UNIVERSITY AND EDUCATIONAL NEWS

Mrs. A. D. Juilliard, of New York, has given $100,000 to Colorado College for a new gymnasium as a memorial to her father, the late Frederick H. Cossitt.

Fifty thousand dollars have been bequeathed to the University of Pennsylvania, for two additional dormitory houses, by the late Dr. Richard A. Cleeman, as a memorial to his brother, Ludovic C. Cleeman.

The Rhode Island State Board of Education has awarded at Brown University scholarships, under the new law providing for an annual appropriation of $5,000. The recipients of these scholarships number twenty-two, and each is required to make declaration of an intention to follow teaching as a vocation and to give a promise of serving the state as a teacher, principal or superintendent for at least two years.

St. John's College has offered £500 as a contribution to the equipment of the Solar Physics Observatory on its installation in Cambridge.

Professor Lewis Perry, who holds the chair of English at Williams College, has been offered the presidency of Wells College, Aurora, N. Y.

Mr. W. B. Hardy, M.A., Gonville and Caius, has been appointed university lecturer in physiology at Cambridge University.

DISCUSSION AND CORRESPONDENCE

ON ORTMANN'S "NOTES UPON THE FAMILIES AND GENERA OF THE NAJADES"

For the malacologist struggling along with the current unnatural and erratic classification of the "river-mussels," Ortmann's "Notes upon the Families and Genera of the Najades"[1] clears up many difficulties. While it has long been admitted that the only key to the natural genera lay in the differentiation of the soft parts, it has remained for this author within the last two years[2] to break the trammels of convention and indicate the fundamental points of Naiad classification.

[1] *Ann. Carnegie Mus.*, XIII., No. 2, July, 1912.

[2] "A New System of the Unionidæ," *Nautilus*, XXIII., 1910, pp. 39–42.

At the outset Ortmann calls attention to the difficulty of correlating the characters of the shell with the relationships as indicated by the anatomy and mentions the occurrence of analogous types in unrelated species. In the current number of the *Proceedings of the Malacological Society of London* the writer has discussed this problem with the view of showing that in the more primitive forms the shells were ponderous, subquadrate and possessed a well-developed hinge, while in the more specialized forms the shells are comparatively thin, posteriorly elongate, the hinge tending to become edentate. It has happened in several instances, however, that the degeneration of the hinge has not proceeded *pari passu* with the specialization of the anatomy, but has been accelerated or retarded.

The peculiar structure of the gill of the Margaritanidæ is discussed in some detail. In the writer's opinion the oblique arrangement of the synapticulæ connecting the two lamellæ is not to be correlated with the water tubes of the more specialized Naiad gill, but is merely an incidental feature. Ortmann states that the gills are without septa, but his drawings show them in rudimentary form. They are, however, only united at infrequent intervals, due to a tendency for one or more of the faint but regular bead-like papillæ scattered along their length to develop sufficiently to fuse with its neighbor on the opposite plate, forming one of the scattered interlamellar tissues described. A more extensive fusion of the papillæ would result in the structure occurring in *Hyria*.

The family Unionidæ, as admitted, might with considerable propriety be broken up into several natural groups. The Lampsilinæ are not at all closely allied to the other genera and seem fully entitled to family rank. The group represented by *Quadrula* and that by *Pleurobema* and *Elliptio* are allied and should be placed in the Quadrulidæ (Quadrulinæ Von Ihring) though the two latter genera might be regarded as forming a distinct subfamily owing to the restriction of the brood-pouch to the outer gills. The European Unioninæ are more closely related to the Anodontinæ and to

these two groups the term Unionidæ ought to be confined. The Asiatic *Parresia* and *Lamellidens* are not known to the writer but it would seem that they were derived from a different Margaritanoid stock and may form a family by themselves. Omitting these the general grouping adopted by the writer is as follows:

Superfamily Unionoideæ.
  Family Margaritanidæ Ortmann, 1910.
  Family Hyriidæ Swainson, 1840 (emend.).
    Subfamily Hyriinæ s. s.
    ? Subfamily Matelinæ Gray, 1847.
  Family Quadrulidæ Von Ihring, 1901.
    Subfamily Quadrulinæ s. s.
    Subfamily Pleurobeminæ Hannibal, 1912.
  Family Unionidæ Swainson, 1840.
    Subfamily Unionidæ s. s.
    Subfamily Anodontinæ Swainson, 1840.
  Family Lampsilidæ Von Ihring, 1901.
    Subfamily Lampsilinæ s. s.
    Subfamily Propterinæ Hannibal, 1912.

Symphynota and *Anodonta* in the sense used by Ortmann are probably composite genera due to an analogous degeneration of the hinge in several allied stocks. "*Anodonta*" *imbecillis* appears to group with *S. compressa* in *Symphynota* though perhaps entitled to subgeneric distinction. *S. complanata* is rather allied to "*Anodonta*" *cataracta* and its subspecies *grandis*. Neither of these are *Anodontas* in the true sense of the word, for that group like *Unio* and *Migranaja* belongs to the Old World and the west coast of North America. The *complanata-cataracta* group might take the name *Pterosygna* Raf. (type *Alasmodonta complanata* Barnes) if that name is available. *A. costata* probably belongs here also but seems a rather aberrant member.

The writer would be inclined to give *Caruncula* and *Micromya* generic rank as distinct from *Eurynia*.

Considering the fact that Dr. Ortmann has had to deal with a group in which the nomenclature of the genera has been very imperfectly worked out and the wealth of nominal species and varieties compared with those which may be ultimately recognized as valid is amazing, he is certainly to be congratulated for the care he has taken in presenting clearly a large mass of facts without falling into any serious nomenclatural pitfalls.

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SOME REMARKABLE DISCOVERIES REGARDING A COMMON HOUSEHOLD INSECT

THE literature of the nature-study movement abounds in remarkable statements regarding the morphology, development and biology of bird, beast and fowl, but scientific men have hesitated to discard the older theories in favor of unsupported statements from such sources. The public can hardly be expected to be so suspicious of the publications of the United States Public Health Service and it would seem that some of the many astounding facts recently disclosed regarding the common bed-bug should receive wider currency than is assured by their publication in Public Health Reports, for November 15, 1912, pp. 1854–1856.

The early history of this pest is shrouded in mystery, but we are informed that it is not at all improbable that when our arboreal forebears forsook tree-top for caves they took this little six-legged pest with them.

This seems to be more likely because the English sparrows and the swallow harbor a very similar species, and not infrequently their nests are crowded with these vermin.

The biting apparatus of this parasite is quite elaborate, and consists of several parts. In biting, the bug anchors itself to the skin with a couple of hooks called mandibles, and then inserts the maxillæ, which are shaped like two gutters, the concave surfaces of which look towards each other.

Normally it feeds upon human blood, but lacking this it will live upon decaying wood or the dust in floor cracks.

The eggs are somewhat rounded, white objects, and are laid in collections in crevices or other suitable places. In about a week or ten days after they are laid the eggs hatch out as little worms, called larvæ; these are yellowish white in color at first but later become almost brown. They feed and go into a resting state, from which they emerge as pupæ; they then shed their skins five times and at last become full grown adults.