Collecting Spilled Mercury

ON four occasions lately in the presence of a number of skilled experimentalists I have asked the question—How would you pick up from a floor, with a smooth cork carpet covering, a quantity of mercury which had been dropped and broken up into innumerable globules? I added on each occasion that I thought it likely that any laboratory boy would know but that no professor would. Not once have I received an adequate answer. I have only asked one laboratory attendant, but he was no wiser than his professor. I specify the nature of the floor covering because a Turkey carpet or floor boards with intervening spaces and nail holes are not suitable. The smooth cork carpet is the best floor covering for laboratories other than metallurgical and for lecture tables, and is in common use for these purposes. The question, therefore, touches most of us. Well, the answer is, sprinkle lightly the area which the globules have reached with drops of water from a wash bottle. Then with a squeegee or the straight edge of a piece of strawboard sweep the wetted globules of mercury together. If dry the process is hopeless, they continue to run away and are essentially elusive, but once wet they are tamed, they have the brake on and will not run, and however small they may be they seem to love one another and all cling together in a mass. Then with the same tool or a smaller one sweep them into a small dust-pan made of thin celluloid or even card. The floor is then cleared of all the mercury. Do it.

C. V. BOYS.

Increase of the Percentage of Diplogen in Water during very slow Evaporation

It is known that one of the methods of separating heavy water consists in the fractional distillation of ordinary water. I find that relatively strong enrichment of diplogen occurs during the slow evaporation of water. About three years ago a bottle containing 25 litres of distilled water was prepared for an experiment. The bottle was not used, and the water slowly evaporated leaving about 600 c.c. residue. The measurements showed that this water had a density of 1.0016 (4° C.). For comparison, I have evaporated by boiling a certain quantity of water to 1/60 of its initial volume. The residue had, however, a density of 1.0001. It is evident, therefore, that the action of slow evaporation is more efficacious than the action of boiling.

Extrapolating the equation given by Luten¹ for smaller ratios of D₂O/H₂O, it is possible to calculate that the density, 1.0016, corresponds to a concentration of 1.65 per cent of D₂O.

These observations suggest where to search on the earth for sources of water of greater density. Up to the present, practically no difference has been found in the density between samples of water taken from different points on the earth². I think it probable that heavy water will be found in mountain caves rather than in the large surfaces of seas, where the evaporation is very intense.

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¹ D. B. Luten, *J. Phys. Rev.*, **45**, 162; 1934.
² H. A. McKay, *NATURE*, **133**, 611, April 21, 1934. E. W. Washburn, E. B. Smith, *Science Abstracts* (S.A.), **37**, 434; 1934. E. S. Grigilan, Jr., *J. Amer. Chem. Soc.*, **56**, 406; 1934.

Chromosome Numbers in Menispermaceæ

IN a recent communication to *NATURE*¹, entitled, "Origin of the Angiosperms", Dr. Anderson puts forward the interesting suggestion of the possible origin of modern flowering plants through the Magnoliales from wide crosses between different groups of Gymnosperms showing 12 and 7 as the base number of their chromosomes, such as the modern Ginkgoales, Cycadales and Coniferales show on one hand, and the Gnetales on the other. The various genera of the Magnoliales show 19 as the base number of their chromosomes, which is rather unusual among other families of flowering plants. We have in this laboratory been working for a considerable time on the cytology of the family Menispermaceæ (results not yet published), a close ally of the Magnoliaceæ, and have found the haploid number of chromosomes in *Tinospora cordifolia*, Miers, to be 12, and in *Cocculus villosus*, DC., 19 (12 + 7). Dr. Lindsay², in *Menispermum canadense*, Linn., has found the haploid number of chromosomes to be 26 = 19 + 7 = 12 + 7 + 7. It may be asked whether there is any significance in these chromosome numbers in relation to Dr. Anderson's hypothesis. The difference of seven chromosomes between each of the three plants and 12 chromosomes in the species with the lowest number are certainly suggestive facts.

A. C. JOSHI.

Benares Hindu University,
India, May 24.

¹ Anderson, E., *NATURE*, **133**, 462, March 24, 1934.

² Lindsay, R. H., "The Chromosomes of some Dioecious Angiosperms", *Amer. J. Bot.*, **17**, 152; 1930.

The "Johannes Schmidt" Ridge in the Indian Ocean

IN his second report on "The John Murray Expedition to the Arabian Sea" (*NATURE*, May 5, p. 669), Lieut.-Col. Seymour Sewell announces that the echo soundings made from H.E.M.S. *Mabahiss* prove the existence of a vast submarine ridge running diagonally across the north Indian Ocean from the south-east to the north-west and connecting the Chagos Archipelago with Socotra and the Gulf of Aden. May I suggest that the name of Denmark's great oceanographer, the late Dr. Johannes Schmidt, whose discovery of this submarine formation Col. Sewell graciously acknowledges, shall be given to it?

HANS PETTERSSON.

Göteborgs Högskola.
May 22.

Density of Dead Sea Water

SIR ROBERT ROBERTSON has recorded in *NATURE* the results of some determinations of the density of water from the Dead Sea¹. We had also determined independently the density of two samples from different places by (a) the use of a 25 c.c. pycnometer, and (b) a differential method employing two sinkers of nearly the same dimensions. The uncertainty in either method is about one in 10⁴. In none of the six determinations made could we detect any significant difference between water from the Dead Sea and redistilled water from the laboratory.

R. J. CLARK.
F. L. WARREN.

Egyptian University,
Cairo, June 5.

¹ *NATURE*, **133**, 611, April 21, 1934.