

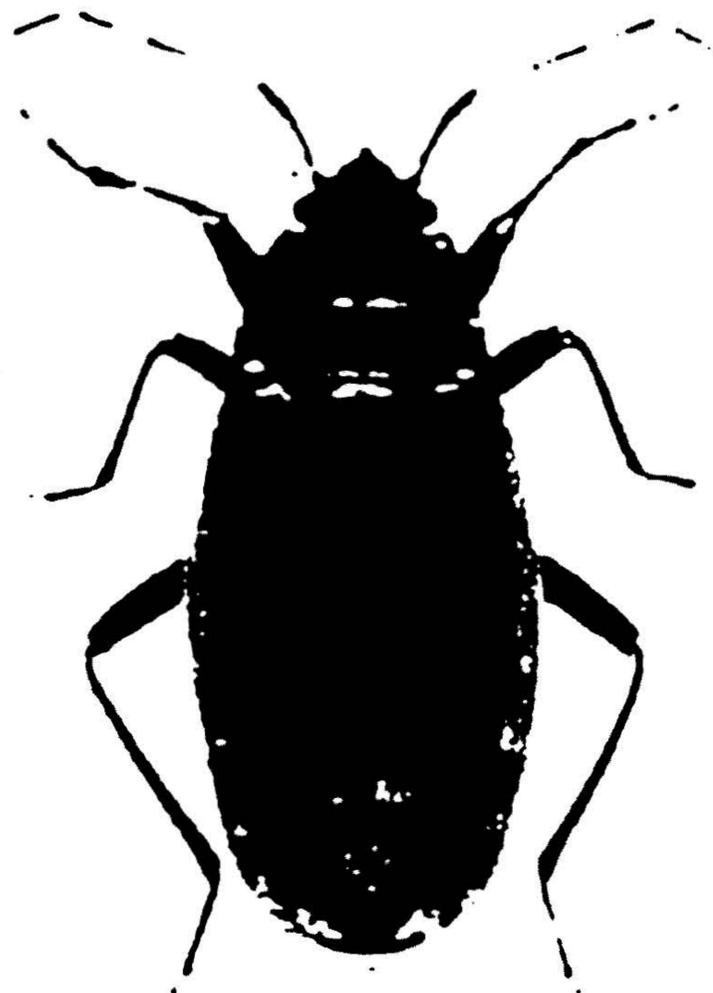
**THE VI<sup>th</sup> EUROPEAN CONGRESS OF ENTOMOLOGY**

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# **BOOK OF ABSTRACTS**

(Proceedings of the VI<sup>th</sup> European Congress of Entomology)



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Front cover photograph:

Adult of *Pyrrhocoris apterus* (Linné, 1758) (Heteroptera, Pyrrhocoridae). Courtesy of J. Havelka and R. Socha

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Section 5

## AQUATIC INSECT COMMUNITIES WITHIN THE DRAINAGE BASIN OF A PENNSYLVANIA RIVER EXTENSIVELY IMPACTED BY ACID MINE DRAINAGE

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Aquatic insect communities and low flow background water chemistry, were examined at 102 stations on 85 streams within the Conemaugh River drainage basin. The Conemaugh River drains 3,553 km<sup>2</sup> of southwestern Pennsylvania and the network of tributaries sampling station was generally designed to sample most 25 km<sup>2</sup> increments of the basin. The results of the study demonstrate that water quality and invertebrate communities of 58% of the streams in the basin were significantly degraded, with either depressed (24%) or severely depressed (34%) aquatic insect community diversity. Nearly all of the serious degradation is related to acid mine drainage from extensive bituminous coal mining operations. The insect communities were influenced by pH and metal concentrations. Extremely acidic waters (pH<3,0) were dominated almost exclusively by *Chironomus*. Other important and acid tolerant taxa included *Nigronia* and *Sialis* (Megaloptera). *Hydropsyche betteni*, *H. sparna*, and *Neurelipsis bimaculata* (Trichoptera); and *Hemerodromia*, *Orthocladius*, *Polypedilum*, and *Tanytarsus* (Diptera). Ephemeroptera were totally absent from more than 60% of the stations, and except for some occasional drift organisms, were not present if the pH was less than 6. Even though some acidophilic Plecoptera are known to inhabit nearby organically acidic streams, all Plecoptera taxa were also sparse or totally absent from the minerally acidic waters of the Conemaugh River Basin.

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