Allium neapolitanum: a Mixed Species

In two samples of *Allium neapolitanum* bulbs, received from Van Tubergen, Holland, Levan[1] reported 14 and 28 chromosomes. Feinbrun[2] also reported the tetraploid form ($2n = 28$) of this species growing wild in Palestine. In a sample I have received from de Jager's, Holland, I have found only the diploid. In a second sample, however, there were again tetraploids; in addition there were two new types, triploids ($2n = 21$) and pentaploids ($2n = 35$).

No great differences were observed in chromosome form between the four strains. All of them had chromosomes, ranging in size from 8μ to 12μ, with median or submedian centromeres. However, an interesting feature was observed in one small chromosome of the triploid and occasionally of the tetraploid form. There was a pronounced attenuation of the centromere, which had the appearance of a long thread joining the two arms. An analogous situation has been described in several species. It has been attributed to two possibilities: (1) to unspiralized heterochromatin at one side of the centromere, as in *Fritillaria lusitanica*[3] and *Fritillaria pyrenaica*[4]; (2) to a close proximity of the nucleolar organizer, which seems to be the case in *Poa alpina*[5] and in *Campanula persicifolia*[6]. There are also other examples where for reasons unknown the centric constrictions appear accentuated, as in *Aconitum*[7] and in *Crocus*[8].

The presence of an extended polyploid series in *Allium neapolitanum* reminds one of the situation described by Levan[9] in *Allium nutans*, where the whole range from $2x$ to $12x$ was found. The fact that three different forms can occur in the same commercial sample of bulbs seems, however, unprecedented. It suggests that this species has a form of versatile reproduction in which either fertilization or meiosis, or both, may be omitted from the normal sexual process.

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A Gene for Eyelids Open at Birth in the House Mouse

In a stock of mice kept by one of us (J. H. B.) there has arisen a mutant gene which in the homozygous condition causes the eyelids to be open at birth. A similar character has been observed in mice by others[1,2]; but this seems to be the first occasion on which it has been found to have a simple genetical basis.

In a normal mouse the eyelids fuse about five days before birth and reopen about nineteen days later.

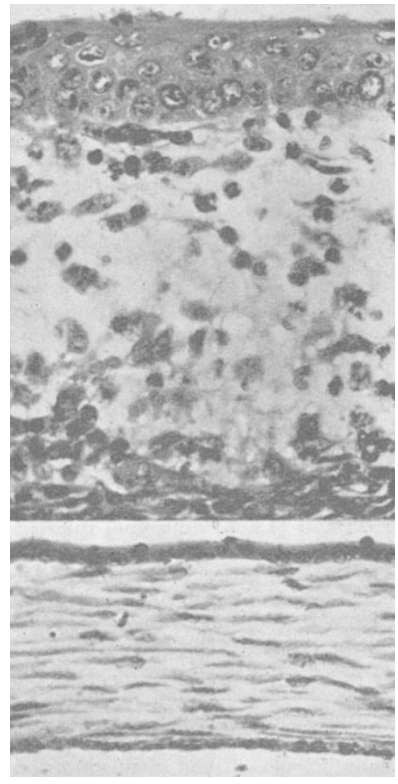
Table 1. Data from Backcrosses in Coupling for *wa*-1 and *eo*

Sex of heterozygous parent	Offspring				
	wa-1 *eo*	*Wa*-1 *Eo*	*wa*-1 *Eo*	*Wa*-1 *eo*	Total
Female	39, 40	49, 48	4, 1	1, 4	93, 93
Male	54, 47	43, 43	6, 7	4, 2	107, 99

The first figures refer to females, the second to males

In the abnormal mice described here, there is no pre-natal fusion of the eyelids. One day after birth an inflammatory exudate covers the eye opening; about four days later this falls away and a whitish excrescence may be seen in the superior fornix conjunctivæ. This excrescence gradually decreases in size and has usually disappeared by the eighteenth day after birth. The eye is then smaller than normal. Corneal opacity results but tends to diminish with advancing age.

The recessive gene wavy-1 (*wa*-1) for wavy coat and vibrissæ was segregating in this stock, and at first the eye abnormality was observed only in *wa*-1 homozygotes. All offspring from matings between *wa*-1 homozygotes with abnormal eyes but none of the offspring from outcrosses of such abnormal *wa*-1 homozygotes had the eye abnormality. Some progeny from these outcrosses were mated together and others were backcrossed to the wavy parent with abnormal eyes. A few wavy mice with normal eyes and some non-wavy mice with abnormal eyes appeared in the next generation. The backcross data (Table 1) which have accumulated from this and later genera-



(*a*)

(*b*)

Fig. 1. Section through epithelium overlying the cornea, (*a*) in a four-day old mouse with eyes open at birth, showing œdema and polymorphonuclear infiltration of the substantia propria corneæ with hyperplasia of the external epithelium, and (*b*) in a normal four-day old mouse. (× *c.* 387)