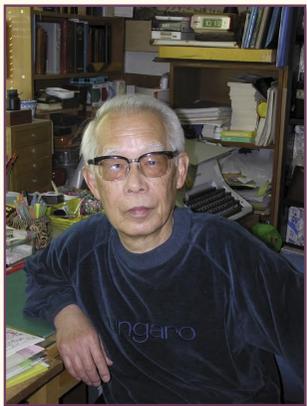


The Kawakatsu Collection incorporated within the collections of the Zoological Museum Amsterdam

Ronald Sluys¹, Masaharu Kawakatsu² & Joke Bleeker¹

¹ Institute for Biodiversity and Ecosystem Dynamics & Zoological Museum, University of Amsterdam, P. O. Box 94766, 1090 GT Amsterdam, The Netherlands; email: sluys@science.uva.nl
² 9jō 9chōme 1-8, Shinkotoni, Kita-ku, Sapporo (Hokkaidō) 001-0909, Japan



The Kawakatsu Collection

Kawakatsu (Fig. 1) started his studies on triclad flatworms in 1951 when he was a student at Kyoto Gakugei University, Kyōto and, subsequently, was appointed as assistant in 1953. During this Kyōto period (1951-1960) frequent collecting trips were made throughout Japan in the context of two main themes of research: reproduction and ecology of Japanese freshwater planarians. The planarians collected during this period formed the beginnings of the Kawakatsu Collection. In 1961 Kawakatsu moved to the Fuji Women's College, Sapporo and changed the focus of his studies to the taxonomy of triclads. The Collection continued to grow as a result of (a) Kawakatsu's collecting trips, upto 1999, in Japan and other countries, and (2) numerous gift samples made available to him by persons from all over the world.

Over the years some of the material was deposited in several institutions (mainly type series) but most of it remained in Kawakatsu's private collection. The Collection comprises about 22,500 histological glass slides and over 1400 jars with preserved specimens.

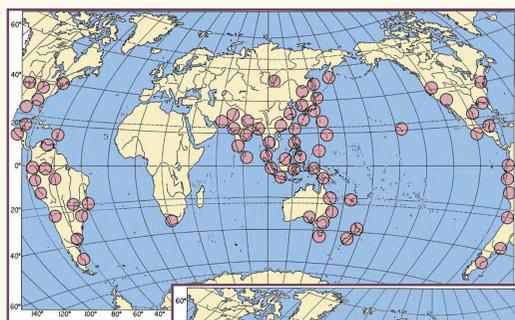


Fig. 2. Geographic origin of material in the Kawakatsu Collection described in publications (1961-2005).

Fig. 1. M. Kawakatsu at his 77th birthday in 2006.

Geographical areas from which material has been described during the period 1961-2005 are indicated in Fig. 2 (for publications, see Kawakatsu 1968-1998; Kawakatsu & Takai 1999-2000; Kawakatsu et al. 2001-2005). The geographic location of samples that remain to be studied are indicated in Fig. 3.

During three international conferences (8th ISBT, Brisbane, 1996; OECD Intern. Workshop on Terrestrial Planarians, Christchurch, 1998; 9th ISBT, Barcelona, 2000) Kawakatsu and Sluys (Fig. 4) developed a cooperative plan for the study of the Collection. As a result, Kawakatsu decided in 2000 to transfer his collection to the care of R. Sluys, who deposited the material in the Zoological Museum Amsterdam.



Fig. 4. R. Sluys in 2006.

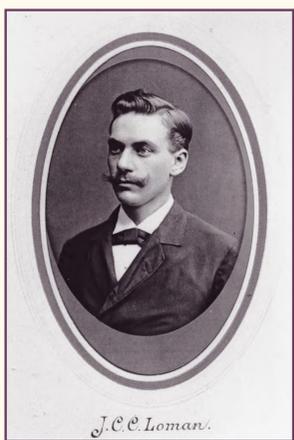


Fig. 5. J. C. C. Loman, as student at the University of Amsterdam.

Fig. 3. Geographic areas from which material in the Kawakatsu Collection remains to be examined.

The ZMA Collection

The beginnings of the collection of triclad flatworms of the Zoological Museum Amsterdam (ZMA) can be traced back to J. C. C. Loman (1856-1929) (Fig. 5), who described 20 new species of land planarians and deposited some of this material in the museum. A new period started in 1976 with the arrival of the late Dr. Ian R. Ball at the University of Amsterdam, whose planarian laboratory was housed in the museum. The collection started to grow again as a result of the taxonomic activities of Ball's PhD students, Ronald Sluys and Elizabeth J. de Vries. From 1982 onwards Sluys and De Vries regularly deposited in the ZMA material that they described in their papers. At the beginning of 2006 the collection of triclad flatworms at the ZMA had grown to about 4900 registered glass slides and 2000 specimens and/or lots.

Registration of the Kawakatsu Collection

Most of the slides of the Kawakatsu Collection arrived in Amsterdam on preparation boards and were subsequently transferred to preparation boxes (Figs 6, 7, 8). ZMA registration numbers were assigned to the material. These registration numbers, as well as the accompanying documentation on the samples provided by Kawakatsu, were entered in a FileMakerPro database. The accompanying documentation includes the following data: Kawakatsu's original catalogue numbers (KSL numbers), sampling locality, date, collector, fixation fluid, published papers, photos (black-and-white films), sketches of preserved specimens. The slides were provided with labels, specifying the ZMA registration number and Kawakatsu's KSL-catalogue number, among others.

Registration of Kawakatsu's original KSL-catalogue numbers is important because these numbers are specified in his numerous publications on the collection. The database provides links between current ZMA registration numbers, Kawakatsu's KSL numbers, and his publications describing material from the collection (Fig. 9).

Fig. 6. Part of the Kawakatsu Collection before incorporation.



Fig. 7. Slides on preparation boards were transferred to preparation boxes.



Fig. 8. Part of the Kawakatsu Collection after incorporation.

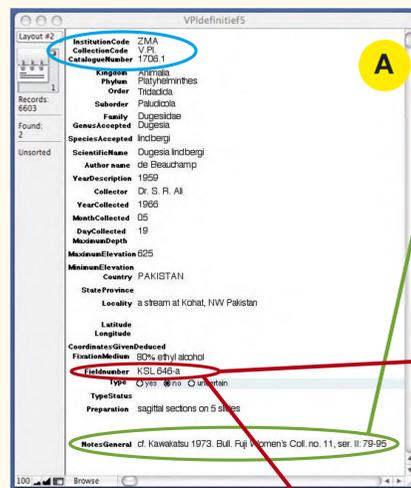
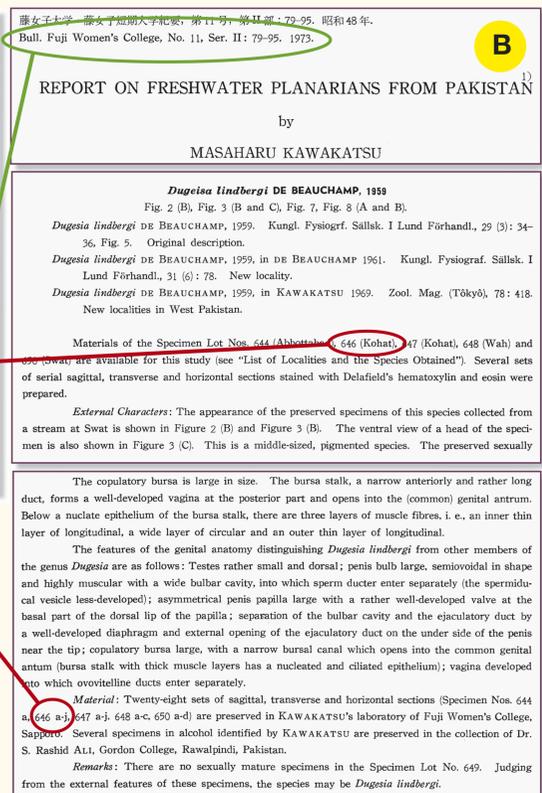


Fig. 9. (A) Collection record, highlighting fields with ZMA registration number, KSL catalogue number, and references. (B) Sections of pages from a paper with published KSL numbers.



Comparisons

Current planarian holdings of the ZMA, including the Kawakatsu Collection, were compared with those of other institutions with major collections of triclads: American Museum of Natural History, New York (AMNH), Natural History Museum, London (NHM), Natural History Museum, Vienna (NHMV), Museum National d'Histoire Naturelle, Paris (MNHN), Museum für Naturkunde, Berlin (ZMB), Smithsonian Institution, Washington (SI), Swedish Museum of Natural History, Stockholm (SMNH). As far as data were available, comparisons were made between the number of glass slides housed in each institution and the number of registered specimens and/or lots. The analysis shows (Fig. 10) that the ZMA holdings exceed by far those of other institutions with taxonomically important collections of triclads.

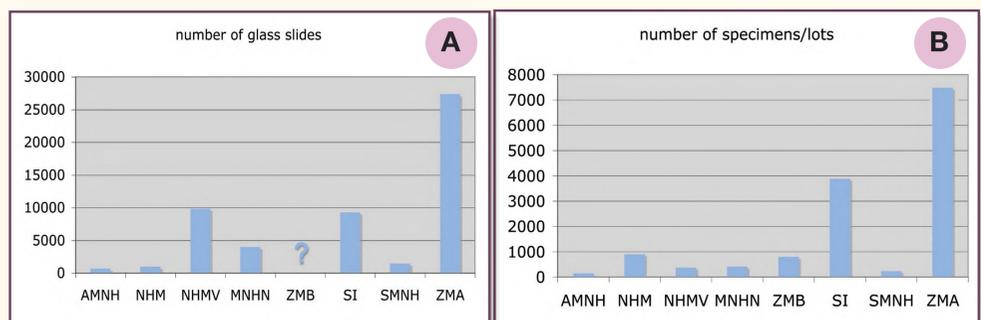


Fig. 10. Registered holdings of planarian material in some major institutions. (A) number of glass slides; (B) number of specimens/lots.

Future incorporation & registration

The planarian holdings of the ZMA, as specified in Fig. 10, concern only currently registered material. The collection will increase again considerably (e.g. with several thousands of slides) when material in the custody of R. Sluys is formally deposited and registered. This concerns (1) salvaged preparations from the former Ball Collection, (2) material handled by De Vries, (3) unique and taxonomically very important preparations from the former Marcus Collection, and (4) new specimens made available to R. Sluys.

Some recent papers based on the Kawakatsu Collection

Sluys, R. & M. Kawakatsu 2001. Contribution to an inventory of the freshwater planarians of Australia and New Zealand (Platyhelminthes, Tricladida, Dugesiidae). Beaufortia 51: 163-198.
Kawakatsu, M., R. Sluys & R. E. Ogren 2005. Seven new species of land planarian from Japan and China (Platyhelminthes, Tricladida, Bipalidae), with a morphological review of all Japanese bipalids and a biogeographic overview of Far Eastern species. Belg. J. Zool. 135: 53-77.
Sluys, R., M. Kawakatsu & R. Ponce de León 2005. Morphological stasis in an old and widespread group of species: contribution to the taxonomy and biogeography of the genus Girardia (Platyhelminthes, Tricladida, Paludicola). Stud. Neotrop. Fauna Environm. 40: 155-180.
Sluys, R. & M. Kawakatsu 2005. Biodiversity of marine planarians revisited (Platyhelminthes, Tricladida, Maricola). J. Nat. Hist. 36: 445-467.
Sluys, R. & M. Kawakatsu 2006. Towards a phylogenetic classification of dendrocoelid freshwater planarians: a morphological and eclectic approach. J. Zool. Syst. Evol. Res. (in press)

References

Kawakatsu, M. 1968-1998. A list of publications on Japanese Turbellarians... Including titles of publications on foreign Turbellarians written by Japanese authors... Bull. Fuji Women's Coll. nos. 6-36, ser. II.
Kawakatsu, M. & M. Takai 1999-2000. A list of publications on Japanese Turbellarians... Bull. Fuji Women's Coll. nos. 37-38, ser. II.
Kawakatsu, M., M. Sasaki & G.-Y. Sasaki 2001-2005. A list of publications on Japanese Turbellarians... Including... Bull. Fuji Women's Coll./Univ. no. 39-43 (to be continued). see also: <http://planarian.net>

Acknowledgements

We are grateful to the following persons for information on the planarian collections under their care: Mark Siddal (AMNH), Cheryl Bright (SI), Guy Boucher (MNHN), Eileen Harris (NHM), Birger Neuhaus (ZMB), Helmut Sattman and Christoph Hörweg (NHMV), Sven Boström (SMNH). Mr. J. van Arkel (University of Amsterdam) is thanked for digital rendering of the figures, making the photos for figures 4 and 8, and for the lay out of this poster. The Artis Library (Historical Biological Archive) of the University of Amsterdam provided the photograph of J. C. C. Loman. Digital registration of the Kawakatsu Collection was made possible, in part, by a grant from the Netherlands Organization for Scientific Research in the context of the project "NWO-Groot: Building the databases of Life". Dr. L. Winsor (Townsville) kindly read the draft text of this poster.