Perhaps someone can explain the optics of this odd phenomenon.

A. GAEL SIMSON

QUOTATIONS

DR. F. A. BATHER

IN February next, after forty years' service in the British Museum (Natural History), Dr. F. A. Bather retires from the post of keeper of the department of geology. His vigorous and cheery personality will be missed by geologists visiting the museum no less than by his colleagues. Educated at Winchester and Oxford, he joined the staff of the British Museum in 1887 as assistant in the department of geology and was placed in charge of the echinoderma. After becoming assistant keeper, and later deputy keeper, he succeeded Sir Arthur Smith Woodward as keeper of the department in 1924. Dr. Bather was elected F.R.S. in 1909; was awarded the Lyell medal by the Geological Society in 1911; has been president of section C of the British Association and of the Museums Association; he is now president of the Geological Society. Dr. Bather's original work on the paleontology of the echinoderms has gained him a world-wide reputation, and amongst the distinguished paleontologists of today he stands in the front rank. His memoirs and papers are too well known to need mention here; not only are they models of scientific method, but also they possess a literary charm seldom found in the writings of scientific authors.

In his presidential addresses to section C of the British Association at Cardiff (1920), and to the Geological Society last February, Dr. Bather dealt in a masterly manner with the principles of paleontology, and his listeners felt that those addresses were worthy of Huxley. Dr. Bather does more than look on fossils from the point of view of a morphologist and evolutionist; as is so well shown in his "Caradocian Cystidea of Girvan," he regards them as animals which once lived, and endeavors to correlate form with function, morphology with physiology. For several years Dr. Bather contributed the section on Echinoderma to the *Zoological Record;* although these are masterpieces of bibliography and analysis, one can not avoid a feeling of regret that so much of his time was taken away from original research. In another direction, by the active interest which he has taken in the work of the Museums Association, Dr. Bather has rendered good service to his country; he has contributed many papers to the association's journal dealing with the preparation and exhibition of specimens and other matters of importance to the curators of provincial museums. After his release from the cares and responsibilities of office, all who know Dr. Bather, whether personally or only from his writings, will fervently hope that leisure and health will enable him to continue for many years his splendid work in paleontology.—*Nature.*

AMENDMENTS TO THE INTERNATIONAL RULES OF ZOOLOGICAL NOMENCLATURE

UPON unanimous recommendation by the International Commission on Zoological Nomenclature, the International Zoological Congress, which met at Budapest, Hungary, September 4–9, 1927, adopted a very important amendment to Article 25 (Law of Priority) which makes this Article, as amended, read as follows (*italicized type represents the amendment;* Roman type represents the old wording):

Article 25.—The valid name of a genus or species can be only that name under which it was first designated on the condition:

(a) That (*prior to January 1, 1931*) this name was published and accompanied by an indication, or a definition, or a description; and

(b) That the author has applied the principles of binary nomenclature.

(c) *But no generic name nor specific name, published after December 31, 1930, shall have any status of availability (hence also of validity) under the Rules, unless and until it is published either*

(1) *with a summary of characters (seu diagnosis; seu definition; seu condensed description) which differentiate or distinguish the genus or the species from other genera or species;*

(2) *or with a definite bibliographic reference to such summary of characters (seu diagnosis; seu definition; seu condensed description). And further*

(3) *in the case of a generic name, with the definite unambiguous designation of the type species (seu genotype; seu autogenotype; seu orthotype).*

The purpose of this amendment is to inhibit two of the most important factors which heretofore have produced confusion in scientific names. The date, January 1, 1931, was selected (instead of making the amendment immediately effective) in order to give authors ample opportunity to accommodate themselves to the new rule.

The commission unanimously adopted the following resolution:

(a) It is requested that an author who publishes a name as new shall definitely state that it is new, that this be stated in only one (*i.e.,* in the first) publication, and that the date of publication be not added to the name in its first publication.

(b) It is requested that an author who *quotes* a generic name, or a specific name, or a subspecific name,

shall add at least once the author and year of publication of the quoted name or a full bibliographic reference.

The foregoing resolution was adopted in order to inhibit the confusion which has frequently resulted from the fact that authors have occasionally published a given name as "new" in two to five or more different articles of different dates—up to five years in exceptional cases.

The three propositions submitted by Dr. Franz Poche, of Vienna, failed to receive the necessary number of votes in commission to permit of their being recommended to the Congress. Out of a possible 18 votes for each proposition, Poche's proposition I received 9 votes, II received 6 votes, and III received 7 votes.

Zoological, medical and veterinary journals throughout the world are requested to give to the foregoing the widest possible publicity in order to avoid confusion and misunderstanding.

C. W. STILES,
Secretary to Commission

SPECIAL ARTICLES

A NOTE ON THE CHROMOSOMES OF MOINA MACROCOPA

BANTA and Brown[1] have shown that this cladoceran as well as certain others may be induced to increase the number of males by crowding parthenogenetic mothers. In order to study chromosomal evidence, several hundred parthenogenetic and sexual females have been sectioned. The most favorable time for observing the chromosomes is just before and after the eggs are laid.

The nucleus of the young egg is characterized by a number of deeply-staining granules, which increase in number and size until they fill the nucleus excepting a thin space beneath the membrane. This substance is not chromatin, as it does not react to chromatin stains after fixation in Gilson's fluid. Shortly before the eggs are laid, the mass breaks up into very fine granules, forming a homogeneous material which extends to the nuclear membrane. It gradually loses its staining properties until it appears relatively faint. At this stage there appears near one side a small, faintly-outlined spindle with a few irregularly shaped bits of chromatin within it. At about this time the nuclear membrane begins to dissolve, and the granular substance mingles with the yolk. In it very small, apparently ellipsoid chromosomes appear, and at a little later stage a well-defined spindle appears at the periphery of the egg, lying usually at right angles to the egg membrane.

[1] Banta, A. M. and Brown, L. A. 1923. Some data on control of sex in Cladocera. Eugenics, Genetics and the Family, Vol. 1.

After the egg is laid, the first division occurs: in the parthenogenetic egg without reduction in the number of chromosomes. In the sexual egg, the first maturation division results in the haploid number, which is 11. The diploid number is 22 in both types of egg. In the eggs of crowded mothers which should produce a high percentage of males, no evidence has yet been obtained indicating that the male number of chromosomes is haploid. Several such crowded mothers have been studied.

The chromosomes have not been seen in the form of rods. They are too small to determine whether tetrads are formed in the maturation divisions. It does not seem that their nearly spherical shape can be accounted for by faulty technique, as the tissues in general are in excellent condition.

With the exception of Schräder's work,[2] the number of chromosomes reported for Cladocera is not more than 8 or 8–10. Schräder reports 24. The chromosomes in *Moina macrocopa* have been previously studied, so far as the author can learn, only by Weismann and Ischikawa,[3] who report 4 in the females of *Moina paradoxa* (now *M. macrocopa*) and *M. rectirostris.*

The sperm cells in *Moina macrocopa* are extremely small in all stages, and thus far have yielded no satisfactory pictures of chromosomes.

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GENETIC EVIDENCE THAT THE CLADOCERA MALE IS DIPLOID

CLADOCERA males have long been supposed to be diploid in chromosome make-up. Because of the difficulty of Cladocera material for cytological study, not much evidence on this point has been produced. Chambers (1913, Biol. Bull; 25, p. 134) reported the male Simocephalus vetulus as having "considerably more than eight" chromosomes, which number he found in spermatogenesis. Miss Taylor (1914, Zool. Anz.; 45, p. 21) gave 8 or 10 as the diploid number in male *Daphnia pulex* and 4 or 5 as the reduced number in spermatogenesis. In view of the much larger chromosome numbers, 24 in females, found in material of a *Daphnia pulex* type studied by Schrader (1925, Zeit. ind. Abs.-u. Vererbungslehre; 40, p. 1) and by Dr. Ezra Allen in Moina macrocopa (about 20 in females) compared with the reports of these earlier workers, verification of the supposed diploid condition of the Cladocera male seemed desirable.

We are now in a position to report genetical evi-

[2] Schräder, F. 1925. The cytology of pseudosexual eggs in a species of Daphnia. Zeit. f. induktive Abstammungs- und Vererbungslehre, Bd. XL, Heft 1/2.

[3] Weismann, A., and Ischikawa, C. 1891. Ueber die Paracopulation in Daphnidenei. *Zoöl. Jahrb. Bd. 4.*