plentiful, for seven individuals were found on a space less than one yard square. They are well preserved and, in the case of one at least, the anatomy can be worked out in detail even to the joints of the appendages.

Apparently there are three distinct forms, which probably represent as many species, and at least two genera. If study substantiates the belief that these are new, they will be described at an early date.

One is noticeably scorpioid in outline, due to a rapid constriction beginning at the ninth abdominal segment. At the sixth segment the abdomen measures 10 mm. across, while at the ninth it measures but half as much. The cephalothorax measures 5 mm. in length, the abdomen to the tip of the telson 23 mm., and the telson alone 13 mm. The segments seem to be destitute of ornamentations. Five appendages are exposed on one side and are distinct even to the individual joints, none of which are chelate, and there is no paddle.

Another form shows an abdomen expanding slightly to the fourth segment and then contracting and graduating insensibly into the pointed telson. The eyes and markings of the cephalothorax differ from the first-mentioned form. The abdominal segments are plainly ornamented by numerous and relatively large rounded prominences.

In a third form, noticeably vermiform, the slender abdomen tapers from the head shield to the telson. The cephalothorax is ornamented by two long and relatively broad genal spines which sweep backward to the telson. Ornamentation seems to be wanting on the segments. One distinct paddle is exposed. This small collection of seven Eurypterids was made under difficulties. Later in the season an unstable overhanging block of sandstone will be blasted away and at once several square yards of Eurypterid shales can be safely exposed. The expectation is that a considerable collection will be secured, which when properly studied will be figured and described in a forthcoming number of the Nebraska Geological Survey.

This set of Eurypterids belongs to the collections of Hon. Charles H. Morrill, who for so many years has been a liberal patron of geological and paleontological research in Nebraska.

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August, 1912

SOME NECESSARY CHANGES IN CEPHALOPOD NOMENCLATURE

WHILE recently engaged in unraveling the somewhat tangled synonymy of certain cephalopod mollusks, the writer has noted several usages which are thought to be contrary to accepted custom. It is the purpose of this note to bring these items to the attention of other investigators and thus perhaps avoid further confusion in the future.

The genus *Desmoteuthis* of Verrill (1881, p. 300) has long been used for a group of cranchiiform squids characterized by their elongate, transparent, weakly pigmented body, oval or elongate fins, and swollen, unstalked eyes. Although an apparently well-established genus, a careful inquiry shows the nomenclature to be very involved and necessitates a change in the prevailing terminology. Verrill's genus when first advanced was monotypic and established to contain a member of the former genus *Taonius* Steenstrup, which he identified as *T. hyperboreus* Steenstrup. According to Verrill's interpretation this would then result in the following arrangement.

Taonius Steenstrup, 1861. Type *Loligo pavo* Lesueur, 1821. Additional species *Leachia hyperborea* Steenstrup, 1856.

Desmoteuthis Verrill, Feb., 1881. Type *Taonius hyperboreus* Steenstrup. Additional species *Desmoteuthis tenera* Verrill, Dec., 1881.

So far well and good, but at the next step a complication appears, for we then find that *Desmoteuthis hyperboreus* "Steenstrup" Verrill is not the same as *Taonius hyperboreus* Steenstrup, being identical in fact (or so regarded by almost all subsequent authors) with the true *Taonius pavo*. Indeed the diagnosis originally given for *Desmoteuthis* does not fit a single one of the various species now re-

ferred to it, although it does very well for *T. pavo*. Since it would certainly appear that Verrill's own definition of his type species should have weight in this connection rather than the mistaken name which he applied to it, it follows that *Loligo pavo* Lesueur is occupying the incongruous rôle of serving as the type for two genera at the same time. The inevitable result is that *Desmoteuthis* must be regarded as absolutely synonymous with *Taonius*.

It is interesting to observe that the true *T. hyperboreus* Steenstrup appears to have been subsequently described by Verrill as *D. tenera* n. sp., so that, as indicated by the above table, his concept of *Desmoteuthis* coincides most curiously with Steenstrup's idea of *Taonius*. Thus we arrive, though through a considerably different process of reasoning at essentially the same conclusion attained by Hoyle in 1884, for some reason apparently abandoned by him since that time.

What, then, is to become of *T. hyperboreus* Steenstrup, especially since according to our modern notions that species appears in no way congeneric with *T. pavo*? Fortunately it is not necessary to add another new name to the literature, for by turning to the more lately described members of the group we learn that we may utilize the *Megalocranchia* of Pfeffer (1884, p. 24) with *M. maxima* Pfeffer as the type.

Chun (1910, pp. 302, 357) has further suggested that *Helicocranchia* Massy (1907, p. 382) may also be referable to *Desmoteuthis* (*i. e., Megalocranchia*) as a synonym, but for the present I do not think this can be taken as conclusive. The minute, separated, pedunculate fins, and more especially Miss Massy's subsequent emendation "Eyes on short stalks" (1909, p. 34), along with other characters are shared by an undescribed form obtained by the U. S. Fisheries steamer *Albatross* in the Hawaiian Islands, which certainly does not seem to be a *Megalocranchia,* but much nearer to the group *Teuthowenia* as defined by Chun.

In this connection it may be well to observe that the curious Hawaiian squid described by me in 1909 as *Helicocranchia fisheri* is certainly out of place in that genus. On the contrary it appears to be a typical *Megalocranchia* having considerable affinity with *M. maxima*. The recently described *Desmoteuthis pellucida* Chun, 1910, is also exceedingly close. A brief memorandum of the several species which seem to be referable to this genus is given below.

MEGALOCRANCHIA Pfeffer, 1884

Desmoteuthis auctt., non Verrill

Megalocranchia Pfeffer, 1884, p. 24

M. hyperborea (Steenstrup, 1856).

Leachia hyperborea Steenstrup, 1856, p. 200.

Taonius hyperboreus Steenstrup, 1861, p. 83.

Desmoteuthis tenera Verrill, 1881, p. 412, Pl. LV., Fig. 2; Pl. LVI., Fig. 3.

Taonius hyperboreus Hoyle, 1885, p. 321.

Taonius hyperboreus Hoyle, 1886, p. 191, Pl. XXXII., Fig. 12; Pl. XXXIII., Figs. 1–11.

Desmoteuthis hyperborea Pfeffer, 1908, p. 104, Fig. 119.

Desmoteuthis hyperboreus Hoyle, 1909, p. 277.

North Atlantic.

M. maxima Pfeffer, 1884.

Megalocranchia maxima Pfeffer, 1884, p. 24, Fig. 32, 32*a*.

Cape of Good Hope.

M. abyssicola (Goodrich, 1896).

Taonius abyssicola Goodrich, 1896, p. 17, Pl. V., Figs. 72–80.

Desmoteuthis abyssicola Pfeffer, 1900, pp. 191, 192.

Laccadive Sea.

M. fisheri (Berry, 1909).

Helicocranchia fisheri Berry, 1909, p. 417.

Xenoteuthis fisheri Berry, 1909, p. 419 (*error*).

Hawaiian Islands.

M. pellucida (Chun, 1910).

Desmoteuthis pellucida Chun, 1910, p. 357, Pl. LIII., Fig. 1; Pl. LIV., Figs. 1–17.

South Atlantic.

The family *Veranyidæ* has recently been founded by Chun (1910, p. 139) for the reception of that bizarre little genus, the *Octo-*

poteuthis of Rüppell (= *Verania* Krohn), which with its single species, *O. sicula* Rüppell, thus becomes the type and sole member of the new family. As on general grounds this step seems one of excellent expediency, it is not a happy task to mention that the name proposed is untenable. Krohn's *Verania* appears to have been advanced solely on the ground that *Octopodoteuthis* is a misnomer since tentacles (*i. e.*, "ten feet") are actually present except in the adult stage! At any rate *Verania* is an exact synonym of *Octopoteuthis*, and hence by the International Rules the use of its derivatives in the formation of higher groups is forbidden. The family name *Octopoteuthidæ* or perhaps *Octopodoteuthidæ*, depending upon whether we reject or accept Krohn's emendation, must therefore replace *Veranyidæ* in the sense proposed by Chun.

Similar effects of the application of the same rule are seen in the case of two other families dealt with in beautiful detail by Chun. As stated by him (1910, p. 185) the genus *Bathyteuthis* Hoyle, May, 1885 (p. 272), is apparently antedated by *Benthoteuthis* Verrill, April, 1885 (p. 401), the annotated dates of Verrill's paper having seemingly escaped the observation of Hoyle (*cf.* 1886, p. 167; 1910, p. 408). If this be so, the family name *Bathyteuthidæ* Pfeffer (1900, pp. 152, 171) must lapse and the term *Benthoteuthidæ* be substituted.

At the time of publishing my preliminary report on the *Albatross* Hawaiian Cephalopods, I had not seen a really characteristic description and figure of *Heteroteuthis dispar* (Rüppell) Gray, 1849. Since then I have had access to various additional publications and have come to the conclusion that my *Stephanoteuthis hawaiiensis* is quite likely congeneric with it. The latter genus should therefore be dropped as an unnecessary synonym.

LITERATURE CITED

BERRY, S. S.
1909. Diagnoses of New Cephalopods from the Hawaiian Islands. *Proc. U. S. Nat. Mus.*, Vol. 37, pp. 407–419, 9 figures in text.

CHUN, C.
1910. Die Cephalopoden. 1 Teil. Oegopsida., Wiss. Ergebn. deutsch. Tiefsee-Exped. Valdivia, Bd. 18, pp. 1–401, Pls. 1–63, 32 figs. in text.

GOODRICH, E. S.
1896. Report on a Collection of Cephalopoda from the Calcutta Museum. *Trans. Linn. Soc. London* (2, Zool.), Vol. 7, Part I., 24 pp., 5 pls.

HOYLE, W. E.
1884. On *Loligopsis* and some other Genera. *Proc. Roy. Phys. Edinburgh*, pp. 313–333.
1885. Brief Notice of the *Challenger* Cephalopoda. Narr. Chall. Exped., 7 pp., 4 figures in text.
1886. Report on the Cephalopoda collected by H. M. S. *Challenger* during the years 1873–76. Voy. Chall., Vol., 16, pp. 1–245, Pls. 1–33.
1909. A Catalogue of Recent Cephalopoda. Second Supplement, 1897–1906. *Proc. Roy. Phys. Soc.*, Vol. 17, pp. 254–299.
1910. A List of the Generic Names of Dibranchiate Cephalopoda with their Type Species. *Abh. Senckenb. Nat.-fr. Gesellsch.*, Bd. 32, pp. 407–413.

KROHN, A.
1847. Nachträge zu den Aufsätzen über *Tiedemannia, Octopodoteuthis* und *Alciopa. Arch. f. Naturgesch.*, Vol. 30, pp. 36–40, Pl. 2, Figs. *A–E*.

MASSY, MISS A. L.
1907. Preliminary Notice of New and Remarkable Cephalopods from the Southwest Coast of Ireland. *Ann. and Mag. Nat. Hist.* (7), Vol. 20, pp. 377–384.
1909. The Cephalopoda Dibranchiata of the Coasts of Ireland. Fisheries, Ireland, Sci. Invest., 1907, I., pp. 1–39, Pls. 1–3.

PFEFFER, G.
1884. Die Cephalopoden des Hamburger Naturhistorischen Museums. *Abh. Naturw. Ver. Hamburg*, Bd. VIII., 1, pp. 1–30, Pls. 1–3.
1900. Synopsis der oegopsiden Cephalopoden. *Mitteil. Naturhist. Mus.*, Hamburg, XVII., pp. 147–198.
1908. Die Cephalopoden. Nordisches Plankton, 9 Lief., IV., pp. 9–116, 120 text figures.

RÜPPELL, E.
1845. Intorno ad alcuni Cefalopodi del Mare di Messina. *Giorn. Gab. Messina*, Vol. 26, pp. 1–7, 2 figures.

Steenstrup, J. J. S.

1856. Hectocotyldannelson hos Octopodslaegterne Argonauta og Tremoctopus oplyst ved Iagttagelse af lignende Dannelser hos Blaeksprutterne i Almindelighed. *Vidensk. Selsk. Skr.* (5), Vol. 4, pp. 185–216, Pls. 1–2.

1861. Overblik over de i Kjobenhavns Museer opbevarede Blaeksprutter fra det aabne Hav (1860–61). *Overs. Vid. Selsk. Forh.*, pp. 69–86.

1882. En ny Blaeksprutteslaegt; Tracheloteuthis. *Vid. Medd. Naturh. Foren. Kjobenhavn* (4), Vol. 3, pp. 293–294.

Verrill, A. E.

1881. The Cephalopods of the Northeastern Coast of America. Part II. The Smaller Cephalopods, including the Squids and the Octopi, with Other Allied Forms. *Trans. Conn. Acad. Sci.*, Vol. 5, pp. 259–446, Pls. 26–56, June, 1880–December, 1881.

1885. Third Catalogue of Mollusca, Recently Added to the Fauna of the New England Coast, etc. *Trans. Conn. Acad. Sci.*, Vol. 6, pp. 395–452, Pls. 42–44, April–June, 1885.

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SOCIETIES AND ACADEMIES

The Anthropological Society of Washington

The 462d regular meeting of the Anthropological Society of Washington, D. C., was held in the New Museum Building, Washington, on October 15, 1912.

Major Sylvester, superintendent of police for the District of Columbia, read a very interesting practical paper concerning criminal characteristics. It began with a brief review of the history of crime and the succession of different kinds of crimes prevalent at different periods, beginning with the cruder, such as homicide and tending toward the subtler, so that quite recently the green goods man has become less conspicuous than the forger and embezzler. The general government, it continued, has been urged to establish a national bureau of criminal identification, but such cooperative work has been left to the heads of American police departments.

It pointed out the practical difficulties of establishing a standard of the normal human being, and the imperfection of our distinction of criminals therefrom, since the police tests are applied only to those who have broken the law and many are non-criminal simply from lack of occasion. Also, we are learning that many cases of apparent criminality are only cases of mental defect or disease.

The popular impression of the criminal as a hungry, shifty individual is erroneous. The average man who makes crime a business in large cities is a fairly prosperous individual, with no fear of arrest. Some of the anatomical characteristics which Lombroso thought decisive of criminality are common in the lower races of man, whether criminal or not. Measurements in general would give racial characteristics rather than criminal.

A number of criminals charged with murder were compared in detail, with the result of showing many varieties of human appearance bracketed together.

Some special kinds of crime call for peculiarities of appearance and develop them, but with these exceptions the criminal does not usually have a different aspect from that of other people, though both criminal and non-criminal of the police classification differ among themselves. Stress was laid on conditions as largely determining the category to which a man would belong.

The paper was discussed by Drs. Hrdlička, Frank Baker, Hough, Glueck and others. The former two gentlemen chiefly emphasized the unreliability of external peculiarities relied on by Lombroso and of every sort of test which has been devised for general distinctions. Dr. Hrdlička insisted that crime is a matter of the nerves and brain or the mentality and criminal characteristics may be more due to organs and parts which are hidden than to the obvious and chiefly irrelevant external ones which Lombroso depended upon for his diagnosis. Dr. Hough chiefly explained tattooing as devoid of significance in primitive conditions, but in civilization a survival ordinarily indicating some weakness which might predispose to crime. Dr. Glueck stated his practical experience in charge of the criminal branch of the Government Hospital for the Insane and the necessity which was felt of learning all about a man's past and conditions and his behavior at every stage of his life rather than trusting to his behavior or condition at the time of any one act as a proof of criminality.

Major Sylvester condemned the evil influence of politics in preventing the police of some large cities from bringing criminals to justice.