

## Vladimir V. Yushin, Ph.D., D.Sc.

**Born:** May 30 1960, Perm, Russia

**Affiliation:** Head of the Laboratory of Embryology,  
A.V Zhirmunsky Institute of Marine Biology FEB RAS

**Title:** 2008, Corresponding member of the Russian  
Academy of Sciences, Marine Biology

**Degrees:**

2001 - D.Sc., Cell biology, Vladivostok State University  
of Medicine (“Ultrastructural aspects of  
gametogenesis and histogenesis in free-living marine  
nematodes”)

1989 - Ph.D., Zoology, Institute of Biology and Soil  
Sciences of the Far East Branch of Academy of  
Sciences of USSR (“Comparative morphological  
analysis of cuticle fine structure in free-living  
marine nematodes”)

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**Education:** 1983 - Moscow State University (zoology and botany)

**Specialization:**

Zoology, comparative embryology, cell biology, developmental biology

**Career:**

2003-present time, Head of Laboratory of Embryology  
2002-2003, Leading Researcher  
1992-2002, Senior Researcher  
1989-1992, Researcher  
1985-1989, Junior Researcher  
1983-1985, Assistant Researcher

*All of the above positions held at the Institute of Marine Biology FEB RAS, Vladivostok, Russia*

**Current research interests:**

*Main field:* nematodes (microscopical anatomy, cell biology, developmental biology)

*Other fields:* development of marine invertebrates (nemerteans, phoronids)

*Current details:* structure of male reproductive system in marine nematodes; nematode spermatogenesis and oogenesis; phoronid oogenesis; nemertean larval neurogenesis.

**Supervisor of the projects supported by grants of the Russian Foundation for Basic Research:**

2009-2010 - Reproduction and development of marine invertebrates of the Russian Far East (RFBR 09-04-98540)

2008-2010 - Reproductive system and gametogenesis in free-living marine nematodes: comparative cytological analysis and phylogenetic aspects (RFBR 08-04-00580)

2006-2007 - Reproductive biology of marine organisms in the Russian Far East Seas (RFBR 06-022-96039)

- 2005-2007 - Spermatogenesis and male reproductive system of nematodes: electron microscopical study and comparative cytological analysis (RFBR 05-04-48268)
- 2000-2002 - Electron microscope study and comparative cytological analysis of nematode spermatozoa structure and development (RFBR 00-04-48896)
- 1994-1996 - Electron microscope study of reproductive system, gametogenesis and embryogenesis of free-living marine nematodes (RFBR 95-04-13325)

#### **Membership of societies:**

Russian Society of Nematologists (2001-2003, President of the RSN)  
 European Society of Nematologists  
 International Society of Invertebrate Reproduction and Development

#### **Committees:**

- Since 2009, Member of advisory council of Russian Foundation for Basic Research, general biology;
- 2009, Member of the Scientific Committee of the International Nematology Symposium “Nematodes in tropical ecosystems”, Hanoi, Vietnam.
- 2007, Member of the Scientific Committee of the 7 International Nematology Symposium of the Russian Society of Nematologists, Petrozavodsk.
- 2006, Member of the Scientific Committee of the 28 International Symposium of the European Society of Nematologists, Blagoevgrad, Bulgaria.
- 2005, Member of the Organizing Committee of the 6 International Nematology Symposium of the Russian Society of Nematologists, Moscow.
- 2003, Chair of the Organizing Committee of the 5 International Nematology Symposium of the Russian Society of Nematologists, Vladivostok.
- 2001-2003, President of the Russian Society of Nematologists.
- 2001, Member of the Organising Committee of the 4 International Nematology Symposium of the Russian Society of Nematologists, Moscow.
- 1997, Member of the Organising Committee of the 2 International Nematology Symposium of the Russian Society of Nematologists, Moscow.

#### **Member of the Editorial Board:**

Since 1998 - *Russian Journal of Nematology*.  
 Since 2004 - *Invertebrate Reproduction and Development*.  
 Since 2009 - *Invertebrate Zoology*.

#### **Peer reviewed publications**

- Malakhov V.V., **Yushin V.V.**, 1984. [A study of sense organs in free-living marine nematodes. 3. *Paracanthonus macrodon* (Chromadorida, Cyatholaimidae)]. *Zoologichesky Zhurnal*, 63: 1137-1143 (in Russian).
- Yushin V.V.**, 1986. [Cuticle fine structure in three species of free-living marine nematodes]. *Zoologichesky Zhurnal*, 65: 1416-1419 (in Russian).
- Malakhov V.V., **Yushin V.V.**, 1987. [Cuticular structure in free-living marine nematodes of the order Enoplida]. *Zoologichesky Zhurnal*, 66: 170-176 (in Russian).
- Yushin V.V.**, Malakhov V.V., Chesunov A.V., 1988. [Fine structure of body cuticle of free-living marine nematodes from the order Monhysterida]. *Zoologichesky Zhurnal*, 67: 904-913 (in Russian).
- Yushin V.V.**, 1988. [The fine structure of the cuticle of the free-living marine nematode *Dorylaimopsis peculiaris*]. *Biologiya Morya*, N 5: 31-36 (in Russian).
- Adrianov A.V., Malakhov V.V., **Yushin V.V.**, 1989. [Loricifera - a new taxon of marine invertebrates]. *Biologiya morya*, N 2: 70-72 (in Russian).
- Iushin V.V.**, Malakhov V.V., 1989. [Cuticle formation in embryogenesis of the free-living marine nematode *Enoplus demani*]. *Dokl. Akad. Nauk SSSR*, 308: 497-499 (in Russian).
- Iushin V.V.**, Adrianov A.V., Malakhov V.V., 1989. [Intracellular Prokaryota in enteric epithelium of *Pycnophyes kielensis* (Kinorhyncha, Homalorhagida)]. *Dokl. Akad. Nauk SSSR*, 308: 762-763 (in Russian).
- Kiiashko S.I., Rodionov I.A., **Iushin V.V.**, 1989. [Contribution of symbiotic chemoautotrophic prokaryota to the diet of shallow-water lucinacean bivalves]. *Dokl. Akad. Nauk SSSR*, 308: 1021-1023 (in Russian).

- Adrianov A.V., Malakhov V.V., **Yushin V.V.**, 1990. [Fine structure of the cuticle of *Pycnophyes kielensis* (Kinorhyncha, Homalorhagida)]. *Zoologichesky Zhurnal*, 69: 5-11 (in Russian).
- Yushin V.V.**, Nezlin L.P., 1990. [Ultrastructure of the ciliary band in the echinopluteus larva of the sea urchin *Echinocardium cordatum*]. *Tsitologiya*, 32: 469-473 (in Russian).
- Nezlin L.P., Dautov S.Sh., **Yushin V.V.**, 1991. [The ultrastructure of the intestine of the tornaria - the enteropneustan larvae]. *Tsitologiya*, 33: 3-9 (in Russian).
- Yushin V.V.**, Malakhov V.V., 1991. [Fine structure of the body cuticle in three species of free-living marine nematodes from the order Desmodorida]. *Zoologichesky Zhurnal*, 70: 5-12 (in Russian).
- Rodionov I.A., **Yushin V.V.**, 1991. [Prokaryotic symbionts in gill cells of the bivalve mollusc *Pillucina pisidium*]. *Biologiya morya*, N 1: 39-46 (in Russian).
- Chesunov A.V., **Yushin V.V.**, 1991. [Head-end fine structure in two new species of linhomoeid nematodes from the Sea of Japan]. *Biologiya morya*, N 2: 37-47 (in Russian).
- Adrianov A.V., Malakhov V.V., **Yushin V.V.**, 1991. [Intracellular endosymbionts and parasites in the gut epithelium of kinorhynchs (Cephalorhyncha, Kinorhyncha)]. *Biologiya morya*, N 1: 31-42 (in Russian).
- Yushin V.V.**, Malakhov V.V., 1992. [Body cuticle formation in embryogenesis of free-living marine nematode *Halichoanolaimus sonorus* (Chromadorida, Selachinematidae)]. *Zoologichesky Zhurnal*, 71: 23-30 (in Russian).
- Yushin V.V.**, Bukhartseva N.V., Malakhov V.V., 1993. [Electron microscope study of development in far-eastern trepang *Stichopus japonicus* (Echinodermata, Holothuroidea) from blastula through dipleurula]. *Tsitologiya*, 35: 22-27 (in Russian).
- Dolmatov I.Yu., **Yushin V.V.**, 1993. Larval development of *Eupentacta fraudatrix* (Holothuroidea, Dendrochirota). *Asian Marine Biology*, 10: 123-132.
- Dautov S.Sh., Nezlin L.P., **Yushin V.V.**, 1994. Structure of the digestive tract of tornaria larva in Enteropneusta (Hemichordata). *Helgolander Meeresuntersuchungen*, 48: 107-121.
- Yushin V.V.**, Malakhov V.V., 1994. Ultrastructure of sperm cells in the female gonoduct of a free-living marine nematodes from genus *Enoplus* (Nematoda: Enoplida). *Fundamental and Applied Nematology*, 17: 513-519.
- Yushin V.V.**, Malakhov V.V., 1994. Body cuticle fine structure in free-living marine nematodes. *Russian Journal of Nematology*, 2: 83-98.
- Nezlin L.P., **Yushin V.V.** 1994. The digestive tract of the echinopluteus of *Echinocardium cordatum* (Echinodermata, Echinoidea): its ultrastructure and innervation. *Canadian Journal of Zoology*, 72: 2090-2099.
- Tchesunov A.V., Malakhov V.V., **Yushin V.V.**, 1996. Comparative morphology and evolution of the cuticle in marine nematodes. *Russian Journal of Nematology*, 4: 43-50.
- Yushin V.V.**, Malakhov V.V., 1997. Ultrastructure of the female reproductive system in the free-living marine nematode *Enoplus demani* (Nematode: Enoplida). *Fundamental and Applied Nematology*, 20: 115-125.
- Fadeeva N.P., **Yushin V.V.**, 1998. Two new species and three known species of free-living marine nematodes of the genus *Enoplus* Dujardin, 1845 (Enoplida, Enoplidae) from North Pacific. *Russian Journal of Nematology*, 6: 95-102.
- Kulikov V.V., Dashchenko O.I., Koloss T.V., **Yushin V.V.** 1998. A description of the free-living marine nematode *Euchromadora robusta* sp.n (Nematoda, Chromadorida) with observations on the ultrastructure of the body cuticle. *Russian Journal of Nematology*, 6: 103-110.
- Yushin V.V.**, Malakhov V.V., 1998. Ultrastructure of sperm development in the free-living marine nematode *Enoplus anisospiculus* (Enoplida: Enoplidae). *Fundamental and Applied Nematology*, 21: 213-225.
- Yushin V.V.**, Malakhov V.V., 1999. Spermatozoa of nematodes of the order Enoplida have a nuclear envelope. *Doklady Biological Sciences*, 367: 395-397.
- Yushin V.V.**, Coomans A., 2000. Ultrastructure of sperm development in the free-living nematodes of the family Chromadoridae (Chromadorida: Chromadorina). *Nematology*, 2: 285-296.
- Spiridonov S.E., **Yushin V.V.**, 2000. Ultrastructure of the stoma in *Heth mauriesi* Adamson, 1982 (Rhigonematida: Hethidae). *Nematology*, 2: 417-424.
- Temereva E.N., Malakhov V.V., **Yushin V.V.**, 2001. Histology and ultrastructure of the body wall in the phoronid *Phoronopsis harmeri*. *Russian Journal of Marine Biology*, 27: 156-167.
- Yushin V.V.**, Spiridonov S.E., 2001. Ultrastructure of sperm development in *Heth mauriesi* Adamson, 1982 (Rhigonematida: Hethidae). *Russian Journal of Nematology*, 9: 119-126.
- Yushin V.V.**, Zograf Y.K. 2002. [Electron microscope study of the spermatogenesis in a free-living marine nematode *Neochromadora poecilosoma* (Chromadorida, Chromadoridae)]. *Biologiya Morya Vladivostok*, 28: 47-52 (in Russian).

- Yushin V.V.**, Coomans A., Borgonie G., Malakhov. 2002. Ultrastructural study of the tadpole stage of the primitive marine nematode *Enoplus demani* (Enoplida, Enoplida). *Russian Journal of Nematology*, 10: 43-52.
- Yushin V.V.**, Coomans A., Malakhov V.V. 2002. Ultrastructure of spermatogenesis in the free-living marine nematode *Pontonema vulgare* (Enoplida, Oncholaimidae). *Canadian Journal of Zoology*, 80: 1371-1382.
- Yushin V.V.**, Coomans A., Borgonie G., Malakhov V.V. 2002. Ultrastructural study of cuticle formation during embryogenesis of the free-living marine nematode *Enoplus demani* (Enoplida). *Invertebrate Reproduction and Development*, 42: 189-203.
- Yushin V.V.** 2003. Ultrastructure of spermatozoa in the free-living marine nematode of the family Selachinematidae (Chromadorida: Cyatholaimida). *Russian Journal of Nematology*, 11: 81-90.
- Yushin V.V.** 2003. Ultrastructure of spermatogenesis in the free-living nematode *Anticomia possjetica* (Enoplida, Anticomidae). *Nematology*, 5: 777-788.
- Yushin V.V.**, Malakhov V.V. 2004. Spermatogenesis and nematode phylogeny. In: R.C. Cook & D.J. Hunt (Eds.). *Nematology Monographs and Perspectives. Proceedings of the Fourth International Congress of Nematology, June 2002, Tenerife, Spain. Vol. 2*. Leiden, Brill Academic Publishers, pp. 655-665.
- Yushin V.V.**, Zograf J.K. 2004. Ultrastructure of spermatozoa in the free-living marine nematode *Paracanthonus macrodon* (Nematoda, Chromadorida). *Invertebrate Reproduction and Development*, 45: 59-67.
- Nezlin L.P., **Yushin V.V.**, 2004. Structure of the nervous system in the tornaria larva of *Balanoglossus proterogonius* (Hemichordata: Enteropneusta) and its phylogenetic implications. *Zoomorphology*, 123: 1-13.
- Yushin V.V.** 2004. New data on sperm structure in mononchid nematodes (Enoplida, Mononchida). *Russian Journal of Nematology*, 12: 139-142.
- Zograf, J.K., **Yushin, V.V.** 2004. Electron microscopic study of spermatogenesis in a free-living marine nematode *Paracyatholaimus pugettensis* (Chromadorida, Cyatholaimidae). *Biologiya Morya (Vladivostok)*, 30: 455-461. (in Russian).
- Zograf J.K., **Yushin V.V.**, Malakhov V.V. 2004. Ultrastructure of spermatogenesis in the free-living marine nematode *Halichoanolaimus sonorus* (Chromadorida: Selachinematidae). *Nematology*, 6: 797-809.
- Yushin V.V.**, Coomans A. 2005. Ultrastructure of sperm development in the free-living marine nematode *Metachromadora itoi* (Chromadorida, Desmodorida). *Acta Zoologica*, 86: 247-257.
- Yushin V.V.**, Kosaka H., Kusunoki M. 2006. Spermatozoon ultrastructure of the sphaerularioidid nematode *Contortylenchus genitalicola* (Tylenchomorpha, Sphaerularioidea). *Nematology*, 8: 191-196.
- Afanasiev-Grigoriev A.G., Zograf J.K., **Yushin V.V.** 2006. Nuclear envelope in the spermatozoa of the leptosomatid nematode *Leptosomatides marinae* (Enoplida, Leptosomatidae). *Russian Journal of Nematology*, 14: 119-125.
- Yushin V.V.**, Yoshida M., Spiridonov S.E. 2007. Riders on the sperm: sperm dimorphism and spermatozeugmata in nematodes from the genus *Steinernema* (Rhabditida: Steinernematidae). *Nematology*, V. 9. P. 61 – 75.
- Yushin V.V.**, Kosaka H., Kusunoki M. 2007. Ultrastructural evidence of sperm dimorphism in nematode *Deladenus* sp. (Tylenchomorpha, Sphaerularioidea, Allantonematidae). *Nematology*, 9: 397-404.
- Yushin V.V.** 2007. Spermatogenesis in the free-living marine nematode of the family Linhomoeidae (Nematoda, Monhysterida). *Russian Journal of Nematology*, 15: 109-116.
- Yushin V.V.** 2008. Sperm dimorphism in the free-living marine nematode *Terschellingia glabricutis* (Nematoda: Monhysterida: Linhomoeidae). *Nematology*, 10: 189-205.
- Isaeva V.V., **Yushin V.V.** 2008. Studies in Developmental Biology at the Institute of Marine Biology (Far Eastern Branch of the Russian Academy of Sciences). *Russian Journal of Developmental Biology*, 38: 316–323.
- Zograf J.K., Astakhova A.A., **Yushin V.V.** 2008. Ultrastructure of spermatozoa in the free-living marine nematode *Monoposthia costata* (Chromadorida, Desmodorida). *Russian Journal of Nematology*, 16: 121-128.
- Zograf J.K., **Yushin V.V.** 2008. Genital primordium of the free-living marine nematode *Halichoanolaimus sonorus* (Chromadorida, Chromadorida). *Invertebrate Reproduction and Development*, 52: 45–50.
- Afanasiev-Grigoriev A.G., **Yushin V.V.** 2009. Electron microscopic study of spermiogenesis in the free-living marine nematode *Leptosomatides marinae* Platonova 1976 (Enoplida: Leptosomatidae). *Russian Journal of Marine Biology*, 35: 156-163.

## Papers presented at international meetings

### ***International Symposium of the Russian Society of Nematologists, Borok, 1993***

Yushin V.V. 1994. Spermatozoids of nematodes: a new approach to the concept of the primitive spermatozoid in nematodes. *Russian Journal of Nematology*, 2: 138. [Oral presentation]

### ***2 International Symposium of the Russian Society of Nematologists, S.-Petersburg, 1995***

Yushin V.V. 1996. An ultrastructural study of the spermatogenesis in the free-living marine nematode *Enoplus demani*. *Russian Journal of Nematology*, 4: 102. [Oral presentation]

### ***3 International Symposium of the Russian Society of Nematologists, Moscow, 1997***

Yushin V.V. 1998. An outline of cytoplasmic events during spermatogenesis in nematodes. *Russian Journal of Nematology*, 6: P. 87. [Oral presentation]

Yushin V.V. 1998. Ultrastructure of spermatogenesis in chromadorid nematodes (Chromadoria, Chromadorida). *Russian Journal of Nematology*, 6: P. 87. [Oral presentation]

Yushin V.V. 1998. New evidence for a nuclear envelope in sperm cells of enoplid nematodes (Nematoda, Enoplida). *Russian Journal of Nematology*, 6: 87-88. [Oral presentation]

### ***4 International Symposium of the Russian Society of Nematologists, Moscow, 2001***

Yushin V.V., Coomans A. 2001. A new data on spermatogenesis in the free-living marine nematodes from the order Enoplida. *Russian Journal of Nematology*, 9: 167. [Oral presentation]

### ***4 International Congress of Nematology, Tenerife, Spain, 2002***

Yushin V.V., Malakhov V.V. 2002. Spermatogenesis and nematode phylogeny. *Nematology*, 4: 150-151. [Invited lecture published as Yushin V.V., Malakhov V.V. 2004, see *Peer reviewed publications*]

### ***5 International Symposium of the Russian Society of Nematologists, Vladivostok, 2003***

Yushin V.V., Yoshida M., Spiridonov S.E. 2003. Self-moving spermatophores: spermatozoan dimorphism in *Steinernema* (Steinernematidae, Rhabditida). *Russian Journal of Nematology*, 11: 151-152. [Oral presentation]

Zograf J.K. Yushin V.V. 2003. Electron microscopic study of the spermatogenesis in free-living marine nematode *Paracyatholaimus pugettensis* (Chromadorida, Cyatholaimidae). *Russian Journal of Nematology*, 11: 152-153. [Oral presentation by Zograf J.K.]

Zograf J.K. Yushin V.V. 2003. Ultrastructure of spermatozoa in the free-living marine nematode *Paracanthonus macrodon* (Nematoda, Chromadorida). *Russian Journal of Nematology*, 11: 153. [Poster]

### ***6 International Symposium of the Russian Society of Nematologists, Moscow, 2005***

Yushin V.V., Malakhov V.V. 2005. Oogenesis in free-living aquatic nematodes: ultrastructural aspects. *Russian Journal of Nematology*, 13: 165-166. [Invited lecture]

Yushin V.V., Kosaka H., Kusunoki M. 2005. Spermatozoon structure of the tylenchid nematodes of the superfamily Sphaerularioidea (Tylenchida) is the same as in the rhabditids (Rhabditida). *Russian Journal of Nematology*, 13: 166. [Oral presentation]

### ***28 International Symposium of the European Society of Nematologists, Blagoevgrad, Bulgaria, 2006***

Yushin V.V. 2006. Sperm dimorphism in nematodes revealed by electron microscopy. XXVIII International Symposium of the European Society of Nematologists, Blagoevgrad, Bulgaria, 5-9 June 2006. Programme and Abstracts. Sofia-Moscow, Pentsoft, p. 88-89. [Invited lecture]

Zograf J.K., Kravchenko A.A., Yushin V.V. 2006. The ultrastructure of the male reproductive system and spermatozoa of the free-living marine nematode *Monoposthia costata* (Chromadoria, Desmodorida). XXVIII International Symposium of the European Society of Nematologists, Blagoevgrad, Bulgaria, 5-9 June 2006. Programme and Abstracts. Sofia-Moscow, Pentsoft, p. 89. [Oral presentation by Zograf J.K.]

Afanasiev-Grigoriev A.G., Yushin V.V. 2006. Nuclear envelope in spermatozoa of the leptosomatid nematode, *Leptosomatides marinae* (Enoplida, Leptosomatidae). XXVIII International Symposium of the European Society of Nematologists, Blagoevgrad, Bulgaria, 5-9 June 2006. Programme and Abstracts. Sofia-Moscow, Pentsoft, p. 85. [Poster]

**7 International Symposium of the Russian Society of Nematologists, Petrozavodsk, Russia, 2007**

Yushin V.V. 2007. Linhomoeid spermatozoa and sperm dimorphism in nematodes. [Plenary lecture].

Afanasiev-Grigoriev A.G., Yushin V.V. 2007. Electron microscope study of spermatogenesis in *Anoplostoma cuticularia* (Enoplida, Anoplostomatidae) [Oral presentation].

**11 International Symposium on Reproduction and Development of Invertebrates, Panama, 2007**

Yushin V.V. Spermatogenesis in the araeolamid nematodes (Nematoda, Araeolaimida). [Oral presentation].

**German-Russian Workshop „Future visions“, Vladivostok, Russia, 2007**

Yushin V.V. Outline of nematode sperm structure with special emphasis on sperm dimorphism. [Oral presentation].

**5 International Congress of Nematology, Brisbane, Australia, 2008**

Yushin V.V. Male reproductive system of free-living nematodes: a simple tube? [Oral presentation].

Afanasiev-Grigoriev A.G., Yushin V.V. Sperm development in the free-living marine nematode *Leptosomatides marinae* (Enoplida, Leptosomatidae). [Poster]

**16 Annual Meeting of the Japanese Nematological Society, Tsukuba, Japan, 2008**

Yushin V.V., Ryss A.Y. Sperm structure and development in *Bursaphelenchus mucronatus* (Nematoda: Parasitaphelenchidae). [Plenary lecture].

**48 Annual Meeting of the Society of Nematologists, Burlington, Vermont, USA, 2009**

Yushin V.V. Spermatogenesis in the dorylaimid nematode *Paractinolaimus microdentatus* (Nematoda: Dorylaimida: Actinolaimidae). [Oral presentation].

**International Nematology Symposium “Nematodes in Tropical Ecosystems”, Hanoi, Vietnam, 2009**

Yushin V.V., Afanasiev-Grigoriev A.G. Euspermatozoa and paraspermatozoa in nematodes: spermatogenesis in the tryplidid nematode *Bathylaimus australis* (Enoplida, Tryplididae). [Oral presentation].

Afanasiev-Grigoriev A.G., Yushin V.V. Absence of a distal tip cell in testes of the marine enoplid *Enoplus michaelsoni* (Enoplida, Enoplidae). [Poster].