to the middle of the wings, transverse lines dots on the veins. Expanse 1.80 - - - - - *S. Lunilinea*, Gr.

82. PHOBERIA.

Eyes naked, palpi porrect, short, wings subdentate, moderately broad; ochraceous, subterminal space brownish, quite dark on costal half, stigmata brown. Expanse 1.45 - - *P. Atomaris*, Hub.

83. CELIPTERA.

Eyes naked, palpi ascending, surpassing the front by the length of the head, wings dentate; gray, subterminal blackish lines shaded with yellow, t. a. line more or less black, on the hind margin a black spot towards the base usually connected with this line. Expanse 1.65 to 1.75 - - - - - *C. Frustulum*, Guen.

84. PARALLELIA.

Eyes naked, palpi ascending, surpassing the front by the length of the head, wings entire, broad; dark brownish gray, pale terminally, two parallel transverse brown lines. Expanse 1.50 - - - *P. Bistriaris*, Hub.

85. AGNOMONIA.

Eyes naked, palpi ascending, surpassing the front by the length of the head, wings broad; brownish black, two oblique white lines from the costa outward, the second not reaching the outer margin. Expanse 1.35 - - - - - *A. Anilis*, Drury.

86. PANOPODA.

Eyes naked, palpi ascending, wings subdentate, rather broad, rounded but the apex square; color gray.

a. Yellowish gray, two reddish brown transverse lines to the fore wings, one to the hind wings, costa and collar reddish brown. Expanse 1.70 - - - - *P. Rufimargo*, Hub.

aa. Purplish gray, two blackish transverse lines to the fore wings, one to the hind wings; costa carneous, stigmata black. Expanse 1.80 - - - - *P. Carneicosta*, Guen.

87. REMIGIA.

Eyes naked, palpi ascending, short, wings entire, broad triangular; color gray.

a. Slightly purplish gray, two transverse brown lines, no lines on the hind wings. Expanse 1.60 to 1.80 - - *R. Hexastylus*. Harv.

aa. Yellowish gray, two transverse brown lines, the second shaded outwardly, two shaded lines to the hind wings. Expanse 1.90 - - - *R. Latipes*, Guen.

88. TRAMA.

Eyes naked, palpi ascending, surpassing the front by the length of the head, wings subdentate, broad, end rounded, apex a little produced; color of both wings dark brown, tinged with gray to a subterminal oblique line; t. p. line faint, pale, strongly arcuated opposite the reniform. Expanse 1.05 to 1.20 - - - *T. Arrosa*, Harv.

89. EREBUS.

Eyes naked, palpi erect, rather long, wings subdentate, broad, triangular; grayish brown, reniform 9 shaped, inner annulus blue below, lines dark brown, a large violet and olive 3 mark near the anal angle. Expanse 5.75 - - - - - *E. Odora*, L.

90. ZALE.

Eyes naked, thorax and abdomen tufted, palpi erect, wings dentate, triangular, a little rounded; both wings brownish black, lines black, terminal space pale carneous gray, the boundary to the gray undulate on the fore wings. Expanse 1.50 - - - *Z. Horrida*, Hub.

91. PHEOCYMA.

Differs from Homoptera in the palpi, being stouter and only one tuft on the abdomen and that is small; color gray, transverse lines, brownish black, both wings crossed by a number of fine brownish black lines, reniform lunate, brownish, annulate with black, with a more or less distinct ante-apical spot of brownish. Expanse 1.50 - - - - - - *P. Lunifera*, Hub.

92. HOMOPTERA.

Eyes naked, thorax and abdomen tufted, the latter with several small tufts, palpi erect, surpassing the front by the length of the head, wings dentate, a little rounded, broad triangular.

a. Color dark brown, shaded obliquely with paler.

b. Two white terminal lunules to each fore wing and one to each hind wing. Expanse 2.00 *H. Edusa*, Drury.

bb. Short white lines more or less distinct in place of the lunules - - - var *Saundersu*, Beth.

bbb. No white in terminal space - - var *Lunata*, Drury.

aa. Black species. Expanse 1.70 - - *H. Nigricans.*

aaa. Pale grayish brown, subterminal line black brown, more or less prominent, with white lunules or short lines in terminal space. Expanse 1.50 to 1.60 - - *H. Galbanata*, Morr.

93. YPSIA.

Eyes naked, thorax and abdomen tufted, the latter small, wings dentate, outer end rounded, triangular; black tinted with gray, subterminal line black, suffusion of olive scales in the region of the t. a. and t. p. lines and the terminal space. Expanse 1.65 - - *Y. Undularis*, var, *Æruginosa*, Guen.

94. HOMOPYRALIS.

Eyes naked, palpi ascending, surpassing the front by the length of the head, wings subdendate; both wings umber brown with a slight yellowish tint, transverse shade blackish brown, prominent, continued across the hind wings, t. p. line a series of drab dots. Expanse .95 - - - - - - - - *H. Tactus*, G.

95. PSEUDOGLOSSA.

Eyes naked, palpi erect, surpassing the front by twice the length of the head, wings entire, moderately broad, ends rounded; black with a yellowish tint, three transverse, wavy, yellow lines. Expanse 1.00 to 1.10 - - - - *P. Lubricalis*, Gey.

96. EPIZEUXIS.

Eyes naked, palpi erect, wings entire, ends rounded, moderately broad; yellowish gray or brownish gray, fore wings crossed by four wavy lines, the hind wings by three less wavy.

a. Yellowish gray, lines not heavily shaded. Expanse .95 - *E. Aemula*, Hub.

aa. Gray, brownish from the middle out, lines heavily shaded on the costa. Expanse .95 - - *E. Americalis*, Guen.

97. CHYTOLITA.

Eyes naked, palpi erect, surpassing the front by twice the length of the head, wings entire, ends rounded; pale ochraceous, two brownish lines crossing both wings, a subterminal row of brownish dots, stigmata indistinct. Expanse 1.30 - - *C. Morbidalis*, Guen.

98. ZANCLOGNATHA.

Eyes naked, palpi erect, surpassing the front by twice the length of the head, wings entire, ends rounded; ochraceous, transverse lines, reniform and subapical dot dark brown, subterminal line pale. Expanse 1.30 - - - - - - - - *Z. Lævigata*, Gr.

99. PHILOMETRA.

Eyes naked, palpi erect, long, wings entire; brownish ochre, transverse lines brown, not prominent, rather distinct transverse shade and subterminal line brown the latter shaded inward. Expanse .75 - - - - - - - - *P. Serraticornis*, Gr.

100. PHALENOPHANA.

Eyes naked, palpi erect, surpassing the front by twice the length of the head, wings entire; pale ochraceous, two transverse brown bands, straight internally, shading out to the ground color externally, the outer traversed by the pale subterminal line, two wavy brown lines between these bands. Expanse .95 - - *P. Rurigena*, Gr.

101. BLEPTINA.

Eyes naked, palpi erect, surpassing the front by twice the length of the head, wings entire; color drab, transverse lines faint, transverse shade prominent, brown, containing the narrow dark brown reniform, subterminal line pale, a terminal row of black brown dots, hind wings similar. Expanse 1.00 - - - *B. Caradrinalis*, Guen.

102. HYPENA.

Eyes naked,Palpi surpassing the front by twice the length of the head, more or less compressed, wings entire, rather narrow.

a. Color brown, slight violaceous tint, median space clear brown, rather dark, terminal space ochraceous. Expanse 1.20 - - - - - *H Achatinalis*, Zell.

aa. Color ochraceous, grayish brown along the costa to the reniform and terminally, stigmata remote, small, connected by a brown shade, lines indistinct, hind wings smoky. Expanse 1.25 - - *H. Evanidalis*, Rob.

aaa. Dark brownish gray, lines variable, t. p. line quite distinct near the hind margin, beyond which it is a little lighter, subterminal line a series of dots. Expanse 1.25 - - - - - - *H. Scabra*, Fabr.

4a. Differs from the above by being carneous gray along the hind margin and in subterminal space to apex - - var *Subrufalis*, Gr.

103. EULINTNERIA.

Eyes naked, palpi erect, surpassing the front by twice the length of the head, outer margin of fore wing of female entire, almost angled, of the male, bifid almost to the t. p. line; brownish purple, ochraceous at the base, basal, t. a., t. p. and subterminal lines and transverse shade brown, reniform ochre. Expanse .90 to 1.00 *E. Bifidalis*, Gr.