A new manoalide-related sesterterpene, (4E,6E)-dehydro-25-O-methylmanoalide (1), was isolated from the organic extracts of the Bornean marine sponge Luffariella variabilis, together with the known compound (4E,6E)-dehydromanoalide (2). The structure of compound 1 was elucidated by interpretation of its spectroscopic data.