THE DISCOVERY OF THE OESTRUS CYCLE IN MAN AND OTHER MAMMALS

THE cyclical changes which take place in the uterus and the vaginal mucosa of mammals have been studied in detail within the last few years. This work received its principal impetus from the reports of Stockard and Papanicolaou[1] and of Long and Evans[2], both of which are dealing with the rat. Since then various other mammals have been investigated and Dierck[3] and others have discussed the phenomena of the oestrus cycle in the human female. The importance of this work is generally acknowledged. It should, therefore, be of some interest to call attention to early work in this field which seems to be but little known. F. A. Pouchet, in his work, "Théorie positive de l'ovulation spontanée et de la fécondation des mammifères et de l'espèce humaine, basée sur l'observation de toute la série animale," published in Paris in 1847, gave a rather detailed account illustrated by three plates, of observations which he had made upon smears from the uterus and vagina of human females and sows. He definitely recognized the regular cyclical character and the physiological importance of these phenomena. The only reference to Pouchet's book which the writer has seen in the recent literature concerning the oestrus cycle was found in the monograph by Long and Evans. Since these authors, however, refer to Pouchet only as authority for spontaneous ovulation, and since they state that the first description of changes in the vaginal mucosa was given by Morau in 1889, it may be inferred that they had not seen Pouchet's original book.

WALTER LANDAUER

STORRS, CONN.

CHROMOSOME NUMBERS IN ULMUS

THE first report on chromosome number in this genus was by Krause in 1929. He reported fourteen chromosomes as the haploid number for *Ulmus montana* With. In some unpublished work Krause has reported that the haploid number of chromosomes for *Ulmus americana* L. is 14 and for *U. campestris* L. is 14+.

Flower buds of *Ulmus pumila* L., *U. fulva* Michx., and *U. americana* L. were collected during the spring of 1931. Belling's aceto-carmine method was used to determine the stage in development of the buds at which division figures appeared. Fixations were made of such material, and chromosome counts were made from polar views of equatorial plates of both heterotypic and homeotypic divisions. It appears that the haploid chromosome number of *U. pumila* and of *U. fulva* is fifteen and that that of *U. americana* is twenty-eight or thirty. The apparent variation in the case of *U. americana* may possibly represent a difference between individual trees.

A study of the chromosomes in somatic cells is planned as well as a more detailed study of the chromosomes during meiosis.

RUTH I. WALKER

UNIVERSITY OF WISCONSIN

SCIENTIFIC APPARATUS AND LABORATORY METHODS

PHOTOMICROGRAPHY WITH A VEST POCKET CAMERA

THE method of adapting a box camera for photomicrography given in a recent issue of SCIENCE[1] by Mr. Apgar suggests a simpler solution of the problem which I used some time ago.[2] A vest pocket kodak can be used to make photomicrographs by setting it over the ocular of the microscope without additional focusing apparatus. The series with the f. 6.9 lens in a focusing mount fits the ocular very well, as the rolled edge of the microscope ocular makes a light-tight connection with the lens mounting, and the camera is so balanced that no additional support is needed. The manufacture of this very useful kodak has been discontinued, but it may be obtained for a nominal sum from dealers having second-hand kodaks. Other cameras of similar size may also be used.

When the draw tube of the microscope is extended to the proper distance of 160 mm (Leitz 170 mm) and the microscope focused sharply with the normal eye or with an eye properly fitted with spectacles a sharp picture may be obtained when the camera lens is set at infinity. If the draw tube is not extended to the proper distance a minus lens of the proper focal length must be placed over the eyepiece when the microscope is focused but removed before the camera is placed on the microscope.[3] Having the draw tube closed prevents any slipping due to the weight of the camera and does not greatly reduce the definition of the microscope. With one microscope that I used in this way, a –9 dioptera lens gave the necessary correction. The actual amount of correction needed will depend on the instrument used, so the above

[1] *American Journal of Anatomy*, Vol. 22, 1917.

[2] "Memoirs of the University of California," Vol. 6, 1922.

[3] Archiv für Gynäkologie, Vol. 130, 1927.

[1] C. E. Apgar, SCIENCE, 74: 487–8, 1931.

[2] O. W. Richards, *Bot. Gaz.*, 86: 93–101, 1928.

[3] This suggestion comes from Foot and Strobel, quoted by M. F. Guyer in "Animal Micrology," p. 150, Chicago, 1921.