

COLOR VISION DEFICIENCIES

Proceedings of the Symposium of the International Research Group
on Color Vision Deficiencies, Tokyo, Japan, March 26–28, 1990

edited by
Y. OHTA

kugler&ghedini

1990

Library of Congress Cataloging-in-Publication Data

International Research Group on Color Vision Deficiencies. Symposium
(1990 : Tokyo, Japan)

Color vision deficiencies : proceedings of the Symposium of the
International Research Group on Color Vision Deficiencies. Tokyo,
Japan, March 26-28, 1990 / edited by Y. Ohta.

p. cm.

Includes bibliographical references.

ISBN 9062990630 : \$70.00

1. Color blindness--Congresses. 2. Color vision--Congresses.

I. Ohta, Y. II. Title.

[DNLM: 1. Color Perception--congresses. 2. Color Vision Defects--
congresses. WW 150 I602c 1990]

RE921.I57 1990

617.7'59--dc20

DNLM/DLC

for Library of Congress

90-5233

CIP

©Copyright 1990 Kugler & Ghedini Editore

All rights reserved. No part of this book may be translated or reproduced in any form by print, photoprint, microfilm, or any other means without the prior written permission of the publisher.

ISBN 90-6299-063-0

Distributors:

For the U.S.A. and Canada:

Kugler Publications

P.O. Box 5794

Berkeley, CA 94705, U.S.A.

For all other countries:

Kugler Publications bv

P.O. Box 516

1180 AM Amstelveen, The Netherlands

Phototypeset by Palm Productions, Nieuwerkerk a/d IJssel, The Netherlands

Printed in The Netherlands by Mennen Asten BV

**INTERNATIONAL RESEARCH GROUP
ON COLOR VISION DEFICIENCIES**

Tokyo 1990

Honorary Presidents

H. Ichikawa
H. Matsuo

President

Y. Ohta

Vice President

K. Kitahara

General Secretary

T. Motohashi

Treasurers

K. Hamano
A. Hanabusa

Advisory Members

M. Akita
K. Hukami
M. Ikeda
Y. Nayatani
M. Yokoyama

TABLE OF CONTENTS

Color appearance and the cone mosaic in trichromacy and dichromacy. C.M. Cicerone	1
The brightness/luminance ratio between illuminant and object colors. Y. Nayatani	13
Color appearance in mesopic vision. H. Yaguchi, C. Monma, K. Tokunaga and Y. Miyake	21
Color appearance at the extra-fovea studied by the color naming method. M. Takase and M. Ikeda	29
Effects of color memory on color appearance. K. Uchikawa and H. Shinoda	35
Aspects of anomalous trichromatic opponent-color vision. H. Scheibner	45
Temporal integration properties of color-defective vision measured for bichromatically mixed lights. Y. Kawabata and T.S. Aiba	61
The ERG recording with high speed scanning of monochromatic stimuli. M. Sugimoto, N. Miyamura and Y. Uji	67
Electroretinographic findings in congenital red-green color deficiency. H. Hanazaki, J. Tanabe and K. Kawasaki	71
Color vision estimated by color pattern reversal VECs in patients with intraocular lens implant. M. Tsukamoto, E. Adachi-Usami and N. Fujimoto	77
Chromatic and achromatic contrast mechanisms in visual cortex. P. Gouras	87
Color vision and color pattern reversal VECs in dominantly inherited juvenile optic atrophy. E. Adachi-Usami, E. Akimoto and M. Tsukamoto	99
Analysis of feature extraction processing in the red-green system. Y. Ejima, S. Takahashi and T. Kaihara	109
Studies on SWS cone mechanism by measures of the probe-flash threshold. H. Terasaki, H. Hirose and Y. Okada	121
The clinical utility of anomaloscopy. J.D. Moreland	127
A computer simulation of anomalous color vision. S. Kondo	145
The F-M 100-Hue test as a tool in a visual laboratory. L.R. Ronchi and E. Pampaloni	161
Cases of deuteranomaly displaying atypical Rayleigh matches. S. Yamade and M. Kono	169
Transient tritanopia effect and focal macular ERG in the convalescent stage of central serous chorioretinopathy. Y. Miyake, K. Ichikawa, N. Shiroyama, H. Terasaki and H. Ichikawa	177
The power of metameric color equations in testing color vision. A. Roth	181
Analysis of tritan detection thresholds and discrimination errors. J. Pokorny, V.C. Smith and T. Yeh	191
Congenital deuteranomaly in one of monozygotic triplets. A. Yokota, Y. Shin, J. Kimura, T. Senoo, R. Seki and K. Tsubota	199
The effect of color vision test design on the tritan defect observed with short duration stimuli. S.J. Dain, J.M. Riley and A. Steer	205

Acquired color vision defects in dependence on depth-localization and eccentricization of fixation. M. Marré and A. Pinckers	213
Color threshold of the macula within 3° from the fovea in congenital color deficiencies and normal subjects. M. Tomonaga, Y. Ohta, K. Hamano and T. Motohashi	219
Characteristics of the panel D-15 test in optic nerve diseases with congenital red-green color vision defects. J. Noji, A. Kandatsu, R. Tamaki and K. Kitahara	225
Anomaloscope match and increment visual threshold in central serous retinopathy. M. Isashiki, Y. Nakashima and N. Ohba	233
The color sense of pseudophakic eyes: Chromatopsia. K. Ichikawa, A. Tamaoki and H. Ichikawa	237
Studies on color compensation tinted spectacle lenses for pseudophakic patients. Y. Ohta, H. Kudo, H. Hagiwara, K. Hamano, A. Hanabusa and K. Saiki	245
Some remarks on color discrimination in multiple sclerosis. A. Serra, I. Zucca and S. Mulas	251
Color matching as a clinical tool. Theory of modification by disease. J. Pokorny and V.C. Smith	255
Index of authors	269