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The Determination of the Concentration of Common Inorganic Anions Using Capillary Zone Electrophoresis: An Analytical Chemistry Laboratory Experiment

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Analysis of the Vegetation in Selected Areas at the Killoden Plantation, Monroe, Louisiana.

The vegetation of selected areas of Killoden Plantation near Monroe, Louisiana was described using 298 samples. Importance values were calculated using the sum of the relative frequency, density, dbh, height, or cover for the plant groups. The dominant tree species in order of decreasing importance value were sweetgum (*Liquidambar styraciflua*), water oak (*Quercus nigra*), slippery elm (*Ulmus rubra*), hackberry (*Celtis laevigata*), and green ash (*Fraxinus pennsylvanica*). The dominant shrub/sapling species in order of decreasing importance value were blackberry (*Rubus* spp.) and green ash (*Fraxinus pennsylvanica*). Dominant woody vines in decreasing importance value including rattan (*Vitis rotundifolia*), Japanese Honeysuckle (*Lonicera japonica*), and poison ivy (*Rhus radicans*). The dominant herbaceous plant was lizard's tail (*Saururus cernuus*).

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The Determination of the Concentration of Common Inorganic Anions Using Capillary Zone Electrophoresis: An Analytical Chemistry Laboratory Experiment.

The determination of the concentration of common inorganic anions using capillary zone electrophoresis (CZE). Since this a fairly new, popular, analytical technique showing tremendous promise, it should be introduced to students at the undergraduate level. Herein, a CZE experiment has been developed for the undergraduate quantitative or analytical chemistry laboratory. The experiment consists of a series of standards ranging from 2.00 ppm (CI to 10.00 ppm CI from which a Beer's law standard calibration curve of concentration (ppm) versus peak area is derived. A sample of unknown concentration CI is analyzed and compared to the standard calibration curve to obtain its concentration.

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Perceived Barriers to Effective Science Reform Practices

The major aim of this study was to determine if teachers' perceptions of barriers to effective science teaching are affecting their ability to sustain use of reform methodology. Surveys were sent to 166 teachers who participated in at least one of four NSU Systemic Plan for Science Summer Institutes. The survey was designed to determine (a) the rate and possible causes of attrition from science teaching or from using science reform teaching strategies advocated by the NSU Systemic Plan for Science and (b) teachers' perceptions of some primary actions need to sustain effective science teaching in order to accomplish true standards-based systemic reform. Results indicated minimal attrition from science teaching and moderate to high frequencies of use of the learning cycle, hands-on activities, and cooperative learning. The greatest teacher perceived barriers to effective use of reform practices included lack of materials. In order to sustain reform, teachers acknowledged a need for additional professional development for all teachers and principals. Teachers recommended that the public be educated in teaching strategies and alternative assessment advocated by science reform. Overall, the majority of the teachers seemed to be committed to the use of reform practices in spite of perceived barriers.

ARANT, TANYA L. and LAURENCE M. HARDY

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Tooth Rotation, Imbrication, and Lower Incisor Group Proportions in Arizona Bats (*Eptesicus fuscus* and *Myotis*).

Lower incisor morphology has been linked to grooming behavior. The degree of rotation of the lower incisors, the relative length-width proportion of the lower incisor group, and amount of imbrication between adjacent incisors appears to be different between *Eptesicus* and several species of *Myotis*. *Nycticeius humeralis* served as the out-group for comparison. rotation and imbrication of incisors might be correlated with the evolution of grooming behavior. This study improves our understanding of the tooth morphology and the evolutionary relationships between these species.