

A wild stock of *Paramecium caudatum* expresses two different syngen-specific mating types

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SUMMARY

On a sunny day in November 2005, we collected several cells belonging to *Paramecium caudatum* from a brook at Biratori, Hokkaido, Japan. After testing for mating types, the clone BHXII 13, derived from a cell, was found to have the ability to conjugate with the cells of an O type belonging to syngen 1 and syngen 12. Cross-breeding analyses revealed that BHXII 13 produced progeny after conjugation with the cells of both syngen types. The mating type of the progeny produced by inter-syngen crossing of BHXII 13 were homologous to each syngen; that is, if the mating type of syngen 1 is expressed as an O type, the mating type of syngen 12 is also expressed as an O type, and vice versa. This suggests that the mating type locus of BHXII 13 is heterozygous in both syngen 1 and 12. However, the intra-clonal cross of BHXII 13 showed that all progeny expressed E type in both syngen 1 and 12. These results suggest that there are two different mating-type expression systems in BHXII 13. We suggest that BHXII 13 could provide an experimental system for syngen differentiation.