

ZEMLYANSKOV, V.D.; CHEPLANOV, V.I.

Improved indices of the state plan in ferrous metallurgy.
Stal' 21 no.8:747-750 Ag '61. (MIRA 14:9)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.
(Metallurgical plants--Accounting)

ZEMLYANSKOV, V.D.; CHEPLANOV, V.I.

Improvement of planning indices in ferrous metallurgy. Stal'
23 no.5:471-473 My '63. (MIRA 16:5)

1. ISentral'nyy nauchno-issledovatel'skiy institut chernoy
metallurgii.

(Iron and steel plants--Management)
(Index numbers (Economics))

CHEPLANOV, V.I.

New wholesale prices for ferrous metals. Sbor. trud. TSNIICHM
no.45:38-47 '65. (MIRA 18:9)

Снепларова, Л. И.

5

Synthesis of alkyl bis(alkyldithiophosphates)

P. I. Alimov and I. V. Chiriacova, *Sov. Arhivnyy Khim Inst. Kazan*

7 1449, d, 1.1578
given: P₂O₅ 1.1476
3. 1.4505, 1.1476

to 110° gave C₁₇H₂₁P₂S₂, d₄ 1.1937, n_D 1.4820. It reacted with CaI at 150° to yield a viscous soln. III heated 6.5 hrs. with 10% HCl yielded 92% H₂Cl after treatment with H₂Cl.

DM

Acyl derivatives of esters of α -hydroxyalkylphosphonic acids. J. P. I. Alimov and I. V. Chesnova (A. S. Arhakov Chem. Inst. Kazan Univ. Kazan, U.S.S.R.)

2

To 17 g. $PrCHO$ in 15 ml. Et_3N and the mixt. stepwise to give after distn. 100% crude product of 80.9% pure $PrCH(OAc)PO(OEt)_2$, b. 111-12°, d_4^{20} 1.0312, d_4^{25} 1.0348. Refluxing this

with 10% $NaOH$ in $MeOH$ for acidification and evapn. a theoretical amount of Ac_2O in the distillate, the 2 contg. portion apparently undergoes further degradation by hydrolysis (cf. Abramov, *ibid.*, 47, 3227). Similarly were prepd.: 78.3% $MeCH(OAc)P(O)(OEt)_2$, b.p. 93-3.5°, 1.4271, 1.1083; 55.6% $EtCH(OAc)P(O)(OEt)_2$, b.p. 158-69°, 1.4917, 1.1340; 41.1% $i-PrCH(OAc)P(O)(OEt)_2$, b.p. 158-9°, 1.4933, 1.1333. Heating 8.77 g. $(EtO)_2POPrCHO$ and 2.04 g. $AcOH$ 10 min. at 100-15°, followed by addn. to the thus-formed mixed anhydride of 2.45 g. $PrCHO$ and heating 45 min. to 130-40° gave 25.8% product, b.p. 123-5°, 1.4918, 1.0372, analyzed as $C_{11}H_{19}PO_5$ and contg. 12.6% AcO groups. To 13.8 g. $(i-PrO)_2POH$ and 9.6 g. furfural was added few drops of satd. $MeONa-MeOH$ and the mixt.

heated 1 hr. to 95-100° to give crude $O:CH:CH:CH:CCH(OH)P(O)(OEt)_2$ (I), which in 150 ml. ligroine was treated with 10.1 g. Et_3N followed by dropwise addn. of 10.65 g. $iso-PrCCl$; after 1 hr. at 45-70° the mixt. was filtered and distd. yielding 67% i -isobutyrate, b.p. 150-1°, 1.4637, 1.1387. Similarly was prepd. 38.1% i -acelate, b.p. 129-36°, 1.4694, 1.1348, and 37.5% i -hexanoate, b.p. 158-7°, 1.4640, 1.1083. The reaction with acyl halides is hindered by presence of substituents on the HO-carrying C atom of the esters and requires relatively high temps. for completion. Heating $MeC(OH)P(O)(OEt)_2$ with $AcCl$ and Et_3N in xylene 13 hrs. at 80-90° gave 43% $MeC(OAc)P(O)(OEt)_2$ and the initial ester in a 100% yield. b.p. 85-90°

ALIMOV, P.I.; CHEPLANOVA, I.V.

Mono-dichlorovinyl esters of some derivatives of phosphorus
acids and their properties. Izv.Kazan.fil.AN SSSR.Ser.khim.
nauk no.4:43-47 '57. (MIRA 12:5)
(Phosphorus acids) (Insecticides)
(Vinyl compounds)

ALIMOV, P.I.; FEDOROVA, O.N.; CHEPLANOVA, I.V.

Synthesis and properties of some mixed and N-substituted
amides of dialkylphosphoric acids. Izv.Kazan.fil.AN SSSR.Ser.
khim.nauk no.4:49-57 '57. (MIRA 12:5)
(Amides)
(Phosphoric acids)

ALIMOV, P.I.; CHEPLANOVA, I.V.

Syntheses and properties of some dialkyl, p-chlorophenyl- β -trichloroethyl phosphites, thiophosphites, and phosphines. Izv.Kazan.fil. AN SSSR. Ser.khim.nauk no.6:54-60 '61. (MIRA 16:5)
(Phosphorus organic compounds)

ALIMOV, P.I.; CHEPLANOVA, I.V.

Syntheses of some chlorine organic derivatives of phosphorus acids.
Izv.Kazan.fil. AN SSSR. Ser.khim.nauk no.6:61-67 '61. (MIRA 16:5)
(Phosphorus acids) (Chlorine organic compounds)

ALIMOV, P.I., FEDOROVA, O.N., CHEPLANOVA, I.V.

Syntheses of certain substituted amides and mixed esters of phosphorus acids with possible physiological activity.

Khimiya i Primeneniye Fosfororganicheskikh Soyedineniy (Chemistry and application of organophosphorus compounds) A. YE. ARBUZOV, Ed.
Publ. by Kazan Affil. Acad. Sci. USSR, Moscow 1962, 632 pp.

Collection of complete papers presented at the 1959 Kazan Conference on Chemistry of Organophosphorus Compounds.

L 52564-65 EWA(b)-2/EWA(j)/EWT(1) RO

ACCESSION NR: AF5015798

UR/0062/64/000/011/1998/2003

AUTHOR: Yarmukhametova, D. Kh.; Cheplanova, I. V.

20
19
B

TITLE: Organophosphorus derivatives of pentachlorophenol

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 11, 1964, 1998-2003

TOPIC TAGS: organic phosphorus compound, phenol, chlorinated organic compound, ester, fungicide, insecticide

Abstract: A series of esters of phosphoric, phosphorous, and thiophosphoric acids, containing pentachlorophenyl radicals, were synthesized for the study of their fungicidal and insecticidal properties. Phosphates and thiophosphates containing one or two pentachlorophenyl radicals were obtained. Four dialkylpentachlorophenyl phosphates were synthesized by the reaction of pentachlorophenol with chlorides of dialkylphosphoric acids in the presence of triethylamine (R = CH₃, C₂H₅, i-C₃H₇, and C₄H₉). Ethyl- and butyldi (pentachlorophenyl) phosphates were produced by the reaction of pentachlorophenol with dichlorides of ethylphosphoric and butylphosphoric acids. In addition to the phosphates, amidoesters of

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L 52564-65

ACCESSION NR: AP5015798

phosphoric acid with pentachlorophenyl radicals were synthesized by the reaction of pentachlorophenol with chlorides of phosphorus amido acids, and two esters of acids of trivalent phosphorus were produced by reaction of pentachlorophenol with corresponding acid chlorides. Sulfur added readily to diethylpentachlorophenyl phosphite, producing diethylpentachlorophenyl thiophosphate. Preliminary tests of one of the esters obtained: diethylpentachlorophenyl phosphate, showed that the product is relatively nontoxic for warm-blooded animals and exhibits negligible insecticidal activity with respect to the granary weevil. More detailed tests of the biological activity of the preparations are underway. Orig. art. has 1 table.

ASSOCIATION: Khimicheskiy institut im. A. Ye. Arbuzova Akademii nauk SSSR (Chemical Institute, Academy of Sciences, SSSR)

SUBMITTED: 05Feb63

ENCL: ()

SUB CODE: OC, GC

NO REF SOV: 003

OTHER: 09

JPRS

Card 2/2 - MB

L 26543-66 EWT(1)/EWT(m) RM/RO

ACC NR: AP6017359

SOURCE CODE: UR/0062/66/000/003/0489/0493

AUTHOR: Yarmukhametova, D. Kh.; Cheplanova, I. V. 35
B

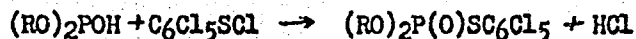
ORG: Chemical Institute im. A. Ye. Arbuzov, AN SSSR (Khimicheskiy institut AN SSSR)

TITLE: Organophosphorus derivatives of pentachlorothiophenol 7

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no.3, 1966, 489-493.

TOPIC TAGS: insecticide, phosphoric acid, ester, organic phosphorus compound, organic synthetic process

ABSTRACT: Organophosphorus derivatives of pentachlorothiophenol were synthesized to study their biological activity since many pentachlorothiophenol derivatives are known pesticides. A series of phosphoric acid esters containing the pentachlorothiophenyl radical were synthesized according to the reaction:



where R = CH₃, C₂H₅, C₃H₇, iso-C₃H₇, C₄H₉.

The physical constants and results are presented tabularly. Compounds with the ethyl and propyl radicals were also synthesized by the Arbukhov rearrangement of triethylphosphite and tripropylphosphite with pentachlorophenylsulfenyl chloride. The constants and results of analysis are presented.

A number of dithiophosphoric acid esters were synthesized by reaction of

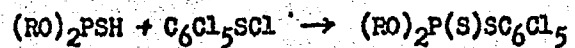
Card 1/2

UDC: 542.91+661.718.1

L 26543-66

ACC NR: AP6017359

0
dialkylthiophosphorous acids with pentachlorophenylsulfenyl chloride according to the reaction:



where R = CH₃, C₂H₅, C₃H₇, iso-C₃H₇. Four compounds of this series were characterized and described. Orig. art. has: 1 table. [JPRS]

SUB CODE: 07, 06 / SUBM DATE: 22Oct63 / ORIG REF: 002 / OTH REF: 008

Card 2/2 CC

ACC NR: AP6025399

SOURCE CODE: UR/0062/66/000/007/1260/1261

AUTHOR: Yarmukhametova, D. Kh.; Cheplanova, I. V.

ORG: Institute of Organic and Physical Chemistry, Academy of Sciences, SSSR
(Institut organicheskoy i. fizicheskoy khimii im. A. Ye. Arbuzova, Akademii nauk SSSR)

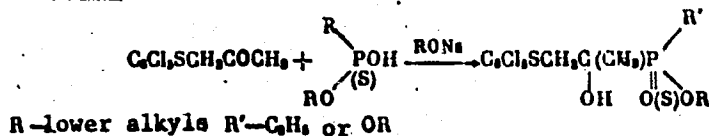
TITLE: Ester of 1-methyl-1-hydroxy-2-pentachlorothiophosphonic acid

SOURCE: AN SSSR. Izv. Ser khim, no. 7, 1966, 1260-1261

TOPIC TAGS: organothiophosphonic acid ester, pesticide, *ESTER, PHOSPHONIC ACID*

ABSTRACT:

The eight new esters shown in the table were obtained by the addition of pentachlorothiophenylacetone to dialkylthiophosphonous acids in the presence of sodium methoxide at 110-120°C:



The pesticidal activity of these esters is under investigation.

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UDC: 542.91+661.718.1

ACC NR: AP6025399

Table 1.

Formula	mp	Found, %			Calculated %			Yield of re-crystallized product
		P	Cl	S	P	Cl	S	
<chem>C6Cl3SCH2COCH3</chem>	125-126	—	52.81	8.81	—	52.43	9.16	70
<chem>C6Cl3SCH2C(CH3)P(OCH3)2</chem>	188-189	6.73 6.75	40.2 39.89	7.32	6.91	39.68	7.13	44
<chem>C6Cl3SCH2C(CH3)P(OCH2CH3)2</chem>	200-201	6.31 6.32	37.48 37.45	6.92 6.85	6.50	37.53	6.71	50
<chem>C6Cl3SCH2C(CH3)P(OCH2CH2CH3)2</chem>	167-168	5.79 5.97	34.80 34.86	6.57	6.14	35.18	6.34	50
<chem>C6Cl3SCH2C(CH3)P(OCH3)2C6H5</chem>	155-158	6.71	39.75	—	6.94	39.75	—	23
<chem>C6Cl3SCH2C(CH3)P(OCH3)2OC6H5</chem>	166-167	7.02	38.84 38.77	—	6.73	38.54	—	49
<chem>C6Cl3SCH2C(CH3)P(OCH3)2C6H5</chem>	149-151	6.79	37.31 37.23	—	6.53	37.41	—	35
<chem>C6Cl3SCH2C(CH3)P(OCH3)2</chem>	106-107	6.2 6.53	35.85	—	6.3	35.04	—	31
<chem>C6Cl3SCH2C(CH3)P(OCH2CH3)2</chem>	98-99	5.5	34.3 34.4	11.92	5.95	34.1	12.3	19

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ACC NR: AP6025399

Orig. art. has : 1 table and 1 formula. [W. A. 50; CEE No. 10]

SUB CODE: 07/ SUBM DATE: 02Dec65/ ORIG REF: 002/

Card 3/3

S/169/63/000/003/032/042
D263/D307

AUTHORS: Gal'tsov, A.P. and Cheplygina, A.S.

TITLE: Second conference on the problem of climatic transformation, Leningrad, June 11-13, 1962

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 3, 1963, 70, abstract 3B404 (Izv. AN SSSR. Ser. geogr., 1962, no. 5, 184-187)

TEXT: A conference was held in Leningrad on June 11-13, 1962, devoted to climatic change, organized by the Glavnaya geofizicheskaya observatoriya im. A.I. Voyeykova (Main Geophysical Observatory im. A.I. Voyeykov), Institut prikladnoy geofiziki (Institute of Applied Geophysics) and Institut geografii AN SSSR (Institute of Geography of the AS USSR). The following subjects were discussed: active influence on clouds and precipitation, methods of protecting plants from autumnal frost, climate improvement by acting on the snow cover, climate changes during action on the ice of the Northern Arctic Ocean, possibility of influencing atmospheric movements, and
Card 1/2

Second conference ...

S/169/63/000/003/032/042
D263/D307.

effect of climatic change on the system of natural landscapes.
[Abstracter's note: Complete translation]

Card 2/2

CHEPOROV, E.

The seventy sixth.... Sov.foto 22 no.3:18 Mr '62. (MIRA 15:2)
(France--Coal miners)

AFANASENKO, Ye.; CHEPOROV, E.

School students study photography; general instruction in photography is introduced in the schools of Balakhna. Sov.foto 21 no.9:20-21 S '61. (MIRA 14:9)

1. Ministr prosveshcheniya RSFSR (for Afanasenko).
(Balakhna--Photography--Study and teaching)

~~CHEPCROV, E.~~

The military correspondent as the newspaper's helper. Sov.foto.
23 no.2:18 F '63. (MIRA 16:4)

(Journalism, Military)

CHEPORUKHIN, M.

← Everyday activities of a factory committee. Mest.prom.i khud.
promys. 3 no.3:5-6 Mr '62. (MIRA 15:3)

1. Predsedatel' Altayskogo krayevogo komiteta profsoyusa rabochikh
mestnoy promyshlennosti i kommunal'nogo khozyaystva, g. Barnaul.
(Barnaul--Chemical industries)

PA 14T11

CHEPOV, P. M.

USSR/Medicine - Bulbocapnine
Medicine - Toxicology

May 1947

"The Application of a Method of Washing Living
Organisms in Bulbocapnine," P. M. Chepov, 2 pp

"Byul Eksp Biol i Med" Vol XXIII, No 6

Detailed data and brief discussion leading to the
conclusion that the effect of the poisoning can be
averted by subcutaneous injections in doses of 14 -
20 milligrams to the kilogram, which have a cataleptic
and catatonic effect, and that the same operation will
stop convulsions already induced by subcutaneous
injection of bulbocapnine in a dose of 50 milligrams
to 1 kilogram.

14T11

CHEPOV, P. M.

"Blood Circulation in a Grafted Extremity as Determined by Roentgen and Vasographic Observations," *Khirurgiya*, No 5, 1949

Roentgeno-Physiological Lab., Surgical Inst. im. Vishnevskiy, Dept. Clinical Med., Acad. Med. Sci., USSR

CHEPOV, P. M.

USSR/Medicine - Transplantation of Organs

"Transplantation of Organs," P. N. Mazayev, Dr Med Sci, P. M. Chepov, Can Med Sci, Inst of Surg imeni A. V. Vishnevskiy, Acad Med Sci USSR

"Nauka i Zhizn'" Vol XVIII, No 11, pp 29-32, *November 1951*

Describes successful transplantations of int organs (kidneys in dogs, heart in frogs and dogs, etc.) carried out by USSR investigators. Mentions importance of V. F. Gudov's new app for suturing in connection with transplantation techniques. On the basis of own work, describes auto transplantations of completely severed hind legs of dogs. There was complete healing and restoration of functions: the dogs have lived for about 3 yrs since the operation and are completely normal at present. Pictures of the running and jumping dogs are shown. Describe X-ray methods of observing stages of healing (particularly healing of blood vessels with the use of the USSR contrast agent Sergozin injected into blood).

PA 213T96

VISHNEVSKIY, A.A.; MAZAYEV, P.N.; CHEPOV, P.M.; GRITSMAN, Yu.Ya.; SHRAYBAR, M.I.

Problem of transplantation of organs. *Khirurgiya*, Moskva no. 8:5-12 Aug 1952. (GIML 23:3)

1. Corresponding Member AMS USSR, Professor for Vishnevskiy; Professor for Mazayev; Docent for Chepov; Candidate Medical Sciences for Gritsman and Shraybar. 2. Of the Institute of Surgery imeni A. V. Vishnevskiy, Academy of Medical Sciences. USSR.

CHEPOV, P.M.

"Immunological Incompatibility of Tissues of Homografts," by
N. N. Zhukov-Verezhnikov, M. M. Kapichnikov, P. M. Chepov, and
Ye A. Zotikov, Division of Immunology (head, Prof N. N. Zhukov-
Verezhnikov, Active Member, Academy of Medical Sciences USSR),
Institute of Experimental Biology, Academy of Medical Sciences
USSR (director, Prof I. N. Mayskiy), Eksperimental'naya Khirurgiya,
No 6, Nov/Dec 56, pp 55,62

The authors discuss the factors and the mechanism involved in the immunological incompatibility of tissues in homografts and possible means of preventing this type of tissue incompatibility. The authors' conclusions are based on a review of Soviet and Western literature. (U)

ZHUKOV-VEREZHNIKOV, N.N.; KAPICHNIKOV, M.M.; CHEPOV, P.M.; ZOTIKOV, Ye.A.

Immunological incompatibility of tissue in homoplastic trans-
plantation. Eksp. khir. 2 no.2:55-62 Mr-Ap '57.
(MIRA 12:8)

1. Iz otdela immunologii (zav. -deystvitel'nyy chlen AMN SSSR
prof.N.N.Zhukov-Vereshnikov) Instituta eksperimental'noy
biologii AMN SSSR (dir. -prof.I.N.Mayskiy).

(SKIN TRANSPLANTATION

homoplastic, immunol. incompatibility of
tissue. (Rus))

CHEPOV, P.M., Candidate of Medical Sciences, KAPICHNIKOV, M.M., Candidate of
Medical Sciences.

"Immunological Basis of Tissue Incompatibility in Homotransplants," and explained the incompatibility as based on the delicate immunological difference between the donor and the recipient. The major method for determining this incompatibility was a special method for the selection of donors and recipients, reduction of the antigenic properties of the preserved homotransplants, and a procedure to decrease the recipients' immunological reaction to homotransplants.

Paper presented at 11th Session of AMS USSR on Trauma, April 1957.

SO: Sum 1644

Sov. Zdrav. Kirgiz, FRUNZE, No. 6, 57 p. 60-61

КАПИЧНИКОВ, М.М., ЧЕПОВ, П.М.

**First All-Union Conference on Tissue Incompatibility and the
Transplantation of Organs and Tissues. Vest. AMN SSSR 13 no.8:79-83
'58 (MIRA 11:8)**

(TRANSPLANTATION OF ORGANS, TISSUES, ETC)

← CHEPOV, P.M.

Plasmaphoresis and transplantation immunity. Izv. AN Arm. SSR, Biol.
nauki 13 no.5:19-25 My '60. (MIRA 13:9)

1. Laboratoriya biologii antigenov Otdela immunologii Instituta
eksperimental'noy biologii AMN SSSR, Moskva.
(HOMOGRAFTS)

CHEPOV, P.M. (Moskva)

Basic problems in tissue and organ transplantation. Pat.fiziol.i
eksp. terap. 5 no,3:86-91 My-Je '61. (MIRA 14:6)

1. Iz instituta eksperimental'noy biologii (dir. - prof. I.N.
Mayskiy) AMN SSSR.

(TRANSPLANTATION OF ORGANS, TISSUES, ETC.)

L 19791-65 Pa-4 AMD/APGC(c)

ACCESSION NR: AR4045765

S/0299/64/000/013/M016/M016

SOURCE: Ref. zh. Biologiya. Svodnyy tom, Abs. 13M102

AUTHOR: Chepov, P. M.; Puzan, A. V.; Zotikov, Ye. A.; Urinson, R. M.; Babayeva, A. G.

TITLE: Immunological reactivity of an animal-recipient to a kidney homotransplant

CITED SOURCE: Sb. 3 Vses. konferentsiya po peresadke tkaney i organov, 1963. Yerevan, 1963, 109-112

TOPIC TAGS: dog, kidney, homotransplantation, immunization, blood transfusion

TRANSLATION: Kidney homotransplantation was performed on 6 dogs after total exsanguinotransfusion. The attempt to produce tolerance for a kidney homotransplant in adult dogs by total exsanguinotransfusion of blood failed. The transplanted kidneys died in 5 to 6 days, and in 1 dog 15 days, after transplantation. In individual cases the blood transfusion sensitized the recipient's organism. Kidney

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L 19791-65

ACCESSION NR: AR4045765

homotransplantation caused immune antibody formation in the recipient's organism, but the antibody titers varied in different dogs. The appearance or antibodies corresponded to the time of transplant death, and in 1 case preceded it. Difference in sex of donor and recipient was not found to affect kidney homotransplantation results.

SUB CODE: IS

ENCL: 00

Card 2/2

PUZA, A.V.[deceased]; CHEPOV, P.M.; ZOTIKOV, E.A.; URINSON, R.M.;
PORESHINA, Lidia P.

Total exsanguination transfusion and kidney homotransplantation in adult dogs in relation to the sensitization of the recipients. Folia biol. (Praha) 9 no.4:250-257 '63.

1. Institute of Experimental Biology and Genetics, Czechoslovak Academy of Sciences, Prague, Institute of Experimental Biology, Academy of Medical Sciences of the U.S.S.R., Moscow, Central Institute of Haematology and Transfusion, Moscow.

(KIDNEY TRANSPLANTATION) (EXCHANGE TRANSFUSION)
(ANTIBODY FORMATION) (HEMAGGLUTINATION INHIBITION TESTS)

CHEPOV, Yu.F.

Geology of the southern part of the Tedzhen-Margab interfluve.

Izv. vys. ucheb. zav.; geol. i razv. 7 no.6:49-53 Je '64.

(MIRA 18:7)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.

SOLUN, V.I.; CHEPOV, Yu.P.

Comparison of Paleogene sediments in Badkhyz, the Gaurdak region, the southern part of the Tajik Depression, and the northern foothills of the Hindu Kush. Trudy VSEGEI 102:272-294 '64.

(MIRA 18:2)

CHEPOVAYA, S. A.

PHASE I BOOK EXPLOITATION 548

Akademiya nauk SSSR. Tsentral'naya nauchno-issledovatel'skaya laboratoriya elektricheskoy obrabotki materialov

Elektroiskrovaya obrabotka metallov (Electrospark Machining of Metals) Moscow, Izd-vo AN SSSR, 1957. 225 p. (Series: Its: Trudy, vyp. 1) 5,000 copies printed.

Resp. Ed.: Lazarenko, B. R.; Ed. of Publishing House: Moyzhes, S. M.; Tech. Ed.: Astaf'yeva, G. A.

PURPOSE: This book is intended for scientists and engineers working in the field of electrospark machining of metals and for metallurgists and machine builders.

COVERAGE: This collection of technical papers deals with electrospark machining of metals. It presents information on developments in this field in the Soviet Union and abroad. A detailed discussion is given of the results of investigations of physical phenomena of electrospark process, the methods of measuring spark-gap power, metallographic examination of machined surfaces, and the design and development of new types of electrospark installations. For the abstract of each paper see the Table of Contents. There are 126 references of which 91 are Soviet, 19 English, 10 German, and 6 French.

Card 1/7

Electrospark Machining of Metals

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TABLE OF CONTENTS:

Lazarenko, B. R., and Lazarenko, N. I. Contemporary Stage of Development of Electrospark Machining of Metals and Some Scientific Problems in This Field 9

The author reviews the present stage of developments in the field of electrospark machining of metals and investigates the physical nature of the processes occurring in the electrode gap during electrical discharge. The investigation includes cases when the electrode gap is immersed in liquid and gaseous substance, but the major portion of the investigation is devoted to the latter case since this, according to the author, is a very complex process and is of great interest to scientists. The gap current-voltage relation is presented and the discharge process is described in detail. It is concluded that the gap current-voltage relation is to a great degree affected by the composition and the state of the electrode gap media, its temperature and pressure, and by the composition and geometry of the electrode. It is stated that the industrial use of the electrospark machining method was initiated in 1942 in the Soviet Union and since then has been growing very rapidly. Various operations performed by this method at the present time are listed. There are 9 Soviet references.

Zolotykh, B. N. On the Physical Nature of Electrospark Machining of Metals 38

This article deals with the investigation of the physical nature of the electro-erosion process in cases when the electrodes are immersed in a fluid dielec-

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Electrospark Machining of Metals

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tric. The experimental data and the mathematical expressions of the relations between the rate of metal erosion and the electrode gap energy are given and the effects of electrode polarity and pulse duration on the rate of erosion are investigated. Various existing theories developed in order to explain the nature of spark erosion are reviewed and their reliability in the light of available experimental data are discussed. The article contains several graphs of experimental data. There are 42 references, 33 of which are Soviet, 5 English, 3 German, and 1 French.

Lazarenko, N. I. Change in the Initial Properties of the Cathode Surface Under the Action of Electric Spark Pulses Flowing in Gaseous Media

70

In this article the author investigates changes in the properties of a negative electrode resulting from an electrical discharge when electrodes are immersed in a gaseous dielectric, and describes some practical applications of electrical erosion. Both electric spark and electric arc discharges were investigated. The author concludes that any type of electrical discharge is followed by erosion of electrodes and that for each type of electrical discharge there exists a corresponding polarity of erosion. There are 6 references, 5 of which are Soviet, and 1 German.

Mogilevskiy, I. Z., and Chepovaya, S. A. Metallographic Investigation of the Surface Layer of Steel Following Electrospark Machining

95

This article deals with the techniques of investigating the structure and
Card 3/7

Electrospark Machining of Metals

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properties of the surface layer of steel after electrospark machining especially in the machining of carbon steels with a graphite electrode. The investigation included U8 steel and Armco iron after machining with a graphite electrode under various operating conditions. It is concluded that after machining the surface layer becomes saturated with carbon to a considerable depth and it is possible to observe all structures and phases similar to those in iron-carbon equilibrium diagrams and nonequilibrium structures and phases observed after heat treatment of steel. It is also concluded that after electrospark coating of metals a diffusion of coating particles and the base material takes place. The article contains several photographs of the observed microstructure and a detailed description of their characteristics. There are 14 Soviet references.

Senatorov, K. Ya. Measurement of Power in Spark Gaps of Installations for Electrospark Machining of Metals

117

The article presents some of the results of experimental investigations conducted by TsNIL-ELEKTROM AN SSSR (Central Scientific Research Laboratory for Electric Treatment of Metals) in connection with the development of universal equipment and techniques for measuring the power of electrospark installations through the use of multielectrode tubes. The following methods of power measurement were investigated: 1) Calorimetric method 2) In-

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direct (graphical-analytical) method 3) Method based on the use of electron-tube equipment. The procedure of each method and its advantages and disadvantages are presented in detail. It is stated that the calorimetric method is a direct method based on measuring energy dissipated in the form of heat but as it requires the construction of a special electrospark installation with calorimeter, it is only feasible in laboratory conditions. Also this method does not make it possible to measure energy lost due to chemical transformations and the method gives only average results. The graphical-analytical method includes a method of graphical integration in the coordinates of "u" and "i" (where u=voltage applied, and i=gap current). If the relationship between "u" and "i" is available as a function of t (t=time) the problem reduces to the solution of the following integral:

$$W = \frac{N}{T} \int_0^{t_u} u(t)i(t) dt \quad (\text{where } W = \text{average power; } t_u = \text{pulse duration;}$$

and N = number of pulses). It is concluded that this method makes it possible to determine the energy and power in the spark gap with a high degree of accuracy, but requires special equipment to obtain the oscillograms of the relations between u(t) and i(t) or u(i) and that the solution of the integral is in many cases a time-consuming operation. The third method which is based on the use of electron-tube equipment is said to be an exact method

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Electrospark Machining of Metals

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and applicable to various types of electrospark-machining installations. A detailed description and illustration of the electron-tube watt meter used in this method are presented. There are 5 Soviet references.

Zolotykh, B. N., Mordvinov, Yu. B., and Kruglov, A. I. Mechanical Type Discharge Machines for Feeding Electrospark Installations and Their Characteristics 133

According to the article an increase in machining rate by the electrospark machining method may be achieved by the two following methods: 1) by pulse frequency 2) by increasing pulse energy. Since previous investigations have shown that the quality of a machined surface is inversely proportional to pulse energy, increase in energy will result in the reduction of surface quality. Thus this is not a practical method for increasing the rate of machining. On the other hand, an increase in pulse frequency does not affect surface quality, but can not be achieved in a system having condenser-charging circuit. As a result it was necessary to develop new types of pulse generators. A detailed description and an experimental investigation of such pulse generators are presented. It is stated that the maximum machining rate achieved by use of new machine generators during the process of producing holes at the full load was between 5000 and 5500 mm²/min., and the use of MIG-3A and MIG-3B electrospark generators increases the rate of machining steel and hard alloys from 2-3 times more than the estimated rate when using a condenser-charging system. There are 9 Soviet references.

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Electrospark Machining of Metals

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Levinson, Ye. M. Industrial Types of Electrospark Equipment

159

Contemporary industrial electrospark machining equipment is designed to perform three main operations: 1) machining of hollow parts and cutting of holes 2) grinding of surfaces 3) cutting (slitting) of metals. This article describes and gives technical specifications of 11 different types of electrospark equipment manufactured by the Leningrad Carburetor Plant imeni Kuybyshev for machining steel and hard alloys. Detailed information about each machine and a list of operations which may be performed are presented. There are no references.

Lazarenko, B. R. Present Stage of Development of Electrospark Machining of Metals Abroad

176

The author reviews the most important theoretical and experimental investigations on electrospark machining published abroad. There are 25 references of which 14 are English, 6 German, and 5 French.

AVAILABLE: Library of Congress

Card 7/7

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10-22-58

MOGILEVSKIY, I.Z.; CHEPOVAYA, S.A.

Metallographic study of surface layers of steels subjected
to electric spark machining. Trudy TSNIL-ELEKTROM no.1:95-116
'57. (MIRA 11:12)
(Electric metal cutting) (Steel—Metallography)

ACCESSION NR: AT4012871

S/3060/63/000/000/0119/0125

AUTHOR: Mogilevskiy, I. Z. (Deceased); Linetskiy, Ya. L.; Chepovaya, S. A.

TITLE: Macroscopic investigations of structural changes in the surface layers of steel and some alloys after electric spark discharge cutting

SOURCE: AN SSSR. Tsentr. n. -1. lab. elektr. obrabotki metallov. Elektroiskrovaya obrabotka metallov. Moscow, 1963, 119-125

TOPIC TAGS: electric spark discharge, macrostructural change, surface layer, steel, chromium nickel alloy, nickel containing alloy, electrical metal finishing

ABSTRACT: The macrostructural changes were investigated in the following materials: perlite steels: 45, 35 KhGSA, U9, U10, KhG, 9KhS and KhVG; martensite steels: hypoeutectoidal 19 KhNVA and ledeburites Kh12F, P18 and P9; austenite steels: G13 and 1Kh18H9T; and chromium nickel alloys: Kh20N80 (EI435), EI617. The surface of each sample cut perpendicularly to the plane of travel of the disc was micropolished and then etched to expose the macrostructural changes. Etching solutions were: 2.5 g FeCl_3 + 12.5 ml HCl + 25 ml ethyl alcohol, 3% HNO_3 , and 5% HNO_3 for carbon and alloy steels; electrolytic etching in 0.1% solution of hyposulfite at 0.15 amp/cm², 35

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volts, and 15 sec for EI617; a solution of 2 parts HNO_3 and 3 parts $\text{HCl} + \text{CuCl}_2$ by volume for the steel 1Kh 18N9T and alloy Kh20N80. The lubricant used in cutting was a suspension of kaolin using water with 50 g/liter of boric acid, 40 g/liter of borax and 450 g/liter of powdered kaolin, which was kept at 20-25C. Tables 1-3 in the Enclosure summarize the results obtained on samples of 35KhGSA steel and the hardened steel U9. Sections of the machined surface revealed a thin, shiny layer, 0.05-0.15 mm thick and present at all values of current. At higher currents (400-1000 amps) a wedge-like layer was observed, extending from about the center of the disc to its circumference. This layer was found to arise due to thermal heating of the rod during the cutting process, and its thickness h increased with working current and voltage, as did the length. The thickness was also larger when a DC generator was used, rather than a rectifier, as the current source. Furthermore, h decreased when the rod diameter was increased and the length of the layer decreased when the tangential velocity of the cutting disc was increased. The fact that it is more difficult for the lubricant to penetrate the gap when the cutting disc is near the center of the rod also contributes to the peculiar form of the thermal effect zones. Essentially similar results were obtained for other materials. Orig. art. has: 8 figures and 4 tables.

ASSOCIATION: Tsentr. n. li. lab. elektr. obrabotki metallov AN SSSR (Central Scientific Research Laboratory for Electrical Metal Finishing, AN SSSR)

Card 2/6

ACCESSION NR: AT4012871

SUBMITTED: 00

DATE ACQ: 13Feb64

ENCL: 03

SUB CODE: MM

NO REF SOV: 004

OTHER: 000

3/6

Card

ACCESSION NR: AT4012871

ENCLOSURE: 01

Table 1: Dimensions of thermal effect zones in rods of steel 35 KhGSA. Current source: step-down transformer with full-wave selenium rectifier. Average working voltage 21-23 v; tangential velocity of disc electrode 20 m/sec.

Average amps	Rod diameter 30 mm		Rod diameter 60 mm		Rod diameter 69 mm	
	Layer thickness mm	Layer Length	Layer thickness mm	Layer Length mm	Layer thickness mm	Layer Length mm
100	0.1	30	0.1	60	0.1	95
200	0.1	30	0.1	60	0.1	95
300	0.5*	14	0.1	60	0.1	95
400	0.65*	18	0.8*	23	0.1	95
500	1.3*	20	1.4*	46	0.1	95
600	1.5*	20	1.7*	48	0.1	95
700	--	--	1.8*	48	1.4*	52
800	--	--	2.2*	50	1.7*	50
					2.8*	57

* Melting and thermal effect zone

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ACCESSION NR: AT4012871

ENCLOSURE: 02

Table II: Dimensions of thermal effect zones in rods of steel 35KhGSA of 60 mm diameter. Current source: Direct current generator GS-500 with independent excitation and disconnected demagnetization winding. Average working voltage 21-23 v., tangential disc velocity 20 m/sec.

I average amps	Layer thickness mm	Layer length mm	I average amps	Layer thickness mm	Layer depth mm
100	0.1	60	500	1.7*	35
200	0.1	60	600	1.9*	47
300	0.7*	25	700	2.1*	50
400	1.4*	27			

*see Table I.

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ACCESSION NR: AT4012871

ENCLOSURE: 03

Table III: Dimensions of thermal effect zones in rods of steel U9. Average working voltage 22-24 v., tangential disc velocity 20m/sec.

Average amps	Step-down transformer and rectifier		Welding direct current generator	
	Layer thickness mm	Layer Length mm	Layer thickness mm	Layer length mm
100	0.1	30	0.1	30
200	0.1	30	0.1	30
300	0.1	30	0.5*	15
400	0.8*	18	1.6*	19
500	1.9*	17	1.7*	24
600	2.1*	25	--	--

*see Table I

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ZAKHARENKO, I.P., kand.tekhn.nauk; SIROTA, D.A.; CHEPOVETSKIY, I.Kh.

Introducing a hard-alloy instrument for processing parquets
from the wood of tropical species. Bum. i der. prom. no.4:
43-46 O-D '63. (MIRA 17:3)

ZAKHARENKO, I.P., kand.takhn.nauk; CHEPOVETSKIY, I.Kh., inzh.; SIROTA, D.A.,
inzh.

Knives with glued-in hard-alloy blades. Der. prom. 12 no.6:23-24
Je '63. (MIRA 16:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut sinteticheskikh
sverkhtverdykh materialov i instrumenta.

BAKUL', B.N., kand.tekhn.nauk; ZAKHARENKO, I.P., kand.tekhn.nauk;
CHEPOVETSKIY, I.Kh., inzh.

Sharpening hard-alloy wood-cutting instruments with diamond rings.
Der. prom. 12 no.9:8-9 S '63. (MIRA 16:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut sinteticheskikh
sverkhtverdykh materialov i instrumenta.

BAKUL', V.N., kand. tekhn. nauk; ZAKHARENKO, I.P., kand. tekhn. nauk;
CHEPOVETSKIY, I.Kh., inzh.; STARKOV, V.I., inzh.

Sectional hard-alloy milling cutter with an eccentric clamp.
Der. prom. 12 no.12:21-22 D '63. (MIRA 17:3)

1. Ukrainskiy nauchno-issledovatel'skiy institut sinteti-
cheskikh sverkhтвердых материалов i instrumenta.

SAGARDA, A.A.; CHEPOVETSKIY, I.Kh.

Diamond honing of cast-iron parts. Mashinostroitel' no.10:27-29
O '64. (MIRA 17:11)

BOLOTNYY, N.V.; CHEPOVETSKIY, I.Kh.; BORBAT, A.A.

Synthetic diamonds at the Zhitomir Automobile Spare-Part Plant.
Mashinostroitel' no.10:42-43 0 '64.

(MIRA 17:11)

CHEPOVETSKIY, I.Kh.; IMBIRSKIY, V.I.; FORBAT, A.A.

Synthetic diamonds at the Vladimir Traktor Plant and the "Serp
i Molot" Plant in Kharkov. Mashinostroitel' no.10:45 0 '64.
(MIRA 17:11)

ZAKHARENKO, I.P., kand.tekhn.nauk; CHEPOVETSKIY, I.Kh., inzh.

Hard alloy tool set for the processing of parquet. Der. prom. 13
no.4:20-22 Ap '64. (MIRA 17:4)

SAGARDA, A.A., kand. tekhn. nauk; CHEFOVETSKIY, I.Kh.

Honing cylinder blocks with synthetic diamond bars. Avt. prom.
30 no.12:42-43 D '64. (MIRA 18:2)

1. Nauchno-issledovatel'skiy konstruktorsko-tekhnologicheskii
institut sinteticheskikh sverkhтвердых материалов i instrumenta
Gosplana UkrSSR.

GHEPOVETSKIY, I.Kh., inzh.; IMEIRSKIY, V.I.; GALITSKIY, V.N., inzh.

Working cylinders and connecting rods of the D37M engine with
synthetic-diamond bars. Vest.mashinostr. 45 no.3:53-56 Mr
'65. (MIRA 18:4)

CHEPOVETSKIY, I.Kh., inzh.; NELPOVICH, P.V., inzh.; GUSHCHIN, I.A., inzh.

Diamond honing of parts made of hardened steel. Mashinostroenie
no.5:27-30 S-0 '65. (MIRA 18:9)

SAGARDA, A.A., kand. tekhn. nauk; CHEPOVETSKIY, I.Kh., inzh.

Diamond honing of engine cylinders of motor vehicles and
tractors. Mashinostroenie no.4:36-37 J1-Ag '64.

(MIRA 17:10)

VUL'F, V.V.; CHEPOVSKAYA, V.F., starshiy inzh.

New method of inspection, maintenance and repair of locomotives.
Elek.i tepl. tiaga 5 no.12:9-11 D '61. (MIRA 15:1)

1. Glavnyy tekhnolog otdela remonta i modernizatsii teplovozov
Glavnogo upravleniya lokomotivnogo khozyaystva Ministerstva putey
soobshcheniya (for Vul'f). 2. Otdel remonta i modernizatsii
elektropodvizhnogo sostava Glavnogo upravleniya lokomotivnogo
khozyaystva Ministerstva putey soobshcheniya (for Chepovskaya).
(Locomotives—Maintenance and repair)

SHINDEL', Ya.G. [Shyndel', IA.H.]; CHEPOVETSKIY, V.M. [Chepovets'kyi, V.M.];
SPIRIN, V.K.

Automation of manual operations in dyeing and finishing processes.
Leh.prom. no.1s20-22 Ja-Mr '64. (MIRA 19:1)

CHEPOVSKIY, V.S. (L'vov, ul.Pavlova, d.3, kv.3)

Treating acute mastitis by electrophoresis of antibiotics. Nov.
khir. arkh. no.1:84-87 Ja-F '60. (MIRA 15:2)

1. Kafedra gospital'noy khirurgii (zav. - prof. L.N.Kuzmenko)
L'vovskogo meditsinskogo instituta.
(ELECTROPHORESIS) (ANTIBIOTICS)
(BREAST DISEASES)

CHEPOVSKIY, V.S. (L'vov, 17, ul. Akademika Pavlova, d. 3, kv. 3)

Electrophoretic study of blood plasma proteins in patients with acute surgical hepatobiliary diseases. Klin.khir. no.5:35-38
My '62. (MIRA 16:4)

1. Kafedra gospital'noy khirurgii (zav. - prof. L.N.Kuzmenko)
L'vovskogo meditsinskogo instituta.
(BLOOD PROTEINS) (LIVER—DISEASES) (BILE DUCTS—DISEASES)

CHEPRAKOV, N.H.; SHNIREL'MAN, A.I. (Moskva)

Paragonimosis of the lungs. Klin.med. 34 no.12:69-71 D '56.
(LUNG DISEASE (MIRA 10:2)

Paragonimus infect., clin.aspects & ther.)
(PARAGONIMUS, infect.
lungs, clin. aspects & ther.)

Средство 11
CHEPRAKOV, N.H. (Moskva)

Peculiarities of the clinical course of myocardial infarction in
hypertension. Klin.med. 35 [i.e.34] no.1 Supplement:8 Ja '57.
(HEART--INFARCTION) (MIRA 11:2)
(HYPERTENSION)

CHEPRAKOV, N. N.

SHNIREL'MAN, A.I.; CHEPRAKOV, N.N. (Moskva)

A case of multiple trematode infection. Klin.med. 36 no.3:119-121
Mr '58. (MIRA 11:4)

(TREMATODE INFECTIONS, case reports
combined clonorchiasis & paragonimiasis (Rus))

CHEPRAKOV, N.N., polkovnik meditsinskoy sluzhby

Paragonimiasis. Voen.-med. zhur. no.5:81-82 My '61. (MIRA 14:8)
(LUNGS—DISEASES) (TREMATODA)

CHEPRAKOV, N.N., polkovnik meditsinskoy sluzhby

Use of biokhinol in atherosclerosis. Voен.-med.zhur. no.9:81 S
'61. (MIRA 15:10)

(BISMUTH COMPOUNDS)

(ARTERIOSCLEROSIS)

CHEPRAKOV, V

A

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NERAVNOMERNOST' RAZVITIYA KAPITALIS-TICHESKIKH STRAN I OBSTRENIYE PROTIVORECHIY
MEZHDU NIMI. MOSKVA, IZD-VO ZNANIYE, 1953.

46 P. TABLES (VSESOYUZNOYE OBSHCHESTVO PO RASPROSTRANENIYU POLITICHESKIKH I NAUCH-
NYKH ZNANIY. 1953, SERIYA 2, NO. 9)

RUSSIA

CHEPRAKOV, V.

"International Postwar Air Transportation," *World Economics and World Politics*, No.8, 1945

CHEPRAKOV, V

Militarizatsiya stran Severo-Atlantiche kogo bloka
(Militarization of the Countries of the North Atlantic Bloc)
Moskva, Voennoye Izd-vo Ministerstva Oborony Soyuzo SSR, 1954.

95 p.

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CHEPRAKOV, V.

Lenin's theory of the uneven development of capitalism and the
intensification of imperialistic conflicts in the postwar period.
Vop.ekon. no.4:30-47 Ap '56. (MLRA 9:8)
(Foreign economic relations)

CHEPRAKOV, V.

Social demagogy of bourgeois economists of the U.S.A. Sov. profseiny
4 no.1:73-79 Ja '56. (MIRA 9:4)
(United States--Economic conditions)

CHEPRAKOV, V., kand.ekonomicheskikh nauk

History and our time ("History of the Great Patriotic War of
the Soviet Union, from 1941 to 1945." Vol.1. Reviewed by
V. Cheprakov). Komm. Vooruzh. Sil 1 no.1:89-94 O '60.
(MIRA 14:7)

(World War, 1939-1945)

CHEPRAKOV, V.

State monopoly capitalism and bourgeois economics. Vop.ekon.
no.7:83-98 J1 '62. (MIRA 15:7)
(Capitalism) (Economics)

CHEPRAKOV, V.

The plot of monopolies. Sov. profsoiuz 18 no.15:40-42 Ag
'62. (MIRA 15:7)
(European Economic Community)

ЧЕРПАКОВА, Ю. И.

USSR/Biology - Physiology

Card 1/1 Pub. 22 - 47/47

Authors : Cherpakova, Yu. I.

Title : Oxygen demand of *Carassius auratus gibelio* (Bloch) fish during early stages of development

Periodical : Dok. AN SSSR 98/5, 877-880, Oct 11, 1954

Abstract : Morphological and ecological data, regarding the oxygen demand of the gold fish (Bloch) during the early stages of their development, are presented. Nine USSR references (1932-1954). Graph.

Institution : Academy of Sciences USSR, The A. N. Severtsov Institute of Animal Morphology

Presented by : Academician E. N. Pavlovskiy, August 2, 1954

AUTHOR: Cheprakova, Yu. I.

SOV/20-121-5-42/50

TITLE: The Structure and Histogenesis of Pharyngeal Teeth in Certain Cyprinidae Species (Stroyeniye i gistogenez glotochnykh zubov nekotorykh vidov karpovykh ryb)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 121, Nr 5, pp. 920-923 (USSR)

ABSTRACT: The data in publications on the morphology, histology, and histogenesis of the teeth mentioned in the title are contradictory (Refs 2-13). The author studied these teeth from the moment of the hatching of the animals with the common crucian (Carassius auratus L.), the brace (Abramis brama L.), the roach (Rutilus rutilus L.), the carp (Cyprinus carpio L.), and the barbel (Barbus barbus L.). For the three last-listed species preparations developed by Professor S. V. Yemel'yanov were used. The material was fixed by liquids of Zenker (Tsenker) and Bueno, and then decalcified in a 5 per cent nitric acid and in a 10 per cent glycerin. The preparations were completely stained with boron-carmin and the sections were counterstained on slides according to Mallory and with iron-haematoxylin according to Haiderhain (Gaydengayn). With all the species studied

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SOV/20-121-5-42/50

The Structure and Histogenesis of Pharyngeal Teeth in Certain Cyprinidae Species

in this place the pharyngeal teeth are, after the hatching, arranged in two rows, of conical shape (Ref 2) and do not protrude into the lumen of the throat. They serve possibly for the stretching and smoothing of the wrinkled part of the throat at the respiratory movements. The wall of the teeth is thin, in it cells are discernible (Fig 1 a). The cells are of irregular form and have characteristic protuberances. The small canals characteristic for dentine are absent as well in the apical as in the dental part of the tooth. From this fact the author concludes that the primary pharyngeal teeth consist of bone tissue, whereby they differ from the teeth of further generation, which are built up of dentine. There are 4 figures and 13 references, 8 of which are Soviet.

ASSOCIATION: Institut morfologii zhivotnykh im. A. N. Severtsova Akademii nauk SSSR (Institute for Zoomorphology imeni A. N. Severtsov, Academy of Sciences, USSR)

PRESENTED: April 1, 1958, by I. I. Shmal'gauzen, Member, Academy of Sciences, USSR

SUBMITTED: March 4, 1958

Card 2/2

CHEPRAKOVA, Yu.I.

Some data on the effect of iron salt concentration on the
development and survival of fish eggs. Vop. ikht. no. 14:
110-112 '60. (MIRA 13:8)

1. Institut morfologii zhivotnykh im. A.N. Severtsova Akademii
nauk SSSR.

(Iron--Physiological effect)
(Embryology--Fishes)

CHEPRAKOVA, Yu.I.

Relationship between the fat content of eggs and morphobiological characteristics of female roach. Dokl. AN SSSR 135 no.1:233-235
N '60. (MIRA 13:11)

1. Institut morfologii zhivotnykh im.A.N.Severtsova AN SSSR.
Predstavleno akademikom Y e.N.Pavlovskim.
(Fishes--Eggs) (Roach (Fish)) (Fat)

CHEPRAKOVA, Yu.I.

Fat content of unfertilized eggs of rutting females in a spawning roach school. Trudy sov. Ikht. kom. no.13:296-300 '61. (MIRA 14:8)

1. Laboratoriya ikhtiologii Instituta morfologii zivotnykh AN SSSR.

(Roach (Fish)) (Fishes—Eggs) (Fat)

CHEPRAKOVA, Yu.I.; VASETSKIY, S.G.

Characteristics of the mature roe of roach (*Rutilus rutilus caspicus* Jak.) in relation to the nature of the spawning stock. Vop. ikht.
2 no.2:262-274 '62. (MIRA 15:11)

1. Institut morfologii zhivotnykh imeni A.N.Severtsova AN SSSR.
(Volga River--Roach (Fish)) (Caspian Sea--Roach (Fish))
(Fish--Eggs)

CHEPRAKOVA, Yu.I.

Change in the amount of fat in the body of small White Sea herring of the Kandalaksha Bay as related to its biology. Trudy Inst. morf. zhiv. no.42:138-145 '62.

(MIRA 17:10)

30757. CHEPRASOV, A. F.

Opolzni v kaspiysknkh otlozheniyakh rayona g. stalingrada. Voprosy gidrogeologii i inzh. geologii, sb. 12, 1949, s. 60-66.

TASECHINA, M.V.; ~~CHEPRASOV, B.L.~~

Unusual eruptive breccias in the Altai. Izv. AN Kazakh. SSR. Ser.
geol. no. 21:14-28 '55. (MLRA 9:8)
(Altai Mountains--Breccia)

CHEPRASOV, B.L.

Using cuttings obtained in rotary and air drilling in geological
documentation and assaying. Trudy Alt.GMNI AN Kazakh.SSR
12:113-118 '62. (MIRA 15:8)
(Prospecting) (Borings)

CHEPRASOV V. A.
p. 8

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PHASE I BOOK EXPLOITATION

SOV/2445

Akademiya nauk SSSR. Vychislitel'nyy tsentr

Vychislitel'naya matematika (Computational Mathematics) Moscow, Izd-vo AN SSSR, 1959. 183 p. (Series: Its: Sbornik, 4) Errata slip inserted. 5,000 copies printed.

Resp. Ed.: V. A. Ditkin, Professor; Ed.: M. V. Yakovkin; Tech. Ed.: I. N. Guseva.

PURPOSE: This book is intended for applied mathematicians, scientists, and engineers.

COVERAGE: This book contains seven articles concerning the development of new methods of constructing nomograms of practical value in computations. The first two articles, which make up the largest part of the book, deal with various aspects of practical nomography. Much attention is paid to the nomograms with movable scales and to the nomographing of canonical forms. Projective transformations of alignment nomograms, design of nomograms on high speed computers, nomograms of polynomials, elements of the theory of nets and their application to nomography are also discussed

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Computational Mathematics (Cont.)

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in the book. References accompany each article.

TABLE OF CONTENTS:

Khovanskiy, G. S. Certain Problems of Practical Nomography 3

Ch. I. Nomograms With Orientated Movable Scale for Equations With Four Variables 3

- 1. Introduction 3
- 2. Nomographing the canonical form $f_3 = F(f_{12} + f_4, g_{12} + g_4)$ 5
- 3. Nomographing the canonical form $f_4 + F(g_{12}, g_{12}) + f_{12} = 0$ 7
- 4. Nomographing the canonical form $A(\alpha) + B(B)C(\gamma, \delta) + D(\gamma, \delta) = 0$ 8
- 5. Nomographing the canonical form $f_{12} + g_{12} g_{34} + f_{34} = 0$ 11
- 6. Nomographing the canonical form

$$\begin{vmatrix} f_1 & g_1 & 1 \\ f_2 & g_2 & 1 \\ f_{34} & g_{34} & 1 \end{vmatrix} = 0$$

7. Nomographing the canonical forms 15

$f_1 = \frac{f_2 + f_{34}}{g_2 + g_{34}}$ 16

$f_1 f_2 f_{34} + (f_1 + f_2) g_{34} + h_{34} = 0, f_1 f_{34} + f_2 g_{34} + h_{34} = 0$

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Computational Mathematics (Cont.)

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Ch. II. Nomograms With Orientated Movable Scale for Equations Representable by Alignment Nomograms

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$$\begin{vmatrix} b_1 & f_1 & 1 \\ b_2 & f_2 & 1 \\ b_3 & f_3 & 1 \end{vmatrix} = 0$$

- 10. Nomographing the canonical form 25

$$\begin{vmatrix} f_1 & s_1 & 1 \\ f_2 & s_2 & 1 \\ f_3 & s_3 & 1 \end{vmatrix} = 0$$

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$$\begin{vmatrix} f_1 & s_1 & 1 \\ f_2 & s_2 & 1 \\ f_3 & s_3 & 1 \end{vmatrix} = 0$$

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$$b_1 b_2 b_3 + (b_1 + b_2) f_3 + b_3 f_2 = 0$$

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$$f_2 + f_{34} = F(g_1, g_2 + g_{56}) + \Phi(g_{34} - g_{56})$$

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