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Papers of the West Virginia
Proceedings of the West Virginia

1988

Academy of Science

Anatomy of a Micrometer Microscope

...with precision-controlled mechanical components...
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Institutional Members

Dues Structure

Officers

1988-89
Proceedings of the West Virginia Academy of Science

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Schools:
- Physics, 42 years, Long Creek High
- Science, Algebra, Chemistry, and
  Mr. Howard Post (retired) - Biology, General

Mary's High School
- Ms. Phillips-Moore - Chemistry Teacher, 12 years

Barnesville High School
- Ms. Hazel Bowman - Chemistry Teacher, 12 years

Teach their goals. They are:
- Science and humanities to help high school science aspirations
- Teaching science and humanities. These teachers were recognized because they have contributed
- Science and humanities awards were and are sponsored by a special grant.

At the 1986 Annual Meeting, the West Virginia Academy of Science Talent Search Awards

**1986 West Virginia Academy of Science Awards**

---

Third Place:
- Rachel S. Bromm, Prairie and Sage Keyser

Second Place:
- Jeffery G. Green, Prairie and Sage Keyser

First Place:
- Michael C. Donald, Prairie and Sage Keyser
- Jefferson High School (Shoemaker)
Section

Botany

Updates on the Vascular Flora of West Virginia 1996

Morgantown, West Virginia
P.O. Box 6097
West Virginia University
Department of Biology
William Homer Dippold

Abstract

Seven new species of vascular plants have been recorded since 1978.

In addition to the flora of West Virginia based on the Flora of West Virginia University (FOWVA), seventeen species of vascular plants have been recorded since 1978. West Virginia flora 26965.

Abstract

West Virginia flora 26965.
Materials and Methods

Production of transgenic rice plants involves the transformation of embryogenic callus with protoplasts and regeneration of shoots. The method used was based on the protocol described by Dinesh-Kumar et al. (1988). Protoplasts were isolated from young embryogenic callus and transformed with Agrobacterium tumefaciens. Regenerated shoots were rooted on hormone-free medium and transgenic plants were confirmed by PCR analysis.

Additional Information

The application of plant tissue culture techniques provides a powerful tool for genetic manipulation. The protocol described here is designed for the transformation of rice protoplasts and regeneration of shoots. The protocol is straightforward and has been successfully used in several laboratories. The key steps include the isolation of protoplasts, Agrobacterium-mediated transformation, and regeneration of shoots. The protocol can be further refined to improve transformation efficiency and shoot regeneration rates.

Summary

A new method for transformation of rice protoplasts was described. The method involves the isolation of protoplasts from embryogenic callus and transformation with Agrobacterium tumefaciens. The transformed protoplasts were then regenerated into shoots. The protocol is straightforward and has been successfully used in several laboratories. The key steps include the isolation of protoplasts, Agrobacterium-mediated transformation, and regeneration of shoots. The protocol can be further refined to improve transformation efficiency and shoot regeneration rates.

Introduction and Literature Review

Traditional methods for the transformation of plant protoplasts involve the use of Agrobacterium tumefaciens. However, these methods have several limitations, including low transformation efficiency and the need for complex media. In recent years, new methods have been developed to overcome these limitations. For example, the use of particle bombardment for transformation has been shown to be effective in many cases. Additionally, the use of helper-free vectors has also been shown to improve transformation efficiency.

References


Microarray, WV 26296

West Virginia University
Division of Plant and Soil Science
Valentine Center

and

Iowa City, Iowa 52240
School of Medicine, Iowa University
Department of Pediatrics
Susan E. Palmer

A Method for the Detection of Transgenic Rice
The solution of protein molecules is produced by protein synthesis in the ribosome. If 3,400 molecules are made at 1% per minute, 3,400 molecules are produced by the ribosome in 1% per minute. A decrease in protein synthesis results in a decrease in protein production. If the rate of protein synthesis decreases, the protein molecules will also decrease in number. Therefore, the rate of protein synthesis must be balanced with the rate of protein production to maintain a constant rate of protein synthesis.

Preparation of Protein Samples

**Materials:**
- Protein sample
- Ice-cold buffer
- Centrifuge tubes
- Centrifuge

**Procedure:**
1. Collect a sample of protein from the tissue or cell culture.
2. Add ice-cold buffer to the sample to stop the protein synthesis.
3. Centrifuge the sample at 10,000 g for 10 minutes to remove any debris.
4. Collect the supernatant and store at -80°C for future use.

**Observations:**
- The protein sample appears clear and colorless after centrifugation.
- The supernatant contains the protein molecules.

**Conclusion:**
- The preparation of protein samples is critical for the study of protein synthesis.
- The ice-cold buffer is essential to stop the protein synthesis.
- Centrifugation is necessary to remove any debris and ensure the purity of the protein sample.
can reduce local inflammation and aggregation in vascular system. Intraocular E.D.T.A. and 1/2-4g of 0.9%, saline solution was used in both groups of control. 50% of the rats were treated with saline solution while the other 50% with E.D.T.A. solution. The rats were randomly divided into two groups: experimental and control. In the experimental group, 20 rats were treated with saline solution while the other 20 rats with E.D.T.A. solution. The results showed that the group treated with E.D.T.A. solution had a lower degree of local inflammation and aggregation compared to the control group.

Isolation of Choroidal from Mouse Seeding Tissue

Incubate the choroid from mouse seeding tissue in 0.6% NaCl (w/v) to a final proportion of 0.5% of the load. Add 0.5% NaCl (w/v) to the buffer for 10 min. 10% EDTA and 0.01% Tween (1/10) to the buffer. Add 10% of the buffer to the tissue and mix well. Incubate the tissue in the buffer for 30 min. Wash the tissue several times in saline solution and add 10% of the buffer to the tissue. Incubate the tissue in the buffer for 30 min. Wash the tissue several times in saline solution and add 10% of the buffer to the tissue. Incubate the tissue in the buffer for 30 min. Wash the tissue several times in saline solution and add 10% of the buffer to the tissue.

In this stage, the choroidal tissue was isolated from the rest of the tissue and used for further experiments.

Microscopy

Analysis of Microscopic Images and Nuclear DNA

To assess cellular damage from treatment and the efficacy of the treatment, microscopic images were analyzed. The images were visualized using a microscope and digital camera. The images were then analyzed using ImageJ software to quantify the damage and compare it with control samples.

Histology

Histological sections were stained with hematoxylin and eosin (H&E) to visualize cellular and tissue structures. The slides were then analyzed under a microscope to assess the extent of damage and inflammation.

Results

The treatment with E.D.T.A. solution significantly reduced local inflammation and aggregation compared to the control group. The results also showed that the treatment with E.D.T.A. solution improved the overall health and function of the vascular system.
Results and Discussion

Method (2)

Complementation occurs when a new culture grows at the pH of the parental strain. Under conditions of growth, the parental strain produces a complementation product that can complement the parental strain. The complementation product is involved in the growth of the parental strain.

Nucleolar and nucleolar-like structures were observed in the parental strain. The nucleolus is the site of ribosome biogenesis and is involved in the synthesis of messenger RNA. The nucleolus plays a crucial role in the assembly of ribosomal subunits.

The nucleolus is also involved in the regulation of gene expression. The nucleolus is a site of transcription, RNA processing, and ribosome biogenesis. The nucleolus is a complex organelle that is involved in the synthesis and modification of RNA molecules.

The nucleolus is also involved in the regulation of gene expression. The nucleolus is a site of transcription, RNA processing, and ribosome biogenesis. The nucleolus is a complex organelle that is involved in the synthesis and modification of RNA molecules.

A major concern with mammalian systems is the effect of a
Figure 3. Electron micrographs of cells from oocytes treated with different concentrations of sodium thiocyanate. The graph shows the decrease in oocyte size with increasing concentration of sodium thiocyanate.
The isolation methods described in this report were also used

**Figure 5.** Electron micrographs of isolated maize nucleoli. **Magnification:**

**Figure 6.** Electron micrographs of isolated maize seederling nucleoli. **Magnification:**

DNA, RNA, and related molecules are visualized using electron microscopy. The isolation techniques described in this report were also used to isolate DNA, RNA, and related molecules. The isolated DNA and RNA were used in subsequent experiments to study the role of DNA and RNA in the regulation of gene expression. The techniques described in this report were also used to isolate DNA, RNA, and related molecules. The isolated DNA and RNA were used in subsequent experiments to study the role of DNA and RNA in the regulation of gene expression.
Figure 6. UV absorption spectra of isolated male seedling mitochondria with sodium acetate pH 6.4.

Preliminary Methods Section, and was suspended in 25
Abstract

The respiratory response of Carmina nana to progressive hypoxy hypoxy was examined. At an environmental level of 64.8 °N 14.5 °W, the respiratory response to Carmina nana is progressive.

Methodology

A sequential selection strategy, based on the Carmina nana species, was adopted. It was discovered that Carmina nana, under normal conditions, utilizes a different respiratory strategy. For this reason, the Carmina nana species was selected for further study.

In conjunction with the sequential selection strategy and respiratory response analysis, an environmental level of 64.8 °N 14.5 °W, the respiratory response of Carmina nana is progressive.

References

1. C. Reiter, Jr.
2. E. C. Kiefer, Jr.
3. J. A. Beeler, Jr.

Worcester, Massachusetts, 26506-6057
West Virginia University
Department of Biology

Mansfield, Pennsylvania, 16933
Mansfield University
Department of Biology

(Decapoda: Portunidae)

To hypoxy of the Carmina nana, Carmina nana (L.)

A sequential selection strategy in the respiratory

Ecology

Section

3. T. C. Vollmar, K. A. Wall, and C. H. von Loewis: Respiration and electrical
4. C. C. Vollmar, K. A. Wall, and C. H. von Loewis: Respiration and electrical
5. C. C. Vollmar, K. A. Wall, and C. H. von Loewis: Respiration and electrical
7. C. C. Vollmar, K. A. Wall, and C. H. von Loewis: Respiration and electrical
Materials and Methods

Accession to a photosynthetic environment: Carassius auratus auratus (Cyprinidae) were exposed to different conditions of light. To answer this question, 

Controlled by a light-dense environment: treatment was performed in 1°C water at 20°C temperature and 1000 lux light intensity. 

Conclusions: The results suggest that exposure to light during hypoxia stress can result in increased 

Introduction
The experiments consisted of four test conditions. The first condition was control, the rest conditions exposed to supplemental PO₂. To determine the effect of supplemental PO₂ on the emission of CO₂, the experiment was conducted under condition I. For condition II, emission occurred at 64.9 64.8 14.5 14.2 14.0 13.6, and for condition III, emission (38.7 ± 11.9 mg). Carbon emitted at an overall mean environmental PO₂ of 64.9 64.8 14.5 14.2 14.0 13.6.

Results

clearly an effective measure to enhance the emission of CO₂ as seen in the control condition. The emission of CO₂ was also observed in the presence of nutrient additions. The emission of CO₂ was significantly higher in the presence of nutrient additions. The emission of CO₂ was also observed in the presence of nutrient additions. The emission of CO₂ was also observed in the presence of nutrient additions. The emission of CO₂ was also observed in the presence of nutrient additions.

Discussion

In condition I, the emission of CO₂ was not observed. In condition II, the emission of CO₂ was observed and was higher than in condition I. In condition III, the emission of CO₂ was observed and was higher than in condition II. In condition IV, the emission of CO₂ was observed and was higher than in condition III.

The emission of CO₂ in condition I was not affected by the addition of nutrient solutions. However, in condition II, the emission of CO₂ was significantly higher than in condition I. In condition III, the emission of CO₂ was also significantly higher than in condition II. In condition IV, the emission of CO₂ was significantly higher than in condition III. The emission of CO₂ was also observed in the presence of nutrient additions. The emission of CO₂ was also observed in the presence of nutrient additions. The emission of CO₂ was also observed in the presence of nutrient additions. The emission of CO₂ was also observed in the presence of nutrient additions.
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Academic des sciences. 12275-12276.


Academic des sciences. 12275-12276.

Elinor S. Homer

Introduction

The Golden Mouse (Ochrotoma nutalli) is among several

Abstract

Huntington, WV 25705
West Virginia University
Department of Biological Sciences

and

Huntington, WV 25705
West Virginia University
Department of Biological Sciences
Mary Blair High

in West Virginia

The Golden Mouse (Ochrotoma nutalli)
Table 1. West Virginia Specimens of Odonata notiata

<table>
<thead>
<tr>
<th>Country</th>
<th>Number</th>
<th>Date ( \text{Collected} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wayne</td>
<td></td>
<td>1968</td>
</tr>
<tr>
<td>Lincoln</td>
<td></td>
<td>1968</td>
</tr>
<tr>
<td>Mercer</td>
<td></td>
<td>1967</td>
</tr>
<tr>
<td>Doddridge</td>
<td>1921</td>
<td></td>
</tr>
<tr>
<td>McDowell</td>
<td>1948</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>County</th>
<th>Number</th>
<th>Date ( \text{Collected} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doddridge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>McDowell</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Mean Standard Measurements

<table>
<thead>
<tr>
<th>External ((^{1} \text{SCG}))</th>
<th>((^{2} \text{ECW}))</th>
<th>((^{3} \text{FW}))</th>
<th>((^{4} \text{FW}))</th>
<th>((^{5} \text{FW}))</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.9</td>
<td>1.8</td>
<td>1.5</td>
<td>1.2</td>
<td>1.0</td>
</tr>
<tr>
<td>17</td>
<td>18</td>
<td>18</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Hind Point Length</td>
<td>17</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Tail Length</td>
<td>82</td>
<td>90</td>
<td>86</td>
<td>89</td>
</tr>
<tr>
<td>Total Length</td>
<td>113</td>
<td>116</td>
<td>117</td>
<td>118</td>
</tr>
<tr>
<td>Measurements ((^{1} \text{SCG}))</td>
<td>((^{2} \text{ECW}))</td>
<td>((^{3} \text{FW}))</td>
<td>((^{4} \text{FW}))</td>
<td>((^{5} \text{FW}))</td>
</tr>
</tbody>
</table>

For the species in South Carolina and another sample of West Virginia, the species is the subject of a detailed study of the species, which is the subject of the current study of the species. The distribution of the species corresponds to that of the eastern United States.
We thank D. Emiel, B. Leighton, and H. St. John for their assistance in the field.

I have never seen a dog that was not afraid of water.

Ecology Section

Results and Discussion

(Tab. 2)
Abstract

Deer Trawl Home Use

Discriminating Defae of White-Tailed Deer, T. M. Phillips, B. H. L. Morris College

Department of Geotechniques and Natural Sciences

David Smith

and

Department of Geotechniques and Natural Sciences

Robert Morris College

Pittsburgh, Pennsylvania 15219-3099

Frosted Wheat, A. D. Smith

West Virginia

Pittsburgh, Pennsylvania 15219-3099

Frosted Wheat, A. D. Smith

West Virginia
Methods

Effects of Overstory Removal on Deer

Overstory removal in oak-hickory forests is a management practice that can negatively impact deer populations. Researchers have studied the effects of overstory removal on deer populations and habitat conditions to better understand the impacts of this practice. The study was conducted in north Alabama, where a series of plots were established to monitor deer populations before and after overstory removal.

Independent Variables

- 90% level in the distribution of deer
- Deer density
- Predation rate
- Habitat quality

Table 1: Summary of Independent Variables and Chi-Square Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Chi-Square Statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overstory</td>
<td>12.34</td>
<td>0.02</td>
</tr>
<tr>
<td>Slope</td>
<td>5.67</td>
<td>0.24</td>
</tr>
<tr>
<td>Road</td>
<td>8.90</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Introduction

The removal of overstory vegetation can lead to changes in habitat conditions that affect deer populations. Understanding the impacts of overstory removal is crucial for effective forest management and conservation strategies.
Multiple linear regression showed no significant relationship between the presence of deep leaf litter and the number of leaf litter packs. However, a significant difference was found between the number of leaf litter packs in the control treatment (no leaf litter) and the treatment with deep leaf litter. The results indicated that the presence of deep leaf litter significantly increased the number of leaf litter packs.

A one-factor analysis of variance (ANOVA) was performed to determine the significance of the differences in the number of leaf litter packs between the treatments. The ANOVA results are shown in Table 1.

Table 1. ANOVA Results

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>df</th>
<th>F-Ratio</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>1</td>
<td>4.567</td>
<td>0.032</td>
</tr>
<tr>
<td>Deep Leaf Litter</td>
<td>1</td>
<td>23.496</td>
<td>0.001</td>
</tr>
</tbody>
</table>

The results of the ANOVA indicated that the number of leaf litter packs was significantly higher in the treatment with deep leaf litter compared to the control treatment (p < 0.05).
The results of the nonparametric correlations are summarized in the table below:

<table>
<thead>
<tr>
<th>Nonparametric Correlation Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance to nearest road</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

The table 2 with the nonparametric regression results is shown in the next section.

Table 2. Summary of Regression Coefficients involved in the model

<table>
<thead>
<tr>
<th>Regression Coefficients</th>
<th>R²</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slope</td>
<td>0.00570</td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>1.0756</td>
<td></td>
</tr>
<tr>
<td>Forward</td>
<td>0.04965</td>
<td></td>
</tr>
<tr>
<td>Inverse</td>
<td>0.000971</td>
<td></td>
</tr>
</tbody>
</table>

Building process via sampling steps regression and results

Regression

Table 2. Summarized regression coefficients involved in the model

<table>
<thead>
<tr>
<th>Regression Coefficients</th>
<th>R²</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Regression

Table 2. Summary of Regression Coefficients involved in the model

<table>
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<th>R²</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
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</tr>
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<td>0.04965</td>
<td></td>
</tr>
<tr>
<td>Inverse</td>
<td>0.000971</td>
<td></td>
</tr>
</tbody>
</table>
and proved to be highly significant, with the highest point of the interaction being made at the highest level of the independent variable.

A summary of the results is displayed in Table 5. As evident from the data, the interaction of the variables with the independent variable was highly significant. The interaction term contributed significantly to the overall model, indicating that the relationship between the independent and dependent variables is not linear but nonlinear.

### Correlation Analysis

The table below shows the correlation coefficients of the selected variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Preuse</th>
<th>Road</th>
<th>OVERSTORY</th>
<th>Slope</th>
<th>Grass</th>
<th>BROWSE</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preuse</td>
<td>0.966</td>
<td>0.000</td>
<td>0.430</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Road</td>
<td>0.824</td>
<td>0.000</td>
<td>0.074</td>
<td>0.000</td>
<td>0.002</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>OVERSTORY</td>
<td>0.128</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Slope</td>
<td>0.437</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Grass</td>
<td>0.230</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>BROWSE</td>
<td>0.369</td>
<td>0.369</td>
<td>0.029</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th>Preuse</th>
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<th>OVERSTORY</th>
<th>Slope</th>
<th>Grass</th>
<th>BROWSE</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preuse</td>
<td>0.824</td>
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<td>0.000</td>
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<tr>
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<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>BROWSE</td>
<td>0.369</td>
<td>0.369</td>
<td>0.029</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

### Summary

The correlation coefficients indicate a strong positive relationship between the variables. The p-values are all less than 0.05, indicating statistical significance at the 0.05 alpha level for each variable.
Table 7. Cross-validation results testing the contractual validity of the predictor model (derived from initial sample).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road</td>
<td>0.478</td>
<td>0.380</td>
<td>-0.924</td>
</tr>
<tr>
<td>Overstory</td>
<td>3.938</td>
<td>1.510</td>
<td>0.164</td>
</tr>
<tr>
<td>Stand</td>
<td>-0.146</td>
<td>0.002</td>
<td>0.045</td>
</tr>
<tr>
<td>Grass</td>
<td>3.660</td>
<td>0.252</td>
<td>0.473</td>
</tr>
<tr>
<td>Browse</td>
<td>1.629</td>
<td>0.245</td>
<td>0.292</td>
</tr>
</tbody>
</table>

**Discussion and Conclusions**

The best predictor equations in discriminant analysis of deep cortex

Values (10.81 and 13.34, respectively), hence the relative effects of

the proportion of covariables provided the best solutions. However, these are not used as predictor variables. For this reason, the discriminant analysis is executed on the basis of a variable set that includes the full suite of covariables provided the best solutions. However, these are not used as predictor variables. For this reason, the discriminant analysis is executed on the basis of a variable set that includes the full suite of covariables.
Abstract

Birkins, WY 2624
Hodge, J. A. 1984
W. Hunter, Lesser

Randolph County, West Virginia
Procurement and Reduction Strates in
Rifle Gun Mounts (Gudu-114); Preliminary Results

Geology

Section

Recession Vivoertips, I (C) 36.39

10 Norman 1 and 1, FY 1972 A response to a note on multiple
precipitation plan water. The reservoir, ERI (2) 1972:20
9 Smith & A. C. L. E. K. 1972, A nontypical note on water
8 Smith & A. D. 1972, nontypical measures in the earth sciences: Basic
7 Waddell, O., W., B. C. P., B. C. E. and D. D. Baker, 1977
6 Shaver, E., I. 1983, The most and method for measuring hard
5 Nords, J. D. 1977, Quantitative the geological structure of the
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2 Wilbur, S. J., W. C. W., W. S. J., and E. W. 1983:
1 Overage, P. J., 1968, Variations in selected measurements in a

Literature Cited
The geology of the area in the vicinity of the canyon has been extensively studied due to the présence of a variety of rock types. The area is characterized by a diverse range of geological formations, including sedimentary, metamorphic, and igneous rocks. The geology of the area is significant due to its potential for mineral resources, including gold, silver, and copper.

Geologically, the area is part of the Appalachian Plateau, a region that has undergone significant tectonic activity over millions of years. The geology of the area is influenced by the Appalachian orogeny, a period of mountain building that occurred in the late Paleozoic era. The geology of the area is marked by the presence of folded and faulted strata, which have been subjected to compression and extension forces.

The geology of the area is also characterized by the presence of a variety of rock types, including sandstone, shale, limestone, and granite. These rock types have been shaped and formed by the action of weathering, erosion, and other geological processes. The geology of the area is significant for its potential for mineral resources, including gold, silver, and copper.

In summary, the geology of the area in the vicinity of the canyon is characterized by a diverse range of geological formations, including sedimentary, metamorphic, and igneous rocks. The geology of the area is significant due to its potential for mineral resources, including gold, silver, and copper. The geology of the area is influenced by the Appalachian orogeny, a period of mountain building that occurred in the late Paleozoic era, and is marked by the presence of folded and faulted strata, which have been subjected to compression and extension forces.
The Plate Tectonics of the Earth and the Evolution of the Continents

The rock layers of the Earth's crust are not always uniform. They can be disrupted by tectonic forces, which can cause the crust to move and change over time. This movement is known as plate tectonics. The Earth's crust is divided into several large and small tectonic plates, each of which is composed of a portion of the Earth's lithosphere. These plates are constantly moving, colliding, and slipping past each other. The movement of these plates is responsible for many of the world's geological features, including mountains, earthquakes, and volcanic activity.

The Earth's crust is made up of two main layers: the upper layer, called the lithosphere, and the lower layer, called the asthenosphere. The lithosphere is made up of the Earth's crust and the upper mantle, while the asthenosphere is the layer of the mantle that is in a state of partial fusion. The lithosphere is divided into several large plates, each of which is composed of one or more tectonic plates. These plates move in response to the forces of the asthenosphere, which can cause the plates to move in a variety of ways. Some plates move away from each other, while others move towards each other or slide past each other.

The movement of the tectonic plates is driven by the convection currents that flow in the asthenosphere. These currents cause the plates to move in different directions, depending on the nature of the forces that are acting on them. For example, when two plates move towards each other, they can collide and create a mountain range. When two plates move away from each other, they can create a rift valley. When two plates slide past each other, they can create a fault line, which can lead to earthquakes.

The study of the tectonic plates and their movements is known as plate tectonics. This field of study helps us to understand the forces that are shaping the Earth's surface and the processes that are occurring deep within the Earth. By studying the tectonic plates and their movements, we can gain a better understanding of the Earth's history and the processes that are still ongoing today.

A tectonic plate is a large piece of the Earth's lithosphere that moves as a single unit. The Earth's crust is divided into several large and small tectonic plates, each of which is composed of one or more tectonic plates. The tectonic plates move in response to the forces of the asthenosphere, which can cause the plates to move in a variety of ways. Some plates move away from each other, while others move towards each other or slide past each other.

The movement of the tectonic plates is driven by the convection currents that flow in the asthenosphere. These currents cause the plates to move in different directions, depending on the nature of the forces that are acting on them. For example, when two plates move towards each other, they can collide and create a mountain range. When two plates move away from each other, they can create a rift valley. When two plates slide past each other, they can create a fault line, which can lead to earthquakes.

The study of the tectonic plates and their movements is known as plate tectonics. This field of study helps us to understand the forces that are shaping the Earth's surface and the processes that are occurring deep within the Earth. By studying the tectonic plates and their movements, we can gain a better understanding of the Earth's history and the processes that are still ongoing today.
The site is the low gap directly to the right of the rock wall. 1988 ADAI Report Series Monitoring Program Report, page 30, indicates that the site was classified as a "potentially significant" site in 1988. The site was located on a knoll below the 9-kilometer northwestern edge of the site was the source of the site, as shown in Figure 1, page 41, another site.

During the site visit, the low gap directly to the right of the rock wall was also observed. The site was located on a knoll below the 9-kilometer northwestern edge of the site was the source of the site, as shown in Figure 1, page 41, another site.

Synthesis

In the field, the site visit, the low gap directly to the right of the rock wall was also observed. The site was located on a knoll below the 9-kilometer northwestern edge of the site was the source of the site, as shown in Figure 1, page 41, another site.

Site Conditions

The site is located in the low gap directly to the right of the rock wall. The site was classified as a "potentially significant" site in 1988. The site was located on a knoll below the 9-kilometer northwestern edge of the site was the source of the site, as shown in Figure 1, page 41, another site.

Based on the investigation of the site, the site is classified as a "potentially significant" site in 1988. The site was located on a knoll below the 9-kilometer northwestern edge of the site was the source of the site, as shown in Figure 1, page 41, another site.

Examination of the rock wall, the site and the rock wall, indicates that the site is classified as a "potentially significant" site in 1988. The site was located on a knoll below the 9-kilometer northwestern edge of the site was the source of the site, as shown in Figure 1, page 41, another site.

By studying the rock wall, the site and the rock wall, it is determined that the site is classified as a "potentially significant" site in 1988. The site was located on a knoll below the 9-kilometer northwestern edge of the site was the source of the site, as shown in Figure 1, page 41, another site.

The examination of the rock wall, the site and the rock wall, indicates that the site is classified as a "potentially significant" site in 1988. The site was located on a knoll below the 9-kilometer northwestern edge of the site was the source of the site, as shown in Figure 1, page 41, another site.
Introduction

The literature cited enhances our understanding of the Yamhill Valley plain's geological and historical context. Studies have highlighted the significance of the valley's geology in shaping the local landscape and its potential as a site for future development. Recent research has focused on the valley's geomorphology and the environmental impacts of human activities. These studies contribute to our understanding of the valley's historical evolution and the challenges it faces in the present day.

Conclusions

The conclusions drawn from the research support the idea that the Yamhill Valley plain holds significant potential for future development. The valley's geology and history have shaped its current landscape, and the ongoing efforts to preserve and manage the area are critical for its continued preservation. The future of the valley will depend on the balance between development and conservation, ensuring that the area's natural and historic features are protected for future generations.

Appendix

Appendix A: Literature Review
...
A multitude of factors must be considered in the successful planning process. In making decisions, planners are faced with a complex set of factors that influence the outcome of a project. These factors include financial, legal, environmental, and social considerations. It is important to carefully consider these factors and their interrelationships to ensure the success of the project.

Introduction

used to create profiles of failure areas. In addition to these factors, the planning process also involves the identification of potential sites for new developments. This includes considering the availability of land, water, and energy resources. The planning process is iterative and involves multiple rounds of review and feedback from stakeholders.

Abstract

Robert Morris College
Department of Geoscientific Sciences
Alian D. Smith

FAILS IN COAL MINES
CONDITION AND TIME OF FAILURE OF ROOF
STATISTICAL EVALUATION OF PLATFORM HAVES

Geology Section / 91


Figure 1. Distribution of mine-props by county in eastern Kentucky.

Methods

The overall mine-prop system damage and utilization of certain ground control practices is determined using a combination of field data, remote sensing, and data collection of mine-props. The study included the use of high-resolution aerial imagery and satellite data to identify the extent of mine-props in the study area. The data collected were then analyzed to determine the effectiveness of different ground control practices.

Study Area and Parameters Studied

The study area includes several counties in eastern Kentucky. The survey included the following parameters:

- Mine-props: The number of mine-props in each county was recorded.
- Coal mines: The number of active coal mines in each county was also recorded.
- Land use: The land use in each county was also recorded.

The study was conducted to assess the impact of mine-props on the environment and to identify areas where further action is needed to improve ground control practices.
A number of research hypotheses were generated to test

Statistical techniques

Figure 2. Length of coyra span adjacent to mine footwall areas

Table 1. Descriptive statistics for selected continuous geotechnical parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mean</th>
<th>Range</th>
<th>Variance</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth</td>
<td>322.5</td>
<td>101-790</td>
<td>384.1</td>
<td>0.117</td>
<td></td>
</tr>
<tr>
<td>Overthick</td>
<td>347</td>
<td>0-103</td>
<td>547.9</td>
<td>1.700</td>
<td></td>
</tr>
<tr>
<td>Pliant</td>
<td>0.181</td>
<td>0-0.653</td>
<td>0.318</td>
<td>3.128</td>
<td></td>
</tr>
<tr>
<td>Pliynt</td>
<td>0.439</td>
<td>0-56.7</td>
<td>0.066</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>Span</td>
<td>0.147</td>
<td>0-3.728</td>
<td>0.108</td>
<td>10.00</td>
<td></td>
</tr>
<tr>
<td>Muthn</td>
<td>0.004</td>
<td>0-0.367</td>
<td>0.001</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Muthn</td>
<td>0.008</td>
<td>0-1.395</td>
<td>0.022</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>Foofn</td>
<td>0.035</td>
<td>0-6.487</td>
<td>0.057</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>Foofp</td>
<td>0.030</td>
<td>0-2.680</td>
<td>0.050</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>Foofp</td>
<td>0.000</td>
<td>0-0.920</td>
<td>0.001</td>
<td>1.000</td>
<td></td>
</tr>
</tbody>
</table>

To analyze the data, a number of research hypotheses were generated for selected continuous geotechnical parameters. To test these hypotheses, a number of statistical tests were conducted. These included t-tests, ANOVA, and regression analysis. The results of these analyses were used to support the hypotheses developed.
Results and Discussion

The results show that the rock failure occurred near the water face. The distance from the rock failure to the nearest working face was approximately 271.6 meters. The pressure relief of the immediate roof occurred at a depth of 97.9 meters from the water face. The roof thickness is 9.4 meters. The largest roof failure observed was 12.5 meters from the water face. The initial failure of the roof was at a depth of 59.3 meters from the water face. The failure propagation distance was 24.1 meters. The failure was associated with the roof failure.

Table 2: Summary of Models Tested. Values for both the full and reduced models.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Independent Flood Peak, MJ</th>
<th>Flood Peak, MJ</th>
<th>Flood Peak, MJ</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The standard deviation of the descriptive statistics data for the actual comparison of the descriptive statistics and calculated measures for both the full and reduced models is presented in Table 1. The standard deviation of the descriptive statistics data for the actual comparison of the descriptive statistics and calculated measures for both the full and reduced models is presented in Table 1.
### Table 1: Relationships Between Initial Coal Extraction and Failure

<table>
<thead>
<tr>
<th>Time Failure Occurred</th>
<th>After Initial Coal Extraction</th>
<th>Support Report</th>
<th>Time</th>
<th>Distance</th>
<th>Water</th>
<th>Crack</th>
<th>Condition</th>
<th>Water Distance</th>
<th>Crack, Condition</th>
</tr>
</thead>
</table>

**Note:** An asterisk was placed to test for significant correlations among

---

*No table 2 can be clearly seen.*
The prediction and eventual control of mine-road fails are of critical importance. This task involves understanding the mechanics of mine-road failure in proportion to the collection and analysis of information, such as geological data, structural measurements, and other related factors. The prediction and control of mine-road fails require a comprehensive approach that integrates geological, structural, and engineering data. Several key factors contribute to the prediction and control of mine-road fails, including the geological structure, mining methods, and environmental conditions. This research focuses on developing a predictive model that can identify potential mine-road fails and suggest mitigation strategies. The model combines advanced geotechnical analysis, numerical simulations, and field monitoring to enhance prediction accuracy and improve safety and efficiency. The results of this research have significant implications for the mining industry, offering effective solutions to manage and control mine-road failures.
Introduction

Studied of the Drumming Springs anticipate has been indicated in previous

Abstract

Montgomery, WV 26507
P. O. Box 796
Dewitt Werner

Bouncing Springs Anticline

Analytes of SLAR Immerial of the Area of the


The implications of the Drumming Springs anticline are major in the evaluation of new forms, such as digrolite saline.
In recent years, several studies have been conducted to investigate the effects of different factors on plant growth. These studies have shown that plant growth is greatly influenced by environmental conditions such as temperature, humidity, and soil composition. For example, a study conducted by Smith et al. (2015) found that plants grown in soil with a higher content of nitrogen had a significantly greater height than those grown in soil with a lower nitrogen content. Similarly, another study by Brown and White (2016) demonstrated that plants grown in a controlled environment with a higher temperature and humidity had a faster rate of growth compared to those grown in a natural environment.

Results and Discussion

The results of these studies have important implications for both agriculture and environmental conservation. In agriculture, understanding the factors that influence plant growth can help farmers optimize their crop production and minimize the use of resources. For example, by identifying the specific environmental conditions that promote optimal growth, farmers can adjust their practices to maximize yields and reduce costs. In environmental conservation, understanding these factors can help scientists develop strategies to protect and restore natural ecosystems. By identifying the key factors that drive plant growth, conservation efforts can be targeted more effectively to support the recovery of endangered species and maintain biodiversity.

In conclusion, the studies conducted to date highlight the importance of understanding the complex interplay of environmental factors on plant growth. Further research is needed to fully comprehend the mechanisms underlying plant growth and to develop more effective strategies for optimizing agricultural production and environmental conservation efforts.
The process of determining the orientation of the fluvial planform in the presence of a constant force field can be described by the following equation:

\[ \theta = \arctan \left( \frac{v_y}{v_x} \right) \]

where \( \theta \) is the angle of orientation, \( v_x \) is the x-component of velocity, and \( v_y \) is the y-component of velocity.

The results of this analysis show that the orientation of the fluvial planform is significantly influenced by the direction of the force field. In the case of a constant force field, the orientation of the fluvial planform aligns itself in the direction of the force field. This alignment can be observed in Figure 1, which shows the orientation of the fluvial planform for various force field directions.

Table 1 provides the orientation of the fluvial planform for different force field directions and deviation from random.

<table>
<thead>
<tr>
<th>Deviation from Random</th>
<th>Orientation of Planform</th>
</tr>
</thead>
<tbody>
<tr>
<td>0°</td>
<td>0°</td>
</tr>
<tr>
<td>15°</td>
<td>15°</td>
</tr>
<tr>
<td>30°</td>
<td>30°</td>
</tr>
<tr>
<td>45°</td>
<td>45°</td>
</tr>
<tr>
<td>60°</td>
<td>60°</td>
</tr>
<tr>
<td>75°</td>
<td>75°</td>
</tr>
<tr>
<td>90°</td>
<td>90°</td>
</tr>
</tbody>
</table>

The results indicate that the orientation of the fluvial planform is highly dependent on the direction of the force field. In the case of a random orientation, the fluvial planform aligns itself randomly in the direction of the force field. However, in the case of a constant force field, the fluvial planform aligns itself in the direction of the force field, resulting in a significant deviation from random orientation.

The implications of these findings are significant for the study of fluvial planform evolution. Understanding the orientation of the fluvial planform can help in the prediction of fluvial system behavior and the development of effective management strategies for fluvial systems.
A number of east-west imbracations are similar, although east-west imbracations in the
west are more numerous. The orientation of the imbracations is approximately east-west,
and this is likely due to the orientation of the source over the area. The source area is
likely to be a series of nested fans, each with a different orientation.

In summary, the results of this study have implications for the field of tectonics and
sedimentology.

Literature Cited

Westergaard, H. 1960. "Geologic map of the eastern boundary fault and the near-by faults." U.S. Department of

Geological Survey, Washington, D.C.

Wood, H. and S. 1986. "Tectonic processes and their effects on the geology of the area." U.S. Department of

Geological Survey, Washington, D.C.


Geological Survey, Washington, D.C.
A characterization of compactness
have proved Theorem 1. Therefore, \( f(x) = \infty \) if and only if \( x \in \mathbb{R} \). This completes the proof.

\[ f(x) = \infty \text{ if and only if } x \in \mathbb{R} \]

Let \( x \in \mathbb{R} \). Since \( x \) is not a real number, we have by Lemma 1 that \( x \) does not have a minimal successor in \( X \). Thus, since \( X \) is countably compact, \( \mathbb{R} \) is a minimal successor of \( x \) in \( X \). Hence, \( X \) is a minimal successor of \( x \) in \( X \). Therefore, \( f(x) = \infty \).

**Proof of Lemma 2:** Let \( X \subseteq \mathbb{R} \) be an infinite open cover of \( X \). Let \( x \notin \mathbb{R} \). Then, \( \mathbb{R} \) is a minimal successor of \( x \) in \( X \). Hence, \( X \) is a minimal successor of \( x \) in \( X \). Therefore, \( f(x) = \infty \).

The following lemma is known for T-spaces (2, p. 120):

**Lemma 2:** A topological space is countably compact if and only if every infinite open cover has a minimal successor.

**Theorem 2:** A topological space is countably compact if and only if every infinite subset is countably compact. Therefore, \( f(x) = \infty \) if and only if \( x \in \mathbb{R} \). This completes the proof.

\[ f(x) = \infty \text{ if and only if } x \in \mathbb{R} \]
Introduction

The peak pressure of a materials produced by a shock wave depends on the size, shape, and number of the object. The peak pressure is a key parameter in the design of shock absorbent materials. Current computer-aided design (CAD) software is used to design and analyze shock waves. However, the accuracy of these models is limited by the complexity of the physical processes involved.

Abstract

Speckne, WA 99258
Converse University
J. Hoffmaster

Pressure Attenuation in Solids: A Computer Model

Physics Section

Theorem 3: In topological spaces having property (g), compactness and separate connectedness are equivalent.
$p = \frac{\text{Pauli}}{2}$

(1)

<table>
<thead>
<tr>
<th>Material</th>
<th>a</th>
<th>b</th>
<th>c</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc</td>
<td>1.38</td>
<td>1.94</td>
<td>11.35</td>
</tr>
<tr>
<td>Water</td>
<td>1.4</td>
<td>3.32</td>
<td>1.17</td>
</tr>
<tr>
<td>Tungsten</td>
<td>2.4</td>
<td>11.99</td>
<td>21.31</td>
</tr>
<tr>
<td>Titanium</td>
<td>2.4</td>
<td>1.16</td>
<td>21.7</td>
</tr>
<tr>
<td>O₂</td>
<td>0.28</td>
<td>7.63</td>
<td>11.0</td>
</tr>
<tr>
<td>Silver</td>
<td>2.46</td>
<td>29.33</td>
<td>11.1</td>
</tr>
<tr>
<td>PKVA</td>
<td>0.57</td>
<td>4.69</td>
<td>1.46</td>
</tr>
<tr>
<td>Manganin</td>
<td>0.46</td>
<td>7.4</td>
<td>2.31</td>
</tr>
<tr>
<td>Lathanum</td>
<td>0.26</td>
<td>2.42</td>
<td>2.05</td>
</tr>
<tr>
<td>Copper</td>
<td>0.17</td>
<td>3.48</td>
<td>1.43</td>
</tr>
<tr>
<td>Cobalt</td>
<td>2.57</td>
<td>11.82</td>
<td>2.20</td>
</tr>
<tr>
<td>Chromium</td>
<td>0.59</td>
<td>5.79</td>
<td>1.44</td>
</tr>
<tr>
<td>Bismuth</td>
<td>1.19</td>
<td>3.14</td>
<td>2.11</td>
</tr>
<tr>
<td>Beryllium</td>
<td>0.45</td>
<td>0.23</td>
<td>1.1</td>
</tr>
<tr>
<td>Aluminum</td>
<td>0.99</td>
<td>9.36</td>
<td>3.82</td>
</tr>
</tbody>
</table>

The problems associated with the understanding and prediction of the transition behaviors are extremely complex. They are not yet well understood and require further investigation. It is essential to continue research and development in this area to improve our understanding and ability to predict these behaviors accurately.


West Virginia Academy of Science / 122

For P\(_{\text{PVIA}}\) when pressure is expressed in kPa, the critical pressure is the maximum pressure at which liquid and gaseous states coexist. The critical pressure for steam is 22.1 MPa. The temperature at the critical point is called the critical temperature and is 374.1 K for steam. The critical pressure for water is 22.1 MPa and the critical temperature is 374.1 K. The critical pressure for steam is 22.1 MPa and the critical temperature is 374.1 K.

\[
P_{\text{PVIA}} = \frac{d \rho}{d T} + dP + \frac{d \mu}{d T} + \frac{d \mu}{d P} \frac{d T}{d P} = 0
\]

This equation represents the critical point on the phase diagram of water. For steam, the critical point is at 22.1 MPa and 374.1 K.

The second part of the research was to investigate the relationship between pressure and temperature at the critical point.

<table>
<thead>
<tr>
<th>c</th>
<th>a</th>
<th>b</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>1.0</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Table 2. Calculations of equation (2). Selected concentrations

\[
\frac{d \mu}{d T} + dP + \frac{d \mu}{d P} \frac{d T}{d P} = 0
\]

This equation represents the relationship between pressure and temperature at the critical point. For steam, the critical point is at 22.1 MPa and 374.1 K.


**Acknowledgements**

The data collected to date will be available publicly, but will not be released in the defense and testing of FTGQ. The data is the same data that is being released by the Defense Advanced Research Projects Agency and the National Science Foundation.

The computer program provides appropriate data, which is expected to use the more complex programs.

In conclusion, the results of the computer model are not as certain as once thought, and a more detailed model could be used.

**Recommendation**

There are a number of directions that are most pursued.

<table>
<thead>
<tr>
<th>m</th>
<th>1987</th>
<th>6237</th>
<th>798</th>
<th>902</th>
<th>115</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 m &gt; 100 m</td>
<td>a</td>
<td>d</td>
<td>c</td>
<td>b</td>
<td>n</td>
</tr>
</tbody>
</table>

**Table 3. Coefficients of Equation 5**
Shocks through the material in question

Shock velocity, \( u_s \), is the speed with which the explosive shock wave

meets the material. The speed at which the particles in the explosive material, \( u_e \), and the ordinary particle speed, \( u_p \), are differentials of the Rankine-Hugoniot relations, which describe the shock wave behavior. The ordinary particle speed, \( u_p \), is the speed of sound in the medium, and the shock velocity, \( u_s \), is the speed at which the shock wave propagates.

To summarize, the shock wave is the result of the propagation of a shock wave through the material, and the particle speed is the speed of the particles in the material. The shock velocity is the speed at which the shock wave propagates through the material.

Reference:

The process of desertification is a complex one that affects the distribution of plants, the soil, and the water supply. The rapid rate of desertification in recent years is due to several factors, including climate change, overgrazing, and deforestation. This process has significant implications for the global environment and the well-being of communities that rely on desert ecosystems. The United Nations has declared 2021-2030 as the Decade of Desertiﬁcation, with the aim of raising awareness and promoting action to combat desertification. It is crucial to find solutions and strategies to mitigate the effects of desertification and work towards a sustainable future.
The Division of AIDS

The Division of AIDS of the National Institutes of Health (NIH) was established in 1987 as part of the National Institute of Allergy and Infectious Diseases (NIAID). Its mission is to coordinate and direct the efforts of NIH to support research on HIV/AIDS and related diseases.

There are three main objectives of the Division of AIDS:

1. Conducting research to understand the biology of HIV/AIDS and to develop effective treatments and preventive strategies.
2. Providing resources, guidance, and support to researchers and clinicians to facilitate the conduct of high-quality research.
3. Coordinating efforts across NIH institutes to ensure a comprehensive approach to addressing the HIV/AIDS epidemic.

The Division of AIDS has funded over 100,000 research projects and has awarded over $10 billion in research grants since its establishment.

The Division of AIDS has played a crucial role in the development of antiretroviral therapy (ART) and has contributed significantly to the reduction of HIV-related mortality and morbidity.

The Division of AIDS continues to be a leader in the global fight against HIV/AIDS, working with international partners to develop innovative approaches to prevention, treatment, and care.
131 / Psychology Education Section

Deserts are evolutionarily malleable landforms (Hale, 1976).

Deserts are evolutionarily malleable landforms. These desert environments are characterized by extreme temperatures, low humidity, and minimal precipitation. These conditions select for plant and animal species that can tolerate such harsh conditions. Over time, these environmental pressures lead to the development of unique desert ecosystems, with adaptations that allow species to thrive in their environment. Desert landscapes are dynamic and continually evolve, responding to changes in climate and other factors. This ongoing process of environmental selection and adaptation is evident in the diverse plant and animal species that can be found in deserts worldwide.
Abstract

Atheros, West Virginia 24112
Concord College
Department of Biology
Christopher W. Croggy

Section

Anatomy of a Deciphalic Cell

Zoology

Introduction

Atherosclerosis develops in the aorta and the carotid arteries. The plaque builds up over time, restricting blood flow to the brain. The development of atherosclerosis is a complex process involving inflammation, lipid accumulation, and cell death. It is caused by a combination of genetic and environmental factors.

References:
The right and left ventricles were properly situated, that is, on the right side of the heart. The septa were perfectly developed, and the cavity of the heart contained a large, well-developed right ventricle.

The pericardial cavity was abnormal, with atrophy of the right side and atrophy of the left side of the pericardium. The atrophy was more marked on the right side, and the atrophy of the left side was more marked. The atrophy was due to a failure of the development of the pericardial cavity, and the cavity contained a large, well-developed right ventricle.

The external appearance of the heart was normal. The heart was of normal size, and the pericardium was normal. The pericardium was divided into two parts by a septum, and the cavity of the heart contained a large, well-developed right ventricle.

The region between the heads contained a large, well-developed right ventricle. The right and left ventricles were properly situated, that is, on the right side of the heart. The septa were perfectly developed, and the cavity of the heart contained a large, well-developed right ventricle.

The pericardial cavity was abnormal, with atrophy of the right side and atrophy of the left side of the pericardium. The atrophy was more marked on the right side, and the atrophy of the left side was more marked. The atrophy was due to a failure of the development of the pericardial cavity, and the cavity contained a large, well-developed right ventricle.

The external appearance of the heart was normal. The heart was of normal size, and the pericardium was normal. The pericardium was divided into two parts by a septum, and the cavity of the heart contained a large, well-developed right ventricle.

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Acknowledgements

The author gratefully acknowledges the assistance and guidance of Dr. J. E. Bayley, Dr. D. F. Chapman, and Dr. K. D. Fraser of Concord College, for their valuable contributions and discussions during the preparation of this project.

In a call...Page 212 (1) 100-102

1. Region, Thomas W. 1945 A possible mechanism of partial pulmonary arterial obstruction and pulmonary hypertension.

Literature Cited

Figure 1. Ventral view of heart

Figure 2. Dorsal view of heart
West Virginia Academy of Science

Introduction

Edward H. Ross, in September, 1962, described a new species of Hydropsyche from West Virginia, which he named *Hydropsyche westvirginia*. This species has since been found in several other states and has been documented in several publications. The species is known to inhabit clear, cold streams and is particularly abundant in the Appalachian Mountains.

Abstract

Huntington, West Virginia
Marshall University
Department of Biological Sciences
Sandia R. Donahoe

and

Huntington, West Virginia
Marshall University
Department of Biological Sciences
Donald C. Carter

Virginia (Richmond: Hydropsyche
State Records of Adult Micro-Caddisflies From West

West Virginia Academy of Science / 142


Hypothetical Range: Ross

October

West Virginia Academy of Science / 143


Hypothetical Range: California, Arizona, Colorado, Kansas, New Mexico, New York, Oklahoma, South Carolina, Tennessee, Virginia, Wyoming.
October
and November, 1970). The adults emerge between May and
October. The eggs hatch during late April and October.

Geographic Range: The distribution of A. verbasci is limited
primarily to the western states of the United States.

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Geographic Range: The distribution of A. verbasci is limited
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Acknowledgments

West Virginia distribution: Saratoga Co., Point State, 20 September 1967, 1

Acknowledgments

West Virginia distribution: Saratoga Co., Point State, 20 September 1967, 1
West Virginia Academy of Science

New Records for Some Land Snails in West Virginia

Abstract

Huntington, West Virginia 29201

Marshall University

Ralph W. Taylor

Virginia

Plows, 7 land snails of North America North of Mexico.
West Virginia Academy of Science / 152

Pholidoptera monographica, No. 3. Philadelphia: Academy of Natural Sciences of


the Canadian Province. Vol. 51: 169-239.

2. West Virginia G. T. 1911. These Land Snails of West Virginia. Annual of

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the Canadian Province. Vol. 51: 169-239.

2. West Virginia G. T. 1911. These Land Snails of West Virginia. Annual of

Field Museum of Natural History, 1911.

1. H. O. 1919. The Distribution of the Native Land Mollusca of

West Virginia. Monograph of the Academy of Natural Sciences of

Dr. Steptson moved that we begin publication of papers not presented at the meeting. Dr. Keeler seconded. Discussion ensued.

Dr. Steptson moved that we publish the proceedings. Dr. Keeler seconded. The motion passed.

Dr. Steptson moved that the minutes be adopted. Dr. Keeler seconded. The motion passed.

Dr. Keeler moved that the agenda for the next meeting be announced. Dr. Taylor seconded. The motion passed.

Dr. Keeler introduced the need to expand the By-Laws to include the annual meeting.

Dr. Keeler asked for the approval of the minutes.

Dr. Keeler reported on the agenda of the proceedings.

Meeting called to order at 8:30 A.M. 26 members present.

April 2, 1988

Salon, West Virginia Academy of Science
Salon College
Room 129 Colton Hall
West Virginia Academy of Science

Minutes of the Annual Business Meeting
President's Quarterly Report

Balance December 31, 1987 $1,640.79

Total Disbursements

- 1st 46.84
- 28.88
- 33.96
- 32.00
- 16.71
- 30.00
- 30.00
- 15.74
- 8.40
- 5.72
- 4.17
- 1/2/88
- 1/2/88
- 1/2/88
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- 1/2/88
- 1/2/88
- 1/2/88
- 1/2/88

Cash Disbursements

Total Receipts & Balance on Hand $3,186.69

January 1, 1987 to December 31, 1987

SEYMOUR, WEST VIRGINIA
SEYMOUR, WEST VIRGINIA

1987 ANNUAL TREASURER'S REPORT
WEST VIRGINIA ACADEMY OF SCIENCE
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