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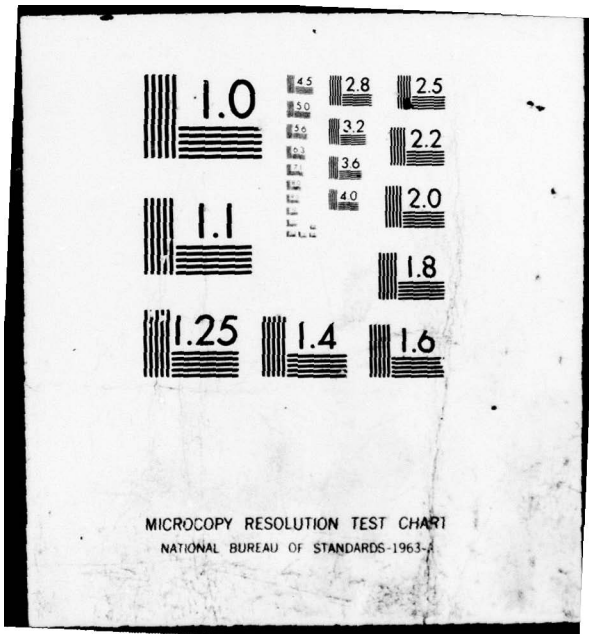
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FOURTH INTERNATIONAL BIODETERIORATION SYMPOSIUM
WEST BERLIN, GERMANY, 28 AUGUST TO 1 SEPTEMBER 1978

E.C. HADERLIE*

20 November 1978

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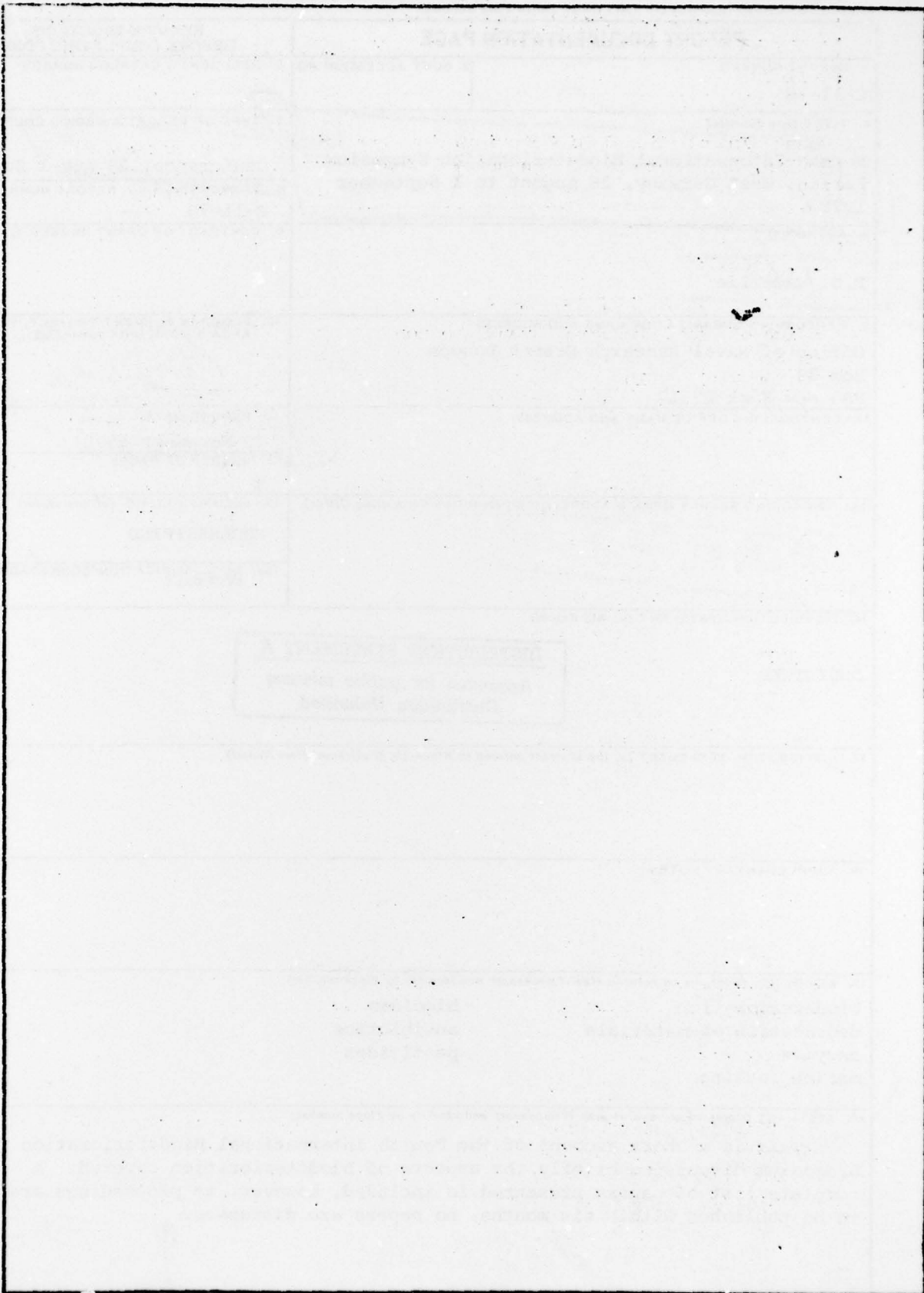
REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER C-11-78	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Fourth International Biodeterioration Symposium Berlin, West Germany, 28 August to 1 September 1978		5. TYPE OF REPORT & PERIOD COVERED Conference, 28 Aug-1 Sept 1978
7. AUTHOR(s) E.C. Haderlie		6. PERFORMING ORG. REPORT NUMBER C-11-78
9. PERFORMING ORGANIZATION NAME AND ADDRESS Office of Naval Research Branch London Box 39 FPO New York 09510		8. CONTRACT OR GRANT NUMBER(s)
11. CONTROLLING OFFICE NAME AND ADDRESS		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 12 12a
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) ONRL-C-11-78		12. REPORT DATE 20 November 1978
16. DISTRIBUTION STATEMENT (of this Report) UNLIMITED		13. NUMBER OF PAGES 7
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		15. SECURITY CLASS. (of this report) UNCLASSIFIED
18. SUPPLEMENTARY NOTES		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) biodeterioration biocides degradation of materials antibiotics enzymes pesticides marine fouling		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This is a short account of the Fourth International Biodeterioration Symposium discussing briefly the aspects of biodeterioration covered. A complete list of papers presented is included, however, as proceedings are to be published within six months, no papers are discussed. 265000 79 02 05 N JAB		

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FOURTH INTERNATIONAL BIODETERIORATION SYMPOSIUM
WEST BERLIN, GERMANY, 28 AUGUST to 1 SEPTEMBER 1978

From 28 August until 1 September 1978 the Fourth International Biodeterioration Symposium was held at the Bundesanstalt für Materialprüfung (BAM) at Berlin-Dahlem. Over 110 delegates and several guests from 23 countries attended. A total of 60 papers were scheduled; however, approximately 5 of these were not presented owing to last minute cancellations. The largest delegations were from Great Britain (32) and from West Germany (31), and about half of the papers were presented by these groups. As is common in many international meetings, the USSR scheduled several scientists to give papers but none attended the Symposium. Attendance by Americans was below the level of previous meetings; however, 12 papers were presented and several members of the US delegation chaired symposia sessions.

The Symposium was organized by a committee headed by Prof. G. Becker of the BAM, Berlin-Dahlem, and was held under the auspices of The Biodeterioration Society. It was under the patronage of the Regierender Bürgermeister of Berlin and supported by the Senate of Berlin (West).

This Fourth Symposium was organized along lines similar to the previous three. The first of these was held at the University of Southampton, England, in 1968 (Haderlie: ONRL C-20-68), the second at Lunteren, the Netherlands, in 1971 (Haderlie: ONRL C-27-71), and the third at Kingston, Rhode Island, in August 1975. The purpose was to bring together for the fourth time in ten years a worldwide group of workers interested in both broad and specialized aspects of biodeterioration. As before, for purposes of the Symposium, "biodeterioration" was defined as the degradation of materials as a result of the activities of living organisms, and the Symposium covered most aspects of biodeterioration ranging from the degradation of paper and archival materials to fuels, woods, metals, polymers, rubbers, and paints. In specific sessions the effects of enzymes were considered, as was the degradation of materials in the marine environment, including marine fouling organisms and antifouling materials. The final sessions of the Symposium were devoted to the biodegradation of biocides and antibiotics, to environmental problems associated with the use of pesticides (including pesticide regulations in many countries), and to testing problems.

The site of the Symposium and the facilities provided by the BAM were outstanding. West Berlin is an exceedingly interesting and vibrant city, and most of the delegates were stimulated by the scientific papers and discussions as well as by the social events and excursions provided by the BAM. The latter included a tour of the facilities of the Bundesanstalt für Materialprüfung, a bus tour of West Berlin, an evening steamboat trip on the Wannsee and River Havel, a reception by the Senate of Berlin (West) at Schloss Charlottenburg, and a banquet at the Schlosshotel Gehrhus in the Grunewald.

The Organizing Committee did a fine job in making preparations for publication of the papers presented at the Symposium. Abstracts of most papers were available at the beginning of the meetings, and authors were encouraged to hand in their finalized manuscripts by the end of the Symposium or to send them in by 1 October 1978 at the latest. As a result, the Proceedings should be published within six months. Because of the rapidly escalating costs of publications of symposia proceedings in book form, it was decided that published papers will be distributed to participants as boxed reprints rather than as a bound book. Libraries, however, will be able to secure a bound volume but probably at a fairly high price. The Biodeterioration Information Centre, University of Aston, Birmingham, England, will be responsible for final publication.

Because the entire proceedings will be available soon (edited by The Standing Committee for International Biodeterioration Symposia), no attempt will be made here to give abstracts of the papers presented. Instead, a mere listing of the papers as they appeared in the final revised program will be given, and readers of the Report can determine from the titles those papers in the published proceedings they want to read. A few papers listed in the final program were not presented, and as the author of this Report was able to attend only one of the two simultaneous special sessions, it is possible that a paper listed below was not, in fact, presented.

Monday, 28 August

Registration for Symposium; Tour of Laboratories of the BAM.

Tuesday, 29 August

Opening Session: Address by Prof. Dr. G. Becker, Vice-President of the BAM

Session I: Pulp, Paper, and Archival Materials

Chairman: O. Wälchli (Switzerland)

M. Stranger-Johannessen (Norway): Microorganisms as the cause for pitch deposits in pulp and paper mills.

W. Kerner-Gang (FRG): Massnahmen zur Bekämpfung von Mikroorganismen an Archivalien.

Session II: Biodegradation of Fuels and Lubricants

Chairman: E.C. Hill (UK)

A. Horowitz and R.M. Atlas (US): Microbial seeding to enhance petroleum hydrocarbon biodegradation in aquatic Arctic ecosystems.

A. Sextone, P. Gustin, O. Miller, P. Linkins, K. Everett and R.M. Atlas (US): Biodegradation of crude oil by tundra soil microorganisms.

R.N. Smith (UK): Germination and growth of *Cladosporium resinae* in fuel oil.

E.C. Hill (UK): Microbial spoilage of engine lubricating oil and its significance.

Wednesday, 30 August

Session III: Wood Destroying Organisms and their Control

Chairman: W. Liese (FRG)

J. Waite and B. King (UK): Quantification of microbial colonisation of wood.

D.M. Holt (UK): Patterns of wood degradation by bacteria and actinomycetes.

A.A.W. Baecker and B. King (UK): Decay of wood by actinomycetes.

J. Wazny (Poland): The influence of wood destroying fungi on concrete.

O. Schmidt (FRG): Laboratory experiments on the bacterial activity toward the woody cell wall.

E.H. Pommer and W. Reuther (FRG): A new substituted 3-furamide for the control of basidiomycetes that destroy wood.

H. Kühne (FRG): Entwicklung einiger Lyctidae- und Bostrychidae-Arten in Abhängigkeit von Nahrung, Temperatur und Luftfeuchte.

Session IV: Microbial Degradation of Metals.

Chairman: G. Becker (FRG)

D. Groenewegen (FRG): Microbial infections of ship diesel engines.

G.N. Garg, B. Sanyal, G.N. Pandey (India): Studies on microbiological corrosion of metals by sulphate reducing bacteria.

E.W. Eckhardt (FRG): Microbial degradation of aluminosilicate material.

G.N. Pandey *et al.* (India): Effect of soil characteristics on corrosion of buried metals.

Session V: Biodegradation of Polymers, Rubber and Paints

Chairman: B.J. Zyska (Poland)

R.L. Turner and G.J.L. Griffin (US): Macrobiodegradation of plastics.

T. Harajuchi, E. Hayashi and H. Hatakeyama (Japan): Biodegradation of styrene polymers related to lignin.

C.K. John and I.W. Verstraete (Malaysia, Belgium): Microbial degradation and preservation of natural rubber (Hevea) latex.

D. Kwiatkowska, B.J. Zyska and L.P. Zankowicz (Poland): Microbiological deterioration of natural rubber sheet by soil microorganisms.

M. Stranger-Johannessen (Norway): Aerobe sporenbildende Stäbchenbakterien als Deteriogene für kunststoffbasierte korrosionsschutzanstriche und Fugenmassen.

Session VI: Enzymatic Effects

Chairman: W. Schonborn (FRG)

A. Huttermann and A. Haars (FRG): Macromolecular aspects of lignin degradation by *Formes annosus*.

R.C.W. Berkeley and E.A. Pepper (UK): Biodeterioration of chitin in the context of its medical applications.

Thursday, 31 August

Session VII: Organisms and Materials in the Marine Environment

Chairman: E.B. Gareth Jones (UK)

A. Zachary, M.E. Taylor and R.R. Colwell (US): Marine microbial colonization of material surfaces.

A.W. Bourquin, P.H. Pritchard and R.L. Garnas (US): System design factors affecting biodegradation in marine microcosms.

K. Schaumann (FRG): Occurrence and activities of lignicolous marine fungi at the German North Sea coast.

M. Fletcher (UK): Heterotrophic activity of bacteria attached to solid surfaces.

P. Boyle (US): Interactions between microorganisms and wood-boring crustaceans.

J. Kohlmeyer (US): Bacterial attack on wood and cellophane in the deep sea.

D. Allsopp and J. Carson (UK): The isolation, identification and enumeration of marine periphytic bacteria from a temporal sampling series.

J.D. Bultman, E.C. Haderlie and J.R. DePalma (US): Comparative natural resistance of four Central American hardwoods to marine borers.

Session VIII: Biodegradation of Stored Agricultural Products

Chairman: H.O.W. Eggins (UK)

J.R. Edwards, R.N. Smith and R. Long (UK, Australia): The isolation of filamentous fungi both from unstable particulate substrates and soil.

B. Flannigan and M.S.O. Bana (UK): Growth and enzyme production in *Aspergilli* causing deterioration in stored grain.

H.O.W. Eggins and K.J. Seal (UK): The microbiological upgrading of waste straw.

K.J. Seal and J. Kelly (UK): The effects of added nitrogen on the microflora of waste straw.

W. Liese and K. Walter (FRG): Deterioration of Bagasse during storage and its prevention.

S.K. Ogundana (Nigeria): Changes in the fungal flora of fresh pulped fruits (*Caspicum frutescens*) under various storage conditions.

Session IX: Marine Fouling Organisms and Antifouling Materials

Chairman: J. Kohlmeyer (US)

G.F. Daniel (UK): Marine fouling diatoms: *Lic mophora* and naviculoid species.

R.L. Fletcher (UK): Experimental studies on rhizoid production in marine fungi.

A. Buble and C.H. Thorp (UK): Calcification studies in a marine fouling polychaete.

R.D. Bowden and J.M. Taylor (UK): An approach to the evaluation of antifouling toxins. 1. Method and underlying philosophy.

Blair, W.R. Brinckman, W.J. Parks, and W.P. Iverson (US): Recent advances in the speciation of trace organotin biocides employed in marine antifouling materials.

R.D. Bowden, I.E. Heeson and J.M. Taylor (UK): An approach to the evaluation of antifouling toxins. 2. Results.

Session X: Efficacy and Biodegradation of Biocides and Antibiotics

Chairman: T. Oxley (UK)

W. Paulus (FRG): Formaldehyde-releasing compounds and their utility as microbiocides.

D. Liu and M.E. Fox (Canada): A novel fermentor for studying biodegradation of toxic organic substances.

M.N. Bhatti, N.K. Al-Daham and K.P. Sharma (India): Toxicity of Malathion to *Apharus mento* (Heckel) and *Gambusia* (Baird and Girard).

V.K. Kakkar and K.P. Sharma (India): Pollution from industrial effluents and their effect on fishes in Kota, Rajasthan, India.

K.P. Sharma (India): Industrial pollution of inland waters in Iraq.

Friday, 1 September

Session XI: Environmental Problems

Chairman: C.C. Yeager (US)

C.C. Yeager (US): Introduction to session on Environmental Problems.

C.C. Yeager (US): Control regulations for pesticides in the United States.

E.R. Houghton (Canada): Pesticide regulations in Canada.

L.P. Flipse (Netherlands): Pesticide control practices in the Netherlands.

H. Lyre (FRG): Pesticide regulations in West Germany.

F. Staib (FRG): Deteriorating materials as a possible source of fungi pathogenic for man.

Session XII: Testing Problems

Chairman: W. Paulus (FRG)

S. Barry and T. Rubidge (UK): Comparative field and laboratory testing of fungicidal emulsion paints for interior situations.

W. Schönborn (FRG): Ein Praxismodell aus Untersuchung der Resistenz von Plastikprüfkörpern gegen Mikroorganismen.

K. Bohdanowicz-Muret *et al.* (Poland): Microbial deterioration of an oil-in-water emulsion in deep mines and the evaluation of some biocides.

H.W. Rossmoore and R.A. Ricketts (US): Evaluation of microbial contamination of metalworking fluids by the *Limulus* lysate test.

T. Rubidge (UK): A mathematical model for soil burial tests of cotton textiles.

The Symposium was concluded at 18:00 on 1 September 1978. It was announced at the final closing session that the next or Fifth International Biodeterioration Symposium will be held at Aberdeen, Scotland, from 6 to 13 September 1981.

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