

References

- Adoutte, A., Ramanathan, R., Lewis, R. M., Dute, R. R., Ling, K-Y., Kung, C. & Nelson, D. L. 1980. Biochemical studies of the excitable membrane of *Paramecium tetraurelia*. III. Proteins of cilia and ciliary membranes. *J. Cell Biol.*, **84**: 717—738.
- Azuma, Y. 1999. Studies on membrane proteins and their diversification among syngens in *Paramecium caudatum* (in Japanese). Ph. D thesis of Tohoku Univ., Japan.
- Azuma, Y., Kaku, E., Maruo, F. & Takahashi, M. 1996. Monoclonal antibodies inhibiting mating reactivity exclusively of odd mating types in *Paramecium caudatum*. *Europ. J. Protistol.*, **32** (suppl.) I: 4—9.
- Barnett, A. & Steers, E., Jr. 1980. Antibodies blocking the mating reaction in *Paramecium multimicronucleatum*, syngen 2. *J. Protozool.*, **27**: 103—107.
- Blyman, L. 1964. The inhibition of mating reactivity in *Paramecium aurelia* by inhibitors of protein and RNA synthesis. *Genetics*, **50**: 236.
- Brunen-Nieweler, C., Weiligmann, D. W., Hansen, B., Kuhomann, H. W., Mollenbeck, M. & Heckmann, K. 1998. The pheromones and pheromone genes of new stocks of the *Euplotes octocarinatus* species complex. *Europ. J. Protistol.*, **34**: 124—132.

- Butzel, H. M., Jr. 1953. The genic basis of mating type determination and development in the varieties of *Paramecium aurelia* belonging to group A. Doct. Diss., Indiana Univ., Bloomington.
- Butzel, H. M., Jr. 1955. Mating type mutations in variety 1 of *Paramecium aurelia* and their bearing upon the problem of mating type determination. *Genetics*, 40: 321—330.
- Butzel, H. M., Jr. 1973. Abnormalities in nuclear behavior and mating type determination in cytoplasmically bridged exconjugants of doublet *Paramecium aurelia*. *J. Protozool.*, 20: 140—143.
- Butzel, H. M., Jr. 1974. Mating type determination and development in *Paramecium aurelia*. In: Van Wagtenonk, W. J. (ed.) *Paramecium: a current survey*. Elsevier Scientific Publishing Company, Amsterdam, London, New York. pp. 91—122.
- Cohen, L. W. & Siegel, R. W. 1963. The mating type substances of *Paramecium bursaria*. *Genet. Res.*, 4: 143—150.
- Dryl, S. 1959. Antigenic transformation in *Paramecium aurelia* after homologous antiserum treatment during autogamy and conjugation. *J. Protozool.*, 6 (suppl.): 25.
- Galfer G. & Milstein C. 1981. Preparation of monoclonal antibodies: Strategies and procedures. *Meth. Enzymol.*, 73: 3—46.
- Gilman, L. C. 1954. Occurrence and distribution of mating type

- varieties in *Paramecium caudatum*. *J. Protozool.*, 1 (Suppl.) : 6.
- Gilman, L. C. 1962. A comparison of Russian to other known syngens of *Paramecium caudatum*. *J. Protozool.*, 9 (suppl.) : 13.
- Haga, N. & Hiwatashi, K. 1981. A protein called immaturin controlling sexual maturity in *Paramecium*. *Nature (London)*, 289:177—179.
- Hiwatashi, K. 1951. Studies on the conjugation of *Paramecium caudatum* IV. Conjugating behavior of individuals of two mating types marked by a vital staining method. *Sci. Rep. Tohoku Univ. Biol. Ser. 4*, 19: 95—99.
- Hiwatashi, K. 1961. Locality of mating reactivity on the surface of *Paramecium caudatum*. *Sci. Rep. Tohoku Univ. Ser. (Biol.)*, 27: 93—99.
- Hiwatashi, K. 1968. Determination and inheritance of mating type in *Paramecium caudatum*. *Genetics*, 58: 373—386.
- Hiwatashi, K. 1969. *Paramecium*. In: Metz, C. B., Monroy, A. (ed.) *Fertilization*, vol 2. Academic Press, London New York, pp. 255—293.
- Hiwatashi, K. & Kitamura, A. 1977. Mating reactive membrane vesicles and their reconstitution in *Paramecium caudatum*. In: Hunter, S. H. (ed.) *Abstr. Pap. 5th Int. Congr. Protozoology*, New York, pp. 275.
- Hiwatashi, K. & Takahashi, M. 1967. Inhibition of mating

- reaction by antisera without ciliary immobilization in *Paramecium*. *Sci. Rep. Tohoku Univ. Ser. 4*, **33**: 281—290.
- Hori, M. & Fujishima, M. 1992. Identification of ciliary membrane proteins closely related with the mating reactivity of *Paramecium caudatum*. *Acta. Protozoologica*, **31**: 151—157.
- Hori, M. & Takahashi, M. 1994. Phenotypic conversion of mating type specificity induced by transplantation of macronucleoplasm in *Paramecium caudatum*. *Genet. Res.*, **63**: 101—107.
- Iwamoto, M. & Fujishima, M. 1995. Ventral surface cilia specific antigens of *Paramecium caudatum*. *Zool. Sci.*, **12**: s25.
- Kaku, E. 1997. Studies on mating-type substances by using monoclonal antibodies inhibiting mating reaction of *Paramecium caudatum* (in Japanese). M. D. thesis, Tsukuba Univ., Japan.
- Kang, H. S. & Taub, S. R. 1968. Studies of the effects of actinomycin D and puromycin on mating type changes in cells of syngen 7, *Paramecium aurelia*. *J. Cell Biol.*, **39**: 70a—71a.
- Kanzawa, T. 2001. Analysis on the sexual isolation among syngens in *Paramecium caudatum* (in Japanese). M. D. thesis, Univ. Tsukuba, Japan.
- Kimball, R. F. 1939. A delayed change of phenotype following a change of genotype in *Paramecium aurelia*. *Genetics*, **24**:

49—58.

- Kitamura, A. & Hiwatashi, K. 1976. Mating reactive membrane vesicles from cilia of *Paramecium caudatum*. *J. Cell Biol.*, **69**: 736—740.
- Kitamura, A. 1988. Mating type substances *In*: Görtz, H.-D. (ed.), *Paramecium*, Springer-Verlag, Berlin. pp. 85—96.
- Kumakura, M. 1997. The comparison and expression of molecules of sexual recognition among syngens of *Paramecium caudatum* (in Japanese). M. D. thesis, Tsukuba Univ., Japan.
- Kusch, J. & Heckmann, K. 1988. Gamones are secreted in *Euplotes octocarinatus* via the cortical ampules. *Europ. J. Protistol.*, **23**: 273—378.
- Larison, L. L. & Siegel, R. W. 1961. Illegitimate mating in *Paramecium bursaria* and the basis for cell union. *J. Gen. Microbiol.*, **26**: 499—508.
- Luporini, P. & Micili, C. 1986. Mating pheromones. *In*: Gall, J. G. (ed.) *The molecular biology of ciliated protozoa*. Academic Press, New York, pp. 263—299.
- Metz, C. B. 1954. Mating substances and the physiology of fertilization in ciliates. *In*: Wenrich, D. H. (ed.) *Sex in microorganisms*. *Am. Assoc. Adv. Sci.*, Washington DC, pp. 284—334.
- Metz, C. B. & Butterfield, W. 1951. Action of various enzymes on the mating type substances of *Paramecium calkinsi*. *Biol.*

- Bull.*, 101: 99—105.
- Mikami, K. & Hiwatashi, K. 1975. Macronuclear regeneration and cell division in *Paramecium caudatum*. *J. Protozool.*, 22: 536—540.
- Miwa, I. 1979. Immaturity substances in *Paramecium primaurelia* and their specificity. *J. Cell Sci.*, 38: 193—199.
- Miwa, I., Haga, N. & Hiwatashi, K. 1975. Immaturity substances: material basis for immaturity in *Paramecium*. *J. Cell Sci.*, 72: 111—120.
- Miwa, I. & Hiwatashi, K. 1970. Effect of mitomycin C on the expression of mating ability in *Paramecium caudatum*. *Jpn. J. Genet.*, 45: 269—275.
- Miyake, A. 1968. Induction of conjugation union by cell-free fluid in the ciliate *Blepharisma*. *Proc. Jpn. Acad.*, 44: 837—841.
- Miyake, A. 1996. Fertilization and sexuality in ciliates. In: Hausmann, D. K. & Bradbury, P. (ed.), *Ciliates: Cells as organisms*, Gustav Fischer Verlag, Stuttgart. Jena. New York. pp. 243—290.
- Myohara, K. & Hiwatashi, K. 1975. Temporal patterns in the appearance of mating type instability in *Paramecium caudatum*. *Jpn. J. Genet.*, 50: 133—140.
- Myohara, K. & Hiwatashi, K. 1978. Mutants of sexual maturity in *Paramecium caudatum* selected by erythromycin resistance. *Genetics*, 90: 227—241.

- Nanney, D. L. 1980. Experimental ciliatology. An introduction to genetics and developmental analysis in ciliates. Wiley & Sons, New York.
- Nobili, R. 1963. Effects of antibiotics, base- and amino acid-analogues on mating reactivity of *Paramecium aurelia*. *J. Protozool.*, 10: s24.
- Ortenzi, C., Alimenti, C., Vallesi, A., Di Pretoro, B., La Terza, A. & Luporini, P. 2000. The autocrine mitogenic loop of the ciliate *Euplotes raikovi*: The pheromone membrane-bound forms are the cell binding sites and potential signaling receptors of soluble pheromones. *Mol. Biol. Cell*, 11: 1445—1455.
- Preer, J. R., Jr. & Preer, L. B. 1959. Gel diffusion studies on the antigens of isolated cellular components of *Paramecium*. *J. Protozool.*, 6: 88—100.
- Sasaki, S., Ito, A., Kitamura, A., & Hiwatashi, K. 1972. Mating type specific antigen in *Paramecium caudatum*. *Genetics*, 71: s55.
- Siegel, R. W. & Larison, L. L. 1960. The genetic control of mating types in *Paramecium bursaria*. *Proc. Natl. Acad. Sci. USA*, 46: 344—349.
- Siegel, R. W. 1967. Genetics of aging and the life cycle in ciliates. *Symp. Soc. Exp. Biol.*, 21: 127—148.
- Smith-Sonneborn, J. 1981. Genetics and aging in protozoa. *Int. Rev. Cytol.*, 73: 319—354.
- Sonneborn, T. M. 1937. Sex, sex inheritance and determination

- in *Paramecium aurelia*. *Proc. Natl. Acad. Sci. USA*, **23**: 378—385.
- Sonneborn, T. M. 1954. The relation of autogamy to senescence and rejuvenescence in *Paramecium aurelia*. *J. Protozool.*, **1**: 38—53.
- Sonneborn, T. M. 1957. Breeding systems, reproductive methods, and species problems in protozoa. In: Mayr, E. (ed.) *The species problem*, American Association for the Advancement of Science, Washington, D. C. pp. 155—324.
- Sonneborn, T. M. 1974. *Paramecium aurelia*. In: King, R. C. (ed.) *Handbook of genetics*, Vol 2. Plenum press, New York, pp. 469.
- Sonneborn, T. M. 1975. The *Paramecium aurelia* complex of 14 sibling species. *Trans. Am. Microsc. Soc.*, **94**: 155—178.
- Sonneborn, T. M. 1977. Genetics of cellular differentiation: stable nuclear differentiation in eukaryotic unicell. *Annu. Rev. Genet.*, **11**: 349—367.
- Takagi, Y. & Yoshida, M. 1980. Clonal death associated with the number of fissions in *Paramecium caudatum*. *J. Cell Sci.*, **41**: 177—191.
- Takagi, Y., Nobuoka, T. & Doi, M. 1987. Clonal life span of *Paramecium tetraurelia*: effect of selection on its extension and use of fissions for its determination. *J. Cell Sci.*, **88**: 129—138.
- Takahashi, M., Haga, N., Hennessey, T., Hinrichsen, D. R. & Hara,

- R. 1985. A gamma ray-induced non-excitabile membrane mutant in *Paramecium caudatum*. *Genet. Res. Camb.*, **46**: 1—10.
- Takahashi, M., Takeuchi, N. & Hiwatashi, K. 1974. Mating agglutination of cilia detached from complementary mating types of *Paramecium*. *Exp. Cell Res.*, **87**: 414—417.
- Taub, S. R. 1966. Unidirectional mating type changes in individual cells from selfing culture of *Paramecium aurelia*. *J. Exp. Zool.*, **163**: 141—150.
- Tsukii, Y. & Hiwatashi, K. 1983. Genes controlling mating-type specificity in *Paramecium caudatum*: three loci revealed by inter-syngenic crosses. *Genetics*, **104**: 41—62.
- Tsukii, Y. 1988. Mating type inheritance. *In*: Görtz, H.-D. (ed.), *Paramecium*, Springer-Verlag, Berlin. pp. 59—69.
- Weischer, A., Freiburg, M. & Heckmann, K. 1985. Isolation and partial characterization of gamone 1 of *Euplotes octocarinatus*. *FEBS Lett.*, **191**: 176—180.