STUDYING MITES OF ECOLOGICAL AND ECONOMIC IMPORTANCE IN THE 21ST CENTURY: PLANT FEEDING MITES

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Many mites in the families Eriophyidae, Penthaleidae, Tarsonemidae, Tetranychidae, Tenuipalpidae, and Tuckerellidae are pests on crops, ornamental plants, and forest and fruit trees. Most of them are very small (from 85 to 800 µm), with cryptic coloration (from hyaline to all shades of green, red-white, yellow and brown camouflage combinations) that allows them to blend in with different kinds of leaf damage and protects them from predators. On the other hand, several families have species associated with fungi, bacteria, viruses and perhaps phytoplasmas. Many new mounting techniques and the use of field digital cameras along with low temperature scanning electron microscopy (LT-SEM), variable pressure and table-top SEM's and confocal microscopes in the laboratory are helping in the recognition, morphology and behavior understanding of many species of economic and ecological importance. This presentation addresses and illustrates the new tools and findings on ecology, morphology of forest and agriculturally important mite species.