NOTES AND NEWS

Nomenclature

C. B. Bridges On naming allels. It is suggested that as new allels arise they be named with the numerical sequence system (L, L^2, L^4) or the more precise dating system ($w^{3\frac{1}{4}}$) in which the locus name is an integral part of the mutant name. It is proposed that the few allels which at present have special names (eosin, sooty) be brought into line with the above system by prefixing the locus name to the allel name (white-eosin, ebony-sooty, vestigial-Depillato). This alteration will make the names correspond to the symbols (w^e, e^s, vg^D) and will maintain the same order in lists of names as in lists of symbols. The hyphen may be used to connect the two halves of the name since the fraction bar / has supplanted the hyphen in denoting the two chromosomes of a pair. The abbreviated forms w-eosin, e-sooty and vg-Depillate could be used as equivalent to the full names.

H. J. Muller Inversions. As the number of inversions is outrunning the alphabet, and arbitrary letters newly assigned to them are both hard to remember and confusable with the symbols for gene mutations, we find it preferable to stick to the admittedly imperfect method of representing inversions by means of the "mutational" changes that accompany them, or, when these were not evident, by the arbitrary lettering originally given, with the reservation that more care should be taken to give simple designations to those hereafter arising. In designating combinations having the left part of one inverted chromosome and the right part of another, we have found it convenient simply to add the capital letters L and R, for left and right, to the symbols for the inversions, so that, for example, y sc^{4L} sc^{8R} represents a crossover chromosome having the left part of the scute 4 chromosome, including its left point of rearrangement (breakage and reattachment) and the right part of the $scute^8$ chromosome, including its right point of rearrangement, together with any genes that may perforce be included, which latter it may or may not be desirable to represent, as the occasion demands. Where there is danger of confusion between the loci themselves, which are designated by the symbols, and the chromosome arrangement in question, a dot is placed next to the symbol or, preferably, below it, to show that it is the point of rearrangement together with what goes therewith, that is being referred to. Thus, in the case given, sc^{8R} happens to include the scute-8 gene itself (which could be represented in addition, when desirable), whereas sc^{8L} would not include the scute-8 gene itself, and would, where accuracy was required, be represented with a dot under it.

H. J. Muller Attached X's. For the symbolization of attached X-chromosomes, we prefer to make a line (where possible, a downwardly curved line) above the symbols of the contained genes, rather than below them, since we often use the latter mark to denote heterozygosis, and if one of the chromosomes is normal it is not always convenient

to have to put the + sign underneath. Again, the line underneath is sometimes desired to represent the chromosome itself.

(Editors' remark: Underlining to designate attached X's is used in the DIS circular because this sign is available on our typewriter. To type a line over a symbol requires handshifting of the roller, which is both a cumbersome and a slow process, especially with single spacing of the lines).

H. J. Muller Rearrangements in general. No very simple system is possible for a complete and practicable representation of all possible chromosome rearrangements, but one of the least complicated, though admittedly applicable only to well-analyzed cases in which it is desired really to show the details, is illustrated by the following example of brown-Variegated 4, based on data of Glass, -px+. st+:- ; :-sp+. .3at- Here each independent dot (period) represents a point of rearrangement. To the left of the dot is placed the designation of the chromosome (where necessary) and of the first chromosome locus know to be to the left of the break in question, and to the right of the dot the corresponding items for the latter region. In the designation of the locus, either the locus symbol, such as px, or the locus number (in this case 2,100.5) may be used, but several considerations make the letter symbol ordinarily preferable. Where it is desired to show that the genes, as represented, lie in an inverted order, an arrow pointing backwards may be used and will sometimes obviate locus designations; for typing, an arrow may be shown as a colon followed by a dash. Where it is desired to represent the locus of attachment of the spindle fibre, "at" is used, and for a free (or originally free) chromosome terminus, "tm"; the latter symbol may, however, be understood when there is a blank space to the right or left of a dash or arrow. Pieces attached to the side of the chromosome are shown in parenthesis between the loci bounding the region of their attachment (e.g., Pale is 2(px-)⁻; 3e (.px -)ro).

H. J. Muller Deficiency. As a logical and practical extension of the system of using one basic symbol for all genes of a given original locus, with exponents in the form of letters or numbers for different mutant allels (a system which I developed while in the Drosophila laboratory at Columbia University), and with the exponent + (plus) for a normal allel (as I have done for some years at Texas, and explained in a letter of about 1931 to Stern, and as was recommended in the first "Information Service"), it will often be found convenient to use the exponent - (minus) in cases of small deficiencies, and in general wherever it is desired to designate the absence of loci that might otherwise be expected to be present. Thus, Notch 8 can be indicated as w⁻ fa⁻ A⁻ or, more correctly yet, as (w⁻A)⁻; Notch "172b", which seems to include the originally free end ("tm"= terminus) and extends beyond echinus on the right, would, similarly, be (tm-ec)⁻, or (-ec)⁻.