

ACCESSION NR: AP4009828

are suitable for production of laminated plastics and cast articles, with good water-resistant and dielectric properties. These thermally reactive materials based on divinyls are given the general name dienol S. Orig. art. has: 4 figures and 2 tables.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 10Feb64

ENCL: 00

SUB CODE: MA

NR REF SOV: 001

OTHER: 003

2/2

Card

GOVERNOR'S OFFICE, STATE OF NEW YORK, APRIL 10, 1870.

... stor for the  
gen. of Plasticity  
(M.R.C. 1960)

BAIKUND, G. I.; SHARMA, R. M.; KERMANI, V. N.; NAGIEINA, A. J.

Quantitative analysis of the molecular weight of polyisobutylene polymers and divinyl  
monomers by means of total ion mass-spectral spectra. Russ. massy  
[J. Polym. Sci. B-1] 1970, 8, 1861-1866.

NA IBINA, A. Ya.

"The Effect of Ascorbic Acid on the Blood Sugar Level upon Administration of Adrenalin and Insulin," Farmakol. i Toksikol., 4, No. 3, 1941.

Mbr. Exp. Lab., Dnepropetrovsk Inst. Maternal and Child Welfare -1941-.

SOV/140 1.1-14/2

AUTHOR: Nagibina, I.I., Candidate of Physic-Mathematical Sciences; Orlova, S.A., Engineer

TITLE: On the Methods of Measuring the Width of Spectral Line Contours on a Picture Obtained with a Fabri-Perrault Interferometer (O metodike izmereniya shiriny konturov spektral'nykh liniy po kartine, poluchayemoy pri pomoshchi interferometra Fabri-Pero)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Priborostroyeniye, 1958, Nr 1, pp 1.2-1.8 (USSR)

ABSTRACT: Scientific literature contains a number of methods for processing results of observations with various Fabri-Perrault standard assemblies with a spectral instrument. The formulae given in literature do not take into consideration changes in the dispersion of the standard. This paper deals with measuring the width of a spectral line without taking into account the background, i.e.  $I_{max}$  is measured from 1 min. As measuring this way is fairly long (it requires a characteristic curve

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Sov. Inv. 1-1-14/22  
On the Methods of Measuring the Width of Optical Line Structures on  
a Picture Obtained with a Fabric Refractor Interferometer

for the plate) a filter fixture is recommended for the input aperture of the spectrograph, which accelerates and simplifies processing of the interference picture. The principle is as follows. The picture is a two stage extenuator, the first stage of which is fully transparent and the second stage semi-transparent. This extenuator is placed directly in front of the aperture of the spectrograph, so that the latter is vertically divided into 2 equal parts, as is the line on the interference picture. In the center of the ring of one part there is a maximum corresponding to  $I_{max}$  and in the other part a minimum corresponding to  $I_{max}/2$ . With this type of filter, line width measurement is reduced to 2 readings of the microphotometer drum. The paper tabulates the values of measuring line widths of MgII, 279 Å, CaII 393 Å, CaII 3968 Å by 2 methods, where the concentrations of the tested metal in solution and the number of the measured ring are given, the measurement of the line

Card 2/3

On the Methods of Measuring the Width of Spectral Line Contours in  
a Picture Obtained with a Fabric-Perrault Interferometer

SOV/146-1-1-14/22

width being shown in both cases. The reproduction  
accuracy of the measurements is 4% - 5%. There are 2  
graphs, 2 diagrams, 1 schematic diagram, 1 figures,  
1 photograph, 2 tables and 7 Soviet references

ASSOCIATION: Leningradskiy institut tochnoy mekhaniki i optiki  
(Leningrad Institute of Fine Mechanics and Optics)

Card 3/3

NAGIBINA, I. M., and GELDERMAN, I. A.

"Application of Carbon Electrodes in Spectral Analysis of Solutions".  
Sb. Statey Leningr. in-ta Tochnoy Mekhan. i Optiki, No 11, pp 108-115, 1954

Three methods of introducing the solution into carbon electrodes of an ac arc were investigated. They consisted in impregnating the electrode with the solution in a vessel; depositing drops on the terminal of the heated electrode; preliminary treatment of the electrode with a 3% solution of polystyrene in benzene with a subsequent deposit and drying of the analyzed solution. Tests of these methods showed a different character of burning of solutions, which may be explained by different interaction between the carbon and the solution in the first two methods, while no interaction was found in the third case. Therefore the third method was found the best. (RZhFiz, No 9, 1955)

SO: Sum No 812, 6 Feb 1956

*Nagibina, I. M.*

✓ 11893 AEC-tr-2563  
INVESTIGATION OF THE WIDTH OF SPECTRAL LINES IN  
AN ARC SOURCE OF LIGHT. A. Ya. Vyatskil (Vyatsky)  
and I. M. Nagibina. Translated from Doklady Akad. Nauk  
S.S.R. 98, 59-62(1954). 5p.

The results reported indicate a linear dependence of  
spectral line widths on the concentration of impurity atoms  
in the arc plasma. The spreading begins at concentrations  
corresponding to the point at which the gradation graph  
"bends over." (T.R.H.)

*Leningrad Inst. Precision Instruments + Optics.*

NAGIBINA, I. M.

Nagibina, I. M. — "Investigation of the Dependence of the Width of the Spectrum Lines on the Concentration of Atoms in an Alternating Current Arc Discharge." Min Higher Education USSR, Leningrad Inst of Precise Mechanics and Optics, Leningrad, 1955. (Dissertation for the Degree of Candidate in Physicomathematical Sciences.)

SO: Knizhnaya Letopis', No 23, Moscow, June 1955, pp. 87-104

NAGIBINA, I.M.

Graduated graphs and spectral line breadth in a.c. arc discharges.  
Izv. AN SSSR. Ser. fiz. 19 no.1:25-27 Ja-F '55. (MLRA 8:9)

1. Leningradskiy institut tochnoy mekhaniki i optiki  
(Spectrum analysis) (Spectrometer)

NAGIBINA, I.M., kand.fiz.-mat.nauk; ORLOVA, S.A., inzh.

Measuring contour width of spectrum lines by means of pictures  
obtained on the Fabry and Perot interferometer. Izv. vys. ucheb.  
zav.; pri. no.1:102-108 '58. (MIRA 11:5)

1.Leningradskiy institut tochnoy mekhaniki i optiki.  
(Interferometer) (Absorption spectra)

Sov/51-4-4-1/24

**AUTHORS:** Dvornikova, I.V. and Nagibina, I.M.**TITLE:** Determination of the Degree of Non-uniformity in DC and AC Arc Discharges (Opredeleniye stepeni neodnorodnosti dugovogo razryada postoyannogo i peremennogo toka)**PERIODICAL:** Optika i Spektroskopiya, 1958, Vol IV, Nr 4,  
pp 421 - 429 (USSR).**ABSTRACT:** The present paper describes experimental investigation of non-uniformity in spatial distribution of excited and normal atoms and ions in arc discharges. The investigation is based on the theory of emission by a non-uniform source given by Cowan and Dieke (Ref 5) and on new experimental data of distribution of temperature of neutral atoms across an arc discharge (Refs 3, 4). The non-uniformity is determined from the depth of dips of self-reversed multiplet lines. The AC and DC arcs were burning at atmospheric pressure. Non-uniformity was determined for neutral atoms of chromium and manganese and ions of calcium and strontium. To measure the dip in self-reversal lines, a Fabry-Perot etalon was used together with spectrographs of high dispersive power. The optical apparatus used to study DC arcs is shown in Figure 4, while that used for AC arcs is shown in Figure 5. In both figures light from arc 1 was directed by a lens 2 onto a Fabry-Perot etalon 3. A

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Sov/51-4 4-1/24

Determination of the Degree of Non-uniformity in DC and AC Arc Discharges

focusing lens 4 projected a sharp image of interference rings onto a spectrograph slit 5. To study DC arcs, an auto-collimating spectrograph with a diffraction grating (600 lines/mm) 6 and a plane mirror 8 were used (Figure 4). Dispersion of the spectrograph 6 was 4 Å/mm in the second order. In the apparatus for study of AC arcs (Figure 5) a triple-prism glass spectrograph G-50 was used (see Ref 7). In the visible region silvered mirrors with a coefficient reflection of 90% were used in the Fabry-Perot etalon; in the ultra-violet region, aluminized mirrors with 33% reflectivity were used. Separation between the etalon plates was varied from 2 to 5 mm. The DC arc discharge was produced between a copper anode and a nickel-chromium alloy or calcium cathode. The AC arc was produced between spectrally pure carbon electrodes. The multiplets of Ca II, Sr II, Cr I and Mn I are listed in Table 1. Figure 6 shows photographs of self-reversed lines of green and violet triplets of chromium. By way of example, Table 2 shows the results of determination of the degree of non-uniformity in the arc discharges,  $n$  (as defined in Ref 5) from the data for lines Ca II at 3968.5 and 3933.7 Å. Table 3

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Sov/51-4-4-1/24

Determination of the Degree of non-uniformity in DC and AC Arc discharges

gives the results of calculation of  $n$  based on the green triplet of chromium. All results are summarized in Table 4. The following conclusions are made: 1) AC and DC arc discharges exhibit only a small degree of non-uniformity ( $n = 1.5$  for neutral atoms of chromium and manganese); 2) Variation of the arc current and concentration of atoms in the arc produces some change in the degree of non-uniformity; 3) For ions the arc discharges are found to be more uniform than for neutral atoms (e.g.  $n = 1.3$  for Ca II); ions are distributed in the central portion of the arc discharge where temperature varies only slightly. The authors thank V.K. Prokof'yev for valuable advice and S.A. Orlova for her help in this work.

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Determination of the Degree of non-uniformity in DC and AC Arc Discharges

Sov/51-4-4-1/24

There are 6 figures, 4 tables and 10 references, 5 of which are Soviet, 3 German, 1 Dutch and 1 in English.

ASSOCIATION: Gosudarstvennyy opticheskiy institut im. S.I. Vavilov  
(State Optical Institute imeni S.I. Vavilov)  
Leningradskiy institut tochnoy mekhaniki i optiki  
(Leningrad Institute of Precision Mechanics and Optics)

SUBMITTED: May 6, 1957

Card 4/4 1. Electric arcs--Physical properties

AUTHOR: Nagibina, I.M.

Sov/51-4-4-2/24

TITLE: Determination of Concentration of Atoms in the Plasma  
of an AC Arc Discharge from the Width of Spectral Lines  
(Opredeleniye kontsentratsii atomov v plazme dugovogo  
razryada peremennogo toka po shirine spektral'nykh liniy)PERIODICAL: Optika i Spektroskopiya, 1958, Vol IV, Nr 4,  
pp 430 - 437 (USSR).

ABSTRACT: The author measured absolute concentration of normal atoms of manganese, cadmium, iron and of calcium ions in an AC arc discharge. The concentrations were deduced from measurements of widths of non-self-reversed resonance lines. The method of measurements was based on Cowan and Dieke's theory (Ref 8) and on discussion of this theory given in Ref 10. The concentrations of atoms were found as follows. After experimental determination of the ratio  $u/\delta$  (where  $u = \sqrt{v} - \sqrt{v}_0$ ,  $\delta$  = half-width of the line for an infinitely thin emitting layer) the value of an absorption parameter  $p$  was found, for a known value of arc-discharge non-uniformity  $n$ , from curves given in Figure 1. Then from Eq.(4), which relates  $p$  to the concentration of atoms  $N_a$  and

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Sov/4-4-2/24

Determination of Concentration of Atoms in the Plasma of an AC Arc Discharge from the Width of Spectral Lines

oscillator strength  $f$ , the value of  $N_a$  was calculated, if  $f$  is known. The wavelengths of the spectral lines of Ca II, Mn I, Fe I and Cd I and values of their absolute oscillator strengths  $f$  are given in Table 1, together with values of the degree of non-uniformity  $n$ . The values of  $f$  were taken from Refs 11-14. The apparatus consisted of a Fabry-Perot etalon and an ISP-22 spectrograph (Figure 2). An AC arc between carbon electrodes was used as the source of light. Aqueous solutions of salts of Ca, Fe, Mn and Cd were placed on the end of one carbon electrode (previously covered with a layer of polystyrene) and evaporated to leave a thin film of the appropriate salt. The experimental results and calculations of concentrations of atoms for all the lines given in Table 1 are collected in Table 2. Figures 4-7 give the experimental dependences of the relative width of spectral lines on concentrations of atoms in arc discharges. For all the spectral lines studied, a linear dependence of  $\delta/\delta_0$  on the concentration of atoms or ions was found to be linear.

Figure 8 shows an example of dependence of the absolute

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Sov/Sl-4-4-2/24

Determination of Concentration of Atoms in the Plasma of an AC Arc  
Discharge from the Width of Spectral Lines

concentration of atoms (or ions) in the AC arc discharge on the relative concentration of the element studied in the solution deposited on the carbon electrode. This dependence is also a linear one. The author makes the following conclusions: 1) Measurements of concentrations of atoms or ions can be made under conditions where broadening of resonance lines occurs without self-reversal in arc discharges. The concentrations found were of the order of  $10^{12} - 10^{13}$  per  $\text{cm}^3$  except for the Cd I 3261 Å line for which the oscillator strength  $f$  was small; 2) the range of the measurable concentrations depends on the properties of the spectral line for which measurements were made. Using various lines of one element, one may broaden the limits of measurable concentrations. These limits may be extended towards higher concentrations by using the method reported in Ref 13; 3) If a mixture of two elements of different concentrations is introduced into the arc discharge and the value of the oscillator strength  $f$  is known for one element, the absolute values of oscillator strengths for the other elements may be determined from

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Determination of Concentration of Atoms in the Plasma of an AC Arc  
Discharge from the Width of Spectral Lines <sup>Sov/51-4-4-2/24</sup>

the measurements described in this paper. The author thanks Professor V.K. Prokof'yev for valuable advice and acknowledges the help of S.A. Orlova and I.A. Berezhnaya in this work. There are 8 figures, 2 tables and 17 references, 14 of which are Russian, 2 German and 1 in English.

ASSOCIATION: Leningradskiy institut tochnoy mehaniki i optiki  
(Leningrad Institute of Precision Mechanics and Optics)  
SUBMITTED: June 25, 1957  
Card 4/4 1. Electric arcs--spectrographic analysis

AUTHOR: Nagibina, I. M. SOV/48-22-6-11/28

TITLE: The Determination of the Relative Forces of Oscillators in the Arc Discharge From the Width of the Spectral Lines (Opredeleniye otnositel'nykh sil ostsil'yatorov v dugovom razryade po shirine spektral'nykh liniy)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, 1958, Vol. 22, Nr 6, pp. 681-682 (USSR)

ABSTRACT: This paper uses the theory developed by Cowan and Dieke (Kauen and Dike) for the purpose of measuring the concentrations of atoms and ions in the arc discharge of an alternating current as well as for the determination of the relative forces of oscillators for some transitions. These measurements were carried out within range of the curvature of the growth curve where the spectral lines begin to widen, but where their reversal still continues. Carbon electrodes were used for this experiment. A thin layer of salt of the element under investigation was applied onto the surface of the lower electrode. The width of line was measured according to the theoretical curves of the ratio between this width and the absorption parameters, and also the concentration of the non-excited

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The Determination of the Relative Forces of Oscillators  
in the Arc Discharge From the Width of the Spectral Lines

SOV/48-22-6-11/28

atoms  $N_a$  was calculated according to the following formula:  
$$p = \frac{1e^2}{2mc} \cdot \frac{1}{f_0} f N_a$$
, where  $f$  denotes the absolute value of the  
oscillation force,  $f_0$  - the width of line of an infinitely thin  
layer, and  $l$  - the thickness of the source. The ratio between the  
widths of the lines of FeI, MgII, MnII and CaII and of the concen-  
trations of atoms or ions in the discharge was determined ex-  
perimentally. The relative oscillator forces were determined by  
means of the equation:

$$\frac{p_1}{p_2} = \frac{f_1}{f_2} \cdot \frac{f_{1,0}}{f_{2,0}}$$
, where  $p_1$  and  $p_2$  are the absorption parameters  
for the transitions measured;  $f_{1,0}$ ,  $f_{2,0}$  - the widths of  
lines in the case of an infinitely thin layer. Results are shown  
by a table and the data obtained ( $f_1/f_2$ ) are compared with the  
results obtained by other authors. (Refs 3-5). There are 1 table  
and 5 references, 3 of which are Soviet.

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The Determination of the Relative Forces of Oscillators      SOV/48-22-6-11/28  
in the Arc Discharge From the Width of the Spectral Lines

ASSOCIATION: Leningradskiy institut tochnoy mekhaniki i optiki  
(Leningrad Institute of Precision Mechanics and Optics)

1. Electric discharges--Analysis
2. Spectroscopy
3. Atoms--Energy
4. Metals--Electron transitions
5. Mathematics

Card 3/3

24(?)

SOV/AB 27 12 57

AUTHOR: Magitina, I. M.

TITLE: The Determination of the Concentration of Atoms in the Plasma of Arc-discharges From the Width of Spectral Lines and the Connections Between the Concentrations in Solid and Gaseous Phases

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, Vol 25 Nr 9, pp 1056-1059 (SSSR)

ABSTRACT: One of the most important problems of quantitative spectral analysis is that of the connection between the concentrations of the investigated elements in the sample and the concentration of atoms or ions in the gas cloud of the light source. This problem is solved by the direct measurement of particle concentrations in the discharge cloud. Such investigations were carried out by B. S. Mel'chenko (Ref 1) and by N. A. Frilezhayeva and V. N. Goryachev (Ref 2). In the present paper the results obtained by measuring ionizations of atoms and ions in the cloud of alternating-current arc-discharges in consideration of the degree of inhomogeneity of the radiation source, i.e. of the inhomogeneity of the distribution of the excited and non-excited atoms. Determination of atom and ion-concentration was carried out essentially on the basis

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SOV/48-23-9-2/57

The Determination of the Concentration of Atoms in the Plasma of Arc-discharges From the Width of Spectral Lines and the Connections Between the Concentrations in Solid and Gaseous Phases

of absorption phenomena, in which case the arc-discharge model introduced by Cowan and Dicke was taken into account. In the case of a sufficiently great particle density, a self-reversal is found to occur in inhomogeneously excited light sources, and for this case a formula is given for the purpose of determining the concentration. The self-absorption is determined by the influence of the parameter  $p$  in (1):

$$fN = \frac{2mc\delta}{le^2} p; \quad (f \text{ denotes the power of the oscillator } N \text{ t.s.})$$

number of atoms per  $\text{cm}^3$   $l$  is the length of the source, and  $\delta$  the width of lines for an infinitely long layer. The other notations are of the usual kind). The experiments are then described. Measurements of line-width were carried out by means of the ISP-2 spectrograph at various element concentrations. The measuring method employed by the author was already used by I. V. Dvornikova (Ref 7). Investigations were carried out of metal salts dissolved in water and the lines of manganese, calcium, magnesium and calcium-ions were measured. .. direct

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The Determination of the Concentration of Atoms in the Plasma of Arc-discharges From the Width of Spectral Lines and the Connections Between the Concentrations in Solid and Gaseous Phases

SC7/49-23-2-2,57

proportionality was found between the atom- and ion concentrations in the discharge and in the investigated solutions (Figs 1, 2). In the second part of the investigation the cloud of the discharge of two different elements was investigated. When carbon electrodes were used, the quantitative ratio of atoms in the discharge cloud was found to be similar to that in the sample, the error being given as amounting to 10.15%. The behavior of the substance in the discharge is, however, much more uniform if copper plates are used instead of carbon electrodes. The author finally thanks V. K. Prokof'ev for supervising the work. The student G. A. Petrova assisted in carrying out measurements. There are 2 figures 2 tables, and 7 references 6 of which are Soviet.

ASSOCIATION: Leningradskiy institut tekhniki mehaniki i optiki  
(Leningrad Institute of Technical Mechanics and Optics)

Card 3/3

PROKOF'YEV, V.K.; NAGIBINA, I.M.; PETROVA, G.P.

Determination of the absolute values of oscillator forces from the  
spectral line widths. Opt. i spektr. 8 no.3:376-381 Mr '60.

(MIRA 14:5)

(Tin--Spectra)  
(Spectrum analysis)

MOSKALEV, V.A.; KHESIN, G.L.; NAGIBINA, I.M.

Interferometer for studying stress fields in transparent models.  
Izv.vys.ucheb.zav.; prib. 5 no.4:80-84 '62. (MIRA 15:9)

1. Leningradskiy institut tochnoy mekhaniki i optiki. Rekomendo-  
vana kafedroy spektral'nykh i optiko-fizicheskikh priborov.  
(Strains and stresses) (Interferometer)

NAGIBINA, Irina Mikhaylovna; PROKOF'YEV, Vladimir Konstantinovich,  
prof., doktor fiziko-matem. nauk; FRISH, S.E., retsenzent;  
VASIL'YEVA, V.P., red. izd-va; BARDINA, A.A., tekhn. red.

[Spectroscopic instruments and techniques] Spektral'nye pri-  
bory i tekhnika spektroskopii; rukovodstvo po prakticheskim  
zaniatiiam. Pod red. V.K.Prokof'yeva. Moskva, Mashgiz, 1963.  
270 p. (MIRA 16:5)

1. Chlen-korrespondent Akademii nauk SSSR (for Frish).  
(Spectrum analysis)

NAGIBINA, I.M.; KOROLEV, A.N.

Some characteristics of a Fabry-Perot etalon with a small  
transparent aperture. Opt. i spektr. 15 no.3:421-423 S '63.  
(MIRA 16:10)

NAGIBINA I.M.

Spectroscopic studies of the gaseous cloud of an arc discharge  
during the down-feeding of powdered samples. Zav. lab. 29  
no.6:680-682 '63. (MIRA 16x6)

1. Leningradskiy institut tonkoy mekhaniki i optiki.  
(Spectrum analysis)

ACC NR: AT7002129

(A)

SOURCE CODE: UR/0000/66/000/000/0521/0528

AUTHORS: Vorontsov, V. L.; Moskalev, V. A.; Nagibina, I. M.; Omel'chenko, D. I.,  
Khesin, G. Z.

ORG: none

TITLE: Determining the sum of principal stresses with the aid of interferometers

SOURCE: Vsesoyuznaya konferentsiya po polyarizatsionno-opticheskому методу  
исследования напряжений. 5th, Leningrad, 1964. Polyarizatsionno-opticheskiy metod  
issledovaniya napryazheniy (Polarizing-optical method of investigating stresses);  
trudy konferentsii. Leningrad, Izd-vo Leningr. univ., 1966, 521-528

TOPIC TAGS: stress analysis, optics, optic measurement, optic method, light  
interference, interferometer, multibeam interferometer

ABSTRACT: The construction and performance of a device used for the measurement of  
principal stresses in materials are described. The work was done at the Leningrad  
Institute of Precise Mechanics (Leningradskiy institut tochnoy mekhaniki) and the  
Moscow Structural Engineering Institute (Moskovskiy inzhenerno-stroitel'nyy institut). —  
The device is the triple-plate interferometer IT (see Fig. 1). The interferometer  
consists of three light-separating covers A, B, and C set on glass plates. The light  
paths are shown in Fig. 1: rays 1 and 2 form the interference pattern of greatest  
intensity, and all calculations are referenced to these two. The variation of the

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ACC NR: AT7002129

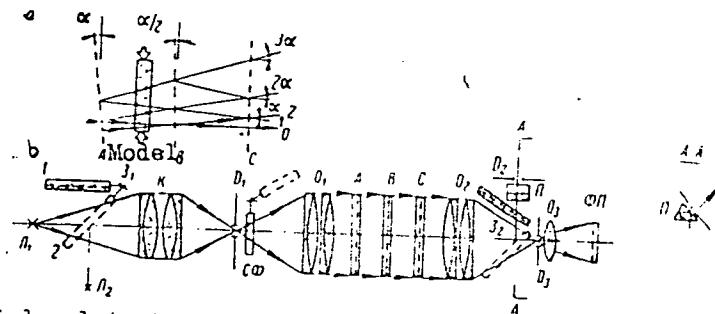


Fig. 1. Triple-plate interferometer: a - principal diagram of the device; b - optical diagram of the interferometer;  $\mathcal{N}_1$  - DRSh-250 lamp;  $\mathcal{N}_2$  - STs-76 lamp;  $J_1$  - rotating mirror for source shift; K - condenser;  $D_1$  - input diaphragm;  $C\emptyset$  - light filter;  $O_1$  - collimator objective;  $O_2$  - camera objective; A,B,C - interferometer plates;  $J_2$  - rotating "ocular-photo" mirror;  $D_2$  and  $D_3$  - output diaphragms;  $\pi$  - rotating ocular prism;  $O_3$ ,  $\phi\pi$  - photo attachment

distance between the light-separating covers may be equated with the length of the optical paths of the first and second beams. The path difference between paths 1 and 2 is given by

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$$\Delta = N\lambda = 2\delta t(n-1)$$

ACC NR: AT7002129

where  $N$  is the order of interference;  $\lambda$  - the wavelength of the light;  $\delta t$  - the variation of thickness of the model;  $n$  - the refraction index of the material of the model. Also, from Hooke's Law

$$\epsilon_x = \frac{\delta t}{t} = \frac{1}{E} [\sigma_x + \mu(\sigma_x + \sigma_y)],$$

and for  $\sigma_z = 0$ , it follows that

$$\delta t = \frac{t\mu}{E} (\sigma_x + \sigma_y),$$

where  $E$  and  $\mu$  are the modulus of elasticity and Poisson's coefficient, respectively. Principal stresses are then related to the order of interference by the equation

$$N = \frac{2t\mu(n-1)}{E\lambda} (\sigma_x + \sigma_y) = K(\sigma_1 + \sigma_2).$$

The authors illustrate by example how the device may be used to determine the sum of principal stresses and each principal stress individually. The device itself is noted as being simple in construction and in use, compact, and stable with respect to vibration and temperature variation. Orig. art. has: 5 figures and 5 equations.

SUB CODE: 20, 13/ SUBM DATE: 14Jun66/ ORIG REF: 004/ OTH REF: 007 [WA.101]

Card 3/3

MAGIBINA, L.F.

Heterobothrium affinis (Linton) and its position in the system of  
monogenetic trematoda of the family Diclidophoridae Fuhrmann.  
Trudy Zool.inst. 13:137-144 '53. (MLRA 7:5)  
(Trematoda) (Parasites--Fishes)

NAGIBINA, L.F.

BYKHOVSKIY, B.Ye.; NAGIBINA, L.F.

New representative of marine monogenetic trematodes from the  
Pacific Ocean. Zool. zhur. 33 no.1:30-38 Ja-F '54. (MLRA 7.2)

1. Zoologicheskiy institut Akademii nauk SSSR.  
(Pacific Ocean--Trematoda) (Trematoda--Pacific Ocean)

USSR/Zooparasitology - Helminths.

G.

Abs Jour : Ref Zhur - Biol., No 15, 1958, 67486

Author : Bykhovskiy, B.Ye., Nagibina, L.F.

Inst : -

Title : The Monogenetic Trematoda of the Sheatfish Silurus glanis.

Orig Pub : Parazitol. sb., 1957, 17, 237-250.

Abstract : On the basis of an investigation of collected material and live specimens (1953-1954 in the Volga Delta) it has been determined that under the title Ancyrocephalus siluri (Landt, 1924), Yamaguti, 1937, three species are actually to be found: A. siluti, A. vistulensis (Siwak, 1932), Yamaguti, 1937, and A. magnus sp. n. (descriptions are given of the three species).

1. Zoologicheskiy institut AN SSSR.

Card 1/1

- 5 -

CHINA / Zooparasitology. Parasitic Worms. Helminths  
in Animals.

G

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 19680

Author : Bykhovskiy, B. Ye.; Nagibina, L. F.

Inst : Not given

Title : Anchophorus sinensis Bychowsky et  
Nazibina gen. n., sp. nov. - A Representative  
of a New Family of Monogenetic Trematodes

Orig Pub : Tung-yu hsueh-pao, Acta zool. sinica, 1958,  
10, No 1, 1-7 (Chinese), 8-18 (Russian)

Abstract : A description and illustrations of A.  
sinensis from the gills of the Black Sea  
fish Cynoglossus semilaevis. A new family,  
Anchophoridae fam. n., is based upon this  
new species and genus, which is armed with a

Card 1/2

CHINA / Zooparasitology. Parasitic Worms. Helminths in Animals. G

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 19680

characteristic chitinoidal fastening disk.  
Its diagnosis is submitted.

Card 2/2

NAGIBINA, L. F. and BYKHOVSKIY, R. E.

"New Material on the Taxonomy of Polygenetic Trematodes."

Tenth Conference on Parasitological Problems and Diseases with Natural  
Reservoirs, 22-29 October 1959, Vol. II, Publishing House of Academy of  
Sciences, USSR, Moscow-Leningrad, 1959.

USSR Academy of Sciences Zoology Institute (Leningrad)

BYKHOVSKIY, B. Ye.; MAGIBINA, L. E.

Systematics of the genus Diplozoon Nordmann (Monogenoidea).  
Zool. zhur. 38 no.3:362-377 Mr '59. (MIRA 12:4)

1. Zoological Institute of the Academy of Sciences of the  
U.S.S.R. Leningrad.  
(Thematoda) (Parasites--Carp)

BYKHOVSKIY, B.Ye.; GUSEV, A.V.; NAGIBINA, L.F.

Monogenous trematodes of the fam. Tetraonchoididae Bychowsky,  
1951. Trudy Zool. inst. 35:140-166 '65. (MIRA 19:1)

1. Zoologicheskiy institut AN SSSR.

NAGIBINA, L.F.

New species of the genus Diplozoon [Diplocotylidae, Monogeneidea].  
Trudy Zool. inst. 35:167-174 '65. (MIRA 19:1)

1. Zoologicheskiy institut AN SSSR.

*Can*

The young effusive deposits of Barteria Hinterbeikal  
V. I. Luchtikoff and M. S. Nagibina *Bull. Soc. natural  
istes Moscow, Sect. géol.* 16, No. 1, 20-35 in French (19  
1938). A study of the mode of deposition, formation  
and petrographic composition of liparites and the minerals  
accompanying them show that they are younger than the  
basalts. The chem. compn. of the felsite and other  
liparites, and other phys. properties are given. J. S. Joffe

NAGIBINA, M. S.

PA-67T43

USSR/Geology  
Tectonics

Mar/Apr 1948

"Structural Disintegration of the Transbaykal," M.S.  
Nagibina, I.V. Luchitskiy, 7 pp

"Iz Ak Nauk SSSR, Ser Geolog" No 2

Bases system of structural disintegration of the Trans-  
baykal on results of geologic surveys of the past ten  
years.

67T43

168T43

NAGIBINA, M. S.

USSR/Geology - Vulcanology

Sep/Oct 50

"The Age of the Transbaykal Vulcanogenous Formations", M. S. Nagibina

"Iz Ak Nauk SSSR, Ser Geol" No 5, pp 86-96

Briefly summarizes data on stratigraphy and age of vulcanogenous sedimentary strata of the Transbaykal. Concludes these strata constitute single formation, with age fixed in interval between Upper Paleozoic and Upper Jurassic.

168T43

"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R001135920015-4

KATUSHENOK, I. I. and NAGIBINA, M. S.

"The Geologic Structure of the Region of the Upper Course of the Urumkan River,"  
1951.

APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R001135920015-4"

MAGIBINA, M.S.

Transbaikalia. Trudy Lab.geol.dokem. no.1:107-116 '52. (MLRA 7:2)  
(Transbaikalia--Geology) (Geology--Transbaikalia)

1. NAGIBINA, M. S.
2. USSR (600)
4. Urkan Valley--Geology, Stratigraphic
7. Age of the Paleozoic deposits in the lower reaches of the Urkan River (basin of the Zeya River), Izv. AN SSSR. Ser. geol., No. 2, 1953.
9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

NAGIBINA, M. S.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

<u>Name</u>	<u>Title of Work</u>	<u>Nominated by</u>
Nagibina, M. S.	"Tectonic Map of the USSR" (scale 1:.. million)	Moscow State University D. V. Lomonosov

SO: W-30604, 7 July 1954

Translation from: Geologicheskaya material, SSSR, No. 1, 1974  
pp. 11-17, 1974

AUTHOR: Agil'yanov, G.

TITLE: Paleozoic stratigraphy of the Zeya-Selemdzha interfluvium area (contribution to stratigrafii paleozoya Zeya-Selemdzha interfluvia, no. 1, 1974)

PUBLICAL: V skr. Voprosy geologii zemli. Vol 1, Moscow, Izdat. Akad. Nauk SSSR, 1974, pp. 111-117.

ABSTRACT: The author describes the subdivision of the thick and lithologically variable Selemdzha series, occurring in the interfluvial area between the Zeya and Selemdzha Rivers. Three groups, separated by unconformities, are distinguished (starting at the bottom): 1) metamorphic rocks (the Tikhvin'ya series)--quartzites; metamorphic sandstones and carbonates; phyllites; mica-schistite, sericitic-schistite, crystalline-siliceous, and other schists; and layers of strongly altered volcanics, talc-

Card 1/3

11-67-1-37

Paleozoic Stratigraphy of the Zera-Selendzha (Cont.)

sandstones, and limestones (with a total thickness of several kilometers); 2) Upper Silurian rocks (4000 m)--interbedded variegated arkosic sandstones, sandy shales, argillaceous and siliceous shales, subordinate layers of tuff, tuff-sandstone, and latite porphyrite; and 3) pre-Devonian rocks (1000 m to 1500 m) in the basin of the Nura and Mamyn Rivers--consisting of quartz conglomerates and sandstones and containing rare layers of acid extrusives; limestones become more abundant toward the west in this group. The groups which permitted subdividing the Selendzha series and assigning ages to each of the three groups are given below. In the basin of the Nura River, the upper group rests with a marked unconformity on rocks that contain characteristic Silurian fossils. In similar formations farther west, Upper Devonian brachiopods and bryozoans had previously been found. New collections of such Upper Devonian forms have also been made. Silurian fossils have been found at many places in rocks of the middle group. Late Ordovician brachiopods had previously been found in the upper reaches of the Mamyn River, indicating that this sequence of rock began to form toward the end of the Ordovician. The rocks of the middle group overlie the Tukuringra series with an

Card 2/3

Paleozoic Stratigraphy of the Zeya-Selemdza (Cont.)

15-57-5-5749

angular unconformity and the conglomerate at the base contains cobbles of metamorphic rocks. Conglomerates occur at a number of places in the Tukuringa series, and these contain cobbles of crystalline Archean rocks. Thus, the age of the Turkuringa series is pre-Ordovician: Cambrian-Proterozoic. The author discusses the geological history of the region. The Bureinsky massif had been isolated by lower Paleozoic time, as shown by maximum volcanic activity along the borders of the massif, recorded in the Turkuringa series and in the Silurian rocks. The Middle Devonian rocks within the Bureya massive were but slightly deformed and rest on Silurian beds with a marked angular unconformity. Farther west all the Devonian rocks (including the Middle Devonian) lie with apparent conformity on Silurian deposits.

Card 3/3

V. V. Kh.

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 1,  
pp 171-172 (USSR) 15-57-1-1070

AUTHOR: Nagibina, M. S.

TITLE: The Geological Structure Along the Left Bank of the  
Amur River from Kuznetsovo to Blagoveshchensk  
(Geologicheskoye stroyeniye levoberezh'ya r. Amura ot  
s. Kuznetsovo do g. Blagoveshchenska)

PERIODICAL: Tr. In-ta geol. rud. mestorozhd. petrogr., mineralogii  
i geokhimii, 1956, Nr 3, pp 212-235

ABSTRACT: From previous investigations (P. K. Yavorovskiy, V. A.  
Belov, S. A. Muzylev, and A. Z. Lazarev), with ad-  
ditions and supplementary data introduced by the  
author in 1951, the author describes the stratigraphic  
section along the left bank of the Amur River in the  
indicated region. 1) Archean. Ancient formations of  
various compositions: gneisses and gneissic schists,

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The Geological Structure Along the Left Bank (Cont.) 15-57-1-1070

cut by granite gneisses and granites. 2) Proterozoic to lower Proterozoic. Beds of interlayered varieties of schists with seams of white and gray crystalline limestones. 3) Intrusions of rose-colored alaskitic microcline granites. 4) Paleozoic (Silurian ?). A sequence of interbedded greenish gray and rose-colored metamorphosed arkosic sandstones and sandy shales, yellowish white limestones and violet calcareous shales, sheared and epidotized diabase porphyrites, agglomeratic tuffs, and quartz porphyrites. 5) Intrusions of biotite and biotite-hornblende granites. 6) Jurassic to Cretaceous. A sequence of coarsely fragmental conglomerates and sedimentary breccias, sandstones, and shales. 7) Hypabyssal intrusions of granodiorite porphyries and quartz porphyrites. 8) Upper Mesozoic. Volcanic formations (layers of basalts, andesites, and quartz porphyries). 9) Upper Mesozoic to Cenozoic. Yellow and light gray sands with layers of clay and brown coal and Quaternary alluvial deposits. The author gives a detailed description of each stratigraphic unit. The attitudes of the above-mentioned rock groups are observed only.

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The Geological Structure Along the Left Bank (Cont.) 15-57-1-1070

along the riparian zone of the Amur River, in numerous exposures on the banks. Away from the river, bed rock is covered by a thick layer of unconsolidated Neogene sands. The following structures are found in the investigated region: on the southeast occurs the Blagoveshchensk extension of the Precambrian basement (the western margin of the Bursinsk mass); on the northwest lies the Novo-Innokent'evka extension, which joins the Kuznetsovo-Yermakovo uplift to the north; the rocks consist of a sequence of metamorphic varieties of Proterozoic or lower Paleozoic age, cut by intrusions of granites and plagioclase granites of middle Paleozoic age, and overlain by coarse-grained continental Jurassic deposits. Both the older rocks and the Jurassic sediments are transected by numerous faults. The central part of the described region is composed of young upper Mesozoic volcanic rocks, also cut by faults. Between the region of young volcanic rocks and the Blagoveshchensk extension lies the Sukhotinskiy synclinorium (a Silurian volcanic-sedimentary complex). The author concludes that the establishment of the

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The Geological Structure Along the Left Bank (Cont.) 15-57-1-1070

Paleozoic age of the volcanic-sedimentary geosynclinal sequence, earlier considered to be Mesozoic (Triassic), and also the stratigraphic and structural data from neighboring regions, permit the assumption that the region along the left bank of the Amur River is a district of Hercynian folding.  
Card 4/4

T. A. G.

*NAUDINA, M.S.*  
SHATSKIY, N.S.; BOGDANOV, A.A.; BELYAYEVSKIY, N.A.; VERESHCHAGIN, V.I.;  
ZAYTSEV, N.S.; KOSYGIN, Yu.A.; KROPOTKIN, P.N.; MURATOV, M.V.  
~~MAGIRINA, M.S.~~; OGNEV, V.N.; PAVLOVSKIY, Ye.V.; PEYVE, A.V.;  
PUSHCHAROVSKIY, Yu.M.; SALOP, L.I.; SOBOLEVSKAYA, V.N.;  
KHARITONOV, L.Ya.; KHERASKOV, N.P.; SHETYNMAN, Yu.M.; SHTREYS, N.A.;  
YANSHIN, A.L.; VERSTAK, G.V. redaktor izdatel'stva; GUROVA, O.A.  
tekhnicheskiy redaktor

[Tectonic map of the U.S.S.R. and adjacent countries on a scale of  
1:5,000,000; explanatory notes] Tektonicheskaya karta SSSR i  
sopredel'nykh stran v masshtabe 1:5,000,000; ob"iasnitel'naya  
zapiska. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po geol. i  
okhrane nedr, 1957. 77 p. (MLRA 10:5)

1. Akademiya nauk SSSR.  
(Russia--Geology--Maps)

AUTHOR: Nagibina, M.

TITLE: New Data on the Tectonics of the Mongolian-Mongol-Altay Belt  
(Novyye dannyye po tektonike "Mongol-Altayskogo pona")

PERIODICAL: Byulleten' Moskovskogo obshchestva ispytateley prirody,  
Otdel geologicheskiy, 1958, Nr. 5, pp. 7-14. U.S.S.R.

ABSTRACT: This article deals with new data on the Mongolian-Mongol-Altay belt located on the boundaries of the extensive East-Asiatic folding area, interposed between the Chinese and Siberian plateau. The author considers this territory as the marginal zone of the East-Asiatic Hercynian fold area within the limits of which sharply asymmetric local depressions were formed during the Mesozoic period. They represent the characteristic features of the post-geosynclinal stage in the development of this area. The formation of these structures was connected with a unique process; a special type of Mesozoic-Cainozoic movement in the Pacific region accompanied by intrusive and extrusive magmatic activities comprising both the Harlyk and the Altay area and the older formations of the south-eastern part of the Siberian plateau occurring, however, at different intensity and different form depending on the structure.

Card 1/3

New Data on the Tectonics of the Mongolian-Okhotsk Belt

of the foundations. Extensive material collected by the author clearly emphasizes the main part of the Paleozoic Hercynian folding structure of the geosynclinal type which determines the large basic structural elements of the Mongolian-Okhotsk belt. The morphologic and geological nature of the Mesozoic depressions of this area differ sharply from the typical geosynclinal structures. The description of the large structural elements of the Paleozoic and Mesozoic age with longitudinal ruptures shows their close connection with the distribution of various types of mineral. The east part of the Trans-Baykal area (part of the Mongolian-Okhotsk belt being studied at the present time) shows a close connection with the ore deposit belt of the north-eastern strikes (as distinguished by S.S. Smirnov) with large structural elements. The findings of recent Post-Lower Cretaceous granite intrusions in other Baikal regions also hold promising prospects for finding non-ferrous and rare metals in connection with these granitoids. The author thanks the following scientists in this article: A.Ye. Furman, V.A. Obruchev, A.D. Arkhangelskiy, N.S. Shatskiy, M.M. Tsvetkov, A.N. Mazarovich, M.S. Nagitina, I.V. Lashkevskiy, S.A. Kostylev.

Card 2/3

St. V. I. S. - 1970, No. 1

New Data on the Tectonics of the Mongolian-Okhotsk Belt

N.A. Florensov, A.A. Yakshin, V.N. Kiselevskiy, P.N. Moshkin, L.I. Krasnyy, D.F. Matveevskiy, Ye.A. Modzalevskaya, V.V. Starchenko, Ye.A. Raikov, G.I.N. Tikhonov, N.N. Gerasimov, I.K. Nikiforova, M.F. Kharlamov, M.N. Petrunin, V.N. Moshkin, V.V. Belousov, Ye.V. Pavlenko, et al.

There are 7 maps, 1 figure, 1 table and 108 scientific references.

1. Geology--Mongolia & Earth--Configuration

Card 3/3

AUTHOR: Nagibina, M.S. 11-58-7-4/12

TITLE: Stratigraphic Scheme of Jurassic and Cretaceous Deposits in the Basin of the Upper Part of the Amur River (Skhema stratigrafiy Yurskikh i Melovykh otlozheniy basseyna verkhnego techeniya r. Amura)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geologicheskaya, 1958, Nr 7, pp 55-75 (USSR)

ABSTRACT: The basin of the upper part of the Amur river has been studied since 1869, when widely spread Mesozoic deposits were first discovered. The following geologists and paleontologists have studied this region since 1927: A.I. Klapponin, A.A. Leontovich, V.D. Prinada, O.M. Kichigina, N.P. Savrasov, V.Z. Skorokhod, P.F. Popov, B.A. Ivanov, S.S. Dobrynin, N.A. Brumel, A.I. Arkhangel'skiy, D.M. Sayapina, R.M. Tonayan, Ye.Ye. Krasnyanskaya, N.Ye. Slastenova, M.S. Nagibina, A.A. Kalinovskiy, B.G. Kuznetsov, A.D. Britchenko, A.A. Kirillov, N.F. Levykin, Ye.A. Modzalevskaya, M.N. Petrushevich, I.Srebrodol'skaya, N.P. Kheraskov, T.N. Davydova, G.F. Krasheninnikov, T.Ya. Krymgol'ts, I.Ye. Khudyayev, Ye.V. Pavlovskiy, I.V. Luchitskiy, V.N. Kozerenko, A.F. Mushnikov, V.V. Onikhimovskiy, A.I. Myachina, P.T. Begunkov, G.G. Martinson, D.D. Penninskiy,

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11-58-7-1/12

Stratigraphic Scheme of Jurassic and Cretaceous Deposits in the Basin of  
the Upper Part of the Amur River

V.A. Vakhrameyev, and N.A. Bolkhovitina. All of these scientists studied various parts of the region. This article presents the recapitulation of their studies, and the author established a new stratigraphic scheme of the region. According to V.Z. Skorokhod (Ref. 9) the Mesozoic deposits of the whole region could be divided in two complexes: maritime deposits and sweet-water continental deposits. The maritime deposits form the following horizons: 1) fundamental 'basic' composed of conglomerates and coarse-grained sandstones; 2) inoceramic - of sandstones and sandy shists (from *Inoceramus porrectus* Eichw.); 3) alternating sandstones and shists; 4) *Gervillia* sandstones and argillaceous shists (from *Gervillia* sp.); 5) *Modiola* and variegated sandstones (from *Modiola* sp.). By the remains of the fauna in all these horizons they were classified as belonging to the Upper, Middle and Lower Jurassic period. Their overall magnitude is 3.750 m. On these maritime layers the sweet-water continental coal-bearing deposits form the second thick series. These deposits were mainly formed by clastic sediments, representing alternating layers of sandstone

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11-58-7-4/12

Stratigraphic Scheme of Jurassic and Cretaceous Deposits in the Basin of  
the Upper Part of the Amur River

conglomerates, aleurolites, argillates, carbonaceous shists and coals, between which interlayers of acid pyroclastic rocks and thin interlayers of felsites were found. The general magnitude of these layers varies from 3,200 to 3,900 m. Study of adjacent regions, from the geologic and paleontologic points of view, showed that all these deposits belong to the Upper Jurassic - Lower Cretaceous periods. The comparison of the stratigraphic profiles of different parts of the Amur river basin showed large variety of facies and magnitudes of the sweet-water deposits, which is directly connected with the peculiarities of the tectonic development of the large Mesozoic depressions of the region. There are 2 tables, 1 map, 3 diagrams, and 11 Soviet references.

SUBMITTED: June 8, 1958  
ASSOCIATION: Geologicheskiy institut AN SSSR, Moskva (The Geological Institute of AS USSR, Moscow)

Card 3/3      1. Geology - USSR

3(0)

AUTHORS: Nagibina, M. S., Krestovnikov, V. F., S.V. 10-113-5-39.50  
~~Chzhan Bu-Chun'~~, Gatinskiy, Yu. G.

TITLE: Recent Discoveries of Paleozoic Fauna in the Malyy Khingan  
Mountain Range (China) (Novyye nakhodki paleozoyskoy fauny v  
khrebre Malyy Khingan (kitayskiy))

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 5,  
pp 910 - 913 (USSR)

ABSTRACT: The Sovetsko-Kitayskaya Amurskaya ekspeditsiya (Soviet-Chinese-Amur Expedition has found a fauna in the undifferentiated volcanic and sedimentary rocks in the northern part of the Malyy Khingan and the Il'khuri-Alin'. This fauna allowed subdivision of this suite of rocks. The suite lies with an angular unconformity on folded crystalline rocks of the Upper Archaic, Proterozoic, and Lower Paleozoic. It is intruded by igneous rock of various compositions. In the sedimentary sequence, Silurian Lower and Middle Devonian, and Permian strata could be determined. The definitely Silurian rocks are distributed in Malyy Khingan and in the southern part of Il'khuri-Alin'. They are related to the Silurian sedimentary

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Recent Discoveries of Paleozoic Fauna in the Kallyy Khingan S 7/20-12<sup>2</sup>-5-39/50  
Mountain Range (China)

rocks of the Sukhotinskiy anticlinorium on the left side of the Amur River (USSR). They are further exposed along the highway between the cities of Kheykhe and Nun'tszyan. The Silurian beds are many kilometers thick and are entirely similar to the faunally characterized Upper Silurian rocks of the Nora River discharge region (USSR). Devonian sedimentary rocks in this area have been known since 1942 (Refs 4,5). Also the authors found a Devonian fauna in the Kallyy Khingan (1957). The rocks lie unconformably on Silurian strata and outcrop in 2 areas. They are faulted and intruded by granite bodies (Erchzhanskiy stock). Chinese geologists under the leadership of Chzhao Guy-san' divide the Devonian into 2 suites: a) Nitszyukhe (1500 m thick) and b) Kholunmen (800-900 m thick). A fauna was found in the latter suite on Mount Vankholu and in the vicinity of the village of Din'shuy. The brachiopods were identified by V. N. Krestovnikov, the trilobites by Z. A. Maksimova, and the pelecypods by I. M. Krasilova. On the basis of general fauna character, the lower part of the Kholunmen suite may belong to the upper part of the Coblenzian (Lower Devonian). The forms of the Din'shuy rocks have the

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Recent Discoveries of Paleozoic Fauna in the Malyy Khin'an S.V. No-133-5-39 '50  
Mountain Range (China)

character of Middle Coblenzian stage. The higher horizons of this stage and yet higher the lower horizons of the Eifelian stage (Middle Devonian) could be recognized through fossil remains (Fig 1). The Nitszyukhe suite is designated Gelinnian by the authors. Professor Yuy Tszyan'chzhan collected fossils on the Kheykhe-Nun'tszyan' highway in the south in 1950; he identified them as Permian-Carboniferous. Sedimentary rocks with Permian faunal characteristics were only found in the vicinity of Mount Diguan'shan' ('Petushinyy greben'). They are 300 m thick. Herc pelecypods (identified by L. L. Khalfin) were found. The Permian beds lie discordantly on folded Middle Paleozoic and older strata. They are lacustrine and marine, deposited in local basins. There are 2 figures and 5 references, 3 of which are Soviet.

ASSOCIATION: Geologicheskiy institut Akademii nauk SSSR (Geologic Institute Academy of Sciences USSR)  
PRESENTED: August 2, 1958, by N. S. Shatskiy, Academician  
SUBMITTED: July 4, 1958

Card 3/3

3(5)

3/7/1971 10:17:47

AUTHOR: Nagibina, M.S.

TITLE: Upper Cretaceous Volcanogenic formations of Verkhne-Priamuriye (Verkhne-Priamuriye vulkanogenicheskie formacii niya Verkhnego Priamuriya)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geologicheskaya, 1959, № 3, pp. 46-59 (USSR)

ABSTRACT: The author describes in detail the composition and the conditions of volcanicogenic formations of the Verkhne-Priamuriye. Specific information on the location of huge effusive and volcanicogenic formations is furnished. The author cites V.Z. Skorokhod who revealed that deposits of acid effusive rock, reported above the basic lava and their tuff, are located North of Skovorodino along the Nevery river. The same combination of acid and basic effusions were observed, according to S.A. Muzylov, on the left Amur river bank, in the villages of Kumur and Butse and on the left bank of the Amur river below the village of Grinichevskiy.

Card 1/4

Upper Cretaceous Volkenogorsk Formation of Volgograd Oblast

maximal strength of volcanogenic deposits in the Verkhnyaya Klyazma'ya is in the upper part of the section. Detrital infestation of the section is associated with mudrocks and their facies in fluvial. Basalt and andesite-sediment is absent. According to the report of G.G. Nekrasov, I.M. Gerasimov, V.A. Chubakov, and A.I. Leshnev, the basalt facies is in the lower part of the section. Pegmatites are found in the upper part of the section. In the lower part of the Klyazma river basin, in the basin of the Osechinskaya river, Analyst Yu.M. Mishkov of the Khabarovskaya and Dzh. Goborilidze Institute AS USSR (Khabarovsk) has studied the composition of olivine, feldspar, and pyroxene in the composition of the olive-felerite in the watershed of the Osechinskaya and Klyazma'ya rivers. A.Z. Bazarov and others described in the titles of papers reaching a thickness of approximately 10 cm at a 5 km length in the basin of the left tributary of the Klyazma'ya river. Volkenogorsk formation was described by V.V. Onikolimov, who was responsible for the

Card 2/4

GOV/1.1.1.1.1.1.1.1.1.1

Upper Cretaceous Verkanjene Formations of Verkannya, IRANIAN 79

Nora and the Mamyn rivers, where the hornblende porphyrite deposits, as thick as 300 m., are occurring on ancient granite. The hornblende porphyrite according to V.V. Onikhimovskiy is connected to gradual blending with diorite-porphyrites, which are apparently the roots for these deposits. A wide field of acid effusives in the basin of the left tributaries of the Burdinka river was plotted on maps in 1937 by N.P. Savrasov. In addition, the presence of acid effusives in the composition of the volcanogenic complex was also noted by A.K. Arsen'yev, A.I. Khiaponin, A.A. Leontovich and V.D. Prinada in the basin of the upper flow of the Amur river. Farther E-s<sup>o</sup>, the acid volcanogenic formations of the left bank of the Amur river and in the Zeysko-Syremdzinskoye massif are described by S.A. Masyrov, A.Z. Iakubovitch and the author. In conclusion, the author underscores that the effusive complex in the Verkhneye Tschumir'ye is rather complicated in composition and its conditions

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Upper Cretaceous Volcanic Formations of Verkhneye Pribalak

tions; its formation resulted from many violent eruptions accompanied by lava streams and pyroclastic ejections. Measuring the distance from the West to the East, on a parent "regeneration" of huge volcanic-pyroclastic formations, and also a regular change of the depth of the composition of volcanic eruptions were observed.

There are 1 photographs, 1 map, 1 sketch, and 1 table.

ASSOCIATION: Geological'nyy institut AN SSSR (Institute of Geological Sciences of the AS USSR, Moscow)

SUBMITTED: March 12, 1958

Card 4/4

NAGIBINA, M.S.; KRESTOVNIKOV, V.N.

Diagram of the Paleozoic stratigraphy of the vicinity of  
Zeya. Izv.vys.ucheb.zav.; geol.i razv. 2 no.11:3-19  
N '59. (MIRA 13:6)

1. Geologicheskiy institut AN SSSR.  
(Zeya--Geology, Stratigraphic)

3(5)

AUTHOR:

Nagibina, M. S.

SOV/20-125-5-37/61

TITLE:

The Tectonic Scheme of Northern Manchuria (Skhema tektoniki Severnoy Man'chzhurii)

PERIODICAL:

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(USSR)

ABSTRACT:

The author, together with Yeh T'ing-sung carried out geological investigations in summer 1957 under the auspices of the Sovietsko-Kitayskaya Amurskaya kompleksnaya ekspeditsiya (Soviet-Chinese Amur Multiple Purpose Expedition) on the trend from Blagoveshchensk over the city of Num-chien (Mergen') to the village Argunsk in eastern Zabaykal'ye (Transbaikalia) across the mountain ranges Malyy (Minor) and Bol'shoy (Major) Khingan. Various Precambrian, Lower Paleozoic and Devonian sediments take part in the geological structure of this very sparsely investigated region. There are sedimentary and volcanic geosynclinal-type formations metamorphosed in varying degrees. Relatively weakly metamorphosed Permian sandstones and shales unconformably overlie the latter. These are found interbedded with volcanic rocks of marine, continental and lagoonal origin. The upper structural stages consist

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of continental Jurassic and Cretaceous sediments in addition to volcanic, sedimentary, coal bearing Cenozoic deposits as well as basalt and andesite effusions. Intrusive formations of various ages are exceptionally widely distributed here. The author differentiated the following large structural elements along the main investigation route from southeast to northwest. They are formed geologically differently and lie one after another northwest of the gigantic Central Manchurian Syneclide. The northwestern edge of the Syneclide mentioned (Sunlyau). Lyuotunskoye uplift. Tayashunskiy fold. Verkhne- (Upper) Gan'kinskoye uplift. Fold of Bol'shoi (Large) Khingan. Priargunskoye (Argun'-near) uplift. Northern Manchuria was previously tentatively considered by Soviet (Refs 2,4) and by some Chinese (Ref 5) geologists as a region of Hercynian folding. This is confirmed by the author. These fold structures are strongly reworked by block folding movements of Upper Mesozoic age. In the Cenozoic the formation of large, platform-

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type structures, broad synclinal structures as well as flat arch uplifts of the two Khingan Ranges occurred. The faults "lived" again in the Tertiary. New fractures formed, along which effusions of andesite, basalt, etc moved. The assertions concerning the bow-formed bends of the Paleozoic structures of this region (Refs 1,3) are no more confirmed than the division of Northern Manchuria into a zone of early and late Hercynian folding (Refs 1,3). Data on ore occurrences are given. There are 1 figure and 5 Soviet references.

ASSOCIATION: Geologicheskiy institut Akademii nauk SSSR (Geological Institute of the Academy of Sciences, USSR)

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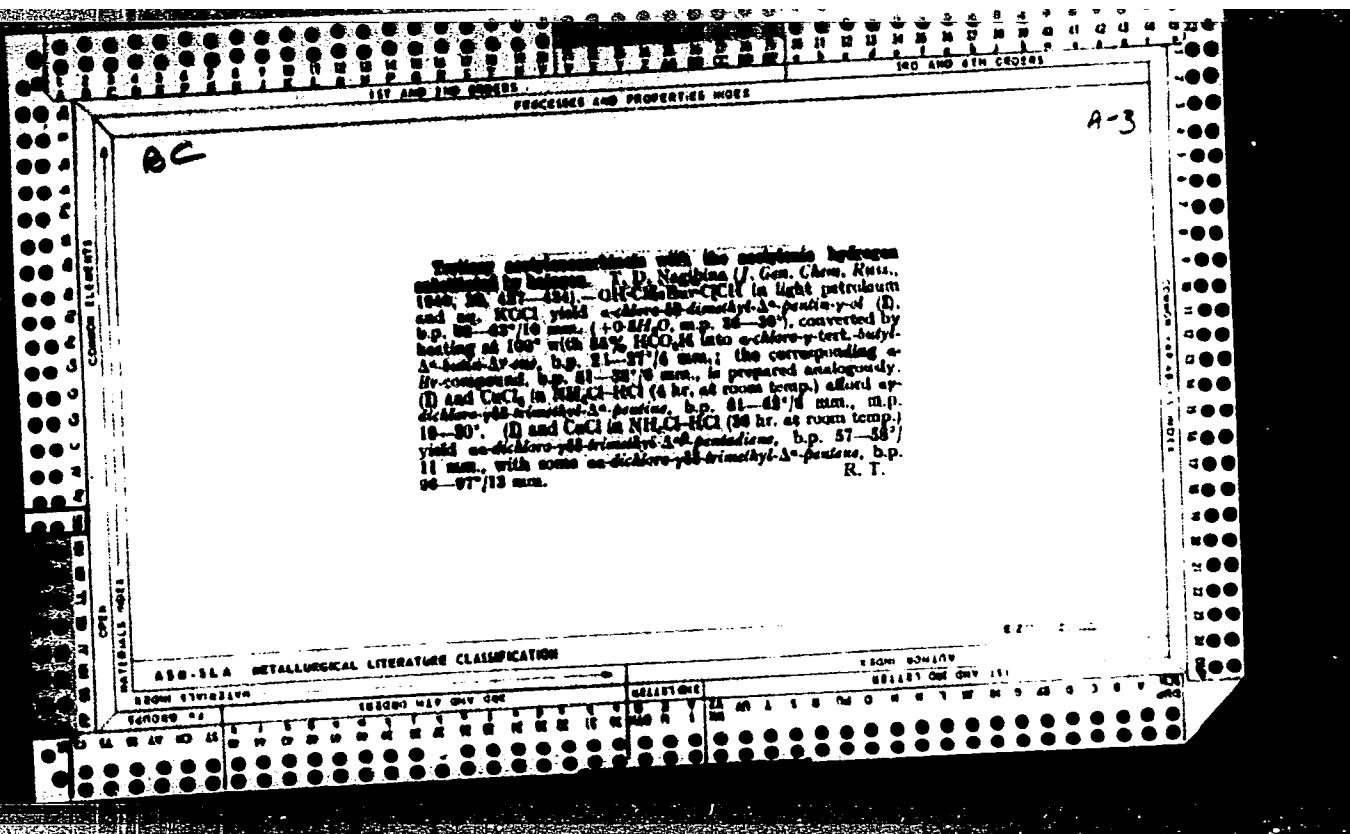
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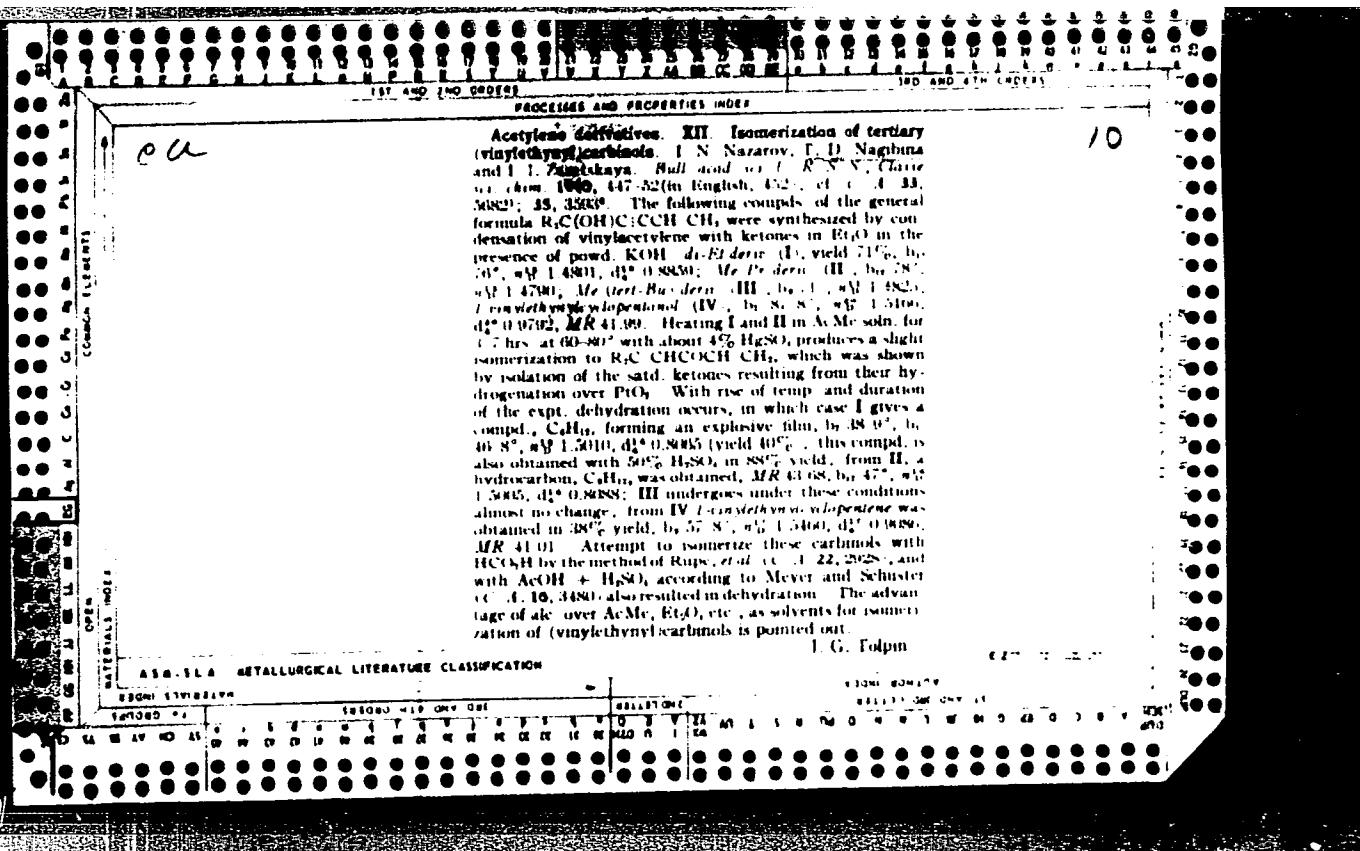


Tertiary styrylcumuloids whose acetylenic hydrogens  
are replaced by halogens.

*J. Org. Chem.* (U. S. S. R.) 10, 427-34 (1940). When  $\text{MeCOCl}$  (II) is shaken with alk.  $\text{KClO}_4$  it gives methyl *tert*-butylchloromethylcumulene (I), b.p. 92-95°,  $d_4^{20} 1.025$ ,  $n_D^2 1.4082$ , MR, calcd. 41.53, found 41.57; hemiphenylate m.p. 9°. When this is refluxed for 40 min. with  $\text{AgNO}_3$  in  $\text{HCO}_2\text{H}$ , it gives only 4-chloro-2-*tert*-butyl-1-butene,  $d_4^{20} 1.002$ ,  $n_D^2 1.4080$ , MR, calcd. 41.54, found 42.13. Apparently, in this case, the Cl prevents an acetylene-alkene rearrangement. In an analogous way is obtained 4-bromo-2-*tert*-butyl-1-butene-3-one, b.p. 51-52°,  $d_4^{20} 1.1973$ ,  $n_D^2 1.4080$ , MR, calcd. 45.08, found 46.07. These compds. rapidly turn yellow on standing. When I is shaken with concd. HCl in the presence of  $\text{CuCl}_2$  and  $\text{NH}_4\text{Cl}$ , it gives 4,4,6-tri-*tert*-butyl-1,1-dichloro-1-pentene (III), m.p. 20°, b.p. 45°,  $d_4^{20} 1.0732$ ,  $n_D^2 1.4775$ , MR, calcd. 40.77, found 40.77. When treated with  $\text{AgNO}_3$  in  $\text{BuOH}$ , III loses a Cl. When I and HCl react in the presence of  $\text{CuCl}_2$  and  $\text{NH}_4\text{Cl}$ , isomerization occurs and there is formed a mixt. of II and 2,2,3-trimethyl-3,5-dichloro-7,8-pentaene (IV), b.p. 57°,  $d_4^{20} 1.0402$ ,  $n_D^2 1.4818$ , MR, calcd. 47.94, found 49.47, parac徇, calcd. 308.0, found 307.4. Both II and IV on further treatment with HCl give 3,4,6-trimethyl-1,1,1-trichloro-1-pentene, b.p. 7°,  $d_4^{20} 1.1878$ ,  $n_D^2 1.4035$ , MR, calcd. 43.28, found 43.01, parac徇, calcd. 446.8, found, 445.2. All these structures are proved by ozonolysis to the expected products.

H. M. Lester

ABQ-LSA METALLURGICAL LITERATURE CLASSIFICATION



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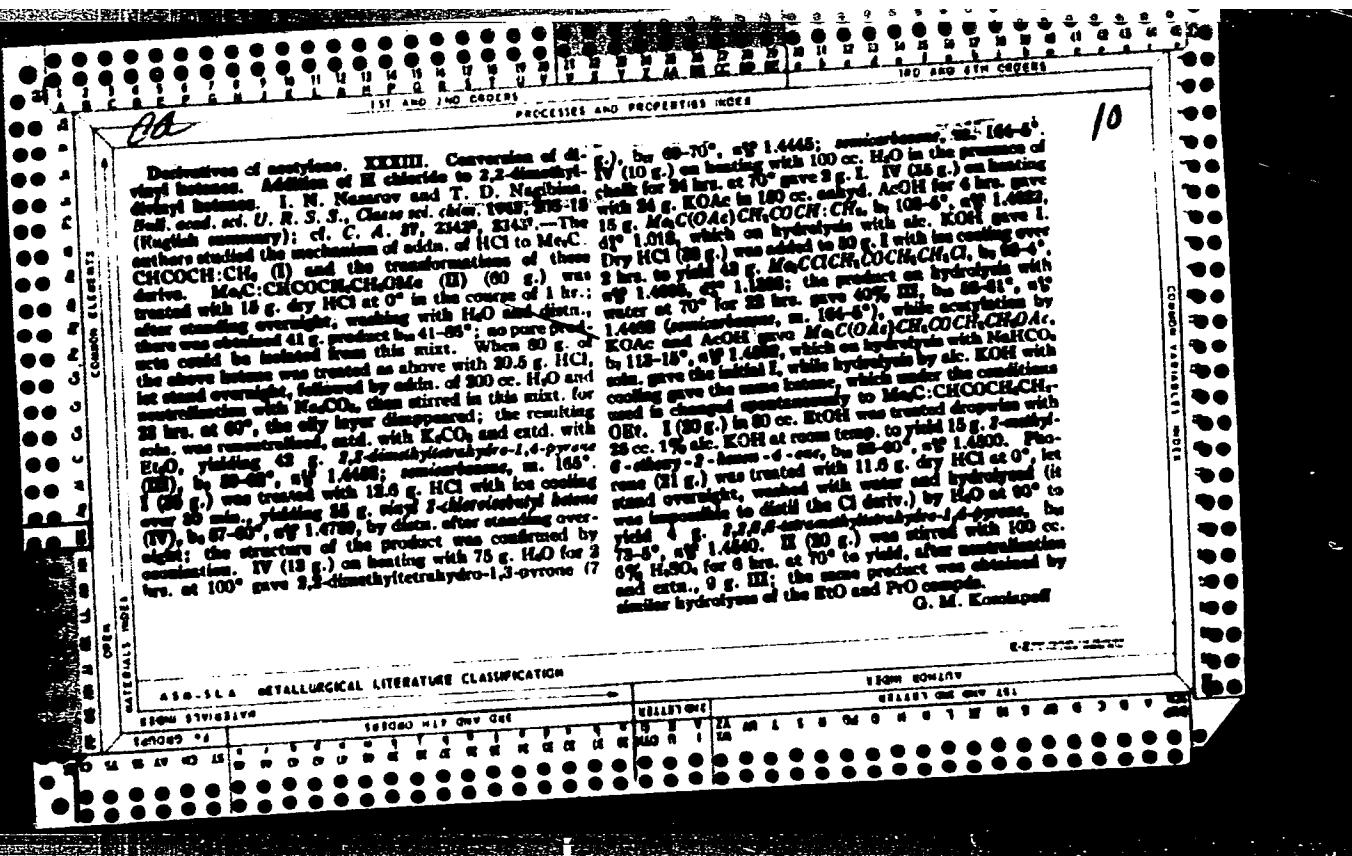
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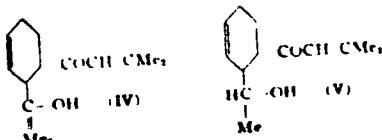
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the ketones is not capable of reaction even at 200°. Monalkyldivinyl ketones are capable of 2nd addn. at higher temp. Pyrogallal (1%) was used as stabilizer during the reactions.  $\text{MgCl}_2\text{CHCOCH}_2\text{CH}_2$  (I) (10 g.) and 21 g. benzal after 10 hrs. at 130° gave 10 g. product and 1-*hexenyl* ketone, m.p. 102°, nD<sub>20</sub> 1.4910, d<sub>20</sub><sup>20</sup> 0.9032, semicarbazone, m.p. 137°. Hydrogenation in 100% over Pt gave 1-*hexenyl* ketone, m.p. 102°, semicarbazone, m.p. 137°. Hydrogenation in 100% over Pt gave 1-*hexenyl* ketone, m.p. 102°, semicarbazone could not be made. Oxidation of the unsat'd ketone by KMnO<sub>4</sub> gave MeOH, m.p. 111° (I) and 7 g. cyclopentadiene after standing 0.5 hr. spontaneous heating to 200° gave 18 g. cyclopent-2,3-endomethylidene-3-cyclohexenyl ketone, m.p. 100°, nD<sub>20</sub> 1.5105, d<sub>20</sub><sup>20</sup> 0.9001, semicarbazone, m.p. 153°. Hydrogenation gave 1-*hexenyl* ketone which could not be isolated. After 10 hrs. at 130°, nD<sub>20</sub> 1.4982, d<sub>20</sub><sup>20</sup> 0.9031 (cryst. semicarbazone could not be made). 1 (11 g.) and 9 g.  $\text{CH}_2=\text{CMe}_2$  after 12 hrs. at 120° gave 10 g. cyclopent-2,3-endomethylidene-3-cyclohexenyl ketone, m.p. 120°, nD<sub>20</sub> 1.5028, d<sub>20</sub><sup>20</sup> 0.9033, which on hydrogenation gave 1-*hexenyl* ketone, m.p. 102°, d<sub>20</sub><sup>20</sup> 0.9008. 1 (11 g.) and 9 g. chloroquinone after 10 hrs. at 130° gave 10 g. cyclopent-2,3-endomethylidene-3-cyclohexenyl ketone, m.p. 107°, nD<sub>20</sub> 1.5101, d<sub>20</sub><sup>20</sup> 0.9037 (semicarbazone, m.p. 141°, 2°), hydrogenation gave 1-*hexenyl* ketone. MeOH,  $\text{CHCOCH}_2\text{CH}_2$  (II) (12 g.) and 10 g. benzal after 3 hrs. at 120° gave 10 g. 2-methyl-2-ethylidene-3-cyclohexenyl ketone, m.p. 105°, nD<sub>20</sub> 1.4952, d<sub>20</sub><sup>20</sup> 0.9024 (cryst. semicarbazone could not be made). Hydrogenation gave 2-methyl-2-ethylidene-3-cyclohexenyl ketone, m.p. 104°, d<sub>20</sub><sup>20</sup> 0.9025, semicarbazone, m.p. 137°. II (12 g.) and 12 g. cyclopentadiene after 0.5 hr. standing gave 13 g. 2-methyl-2-ethylidene-3-cyclohexenyl ketone, m.p. 104°, nD<sub>20</sub> 1.4987, m.p. 1.4942, which on hydrogenation gave 2-methyl-2-ethylidene-3-cyclohexenyl ketone, m.p. 134°, d<sub>20</sub><sup>20</sup> 0.9041, semicarbazone, m.p. 134°. MeOH,  $\text{CHCOCH}_2\text{CH}_2$  (III) (14 g.) and 12 g. benzal after 3 hrs. at 120° gave 10 g. 2-methyl-2-propenylidene-3-cyclohexenyl ketone, m.p. 128°, nD<sub>20</sub> 1.4925, d<sub>20</sub><sup>20</sup> 0.9030 (cryst. semicarbazone could not be made). Hydrogenation gave

2-methylamyl-3-cyclohexenyl ketone, b.p. 130°, nD<sub>20</sub> 1.4961, semicarbazone, m.p. 112-13°. III (13 g.) and 13 g. cyclopentadiene after standing 0.5 hr. gave 10 g. 2-methyl-2-propenylidene-2,3-endomethylidene-3-cyclohexenyl ketone, b.p. 140°, nD<sub>20</sub> 1.4918, d<sub>20</sub><sup>20</sup> 0.9023 (a cryst. semicarbazone could not be made). Hydrogenation gave 2-methylamyl-2,3-endomethylidene-3-cyclohexenyl ketone, b.p. 130°, nD<sub>20</sub> 1.4926, d<sub>20</sub><sup>20</sup> 0.9020. 2,3-pentamethylcyclopentadiene after 10 hr. gave 2 g. 2,3-pentamethylcyclopentadiene-2,3-endomethylidene-3-cyclohexenyl ketone, b.p. 141°, nD<sub>20</sub> 1.4941, d<sub>20</sub><sup>20</sup> 0.9020, which on hydrogenation gave 2,3-pentamethylcyclopentadiene-3-cyclohexenyl ketone, b.p. 178°, nD<sub>20</sub> 1.4922, d<sub>20</sub><sup>20</sup> 0.9047. MeOH,  $\text{CHCOCH}_2\text{CH}_2$  (IV) (19 g.) and 13 g. cyclopentadiene after 10 min. standing gave 14 g. 2-methylamyl-2,3-endomethylidene-3-cyclohexenyl ketone, b.p. 130-131°, nD<sub>20</sub> 1.4910, d<sub>20</sub><sup>20</sup> 0.9024, which on hydrogenation gave 2-methylamyl-2,3-endomethylidene-3-cyclohexenyl ketone, b.p. 110-120°, nD<sub>20</sub> 1.4703, d<sub>20</sub><sup>20</sup> 0.9014 (semicarbazone, m.p. 123-4°). The unsat'd ketone (4 g.) and 4 g. cyclopentadiene after 5 hrs. at 120° gave 3 g. 2-methylamyl-2,3-endomethylidene-3-cyclohexenyl ketone, b.p. 132-3°, nD<sub>20</sub> 1.4910, d<sub>20</sub><sup>20</sup> 0.9048 (cryst. semicarbazone could not be made). Hydrogenation gave 2-methylamyl-2,3-endomethylidene-3-cyclohexenyl ketone, b.p. 100°, nD<sub>20</sub> 1.4730, d<sub>20</sub><sup>20</sup> 0.9030. MeOH,  $\text{CH}_2=\text{CMe}_2$  after 6 hrs. at 120° gave 4 g. 1- $\text{CH}_2=\text{CMe}_2\text{CH}_2$  (V) and 1 g. of a compd. (IV), b.p. 148-51°, nD<sub>20</sub> 1.4920. 1 and 5 g. of 1,3-hexadien-5-ol after 7 hrs. at 120° (6 g.) and 6 g. of 1,3-hexadien-5-ol after 7 hrs. at 120° (5 g.) and 5 hrs. at 120° gave 1.8 g. of a compd. (VI), b.p. 120°



37-145-1 RCPN XLV Addition of maleic anhydride.