

have been safely sent from this country to Europe, Asia and Australia. Eggs of marine species are shipped in tightly-closed jars containing water, and may be expected to arrive with not more than 50 per cent. loss at points that may be reached in twenty-four to thirty hours. Shad and pike-perch eggs do not stand distant shipment well unless accompanied by an attendant, but may be sent unattended short distances (covered in ten hours or less) either on trays or in cans containing water. Trout and salmon eggs are not likely to survive long shipments except immediately after fertilization and after becoming 'eyed.'

Some of the places at which hatcheries of the Commission are located, the kind of eggs available at each station, and the approximate period when they can be supplied, are as follows:

Woods Hole, Mass.—Cod, Nov. 15 to Jan. 30; flat-fish, Feb. and March; lobsters, April to June.

Gloucester, Mass.—Cod, Dec. 1 to Feb.; pollock, Nov. and Dec.

East Orland, Me.—Atlantic salmon, Oct. to Feb.

Green Lake, Me.—Brook trout, Nov. to Feb.; landlocked salmon, Nov. to Feb.; golden trout, Nov. and Dec.; lake trout, Nov. to Feb.

St. Johnsbury, Vt.—Brook trout, Oct. to Jan.

Washington, D. C.; Havre de Grace, Md., and Gloucester, N. J.—Shad, April 15 to June 1.

Wytheville, Va.—Rainbow trout, Dec. to Feb.

Erwin, Tenn.—Brook trout, Nov. and Dec.

Put-in Bay, Ohio.—Whitefish, Dec. 1 to Feb. 1; lake herring, Dec. and Jan.; pike perch, April.

Northville, Mich.—Lake trout, Oct. to Jan.; brook trout, Nov. to Jan.; Scotch lake trout, Nov. to Jan.

Duluth, Minn.—Lake trout, Oct. to Feb.

Manchester, Iowa.—Brook trout, Nov. to Jan.; lake trout, Nov. to Jan.

Neosho, Mo.—Rainbow trout, Dec. and Jan.

Bozeman, Mont.—Grayling, June; black-spotted trout, June.

Leadville, Colo.—Brook trout, Oct. to Jan. 30; black-spotted trout, June; rainbow trout, June; Scotch lake trout, Oct. and Nov.

Baird, Cal.—Quinnat salmon, Aug., Sept., Dec. and Jan.

Clackamas, Oregon.—Quinnat salmon, Nov. 1 to Feb. 1.

When eggs other than those regularly handled by the Commission are desired, an attempt will be made to obtain them.

Persons intending to take advantage of this opportunity should, in order to save time, communicate directly with the superintendent of the nearest station at which the desired eggs are being developed, informing him definitely regarding the number and kind of eggs wanted, the time when they are to be sent, the addresses to which they are to go, and the dates, if any, on which subsequent lots are to be shipped. The transportation companies will receive full instructions from the Commission as to the care of the eggs during shipment, and should also be asked by the consignees to make special efforts for prompt delivery.

The Commission has from time to time furnished fish eggs in response to special requests. The fact that a few universities and colleges have asked for eggs suggests that other institutions may desire such material. The only expenses to be incurred are the charges for transportation and the cost of special packing boxes; the latter item is small and may be rendered comparatively insignificant by the return of the empty boxes to the various stations in case additional consignments of eggs are requested.

HUGH M. SMITH.

U. S. COMMISSION OF FISH AND FISHERIES.

#### ON A SUITABLE NAME FOR THE NEW PLANET.

TO THE EDITOR OF SCIENCE: The unique character and singular orbital position of the little planet *DQ*, recently discovered by Mr. G. Witt, give the question of its nomenclature more interest than usually attaches to such matters. Of course, the selection of a name, by courtesy and the precedent of custom, must be left to the taste and discretion of the discoverer. But it is trusted that he will pardon suggestion with regard to it, since it is a matter that other astronomers may take a legitimate interest in.

It is manifest that this little object is destined to play a rôle in our astronomy of very great importance. It opens up, at a stroke, an unexpected and royal road to the problem of the solar parallax, as well as to the nutation, the moon's mass and the aberration. Melancholy as the statement may be, it will reduce many of the existing discussions of these elements to the value of waste paper, records of futile effort.

Prominent as the object is thus likely to become, it deserves a good name. I would suggest that of Pluto, and desire to urge the claims of this gentleman to the distinction. He is the only one, of the six children of Saturn whom that unnatural father was unsuccessful in eating or otherwise destroying, who has not yet stood as godfather or godmother to some member of our planetary system. The other five, Jupiter, Neptune, Ceres, Vesta and Juno, have been worthily assigned, either to major planets or to the earlier discovered members of the Mars-Jupiter belt of asteroids. For the use of the later discoveries in this numerous group the list of available female goddesses has long since been exhausted, and now sweethearts, wives, girl-babies, and even provinces, cities and towns, are jumbled together in our lists of these objects in a ludicrous way. Will it not assist to a slight return to dignity and sanity of nomenclature to give some of the neglected male gods a chance, and destroy the unfair monopoly of the *beau sexe* in such matters? This seems a good time to begin. The body in question stands apart from the Mars-Jupiter belt, practically a stunted twin of Mars himself. Moreover, there is a certain fitness in the appellation arising from its faintness or invisibility on ordinary occasions. Pluto, under his older name, Hades, was the 'invisible' or 'unknown,' the God of Darkness. This invisibility he removes, with the helmet forged for his concealment by Vulcan, when he comes to perihelion opposition, shining then as a comparatively bright star, perhaps visible to the naked eye. This helmet, by the way, could serve as his conventional planetary symbol, if one is desired.

The addition of new asteroids to our lists has become such a nuisance that ordinarily the attachment of ridiculous names may be regarded as one of the helpful influences in discouraging further useless multiplication of these troublesome wards of astronomy. But when one is born into the solar system which gives promise of paying for its keep, some attention should be devoted to a proper christening. In the solution of the problems I have indicated, Pluto may be counted on to pay handsomely for his board and clothes.

It is hoped that the discoverer will take these

considerations, and others which could be urged, into account in his selection of a suitable name for this interesting and important little object.

S. C. CHANDLER.

CAMBRIDGE, October 31, 1898.

#### THE MINOR PLANET DQ.

THE notice in *Nature*, September 29th, quoted in *SCIENCE*, October 14th, seems to indicate a misunderstanding in reference to the orbit of the new minor planet DQ, by implying that it lies wholly within that of Mars. This is not the case; while the perihelion distance of the new planet is about 23,000,000 miles less than that of Mars, or only 12,500,000 miles greater than the mean distance of the earth, the eccentricity of its orbit is such that its aphelion distance is 37,300,000 miles greater than the perihelion distance of Mars, or nearly 10,800,000 miles greater than the aphelion distance of Mars. The periodic time of the new planet is only 643.7 days, or 1.76 years. The periods of all the other asteroids lie between 3.0 and 8.4 years.

The above numbers are derived from the elements of the orbit of DQ which I have computed from observations embracing an interval of 43 days. These elements confirm the results of Dr. Berberich.

W. J. HUSSEY.

LICK OBSERVATORY, October 27, 1898.

#### THE STRESS-STRAIN RELATIONS OF RUBBER.

IN the issue of *SCIENCE* of November 19, 1897, is a very interesting article by Professor Thurston upon the singular stress-strain relations of rubber, accompanied by the strain diagram for the same. This curve shows very clearly the peculiar and sudden increase in the value of the ratio of the stress to the strain as the point of rupture is approached.

It seems to the writer that this form of curve is to be expected as the result of the peculiar microscopic and physical constitution of rubber. It is well established that rubber consists of a mixture of two modifications of the same substance, one hard and fibrous and the other soft and viscous. These are identical in composition and similar in general properties and reactions. In other words, rubber consists of a