

MR1055602 (91f:17038) [17D92](#) [92D10](#)

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Algèbres gamétiques et mutation. (French) [Gametic algebras and mutation]

Algèbres génétiques (Montpellier, 1985), 5–22, *Cahiers Math. Montpellier*, 38, Univ. Sci. Tech. Languedoc, Montpellier, 1989.

The authors begin by rederiving the multiplication table of the gametic genetic algebra when mutation is present, considering the diallelic polyploid and the multiallelic diploid cases. (A succinct treatment of the multiallelic polyploid gametic algebra with mutation was given many years ago by H. Gonshor [Proc. Edinburgh Math. Soc. (2) **12** (1960/61), 41–53; [21 #A1680](#); *ibid.* (2) **17** (1970/71), 289–298; [MR0302218 \(46 #1371\)](#)].)

The second half of the paper is devoted to the idempotents, derivations and automorphisms of these classes of algebras, focussing on the effect of the mutation parameters. For instance, for general sets of mutation rates, there is a single idempotent, whereas in the absence of mutation the idempotents form a subspace of dimension one fewer than the number of alleles. The Lie algebra of derivations is isomorphic to the (trivial) 1-dimensional Lie algebra, instead of the general Lie algebra on the space specified above. The automorphism group is correspondingly reduced in size.

{For the entire collection see [MR1055600 \(90m:17045\)](#)}

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